



Best Practice

Title: Care of Quick Disconnect Flanges
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Introduction

Most concrete saws use quick disconnect flanges that are affixed to the blade shaft via a bolt. The blade shaft is manufactured with internal threads that are subject to wear over time and with prolonged use. The purpose of this Best Practice document is to provide advice and guidance on how to care for blade shaft threads and flanges to maintain safe cutting and prevent premature wearing of these parts.

1. Blade Shaft Threads (Bolts)

The threads, both the internal in the blade shaft and the external on the bolt, are subject to wear. The threads wear as a result of repeated tightening. Several precautions can be taken to prevent excessive and premature wear of the threads:

- Always use fasteners (bolts and washers) that have the same specification as those provided by the original equipment manufacturer. Using a bolt that is weaker (softer) or stronger (harder) than the original equipment bolt may compromise the performance of the machine. Using a bolt that is longer or shorter than the original equipment bolt could compromise the bolted joint, as could using a different number of washers and washers of different thickness than the original.
- Keep the thread clean. Both internal and external threads should be cleaned with a wire brush. It is important to keep the threads clear of slurry and dust. Water or a water displacing fluid (WD-40) can be used to flush out internal threads.
- Make sure that the internal thread is thoroughly cleaned. If slurry and other contaminants are not cleared from the thread, the bolt may bottom on the contaminants resulting in a bolt that cannot be tightened against the blade fully.
- Keep threads dry. Do not lubricate the threads. Lubrication attracts contaminants resulting in excessive wear. The torque specification for the blade shaft bolt is established with dry, clean threads.
- Tighten the bolt to the proper torque. Over tightening the bolt can lead to premature failure and excessive wear. Refer to the saw manufacturer's recommendation for the proper torque specification.



Figure 1 – A Typical Blade Shaft Thread (Bolt)

Remember, threads are wear items that need to be replaced occasionally. When the threads on the bolt and blade shaft become worn, they cannot maintain the proper torque specifications. If a blade shaft bolt continuously loosens, the threads on the bolt should be inspected. It is simple to visually inspect the threads of a bolt. If the threads are not sharp and well defined, they are worn and the bolt should be replaced.

Internal threads are not as easy to inspect. A new bolt can be screwed into the internal thread. If the bolt can be moved excessively axially or normal to the blade shaft, then the internal threads may be worn and the blade shaft may also require replacement.

2. Flanges

Make sure that the inner and outer flanges are not worn excessively. ANSI Standard B7.1-2010 recommends that the flanges be at least 1/6th of the outside diameter of the blade. Inner and outer flanges must be matched in diameter. It's recommended that if a flange requires replacement, that the adjacent flange be evaluated to ensure that the flanges are still a matched pair.

2.1. Outer Flange

- Make sure the flange does not have excessive wear to the outside diameter.
- Make sure that the mating surface is clean and free of burrs or high spots.
- Make sure that the pilot diameter (where the blade rests) is not worn.
- Make sure that the outer flange pilots into the blade shaft without excessive slop.

2.2. Inner Flange

- Make sure the flange does not have excessive wear to the outside diameter.
- Make sure that the mating surface is clean and free of burrs or high spots.
- Make sure that the inner flange pilots onto the blade shaft without excessive slop.

2.3. Dowel Pin (Flange Pin, Drive Pin)

- A dowel pin(s) must be present and be used in accordance with manufacturers recommendations.
- Inspect the dowel pin for excessive wear or damage and replace as necessary.

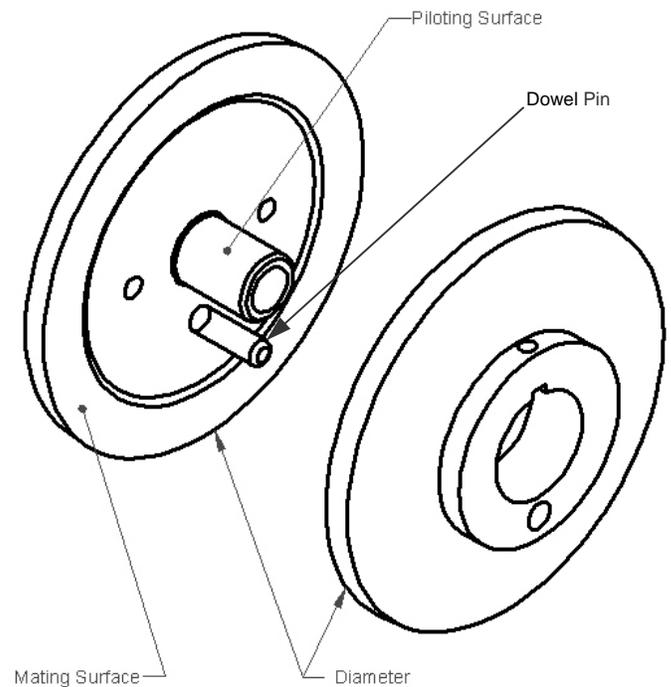


Figure 2 – A Typical Flange Design

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