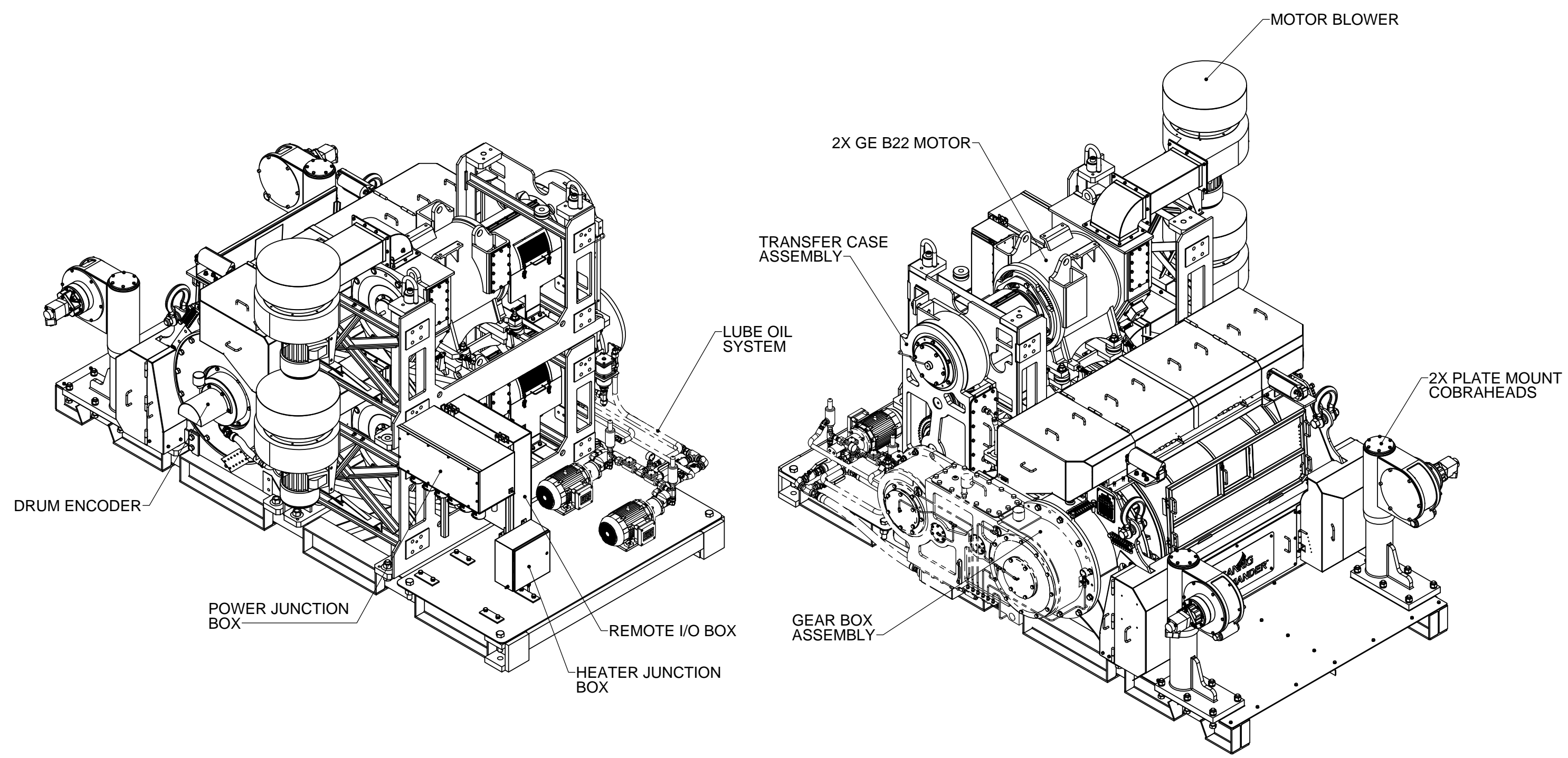


Drawworks Specifications

The following table lists the specifications for the Commander™ Drawworks.

Commander™ 2000 (Two Motors, 1 3/8" Cable)

Nominal Power Rating	
Continuous Duty:	2300 HP
Drawworks Duty:	2800 HP
Motor:	GEB 22 (1150 HP)
Cable Drum Diameter (1st Layer):	30.0"
Maximum Cable Diameter:	1.3/8"
Ratings at Layer Number:	2
Number of Layers (at Racking Boards):	3
Number of Layers (Maximum, Under Crown):	5
Maximum Single-Line Pull (Drawworks Duty):	96,000 lbf
Maximum Hook-Load:	
12 Lines	890,000 lbf
10 Lines	770,000 lbf
8 Lines	640,000 lbf
Maximum Block Speed:	
12 Lines, 214,000 lbf load	192 fpm
10 lines, 204,000 lbf load	220 fpm
8 lines, 170,000 lbf load	275 fpm
Transmission Type:	Single Speed, Planetary Final Stage
Gear Type:	Carburized/Ground; AGMA 11
Transmission Ratio:	8.51:1
Lubrication:	Oil (includes Outboard Bearing), Electrically-driven Pump, Filter, Relief Valve, Oil Heater
Lubrication capacity:	25 to 30 gallons
Brake Types Available:	Johnson 68-HHH-OS Caliper Brake Johnson 68-HHH-DNV Caliper Brake (optional)
Brake Discs:	Two 49.0" disc
Number of Calipers:	4
Dimensions (with skid)	
Length:	300.00"
Width:	125.00"
Height:	72.00"
Weight (with motors and skid):	70,000 lb
Number of Catheads:	2



WELDING PROCEDURE AS PER CANRIG SPECIFICATION - ENG 704, UNLESS NOTED OTHERWISE			INITIAL DESIGN MODELED DJC 14/10/10 DRAWN F.LNAME YYYY/MM/DD CHECKED F.LNAME YYYY/MM/DD APPROVED F.LNAME YYYY/MM/DD RELEASE DATE YYYY/MM/DD		THIRD ANGLE PROJECTION 			
CONFIDENTIAL AND PROPRIETARY. THE USE, REPRODUCTION OR DISTRIBUTION WITHOUT PRIOR WRITTEN CONSENT IS PROHIBITED. ALL RIGHTS RESERVED.			REVISION MODELED - DRAWN F.LNAME YYYY/MM/DD CHECKED F.LNAME YYYY/MM/DD APPROVED F.LNAME YYYY/MM/DD REVISION RELEASE DATE YYYY/MM/DD		DO NOT SCALE DRAWING DRWKS, 2 MTR, STACKED, DISC BRAKES, 480V			SHEET 1 OF 2 AY20725 - GA REV 01
UNLESS OTHERWISE SPECIFIED INTERPRET DRAWING PER ASME Y14.5-1994 INTERPRET CASTINGS AND FORGINGS PER ASME Y14.8-1996 REMOVE SHARP CORNERS AND BURRS RUN OUT .003 STRAIGHTNESS .005 IN 5 INCHES PERPENDICULARITY .010 IN 5 INCHES PARALLELISM .010 IN 5 INCHES FLATNESS .125/ MACHINED SURFACES MIN. RADIUS UNLESS SHOWN = 0.03 MAX.			TOLERANCE - UNLESS OTHERWISE SPECIFIED FABRICATING [IMPERIAL] FABRICATING [METRIC] 0 to 24" ± 1/16" 0 TO 610 mm ± 1 mm 24" to 60" ± 1/8" 610 TO 1525 ± 3 mm 60 to 120" ± 3/16" 1525 TO 3048 ± 5 mm 120" to 280" ± 1/4" 3048 TO 7112 ± 7 mm 280" & OVER ± 1/2" 7112 & OVER ± 13 mm MACHINING [IMPERIAL] MACHINING [METRIC] DECIMAL .x ± .030" DECIMAL .x ± .8 mm .xx ± .015" .xx ± .40 mm .xxx ± .005" .xxx ± .13 mm ANGULAR MACHINING ± 1° FABRICATION ± 2°		MATERIAL EST. WEIGHT 43696.1 lbs SCALE 1:16 SHEET SIZE D		CANRIG DRILLING TECHNOLOGY LTD.	
REV	REVISION DESCRIPTION	ECN						

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B

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IF IN DOUBT...PLEASE ASK!

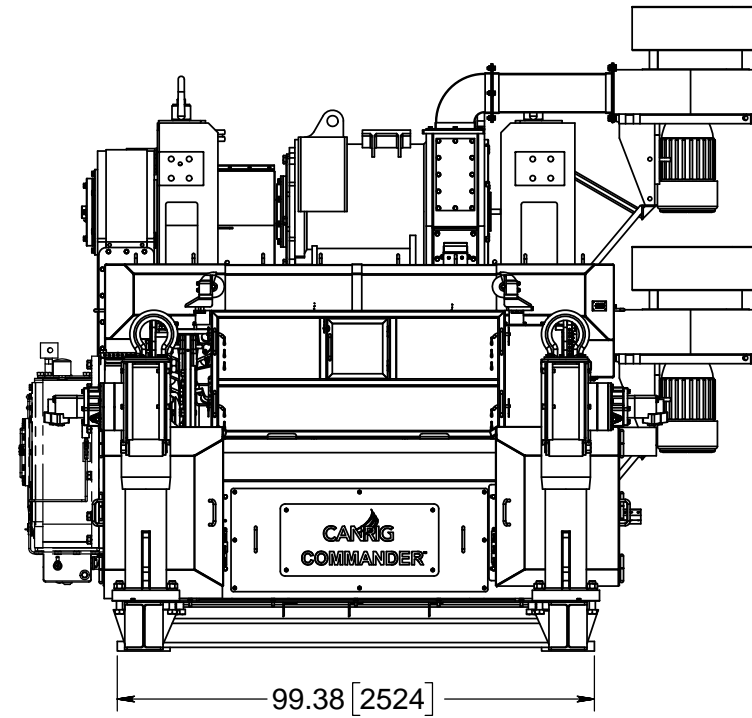
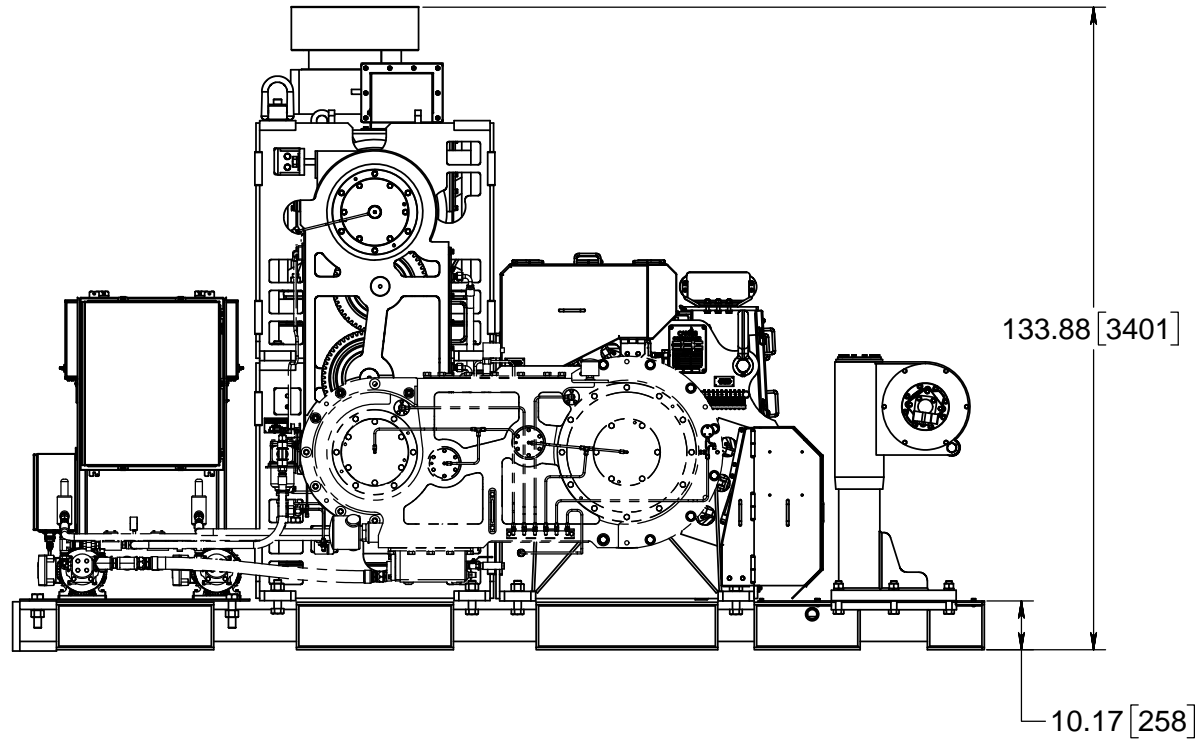
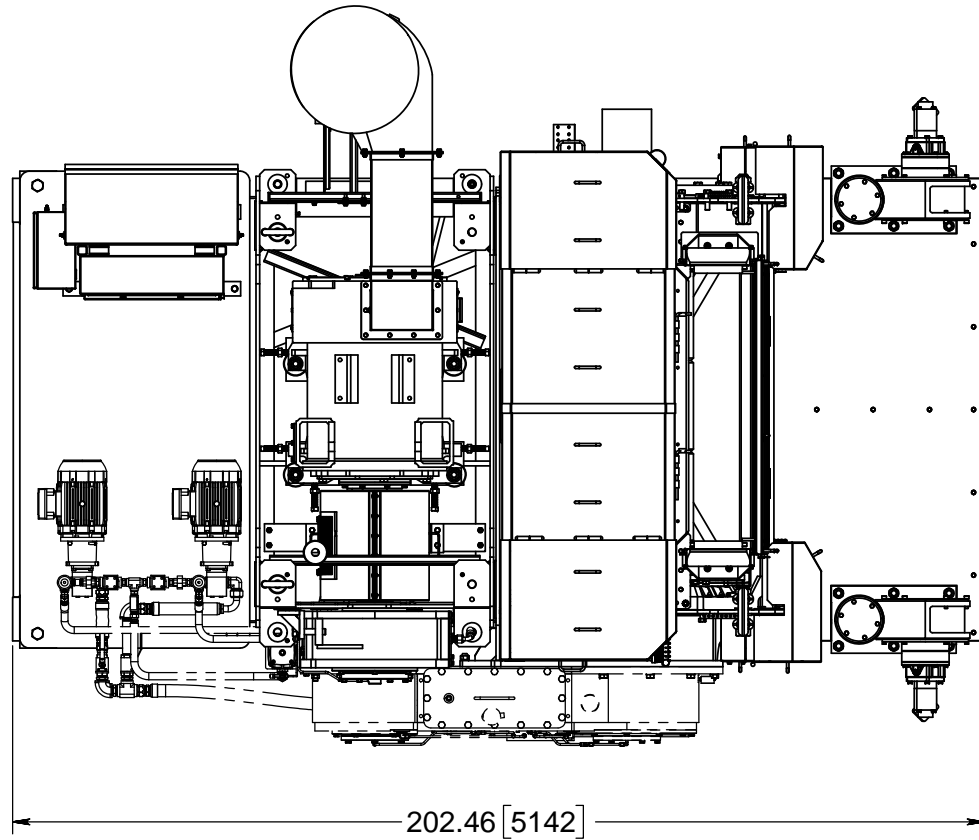
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UNLESS OTHERWISE SPECIFIED
SEE SHEET 1 FOR DEFAULT
TOLERANCES AND SPECIFICATIONS

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IS PROHIBITED. ALL
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SCALE 1:20 SHEET SIZE D

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

DRWKS, 2 MTR, STACKED, DISC BRAKES, 480V

SHEET 2 OF 2

AY20725 - GA

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IF IN DOUBT...PLEASE ASK!

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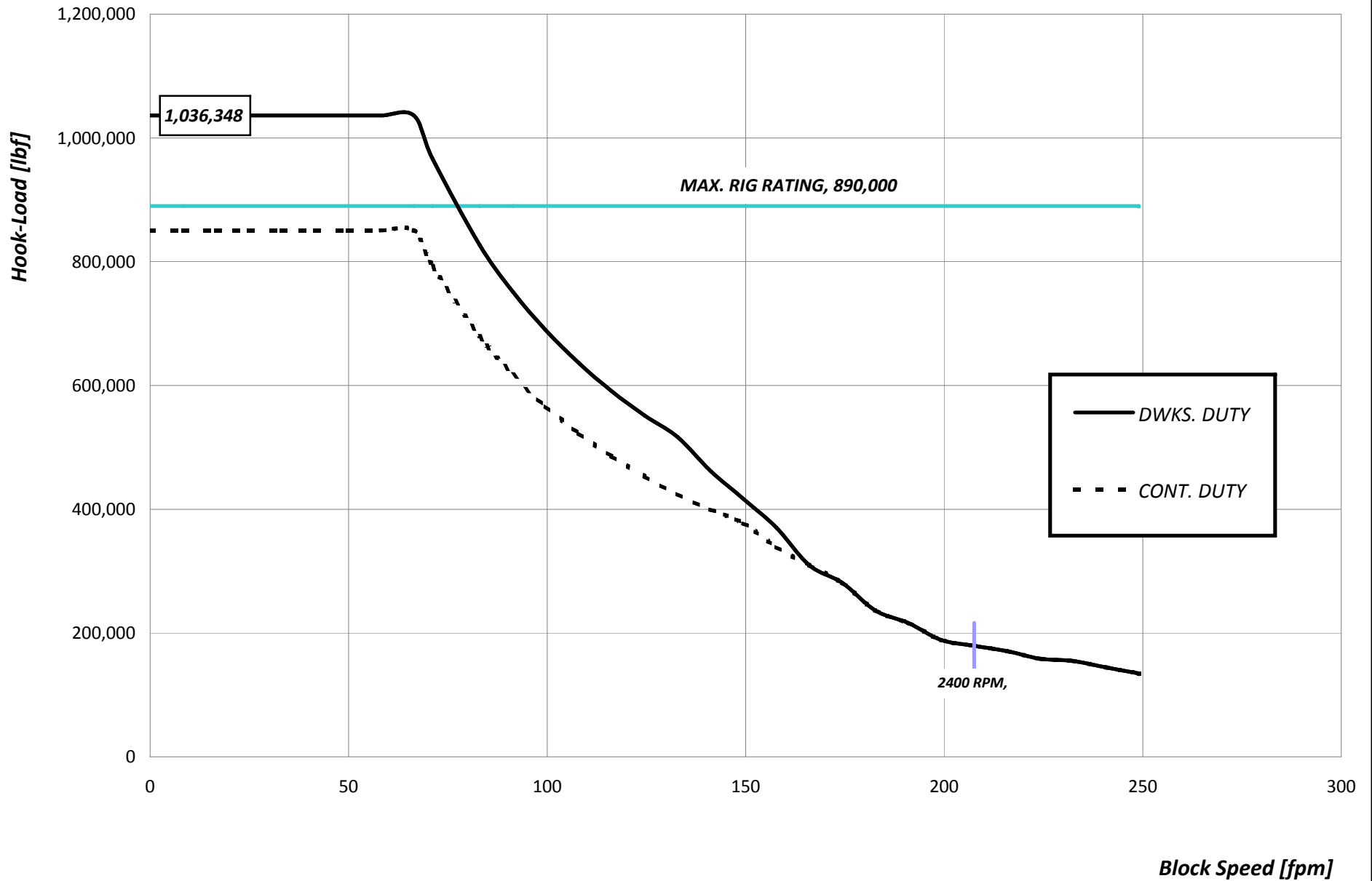
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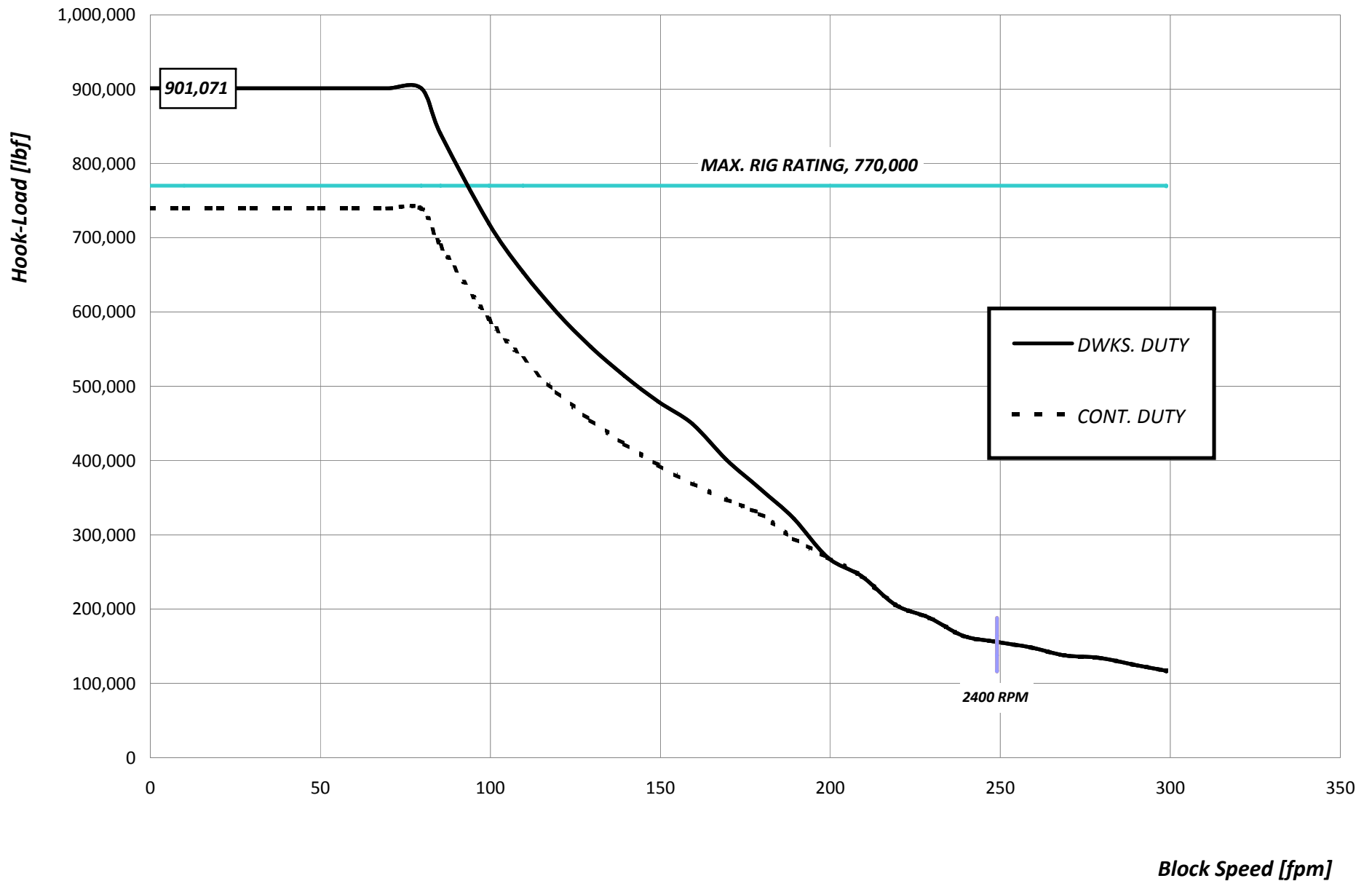
Hook-Load vs. Block-Speed, 12 Lines, Ratio = 8.51, Line-Capacity Limited



Rig Rating	Motor Speed	Cont. Torque	Dwks. Torque	Cont. SLP in LG	Dwks. SLP in LG	Cont. SLP in MG	Dwks. SLP in MG	Cont. SLP in HG	Dwks. SLP in HG	Cont. Hook-Load in LG	Dwks. Hook-Load in LG	Block Speed in LG	2400 RPM LG		2400 RPM HG	Cont. Hook-Load in HG	Dwks. Hook-Load in HG	Block Speed in HG
890,000	0	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	0.00	207.54		207.54	850,481	1,036,348	0.00
890,000	100	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	8.30	207.54		207.54	850,481	1,036,348	8.30
890,000	200	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	16.60	207.54		207.54	850,481	1,036,348	16.60
890,000	300	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	24.90	207.54		207.54	850,481	1,036,348	24.90
890,000	400	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	33.21	207.54		207.54	850,481	1,036,348	33.21
890,000	500	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	41.51	207.54		207.54	850,481	1,036,348	41.51
890,000	600	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	49.81	207.54		207.54	850,481	1,036,348	49.81
890,000	700	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	58.11	207.54		207.54	850,481	1,036,348	58.11
890,000	800	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	850,481	1,036,348	66.41	207.54		207.54	850,481	1,036,348	66.41
890,000	857	7,038	8,575	85,230	103,843	85,230	103,843	85,230	103,843	792,806	965,944	71.14	207.54		207.54	792,806	965,944	71.14
890,000	1,000	6,030	7,340	73,023	88,887	73,023	88,887	73,023	88,887	679,258	826,825	83.01	207.54		207.54	679,258	826,825	83.01
890,000	1,100	5,485	6,673	66,423	80,810	66,423	80,810	66,423	80,810	617,866	751,690	91.32	207.54		207.54	617,866	751,690	91.32
890,000	1,200	5,028	6,120	60,889	74,113	60,889	74,113	60,889	74,113	566,387	689,397	99.62	207.54		207.54	566,387	689,397	99.62
890,000	1,300	4,641	5,649	56,203	68,409	56,203	68,409	56,203	68,409	522,792	636,340	107.92	207.54		207.54	522,792	636,340	107.92
890,000	1,400	4,310	5,245	52,194	63,517	52,194	63,517	52,194	63,517	485,506	590,831	116.22	207.54		207.54	485,506	590,831	116.22
890,000	1,500	4,023	4,895	48,719	59,278	48,719	59,278	48,719	59,278	453,177	551,405	124.52	207.54		207.54	453,177	551,405	124.52
890,000	1,600	3,770	4,589	45,655	55,573	45,655	55,573	45,655	55,573	424,677	516,935	132.82	207.54		207.54	424,677	516,935	132.82
890,000	1,700	3,547	4,100	42,954	49,651	42,954	49,651	42,954	49,651	399,557	461,851	141.13	207.54		207.54	399,557	461,851	141.13
890,000	1,800	3,351	3,700	40,581	44,807	40,581	44,807	40,581	44,807	377,478	416,792	149.43	207.54		207.54	377,478	416,792	149.43
890,000	1,900	3,008	3,285	36,427	39,781	36,427	39,781	36,427	39,781	338,841	370,044	157.73	207.54		207.54	338,841	370,044	157.73
890,000	2,000	2,750	2,750	33,302	33,302	33,302	33,302	33,302	33,302	309,778	309,778	166.03	207.54		207.54	309,778	309,778	166.03
890,000	2,100	2,494	2,494	30,202	30,202	30,202	30,202	30,202	30,202	280,940	280,940	174.33	207.54		207.54	280,940	280,940	174.33
890,000	2,200	2,100	2,100	25,431	25,431	25,431	25,431	25,431	25,431	236,558	236,558	182.63	207.54		207.54	236,558	236,558	182.63
890,000	2,300	1,921	1,921	23,263	23,263	23,263	23,263	23,263	23,263	216,394	216,394	190.93	207.54		207.54	216,394	216,394	190.93
890,000	2,400	1,675	1,675	20,284	20,284	20,284	20,284	20,284	20,284	188,683	188,683	199.24	207.54		207.54	188,683	188,683	199.24
890,000	2,500	1,592	1,592	19,279	19,279	19,279	19,279	19,279	19,279	179,333	179,333	207.54	207.54		207.54	179,333	179,333	207.54
890,000	2,600	1,515	1,515	18,347	18,347	18,347	18,347	18,347	18,347	170,659	170,659	215.84	207.54		207.54	170,659	170,659	215.84
890,000	2,700	1,405	1,405	17,015	17,015	17,015	17,015	17,015	17,015	158,268	158,268	224.14	207.54		207.54	158,268	158,268	224.14
890,000	2,800	1,375	1,375	16,651	16,651	16,651	16,651	16,651	16,651	154,889	154,889	232.44	207.54		207.54	154,889	154,889	232.44
890,000	2,900	1,282	1,282	15,525	15,525	15,525	15,525	15,525	15,525	144,413	144,413	240.74	207.54		207.54	144,413	144,413	240.74
890,000	3,000	1,195	1,195	14,471	14,471	14,471	14,471	14,471	14,471	134,613	134,613	249.04	207.54		207.54	134,613	134,613	249.04
890,000	3,000	1,195	1,195	14,471	14,471	14,471	14,471	14,471	14,471	134,613	134,613	249.04	207.54		207.54	134,613	134,613	249.04

Hook-Load vs. Block
96,000 Line-Capacity Limited

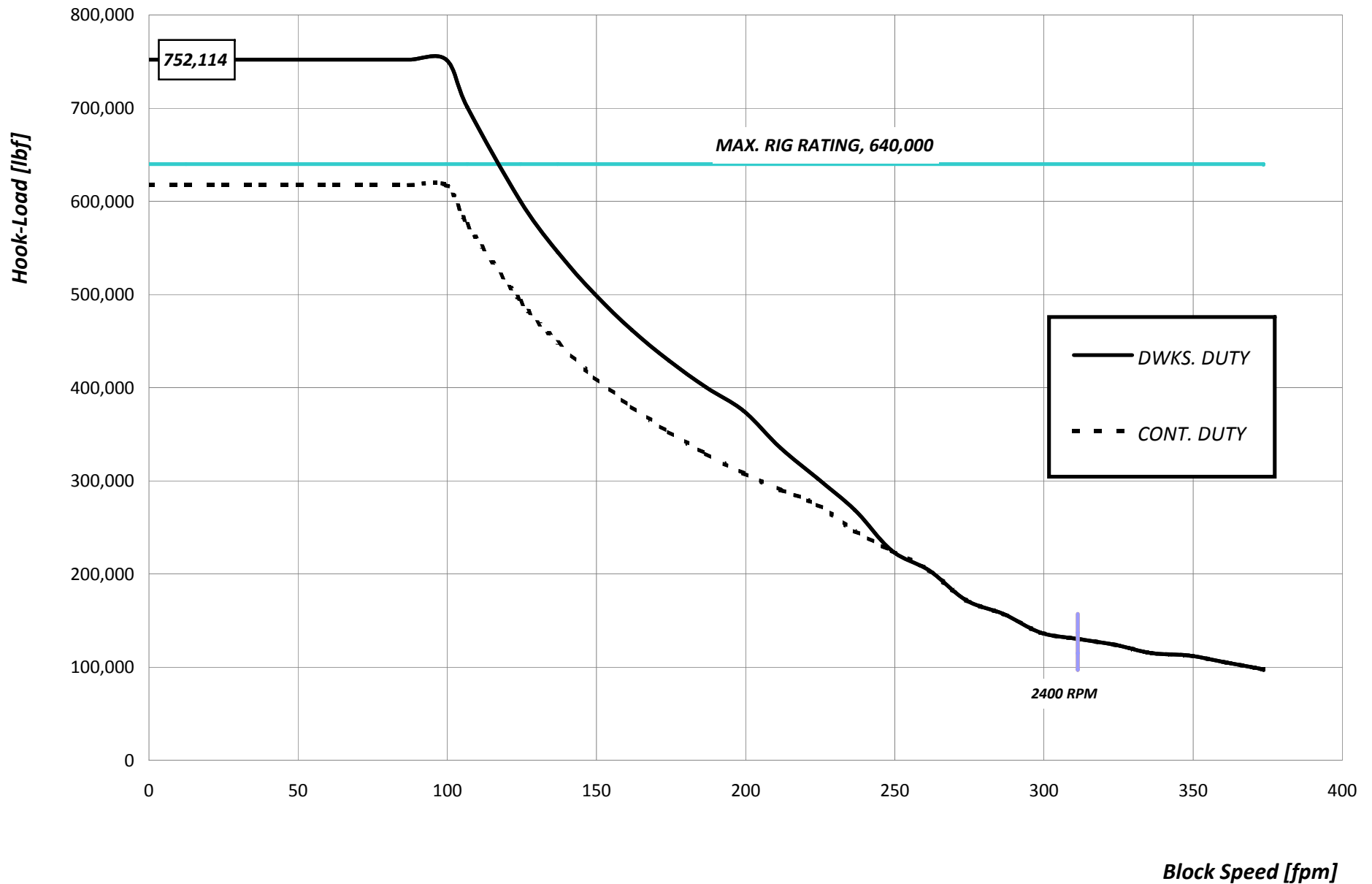
Hook-Load vs. Block-Speed, 10 Lines, Ratio = 8.51, Line-Capacity Limited



Rig Rating	Motor Speed	Cont. Torque	Dwks. Torque	Cont. SLP in LG	Dwks. SLP in LG	Cont. SLP in MG	Dwks. SLP in MG	Cont. SLP in HG	Dwks. SLP in HG	Cont. Hook-Load in LG	Dwks. Hook-Load in LG	Block Speed in LG	2400 RPM LG		2400 RPM HG	Cont. Hook-Load in HG	Dwks. Hook-Load in HG	Block Speed in HG
770,000	0	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	0.00	249.04		249.04	739,466	901,071	0.00
770,000	100	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	9.96	249.04		249.04	739,466	901,071	9.96
770,000	200	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	19.92	249.04		249.04	739,466	901,071	19.92
770,000	300	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	29.89	249.04		249.04	739,466	901,071	29.89
770,000	400	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	39.85	249.04		249.04	739,466	901,071	39.85
770,000	500	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	49.81	249.04		249.04	739,466	901,071	49.81
770,000	600	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	59.77	249.04		249.04	739,466	901,071	59.77
770,000	700	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	69.73	249.04		249.04	739,466	901,071	69.73
770,000	800	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	739,466	901,071	79.69	249.04		249.04	739,466	901,071	79.69
770,000	857	7,038	8,575	85,230	103,843	85,230	103,843	85,230	103,843	689,319	839,857	85.37	249.04		249.04	689,319	839,857	85.37
770,000	1,000	6,030	7,340	73,023	88,887	73,023	88,887	73,023	88,887	590,593	718,898	99.62	249.04		249.04	590,593	718,898	99.62
770,000	1,100	5,485	6,673	66,423	80,810	66,423	80,810	66,423	80,810	537,214	653,570	109.58	249.04		249.04	537,214	653,570	109.58
770,000	1,200	5,028	6,120	60,889	74,113	60,889	74,113	60,889	74,113	492,455	599,408	119.54	249.04		249.04	492,455	599,408	119.54
770,000	1,300	4,641	5,649	56,203	68,409	56,203	68,409	56,203	68,409	454,551	553,277	129.50	249.04		249.04	454,551	553,277	129.50
770,000	1,400	4,310	5,245	52,194	63,517	52,194	63,517	52,194	63,517	422,132	513,708	139.46	249.04		249.04	422,132	513,708	139.46
770,000	1,500	4,023	4,895	48,719	59,278	48,719	59,278	48,719	59,278	394,023	479,428	149.43	249.04		249.04	394,023	479,428	149.43
770,000	1,600	3,770	4,589	45,655	55,573	45,655	55,573	45,655	55,573	369,243	449,458	159.39	249.04		249.04	369,243	449,458	159.39
770,000	1,700	3,547	4,100	42,954	49,651	42,954	49,651	42,954	49,651	347,402	401,564	169.35	249.04		249.04	347,402	401,564	169.35
770,000	1,800	3,351	3,700	40,581	44,807	40,581	44,807	40,581	44,807	328,205	362,387	179.31	249.04		249.04	328,205	362,387	179.31
770,000	1,900	3,008	3,285	36,427	39,781	36,427	39,781	36,427	39,781	294,611	321,741	189.27	249.04		249.04	294,611	321,741	189.27
770,000	2,000	2,750	2,750	33,302	33,302	33,302	33,302	33,302	33,302	269,342	269,342	199.24	249.04		249.04	269,342	269,342	199.24
770,000	2,100	2,494	2,494	30,202	30,202	30,202	30,202	30,202	30,202	244,269	244,269	209.20	249.04		249.04	244,269	244,269	209.20
770,000	2,200	2,100	2,100	25,431	25,431	25,431	25,431	25,431	25,431	205,679	205,679	219.16	249.04		249.04	205,679	205,679	219.16
770,000	2,300	1,921	1,921	23,263	23,263	23,263	23,263	23,263	23,263	188,147	188,147	229.12	249.04		249.04	188,147	188,147	229.12
770,000	2,400	1,675	1,675	20,284	20,284	20,284	20,284	20,284	20,284	164,054	164,054	239.08	249.04		249.04	164,054	164,054	239.08
770,000	2,500	1,592	1,592	19,279	19,279	19,279	19,279	19,279	19,279	155,924	155,924	249.04	249.04		249.04	155,924	155,924	249.04
770,000	2,600	1,515	1,515	18,347	18,347	18,347	18,347	18,347	18,347	148,383	148,383	259.01	249.04		249.04	148,383	148,383	259.01
770,000	2,700	1,405	1,405	17,015	17,015	17,015	17,015	17,015	17,015	137,609	137,609	268.97	249.04		249.04	137,609	137,609	268.97
770,000	2,800	1,375	1,375	16,651	16,651	16,651	16,651	16,651	16,651	134,671	134,671	278.93	249.04		249.04	134,671	134,671	278.93
770,000	2,900	1,282	1,282	15,525	15,525	15,525	15,525	15,525	15,525	125,562	125,562	288.89	249.04		249.04	125,562	125,562	288.89
770,000	3,000	1,195	1,195	14,471	14,471	14,471	14,471	14,471	14,471	117,041	117,041	298.85	249.04		249.04	117,041	117,041	298.85
770,000	3,000	1,195	1,195	14,471	14,471	14,471	14,471	14,471	14,471	117,041	117,041	298.85	249.04		249.04	117,041	117,041	298.85

Hook-Load vs. Block
96,000 Line-Capacity Limited

Hook-Load vs. Block-Speed, 8 Lines, Ratio = 8.51, Line-Capacity Limited



Rig Rating	Motor Speed	Cont. Torque	Dwks. Torque	Cont. SLP in LG	Dwks. SLP in LG	Cont. SLP in MG	Dwks. SLP in MG	Cont. SLP in HG	Dwks. SLP in HG	Cont. Hook-Load in LG	Dwks. Hook-Load in LG	Block Speed in LG	2400 RPM LG		2400 RPM HG	Cont. Hook-Load in HG	Dwks. Hook-Load in HG	Block Speed in HG
640,000	0	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	0.00	311.31		311.31	617,224	752,114	0.00
640,000	100	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	12.45	311.31		311.31	617,224	752,114	12.45
640,000	200	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	24.90	311.31		311.31	617,224	752,114	24.90
640,000	300	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	37.36	311.31		311.31	617,224	752,114	37.36
640,000	400	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	49.81	311.31		311.31	617,224	752,114	49.81
640,000	500	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	62.26	311.31		311.31	617,224	752,114	62.26
640,000	600	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	74.71	311.31		311.31	617,224	752,114	74.71
640,000	700	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	87.17	311.31		311.31	617,224	752,114	87.17
640,000	800	7,550	9,200	91,430	111,412	91,430	111,412	91,430	111,412	617,224	752,114	99.62	311.31		311.31	617,224	752,114	99.62
640,000	857	7,038	8,575	85,230	103,843	85,230	103,843	85,230	103,843	575,367	701,019	106.72	311.31		311.31	575,367	701,019	106.72
640,000	1,000	6,030	7,340	73,023	88,887	73,023	88,887	73,023	88,887	492,961	600,056	124.52	311.31		311.31	492,961	600,056	124.52
640,000	1,100	5,485	6,673	66,423	80,810	66,423	80,810	66,423	80,810	448,407	545,528	136.97	311.31		311.31	448,407	545,528	136.97
640,000	1,200	5,028	6,120	60,889	74,113	60,889	74,113	60,889	74,113	411,046	500,319	149.43	311.31		311.31	411,046	500,319	149.43
640,000	1,300	4,641	5,649	56,203	68,409	56,203	68,409	56,203	68,409	379,409	461,814	161.88	311.31		311.31	379,409	461,814	161.88
640,000	1,400	4,310	5,245	52,194	63,517	52,194	63,517	52,194	63,517	352,349	428,787	174.33	311.31		311.31	352,349	428,787	174.33
640,000	1,500	4,023	4,895	48,719	59,278	48,719	59,278	48,719	59,278	328,886	400,174	186.78	311.31		311.31	328,886	400,174	186.78
640,000	1,600	3,770	4,589	45,655	55,573	45,655	55,573	45,655	55,573	308,203	375,158	199.24	311.31		311.31	308,203	375,158	199.24
640,000	1,700	3,547	4,100	42,954	49,651	42,954	49,651	42,954	49,651	289,973	335,181	211.69	311.31		311.31	289,973	335,181	211.69
640,000	1,800	3,351	3,700	40,581	44,807	40,581	44,807	40,581	44,807	273,949	302,480	224.14	311.31		311.31	273,949	302,480	224.14
640,000	1,900	3,008	3,285	36,427	39,781	36,427	39,781	36,427	39,781	245,908	268,554	236.59	311.31		311.31	245,908	268,554	236.59
640,000	2,000	2,750	2,750	33,302	33,302	33,302	33,302	33,302	33,302	224,817	224,817	249.04	311.31		311.31	224,817	224,817	249.04
640,000	2,100	2,494	2,494	30,202	30,202	30,202	30,202	30,202	30,202	203,888	203,888	261.50	311.31		311.31	203,888	203,888	261.50
640,000	2,200	2,100	2,100	25,431	25,431	25,431	25,431	25,431	25,431	171,678	171,678	273.95	311.31		311.31	171,678	171,678	273.95
640,000	2,300	1,921	1,921	23,263	23,263	23,263	23,263	23,263	23,263	157,045	157,045	286.40	311.31		311.31	157,045	157,045	286.40
640,000	2,400	1,675	1,675	20,284	20,284	20,284	20,284	20,284	20,284	136,934	136,934	298.85	311.31		311.31	136,934	136,934	298.85
640,000	2,500	1,592	1,592	19,279	19,279	19,279	19,279	19,279	19,279	130,148	130,148	311.31	311.31		311.31	130,148	130,148	311.31
640,000	2,600	1,515	1,515	18,347	18,347	18,347	18,347	18,347	18,347	123,854	123,854	323.76	311.31		311.31	123,854	123,854	323.76
640,000	2,700	1,405	1,405	17,015	17,015	17,015	17,015	17,015	17,015	114,861	114,861	336.21	311.31		311.31	114,861	114,861	336.21
640,000	2,800	1,375	1,375	16,651	16,651	16,651	16,651	16,651	16,651	112,408	112,408	348.66	311.31		311.31	112,408	112,408	348.66
640,000	2,900	1,282	1,282	15,525	15,525	15,525	15,525	15,525	15,525	104,805	104,805	361.11	311.31		311.31	104,805	104,805	361.11
640,000	3,000	1,195	1,195	14,471	14,471	14,471	14,471	14,471	14,471	97,693	97,693	373.57	311.31		311.31	97,693	97,693	373.57
640,000	3,000	1,195	1,195	14,471	14,471	14,471	14,471	14,471	14,471	97,693	97,693	373.57	311.31		311.31	97,693	97,693	373.57

Hook-Load vs. Block
96,000 Line-Capacity Limited