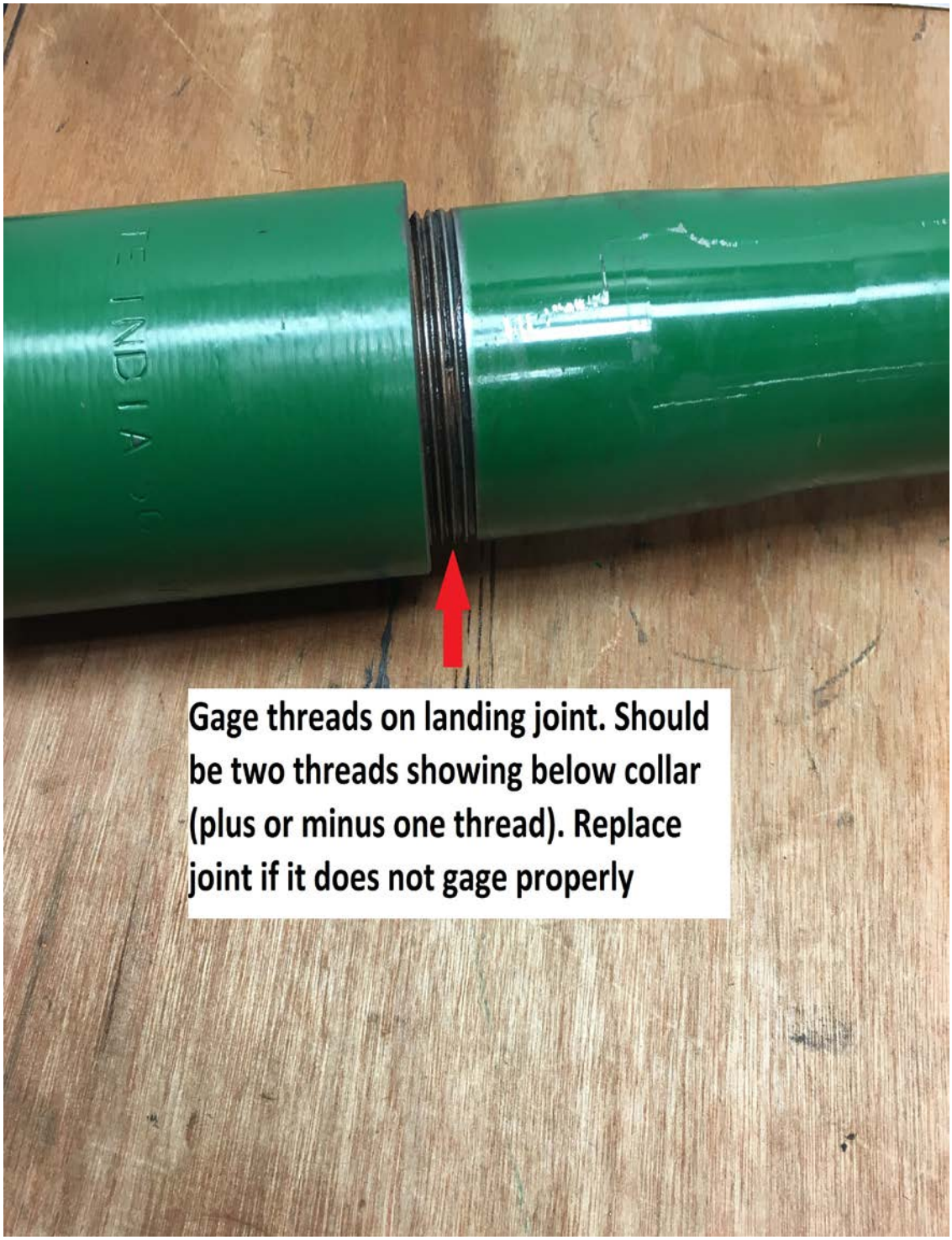
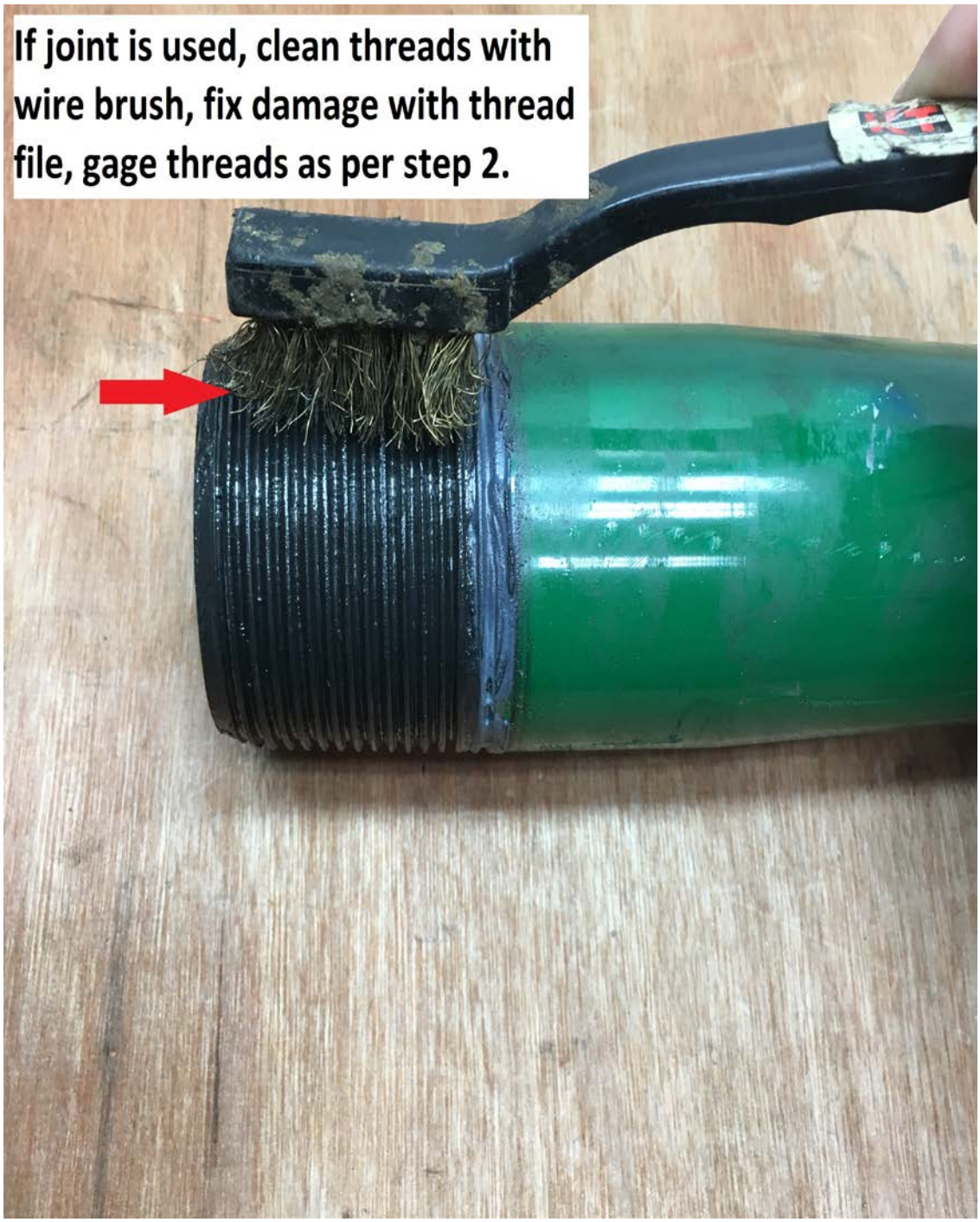
PUMPING TEE INSTALLATION

1. When using new tubing or a new tubing sub for the landing joint, carefully select one that has the best thread appearance (i.e. remove thread protector and inspect threads prior to setting slips and before rig moves off location). Never assume a new joint or sub selected at random will have perfect or undamaged threads.

2. In addition to a visual inspection, gauging the threads on the landing joint with a new API monogrammed tubing collar is highly recommended. When collar is installed hand tight, there should be two threads (plus or minus one thread) visible below that collar. Replace the joint if it does not gauge properly.



3. If using old tubing or a used sub for the landing, thoroughly clean the threads with a wire brush and dress any MINOR thread damage with a small triangular file or with a thread file. Remove all fittings and gage threads as per step 2.



4. Brush the tee threads to remove any accumulated debris and liberally apply clean anti-galling thread lubricant (apply to joint threads for female tees) such as Bostik Never Seez & Lubricating Compound ™, Jet-Lube ™, Kopr-Kote ™, Fel-Pro C5A ™, Saf-T-Ease ™ regular anti-seize compound, or equivalent compounds. If these compounds are not available, then any thread compound meeting API Bulletin 5A2 can be used. However, such API Modified thread compounds may or may NOT be as resilient to thread galling as the first four compounds listed above.

NEVER USE TEFLON TAPE BY ITSELF-IT CAN BE PUSHED OFF ONE OR MORE THREADS DURING THREAD MAKE-UP, ALLOWING METAL TO METAL CONTACT AND ALMOST CERTAIN THREAD GALLING AND SEIZURE. COAT BOTH THREADS WITH ONE OF THE COMPOUNDS LISTED ABOVE FIRST AND THEN APPLY TEFLON TAPE IF DESIRED.

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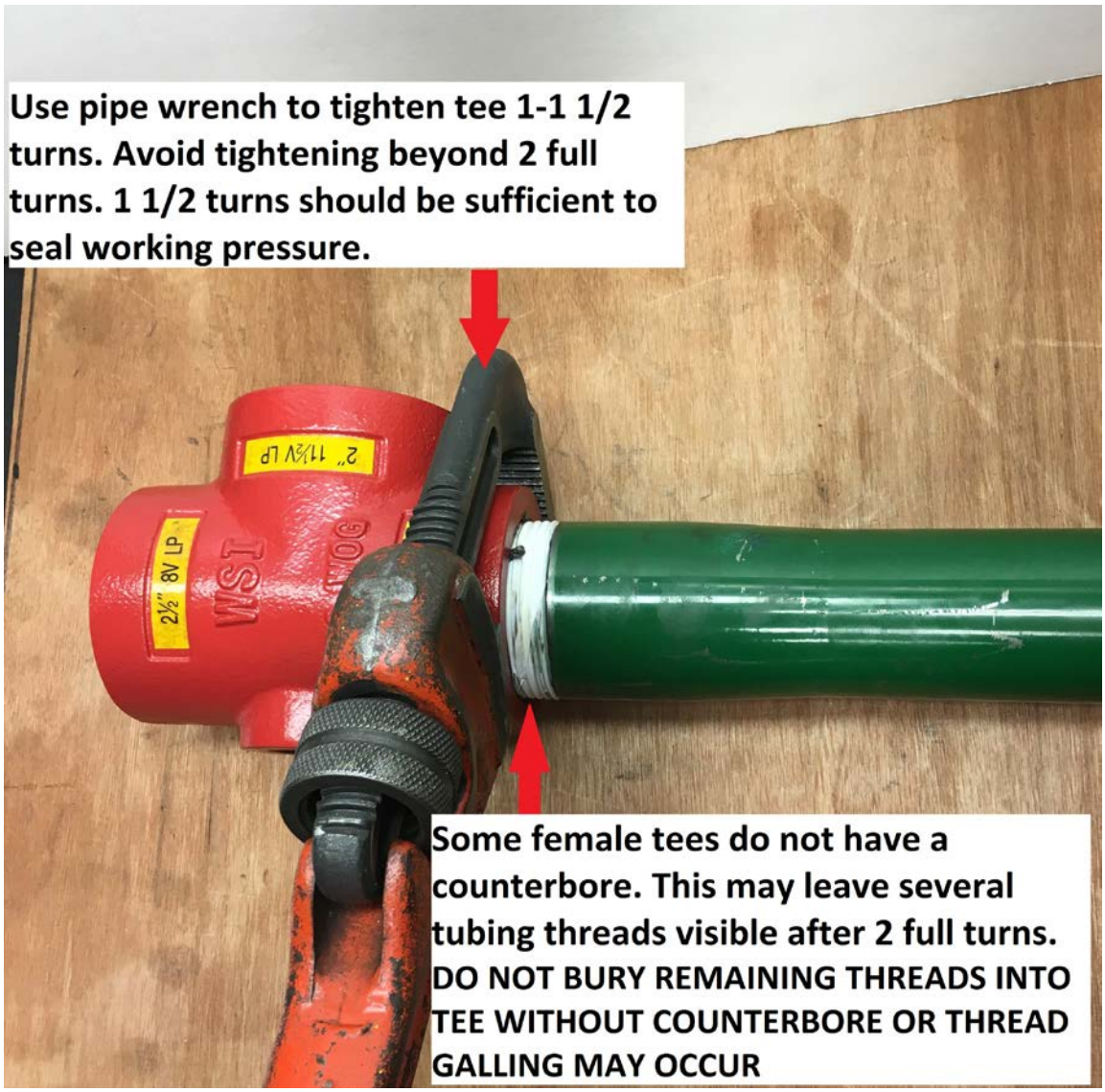
5. Tighten the tee as tightly as possible by hand. Then, using a pipe wrench or chain tongs, tighten the tee 1-1 ½ turns. If flow line does not line up with outlet, tighten up to an additional ½ turn. Tightening the tee beyond 2 full turns past hand tight should be avoided if at all possible. Usually only 1 ½ turns beyond hand tight is sufficient to seal working pressure.



6. Please note that the female threads in certain tees do not use a counterbore and several tubing and/or nipple threads may still be visible even after tightening up to 2 full turns.
DO NOT TRY TO BURY THE REMAINING MALE TUBING OR NIPPLE THREADS INTO A TEE MANUFACTURED WITHOUT A COUNTERBORE OR THREAD GALLING MAY OCCUR.