



PROFESSIONAL GOLF CLUBS AT DOWN TO EARTH PRICES

Basics of Shaft Abrasion

with Jeff Summitt
Technical Director, Hireko Golf

Thursday May 26, 2010
2-3PM Eastern Standard Time

Audio settings are set on listen only.
Please post questions in the upper right hand corner Chat box.
Question & Answer period will be at end of webinar.

www.hirekogolf.com

800 367-8912



Use the Proper Techniques for the Foundation of a Long Lasting Bond

One of the Most Crucial Steps in Assembly

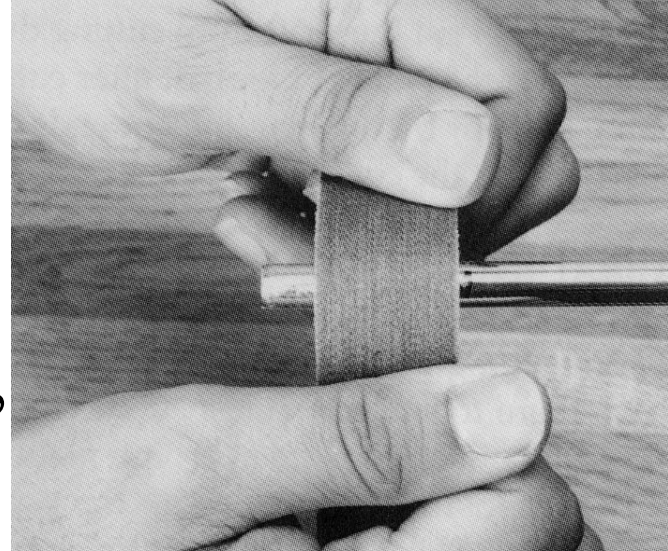
Steel versus Graphite preparation

Manual versus Motorized methods of abrasion

You Chose Amongst the Following Methods for Abrading the Shaft for Your Shop

Hand Sanding

- Low cost
- Manual, time consuming
- Recommended for graphite, but can be used for steel shafts too
- 80-grit for steel and 120 or 150-grit for graphite / composite shafts



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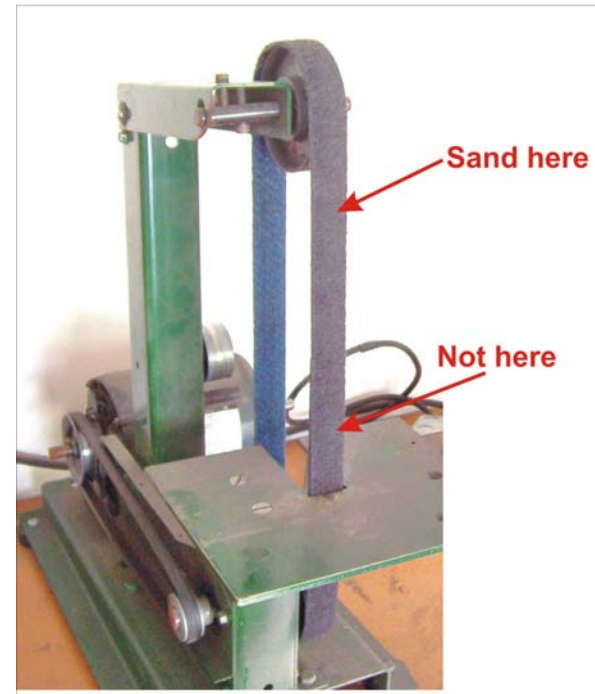
Hand Filing

- Low cost
- Manual, time consuming
- Recommended for steel shafts only!



Belt Sander

- Expensive at first, but a one time purchase
- Motorized & great time saver
- Recommended for all shafts with proper belt
- Decide on what size belt sander works for your shop and budget



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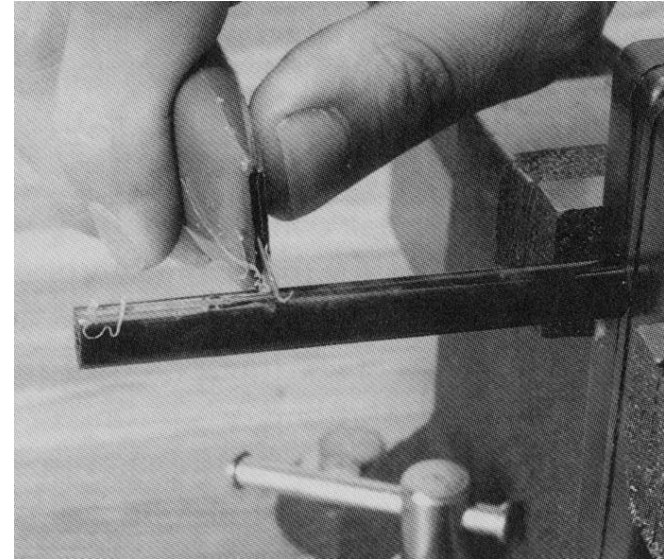
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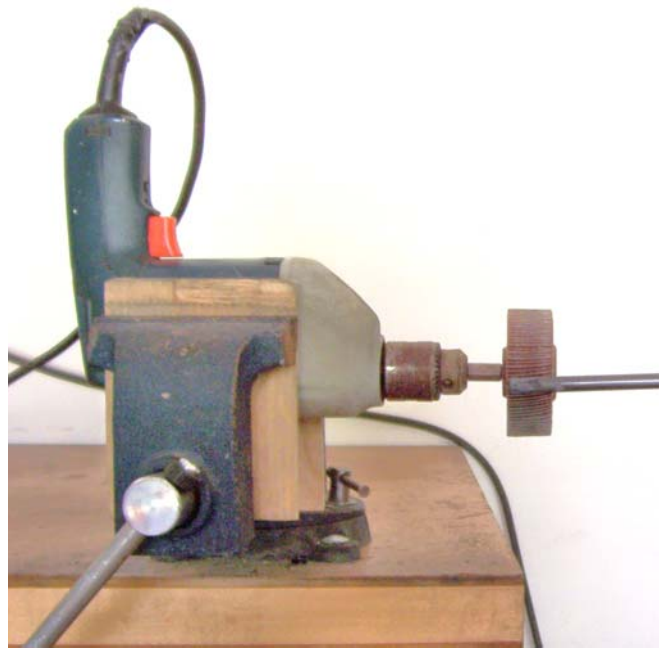
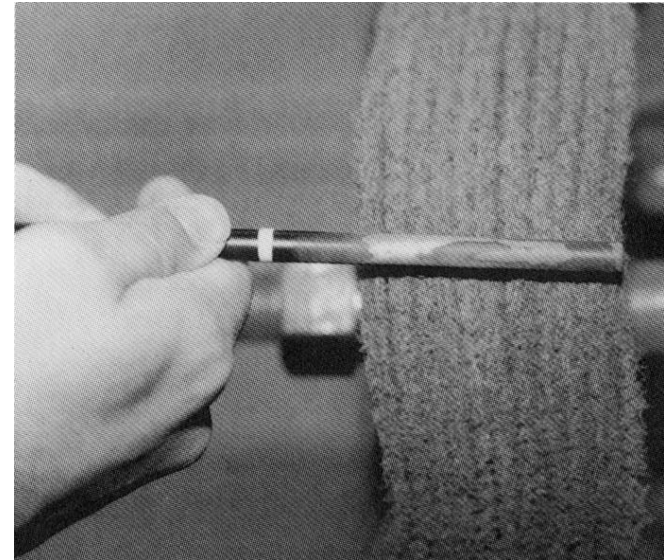
Scraping with Knife Blade

- Low cost
- Manual, time consuming
- Recommended for graphite shafts only!
- Use extra precaution to ensure the proper amount of abrasion without damaging shaft



Motors, Arbors and Hand Drills

- Less \$\$\$ than belt sanders
- Faster than by hand



- Recommended for graphite shafts, can be used for steel shafts with proper grit and pressure

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Inadequate Abrasion

- Graphite shaft has too much paint shown and barely broke urethane finish
- Steel shaft has soft satin finish or lightly scratched
- Good chance epoxy bond may fail



Not enough abrasion

Correct Degree of Abrasion



**Correct amount
of abrasion**

- Graphite shaft has most paint remove and uniform, although not necessary to remove all paint
- Steel shaft has a rough texture and uniform around total circumference of the shaft
- Best chance epoxy bond will remain intact for a long time

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Too Much Abrasion

- Graphite shaft has a pronounced step and will break sooner or later
- Steel shaft has flat spot making it too thin and could break off inside the hosel
- Stay clear regardless of a good epoxy bond



Too much abrasion

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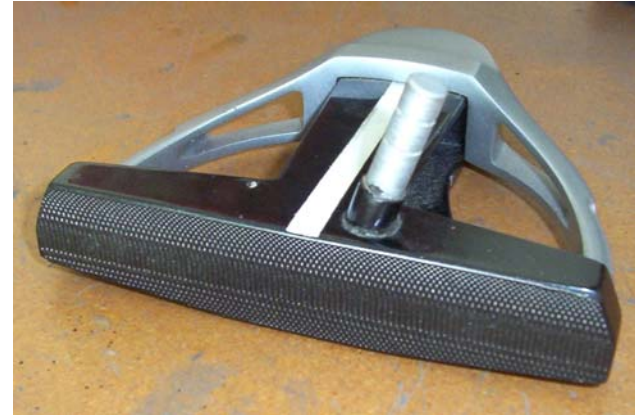
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Tips and Techniques

- Sand the post on over-the-hosel assemblies
- Again, don't over-abrade graphite & very lightweight steel shaft to avoid premature breakage
- Re-bore the hosel to accept a graphite shaft on the plus side of the tolerance - DO NOT sand more otherwise increases chance shaft will fail



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THANK YOU FOR ATTENDING!

The webinar will be posted on **youtube.com/hirekogolf** and on our blog at **blog.hirekogolf.com** in just a few hours.

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