



Safety Alert #237

REVISION A

“Lessons Learned”

To: All Frank's locations
Subject: **High Potential Near Miss Incident – Involving a Belt Tong** Gearench SCT2036
Purpose: Lessons & Awareness to Prevent a Recurrence; *Interim Torque Ratings* / Limits to be used while investigation continues.

Incident

A High Potential Near Miss incident has occurred on a Frank's job while making up 36” conductor pipe using a Belt Tong. Three joints had been made-up to 40,000 ftlbs of torque. When making up the fourth connection, the driller reached approximately 25,000 ftlbs when part of the tong fractured and fell approximately 5ft to the drill floor. No personnel were injured in this incident as procedures had been followed and all personnel had moved to places of safety during the make-up operation (see *Figure 1*).

This failure is still under investigation by the FRANK’S Lafayette engineering department. *However, it is important that the metal components of ALL Belt Tongs assigned to your location have been MPI inspected since 11 January 2008.* (The initial release of this Alert instructed all locations to MPI as soon as possible, but allowed Dye Penetrant Testing as a temporary alternative. At this time, all tongs not MPI inspected since 11 January 2008, are to be MPI inspected prior to use.)

Possible Contributing Factors

- Damage from previous use of the tong without ensuring that the latch pin was fully engaged with the lower Yoke Plate overloaded the upper Yoke Plate and created cracks. With time and subsequent use, these cracks grew to the point that the upper Yoke Plate was no longer able to resist the load, ultimately fracturing the plate.
- Quality control issues, while not directly responsible for this incident, have been uncovered. The problem relates to the strength of the plate not fully meeting specification.

Corrective Action

- **Immediately** MPI all Belt Tongs, not already inspected since 11 January 2008, per the manufacturer’s guidance attached, Frank's maintenance procedure OPS-P-4.1.6 and Frank's inspection procedure EI-P-4.1.8.
- **Always** ensure that the belt retaining pin is fully engaged before commencing make-up / break-out operations. As always, ensure that all personnel stay clear of tools during make-up & break-out operations.
- Due to quality issues recently discovered relating to a lower than specified material strength in the Yoke Plates, FRANK’S is imposing lower *Interim Torque Ratings* for these tongs. (See *TABLE 1*) These limits will remain in effect until the issues can be resolved and additional corrective actions taken. At that time, Service Bulletin 150 and this Safety Alert will be revised, and re-issued.



Figure 1

***** Model SCT2036 Interim Values *****				
Pipe Size	Tong Handle		Interim Operating Limit	
	Inches	Feet	Line Pull (lbs)	Torque (ft-lbs)
18"	45.65"	3.80'	15,609	59,375
18 3/8"	45.83"	3.81'	15,713	60,000
18 5/8"	45.95"	3.83'	15,831	60,625
20"	46.62"	3.88'	16,088	62,500
22"	47.60"	3.96'	16,544	65,625
24"	48.56"	4.04'	16,991	68,750
26"	49.54"	4.12'	17,409	71,875
28"	50.51"	4.20'	17,819	75,000
30"	51.48"	4.29'	18,213	78,125
36"	54.40"	4.53'	19,300	87,500
38"	55.38"	4.61'	19,638	90,625

NOTE:
 Ratings based on use of Heavy Duty Belts - 1/4" thick x 7.3/4" wide

Table 1