

Narex Chisel Shoot Out



Black

VS.



Blonde

versus

Goal

To perform a blind, objective, side-by-side evaluation of two identical 12 mm Narex chisels assessing for differences in steel quality.

Note: one chisel had a stained handle, the other was unfinished

Chisel Preparation

- Cleaned off protective coating
- Lapped chisel backs using 1000, 4000 and 8000 grit Shapton stones to create a ¼" flat area at cutting edge
- Honed 30 degree micro bevel using 1000, 4000, and 8000 grit Shapton stones
- Removed burr with leather strop

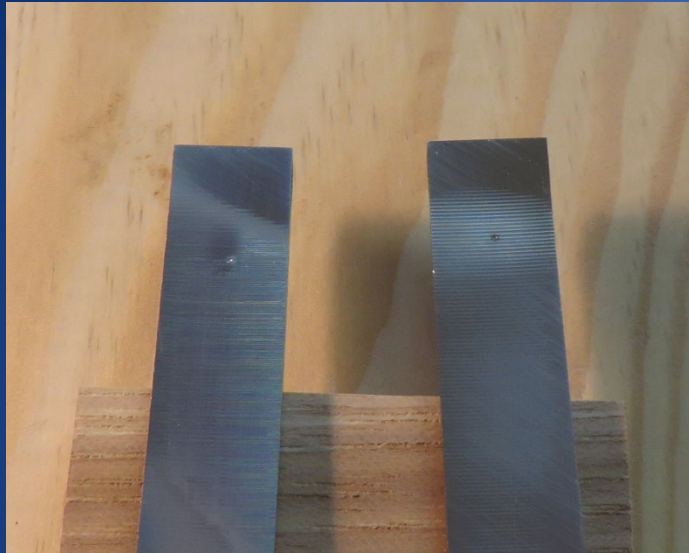
Initial Sharpening

- Black:
 - Lapped $\frac{1}{4}$ " flat on back in 20 strokes on 1000 grit stone then polished with 10 strokes each on 4000 and 8000 grit stones
 - Achieved 30 degree microbevel using Lee Valley honing guide w/ 5 strokes each on 1000, 4000 and 8000 grit stones
 - Removed burr with 3 strokes each side on leather strop
- Blonde:
 - Lapped $\frac{1}{4}$ " flat on back in 40 strokes on 1000 grit stone then polished with 10 strokes each on 4000 and 8000 grit stones
 - Achieved 30 degree microbevel using Lee Valley honing guide w/ 5 strokes each on 1000, 4000 and 8000 grit stones
 - Removed burr with 3 strokes each side on leather strop

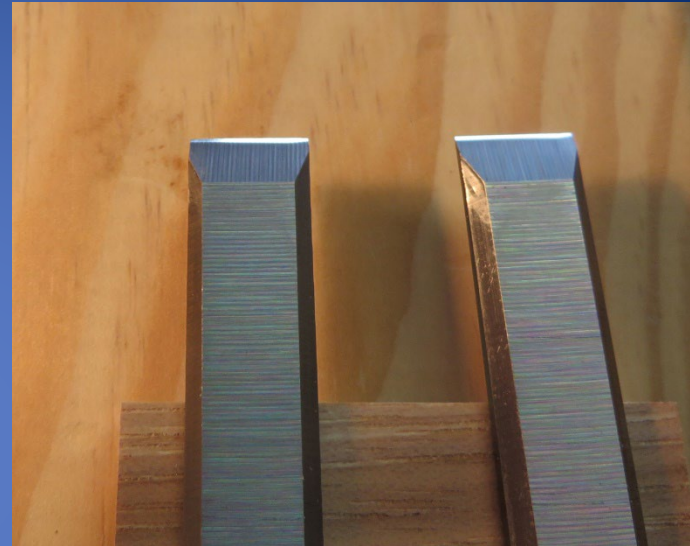
Honing 30 Degree Microbevel



Initial Sharpening Impressions



Backs-black on left



Micro Bevel-black on left

- Both backs were easily lapped flat 1/4" from edge, but blonde chisel took 40 strokes instead of the 20 needed for the black. This was most likely due to tougher steel.
- Both bevels sharpened easily to 30 degrees and achieved a razor sharp edge with minimal effort. Micro bevel was equal size on both chisels following equal number of strokes on 3 grits of Shapton stones.

Areas Assessed/Compared

- Edge retention: how well each cutting edge resists dulling
- Sharpness: how much effort required for freshly honed edge to perform chopping operation

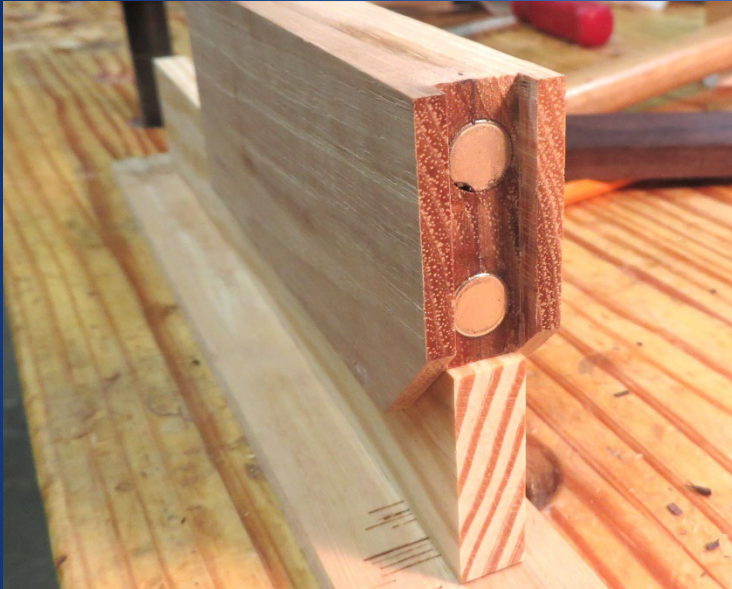
Edge Retention Test

- Goal: Perform side-by-side comparison of strength and hardness of steel by determining at what point edge failure happened
- Tested 3 woods:
 - Southern Yellow Pine-soft
 - Hickory-hard
 - Katalox-crazy hard
- Used custom paring to guide 90 degree cuts
- Document the following:
 - Assessment of cutting edge quality both visually and tactilely
 - Quality of paring cuts
 - Chisel trajectory through wood as edge degrades

Procedure

- Sharpen each chisel on freshly lapped 1000, 4000 and 8000 grit Shapton stones
- Perform the same number of paring cuts with each chisel in each of 3 woods
- Use custom 90 degree paring guide
- Slice off 1/32" slivers from end of 7/16" wide 1-1/2" board
- Observe chisel edge visually and tactilely (fingernail test) every 5 cuts and stop when obvious edge failure occurs
- Observe for any differences in cut quality
- Observe ability of each chisel to slice 90 degree cut without deviation

Paring Guide



Paring guide



In action

Fabricated paring guide with bottom slot to keep centered on wood, chisel groove with rare earth magnets to guide chisel at 90 degrees. Paring guide facilitated consistent thickness end grain slices.

Woods Tested

- Southern Yellow Pine: Janka hardness rating 690-870
- Hickory: Janka hardness rating 1800
- Katalox: Janka hardness rating 3660

Janka Hardness Scale:

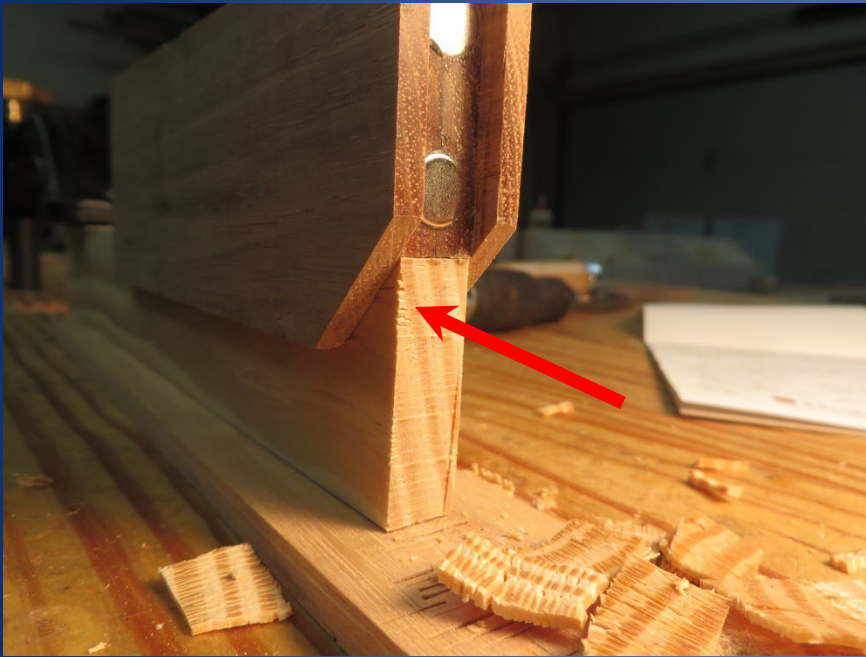
Amount of pounds-force (lb_f) or newtons (N) required to imbed a .444" (11.28 mm) diameter steel ball into the wood half the ball's diameter. This number is given for wood that has been dried to a 12% moisture content.

Southern Yellow Pine

Performed 20 slices before noticed mild edge failure

- Chisel edge
 - Black: very slight edge failure
 - Blonde: no edge failure
- Cut quality
 - Black: Some crushing of springwood
 - Blonde: smooth
- Deviation from 90 degree
 - Black: very slight deviation from 90 degrees
 - Blonde: no deviation

Cut Quality: Southern Yellow Pine



Black chisel: end grain is being crushed



Blonde chisel: end grain is smooth

Paring ability following Yellow Pine test



Black on left, Blonde on right

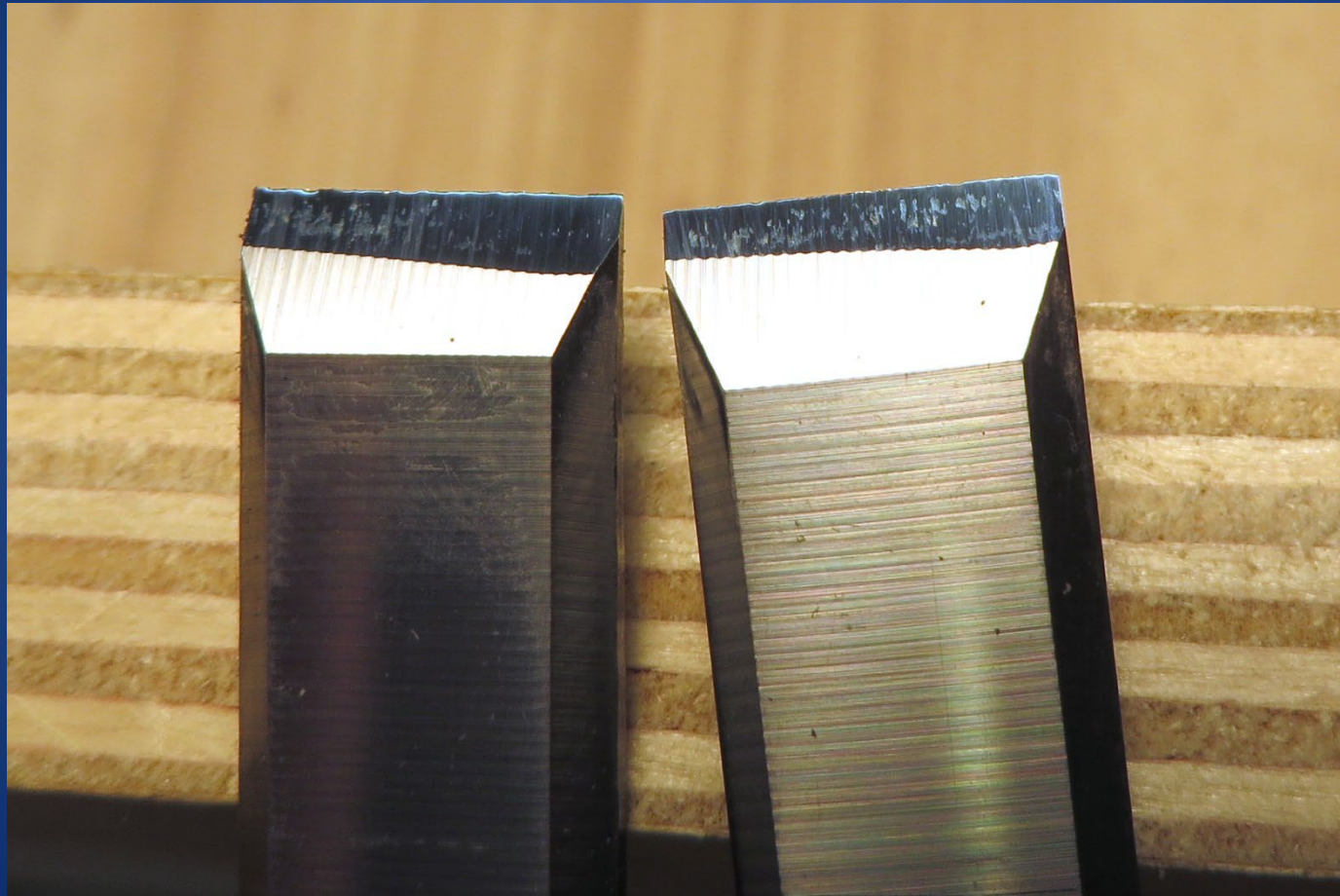
Blonde chisel was able to get full width shaving when paring Yellow Pine end grain after making 20 slices. Black chisel produced dust.

Hickory

Performed 5 slices before noticed edge failure

- Chisel edge
 - Black: moderate edge failure
 - Blonde: very mild edge failure
- Cut quality
 - Not assessed
- Deviation from 90 degree
 - Black: moderate deviation from 90 degrees.
 - Blonde: mild deviation

Hickory Test Following 5 Slices Black on left

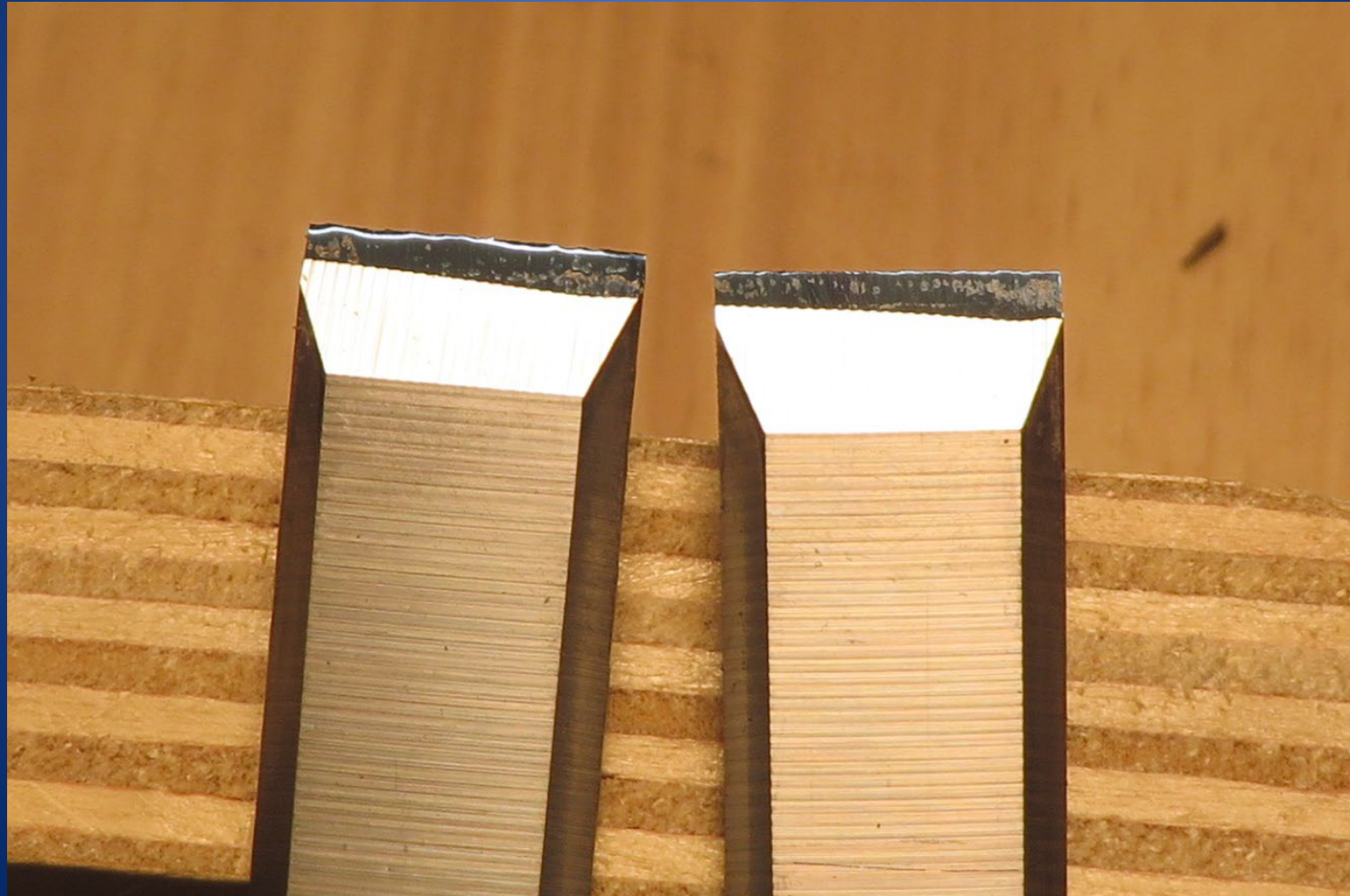


Katalox

Performed 5 slices before noticed significant edge failure

- Chisel edge
 - Black: very significant edge failure
 - Blonde: mild edge failure
- Cut quality
 - Not assessed
- Deviation from 90 degree
 - Black: very significant deviation from 90 degrees
 - Blonde: moderate deviation

Katalox Test Following 5 Slices Black on left



Sharpness Test

Procedure:

- Reground both bevels to 25 degrees and rehoned 30 degree microbevel with 1000, 4000 and 8000 Shapton stones and leather strop.
- Used each chisel to slice one 1/32" thick slice off end of 7/16" x 1-1/2" Yellow Pine board
- Counted number of mallet (weight 17 oz) blows needed to cut completely across board

Sharpness Test Results

- Black chisel: 22 blows
- Blonde: 17 blows

Impression: the blonde chisel takes a keener and sharper edge, thus requiring less effort to power through end grain cut

Conclusions

- Blond chisel significantly outperformed black chisel
 - Had significantly better edge retention with less edge fracturing
 - Produced better quality cuts on woods prone to crushing of springwood (Southern Yellow Pine)
 - Produced more accurate cuts when paring end grain in all species tested
 - Took keener edge requiring less effort to perform end grain cuts



**BLONDES
HAVE
MORE FUN**