EZ-TORQUE TIGHTENING INSTRUCTIONS:

BEFORE TIGHTENING

Determine the target jackbolt torque, which is located on the nut diameter, or call ADB.

If using air impacts: Select a tool with output of about 100% - 110% of the target torque. See “Air Impact Tool Selection”.

Preparation:

1. Confirm jackbolts are lubricated with correct lubricant (JL-G or Molykote P-37). New product is pre-lubricated at the factory.
2. Make sure the jackbolt tips are flush (or recessed) with bottom of nut body.
3. Lubricate bottom thread of hoist ring.
4. Lubricate the washer face or jackbolt tips with correct lubricant (JL-G or Molykote P-37).

TIGHTENING SEQUENCE

1. Thread hoist ring stud until the until the hoist ring bushing is seated against the mounting surface and the top nut seats against the washer. Back the stud off 1/4 turn. There should be a 1mm to 3mm gap between the washer and nut, and the hoist ring bushing should remain seated against the mounting surface.
2. Tighten (4) jackbolts by hand or using a small wrench to center the main thread and to eliminate clearances. Tighten bolts crosswise.
3. Now tighten these same (4) jackbolts crosswise with 50% of the recommended jackbolt torque. If using an impact, use a reduced setting or lightly pulse the trigger at the full setting.
4. Tighten the same (4) jackbolts crosswise with 100% of the recommended jackbolt torque
5. Now change to a circular tightening pattern and tighten all jackbolts with 100% of the recommended jackbolt torque.
6. Repeat step 5 until all jackbolts are equally tightened (less than 10° remaining movement).

Note: Product with 4 or 6 jackbolts – use a star pattern for all steps.

EZ-TORQUE LOOSENING INSTRUCTIONS:

Warning! Loosening requires an exact procedure. The jackbolts must be unloaded gradually! Under no circumstances unload single jackbolts completely. The remaining jackbolts would have to carry the entire load and, therefore, would be difficult to loosen. In extreme cases, the jackbolts could deform and make loosening impossible!

SEVICE UNDER 200º F

Preparation: Spray jackbolts with penetrating oil prior to start (especially if product is in a corrosive environment).

1. Loosen each jackbolt 1/4 turn following a circular pattern around the tensioner (1 round only). As you move around and get back to the 1st jackbolt, it will be tight again.
2. Repeat a 2nd round as above, loosening each jackbolt 1/4 turn in a circular pattern.
3. Continue loosening 1/4 turn for 3rd and successive rounds until all jackbolts are loose.

Note: Usually after the 3rd or 4th round, an impact can be used to completely retract the jackbolts, one by one.

4. Remove, clean, and re-lubricate the jackbolts prior to next use with correct lubricant (JL-G or Molykote P-37).

SERVICE OVER 200º F

Preparation: Above 300º F the petroleum base of the lubricant burns off. Oil per step 1 below to reduce the removal torque.

1. If possible, apply penetrating oil during cooling of the installation (at approx. 300º F). At higher temperatures use synthetic oil.
2. Wait for hoist ring to cool below 200º F. Using a circular pattern, “crack” each jackbolt only enough to ensure movement. Do not turn beyond the break loose point.
3. Now begin with step 1 of the procedure for service under 200º F.

Warning! Removing the jackbolts more than a 1/4 turn will increase the removal torque of the remaining jackbolts and you may get stuck. If this happens, you will have to retighten and start again.

Issue: Jackbolts cannot be loosened:

1. Try to free at least one jackbolt.
2. Remove, lubricate well and tighten with 110% of the recommended jackbolt torque.
3. You should then be able to loosen the two neighboring jackbolts.
4. Remove also, lubricate and tighten with 110%. Again the next two jackbolts should become free. Repeat.
5. Afterwards release all jackbolts according to loosening procedure.

EZ-TORQUE LUBRICANTS

Hoist Ring Bottom Thread: Any suitable anti-seize lubricant can be used.

Jackbolts: The jackbolts are pre-lubricated from the factory with graphite (JL-G or Molykote P-37) lubricant. For reuse after high temperature service, remove clean and re-lubricate the jackbolts with the correct lubricant. For best results, also lubricate the female threads.

Washers: For the upper face (contact with jackbolts) use JL-G or Molykote P-37 lubricant.

AIR IMPACT TOOL SELECTION

Note: The jackbolt torque actually achieved by an air impact wrench is usually only 30-50% of its rated output. For minimum hand work, use an impact with an output of 110%-120% target torque. For maximum power, the largest possible air lines and couplings should be used. Impact tools are suitable to a torque of max. 150 – 180 ft-lbs. Pneumatic wrenches are recommended for large torques, which offer the same control as the impact tools.

- up to 50 ft-lbs 3/8” impact tool or air ratchet
- 50-95 ft-lbs 1/2” impact tool, derated (Attention: Do not overshoot!)
- 95-150 ft-lbs 1/2” impact tool
- 150-200 ft-lbs 1/2” impact tool (handy) or 3/4”
- over 200 ft-lbs 3/4” impact tool or 1”

Adjustment of the correct torque: Tighten one jackbolt to the desired torque with the torque wrench. Then, apply the air impact tool and increase the pressure until the jackbolt starts turning again.

Verifying the torque output of an air impact tool is easy: Tighten until tool stalls, then measure the torque with a torque wrench (preferably with electronic gauge).

When tightening air impact tools are especially suited for tightening sequence steps 2 through 6 and should be adjusted to approx. 90 to 100% of the rated torque.

Important: Because of the lower accuracy of power tools, the last tightening round should always be performed manually with a precision torque wrench.

Attention: Only use air impact tools for tightening, never for loosening.