Metal One

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MAY 1, 2019

FIELD RUNNING PROCEDURE OF SUPERMAX AND SUPERMAX2

Rev. 7

THE TORQUE TABLE WAS REVISED.

1. RUNNING

1.1 PRECAUTION

1.1.1 Pipe shall not be stacked higher than five tiers at the rig.

1.1.2 Wooden dunnage shall be placed between successive layers.

1.1.3 Thread protector should always remain in place when moving or handling.

1.1.4 Avoid rough handling. Do not unload pipe by dropping.

1.2 PREPARATION

Ensure all necessary running equipment and accessories are available and in good condition.

1.2.1 Elevator shall be proper size and **non-upset collar type** or slip type.

1.2.2 Slips are of correct size to accommodate size and length of tubing.

1.2.3 Check for traveling block alignment.

1.2.4 Ensure all necessary running equipment and accessories area available and in good condition.

1.2.5 Ensure the thread compound is available.

1.2.6 Power tongs with lead line at 90 degrees and level with tong.
Ensure that accurate torque monitoring device is available.

1.2.7 Make sure that the meter indicates torque (ft-lbs) or load (lbs).

1.2.8 Box protector may be removed on the rack before picking up to floor.

1.3 RUNNING

1.3.1 It is recommended to use stabbing guide applied to coupling of the pipe set in the slip.

1.3.2 Pick up a joint from the rack (or truck) on to the derrick with pin protector on. Make sure the elevator is securely clamped.

1.3.3 Apply thread compound on the coupling with a brush.

1.3.4 Remove the pin protector.

1.3.5 Lower joint, pin into box. Ensure alignment before stabbing.

1.4 MAKE-UP

1.4.1 Carefully watch pipe swinging, and rotate pipe while pipe is aligned with lower joint.

1.4.2 Make-up Torque

See Appendix

Appendix A Torque Table (ft-lb)

Appendix B Torque Table (N-m)

Please contact Metal One representative for the size without the torque number in the table.

- For SC (special clearance) coupling, reduce above torque by 5 %.
- In the case of pressure gauge is used instead of torque meter,
  Hydraulic pressure equivalent to recommended torque shall be converted from torque vs pressure chart.

1.4.3 For first 10 joints, check make up position

Coupling end shall pass "the base of triangle minus 1 turn".

If not passed, increase torque to reach up to the base of triangle minus 1 turn.

- Torque may be deviated from the recommendation on very hot or very cold days due to friction factor change of grease.

2. PULLING

2.1 PREPARATION

2.1.1 Same precaution shall be paid as running.

2.1.2 Wooden platform for standing back (Refer to API 5C1)

2.1.3 Clean thread protector should be available prior to laying down or standing back.

2.2 BREAK OUT

2.2.1 Back up tong shall be applied on the lower side of coupling.

2.2.2 After breaking loose, great care should be paid not to over spin to prevent galling.

2.2.3 Great care should be exercised to disengage all the thread before lifting a pipe out of coupling.

2.3 SETTING BACK

2.3.1 Pipe should be set on a firm wooden platform when set back in the derrick.

2.3.2 Protect thread from dirt or injury when the pipes are out of hole.

2.3.3 Thread protectors should be installed on pin.

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Appendix A Torque Table (ft-lb)

OD	Nominal Weight	WT	J55/K55 (ft-lbs)			L80/N80 (ft-lbs)			P110 (ft-lbs)		
In	lb/ft	In	Min.	Opt.	Max.	Min.	Opt.	Max.	Min.	Opt.	Max.
2.375	4.60	0.190	850	1,050	1,250	950	1,200	1,400	1,100	1,300	1,550
2.375	5.10	0.218	---	---	---	---	---	---	---	---	---
2.875	6.40	0.217	1,300	1,600	2,000	1,400	1,700	2,100	1,600	1,900	2,300
2.875	7.70	0.276	---	---	---	---	---	---	---	---	---
3.500	7.70	0.216	---	---	---	---	---	---	---	---	---
3.500	9.20	0.254	1,800	2,300	2,700	2,000	2,500	3,000	2,500	3,000	3,500
3.500	10.20	0.289	---	---	---	---	---	---	---	---	---
3.500	12.70	0.368	---	---	---	---	---	---	---	---	---
4.000	9.50	0.226	1,730	2,160	2,590	2,250	2,810	3,370	2,940	3,680	4,420
4.000	11.00	0.262	1,940	2,420	2,900	2,400	3,000	3,600	3,290	4,110	4,930
4.000	14.80	0.380	2,460	3,070	3,680	3,190	3,990	4,790	4,180	3,340	6,260
4.000	16.10	0.415	2,580	3,220	3,860	3,350	4,190	5,030	4,380	5,480	6,580
4.500	10.50	0.224	1,900	2,400	2,900	2,500	3,100	3,700	3,300	4,100	4,900
4.500	11.60	0.250	2,100	2,600	3,100	2,700	3,400	4,100	3,500	4,400	5,300
4.500	12.60	0.271	2,200	2,700	3,200	2,800	3,500	4,200	3,700	4,600	5,500
4.500	13.50	0.290	2,200	2,800	3,400	3,000	3,700	4,400	3,800	4,800	5,800
4.500	15.10	0.337	3,000	3,700	4,400	3,800	4,800	5,800	5,000	6,300	7,600
5.000	15.00	0.296	3,000	3,800	4,600	3,900	4,900	5,900	5,200	6,500	7,800
5.000	18.00	0.362	3,400	4,200	5,000	4,400	5,500	6,600	5,800	7,200	8,600
5.000	20.30	0.408	---	---	---	---	---	---	---	---	---
5.500	15.50	0.275	3,100	3,900	4,700	4,100	5,100	6,100	5,400	6,700	8,000
5.500	17.00	0.304	3,400	4,200	5,000	4,400	5,500	6,600	5,800	7,200	8,600
5.500	20.00	0.361	3,700	4,600	5,500	4,800	6,000	7,200	6,300	7,900	9,500
5.500	23.00	0.415	4,600	5,700	6,800	6,000	7,500	9,000	7,800	9,800	11,800
5.500	26.00	0.476	5,000	6,200	7,400	6,400	8,000	9,600	8,400	10,500	12,600
6.625	20.00	0.288	---	---	---	---	---	---	---	---	---
6.625	24.00	0.352	---	---	---	---	---	---	---	---	---
6.625	28.00	0.417	---	---	---	---	---	---	---	---	---
7.000	23.00	0.317	5,700	7,100	8,500	7,400	9,200	11,000	9,600	12,000	14,400
7.000	26.00	0.362	6,200	7,700	9,200	8,000	10,000	12,000	10,500	13,100	15,700
7.000	29.00	0.408	6,600	8,300	10,000	8,600	10,800	13,000	11,300	14,100	16,900
7.000	32.00	0.453	7,200	9,000	10,800	9,400	11,700	14,000	12,200	15,300	18,400
7.625	26.40	0.328	7,000	8,800	10,600	9,200	11,500	13,800	12,000	15,000	18,000

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OD	Nominal Weight	WT	J55/K55 (ft-lbs)			L80/N80 (ft-lbs)			P110 (ft-lbs)		
In	lb/ft	In	Min.	Opt.	Max.	Min.	Opt.	Max.	Min.	Opt.	Max.
7.625	29.70	0.375	7,700	9,600	11,500	10,000	12,500	15,000	13,000	16,300	19,600
7.625	33.70	0.430	8,300	10,400	12,500	10,800	13,500	16,200	14,200	17,700	21,200
7.625	39.00	0.500	---	---	---	---	---	---	---	---	---
8.625	24.00	0.264	7,400	9,200	11,000	9,600	12,000	14,400	12,600	15,700	18,800
8.625	28.00	0.304	8,200	10,200	12,200	10,600	13,300	16,000	13,900	17,400	20,900
8.625	32.00	0.352	9,000	11,300	13,600	11,800	14,700	17,600	15,400	19,200	23,000
8.625	36.00	0.400	9,800	12,200	14,600	12,700	15,900	19,100	16,700	20,900	25,100
8.625	40.00	0.450	---	---	---	---	---	---	---	---	---
9.625	36.00	0.352	10,100	12,600	15,100	13,100	16,400	19,700	17,200	21,500	25,800
9.625	40.00	0.395	10,900	13,600	16,300	14,200	17,700	21,200	18,500	23,100	27,700
9.625	43.50	0.435	11,500	14,400	17,300	15,000	18,700	22,400	19,600	24,500	29,400
9.625	47.00	0.472	12,100	15,100	18,100	15,700	19,600	23,500	20,600	25,700	30,800
9.625	53.50	0.545	13,000	16,300	19,600	17,000	21,200	25,400	22,200	27,800	33,400
10.750	40.50	0.350	11,100	13,900	16,700	14,500	18,100	21,700	19,000	23,700	28,400
10.750	45.50	0.400	12,200	15,200	18,200	15,800	19,800	23,800	20,600	25,800	31,000
10.750	51.00	0.450	13,000	16,300	19,600	17,000	21,200	25,400	22,200	27,800	33,400
10.750	55.50	0.495	13,800	17,200	20,600	17,900	22,400	26,900	23,500	29,400	35,300
13.375	54.50	0.380	12,200	15,200	18,200	15,800	19,800	23,800	20,700	25,900	31,100
13.375	61.00	0.430	13,100	16,400	19,700	17,000	21,300	25,600	22,300	27,900	33,500
13.375	68.00	0.480	14,000	17,500	21,000	18,200	22,700	27,200	23,800	29,700	35,600
13.375	72.00	0.514	14,500	18,100	21,700	18,900	23,600	28,300	24,700	30,900	37,100

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Appendix B Torque Table (N-m)

OD	Nominal Weight	WT	J55/K55 (N-m)			L80/N80 (N-m)			P110 (N-m)		
In	Kg/m	mm	Min.	Opt.	Max.	Min.	Opt.	Max.	Min.	Opt.	Max.
60.32	6.85	4.83	1,100	1,400	1,600	1,200	1,600	1,800	1,400	1,700	2,100
60.32	7.60	5.54	---	---	---	---	---	---	---	---	---
73.02	9.52	5.51	1,700	2,100	2,700	1,800	2,300	2,800	2,100	2,500	3,100
73.02	11.61	7.01	---	---	---	---	---	---	---	---	---
88.90	11.46	5.49	---	---	---	---	---	---	---	---	---
88.90	13.69	6.45	2,400	3,100	3,600	2,700	3,300	4,000	3,300	4,000	4,700
88.90	15.18	7.34	---	---	---	---	---	---	---	---	---
88.90	18.90	9.52	---	---	---	---	---	---	---	---	---
101.60	14.14	5.74	2,350	2,930	3,510	3,050	3,810	4,570	3,990	4,990	5,990
101.60	16.38	6.65	2,630	3,280	3,930	3,250	4,070	4,880	4,460	5,570	6,680
101.60	22.04	9.65	3,340	4,170	4,990	4,330	5,410	6,490	5,670	7,080	8,490
101.60	23.96	10.54	3,500	4,370	5,230	4,540	5,680	6,820	5,940	7,430	8,920
114.30	15.63	5.69	2,500	3,200	3,900	3,300	4,200	5,000	4,400	5,500	6,600
114.30	17.26	6.35	2,800	3,500	4,200	3,600	4,600	5,500	4,700	5,900	7,100
114.30	18.75	6.88	2,900	3,600	4,300	3,700	4,700	5,600	5,000	6,200	7,400
114.30	20.09	7.37	2,900	3,700	4,600	4,000	5,000	5,900	5,100	6,500	7,800
114.30	22.47	8.56	4,000	5,000	5,900	5,100	6,500	7,800	6,700	8,500	10,300
127.00	22.32	7.52	4,000	5,100	6,200	5,200	6,600	8,000	7,000	8,800	10,500
127.00	26.79	9.19	4,600	5,600	6,700	5,900	7,400	8,900	7,800	9,700	11,600
127.00	30.24	10.36	---	---	---	---	---	---	---	---	---
139.70	23.07	6.98	4,200	5,200	6,300	5,500	6,900	8,200	7,300	9,000	10,800
139.70	25.30	7.72	4,600	5,600	6,700	5,900	7,400	8,900	7,800	9,700	11,600
139.70	29.76	9.17	5,000	6,200	7,400	6,500	8,100	9,700	8,500	10,700	12,800
139.70	34.23	10.54	6,200	7,700	9,200	8,100	10,100	12,200	10,500	13,200	16,000
139.70	38.73	12.09	6,700	8,400	10,000	8,600	10,800	13,000	11,300	14,200	17,000
168.28	29.76	7.32	---	---	---	---	---	---	---	---	---
168.28	35.72	8.94	---	---	---	---	---	---	---	---	---
168.28	41.67	10.59	---	---	---	---	---	---	---	---	---
177.80	34.23	8.05	7,700	9,600	11,500	10,000	12,400	14,900	13,000	16,200	19,500
177.80	38.69	9.19	8,400	10,400	12,400	10,800	13,500	16,200	14,200	17,700	21,200
177.80	43.16	10.36	8,900	11,200	13,500	11,600	14,600	17,600	15,300	19,100	22,900
177.80	47.62	11.51	9,700	12,200	14,600	12,700	15,800	18,900	16,500	20,700	24,900
193.68	39.29	8.33	9,400	11,900	14,300	12,400	15,500	18,700	16,200	20,300	24,400

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OD	Nominal Weight	WT	J55/K55 (ft-lbs)			L80/N80 (ft-lbs)			P110 (ft-lbs)		
In	lb/ft	In	Min.	Opt.	Max.	Min.	Opt.	Max.	Min.	Opt.	Max.
193.68	44.20	9.53	10,400	13,000	15,500	13,500	16,900	20,300	17,600	22,100	26,500
193.68	50.15	10.92	11,200	14,100	16,900	14,600	18,300	21,900	19,200	24,000	28,700
193.68	58.04	12.70	---	---	---	---	---	---	---	---	---
219.08	35.72	6.71	10,000	12,400	14,900	13,000	16,200	19,500	17,000	21,200	25,400
219.08	41.67	7.72	11,100	13,800	16,500	14,300	18,000	21,600	18,800	23,500	28,300
219.08	47.62	8.94	12,200	15,300	18,400	16,000	19,900	23,800	20,800	26,000	31,100
219.08	53.57	10.16	13,200	16,500	19,700	17,200	21,500	25,800	22,600	28,300	34,000
219.08	59.53	11.43	---	---	---	---	---	---	---	---	---
244.48	53.57	8.94	13,600	17,000	20,400	17,700	22,200	26,700	23,300	29,100	34,900
244.48	59.53	10.03	14,700	18,400	22,100	19,200	24,000	28,700	25,000	31,300	37,500
244.48	64.73	11.05	15,500	19,500	23,400	20,300	25,300	30,300	26,500	33,200	39,800
244.48	69.94	11.99	16,400	20,400	24,500	21,200	26,500	31,800	27,900	34,800	41,700
244.48	79.62	13.84	17,600	22,100	26,500	23,000	28,700	34,400	30,100	37,600	45,200
273.05	60.27	8.89	15,000	18,800	22,600	19,600	24,500	29,400	25,700	32,100	38,500
273.05	67.71	10.16	16,500	20,600	24,600	21,400	26,800	32,200	27,900	34,900	42,000
273.05	75.90	11.43	17,600	22,100	26,500	23,000	28,700	34,400	30,100	37,600	45,200
273.05	82.59	12.57	18,700	23,300	27,900	24,200	30,300	36,400	31,800	39,800	47,800
339.72	81.10	9.65	16,500	20,600	24,600	21,400	26,800	32,200	28,000	35,100	42,100
339.72	90.78	10.92	17,700	22,200	26,700	23,000	28,800	34,700	30,200	37,800	45,400
339.72	101.19	12.19	18,900	23,700	28,400	24,600	30,700	36,800	32,200	40,200	48,200
339.72	107.15	13.06	19,600	24,500	29,400	25,600	32,000	38,300	33,400	41,900	50,300