

Field Running Procedure of INTEGMAX

Rev. N2 : Torque table revised and shown with underline

RUNNING

CONFIDENTIAL

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.
- 5) Thread dope on threads may be contaminated during storage, therefore it is recommended to check the condition of dope and clean entire pin and box threads if contaminated.

2. Preparation

- 1) Prior to making up any connection, original thread dope or storage compound must be removed. Diesel oil shall not be used to clean connection.
- 2) Ensure the thread compound is available
API RP 5A3 modified or Best-o-life 2000 is recommended unless customer specifies otherwise.
- 3) Apply thread dope to **cover 100% thread area on pin and box and external and internal shoulder** uniformly.
- 4) Lift sub should be installed before lifting INTEGMAX.
- 5) Slip type elevator is recommended, and slips are of correct size to accommodate size and length of casing.
Make certain slip good working order, so do not egg the pipe.
- 6) If collar type elevator is used, it is recommended to apply safety clamp when lifting sub is off.
- 7) Check for traveling block alignment
- 8) Power tongs with lead line at 90 degrees and level with tong.
Ensure that accurate torque monitoring device is available.
- 9) Make sure that the meter indicates torque (ft-lbs) or load (lbs).
- 10) 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 box of the pipe set in the slip.
If stabbing guide is not available, ensure not hit pin on box during stabbing.
- 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 box with a brush.
- 4) Remove the pin protector and apply thread compound on the 100% pin threads with a brush.
- 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) It is strongly recommend to turn pipe by hands up to hand tight.**
(This is quicker and safer than rotating with high speed like 25 RPM.)
- 3) Recommended Make up torque (ft-lbs)

OD	Nomi. Weight	WT	J55 / K55				L80 / N80				P110			
			in	lbs/ft	in	Min.	Opti.	Max.	Ope. Max.	Min.	Opti.	Max.	Ope. Max.	Min.
2 3/8	4.7	0.190	1,000	1,200	1,400	1,500	1,200	1,400	1,600	1,800	1,400	1,600	1,800	2,300
2 7/8	6.5	0.217	2,300	2,500	2,700	3,000	2,500	2,700	2,900	3,200	3,100	3,400	3,700	4,300
3 1/2	9.3	0.254	2,900	3,200	3,500	4,100	3,500	3,900	4,300	5,000	4,700	5,200	5,700	6,700
4	11.0	0.262	4,000	4,400	4,800	5,600	4,600	5,100	5,600	6,600	6,300	7,000	7,700	9,000
4 1/2	12.75	0.271	5,000	5,500	6,000	7,000	5,900	6,600	7,300	8,600	8,100	9,000	9,900	11,700

* Ope. Max. = Operational Maximum Torque (Absolutely Max. Torque)

If higher torque is required from application, torque can be increased up to Operational Max.

- 4) It is strongly recommended to lower the RPM prior to shouldering less than 10 RPM to avoid over-shooting of torque, possible 5 RPM or lower.

- 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.

- 5) For first 10 joints, check make up position
External shoulder shall be completely closed.
If not closed, increase torque until shoulder closed.
Torque can be increased up to Operational Max. Torque.

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

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 overspin 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.