

Field Running Procedure of FLUSHMAX-SML and FLUSHMAX

Rev. 10: Important Note is added

Important Note:

For the FLUSHMAX Series connections (FLUSHMAX, FLUSHMAX-II and FLUSHMAX-III) each connection is unique based on Wall Thickness and Outside Diameter.

Connections within the FLUSHMAX Series are **NOT INTERCHANGEABLE** unless the Wall Thickness and Outside Diameter of the two connections are the same.

RUNNING

1. Precaution

- 1) Pipe shall not be stacked higher than five tiers at the rig.
- 2) Wooden dunnage shall be placed between successive layers.
- 3) Thread protector should always remain in place when moving or handling.
- 4) Avoid rough handling. Do not unload pipe by dropping.

2. Preparation

- 1) Lift sub should be installed before lifting FLUSHMAX.
- 2) Slip type elevator is recommended, and slips are of correct size to accommodate size and length of tubing.
- 3) Check for traveling block alignment.
- 4) Ensure all necessary running equipments and accessories area available and in good condition.
- 5) Ensure the thread compound is available.
API 5A modified or Best-O-Life 2000 is recommended unless customer specifies.
- 6) Power tongs with lead line at 90 degrees and level with tong.
Ensure that accurate torque monitoring device is available.
- 7) Box protector may be removed on the rack before picking up to floor.

3. Running

- 1) It is recommended to use stabbing guide applied to coupling of the pipe set in

the slip.

- 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.
- 3) Remove lift sub and apply thread compound on the coupling with a brush.
- 4) Remove the pin protector.
- 5) Lower joint, pin into box. Ensure alignment before stabbing.

4. Make-up

- 1) Carefully watch pipe swinging, and rotate pipe while pipe is aligned with lower joint.
- 2) Make up torque

OD	Nominal Weight	WT	J55 / K55 (ft-lbs)			L80 / N80 (ft-lbs)		
			in	lbs/ft	in	Min.	Opti.	Max.
1.66	3.03	0.191	360	400	440	480	530	580
2 3/8	4.6	0.190	800	1,000	1,200	900	1,100	1,300
2 7/8	6.4	0.217	1,500	1,750	2,000	1,700	1,900	2,100
3 1/2	9.2	0.254	2,000	2,400	2,800	2,200	2,600	3,000
4	9.5	0.226	2,200	2,600	3,000	2,500	2,900	3,300
4	10.9	0.262	2,300	2,800	3,300	2,600	3,100	3,600

Note 1

OD	Nominal Weight	WT	J55 / K55 (N-m)			L80 / N80 (N-m)		
			mm	kg/m	mm	Min.	Opti.	Max.
42.2	4.51	4.85	490	540	590	650	720	780
60.3	6.85	4.83	1,000	1,300	1,600	1,200	1,400	1,760
73.0	6.40	5.51	2,000	2,300	2,700	2,300	2,500	2,800
88.9	9.20	6.45	2,700	3,200	3,700	2,900	3,500	4,000
101.6	9.50	5.74	2,900	3,500	4,000	3,300	3,900	4,400
101.6	10.90	6.65	3,100	3,700	4,400	3,500	4,200	4,800

Note 1

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Especially for small size, make-up torque should be affected by a various factors. Start with the optimum torque and check the clearance of the external shoulder.

Metal One

- a) If the external shoulder is contacted without any Box bell shape (deformation), go ahead with the torque.
 - b) If the external shoulder is opened, increase the torque by 50-ft-lbs.
 - c) If Box bell shape (deformation) would be observed, reduce the torque by 50 ft-lbs.
 - d) A series of practice above should be carried out until proper torque is found out.
- 3) In the case of pressure gauge is used instead of torque meter
Hydraulic pressure equivalent to recommended torque shall be converted from torque - pressure chart.
- 4) When higher-friction-factor thread compound is used for field running instead of the recommended thread compounds written in this procedure, following conversion shall be applied:

Friction Factor (FF)	Conversion Coefficient	Conversion of Recommended Torque
$0.8 \leq FF \leq 1.2$	1.0.	No conversion: make-up-torque shall be 1.0 x MO recommended MU torque.
$1.2 < FF$	$FF - 0.2$.	<ul style="list-style-type: none"> • If FF is 1.5 : converted make-up torque shall be 1.3 x MO recommended MU torque. • If FF is 2.0 : converted make-up torque shall be 1.8 x MO recommended MU torque. • If FF is 2.5 : converted make-up torque shall be 2.3 x MO recommended MU torque.

"Friction Factor" is relative to API 5A3

- 5) It is strongly recommended to lower the RPM prior to shouldering less than 10 RPM to avoid over-shooting of torque.
- 6) For first 10 joints, check make up position
External shoulder shall be completely closed.
If not closed, increase torque until shoulder closed.

Torque may be deviated from the recommendation depending on thread compound used, and very hot or very cold temperature may change friction factor of thread compound.

PULLING

1. Preparation

- 1) Same precaution shall be paid as running
- 2) Wooden platform for standing back (Refer to API 5C1)
- 3) Clean thread protector should be available prior to laying down or standing back.

2. Breaking out

- 1) Back up tong shall be applied on the location about 1 foot from box face.
- 2) After breaking loose, great care should be paid not to over spin to prevent galling.
- 3) Great care should be exercised to disengage all of the thread before lifting a pipe out of coupling.

3. Setting back

- 1) Pipe should be set on a firm wooden platform when set back in the derrick.
- 2) Protect thread from dirt or injury when the pipes are out of hole.
Thread protectors should be installed on pin.