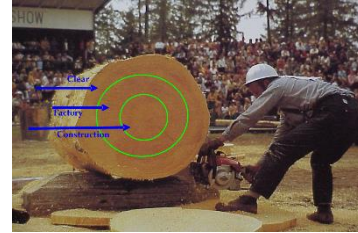


NLGA Shop – Lesson 5

I. Factory Zone:

- a) Utilized for Shop lumber with large knots, cut into clear pieces for sash, doors, and joinery.



II. NLGA:

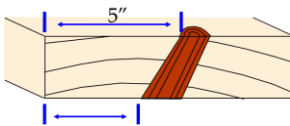
- a) Incorporated January 12, 1971, responsible for Canadian lumber grading rules.

III. Shop Lumber Grades:

- a) Based on quality and percentage of cuttings obtainable.

[illegible]

IV. Grading:



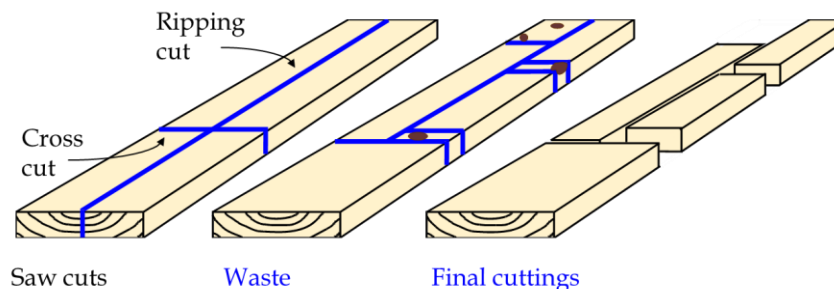
- a) From the poorest face, applied to each cutting.

V. Cutting Qualities:

- a) A (flawless), B, and C cuttings. Only "A" cuttings allowed for practical review and exam.

VI. Characteristics:

- a) Large knots, bark seams, burls, etc., must be removable by ripping and cross-cutting.



VII. Valid Cutting Sizes:

- a) **Wide Cuttings:** $\geq 9\frac{1}{4}$ inches wide, ≥ 18 inches long.
- b) **Medium Cuttings:** ≥ 5 inches wide, ≥ 36 inches long.
- c) **Full Width Cuttings:** < 5 inches wide, ≥ 36 inches long.
- d) **Sash Cuttings:** $2\frac{1}{2}$, $3\frac{1}{2}$, $4\frac{1}{2}$ inches wide, ≥ 28 inches long (for Number-Three Shop).

VIII. Grades:

- a) **Select Shop:** $\geq 70\%$ recovery.
- b) **Number-One-Shop:** 50% to 70% recovery.
- c) **Number-Two-Shop:** $33\frac{1}{3}\%$ to 50% recovery.
- d) **Number-Three-Shop:** $< 33\frac{1}{3}\%$ recovery with $> 50\%$ Sash Cuttings.
- e) **Reject:** Insufficient recovery for Number-Three-Shop.

IX. Recovery Calculation:

- a) Total cuttings (lineal/square inches) \div total piece (lineal/square inches) $\times 100$.

X. Example:

- a) 2x12x8 piece with 87% recovery, graded as Select Shop.

XI. Medium Cutting Example 1:

- a) Piece: 2 inches thick, 6 inches wide, 10 feet long.
- b) Valid medium cutting: 5 inches wide, 65 inches long.
- c) Invalid cutting: 4 inches wide, 50 inches long.
- d) Recovery: 45%, grade: Number Two Shop.

$$2'' \times 6'' \times 10' = 720 \text{ sq. in.}$$

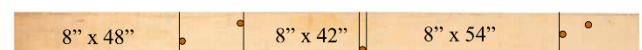


$$\begin{aligned} 5'' \times 65'' &= 325 \text{ sq. in.} \\ \del{4'' \times 50''} &= \del{200 \text{ sq. in.}} \text{ (invalid cutting size for this piece)} \\ \text{Total} &= 325 \text{ sq. in.} = 45\% \text{ Recovery} \end{aligned}$$

XII. Medium Cutting Example 2:

- a) Piece: 2 inches thick, 8 inches wide, 16 feet long.
- b) Valid cuttings: 8 inches wide, lengths of 48, 42, and 54 inches.

$$2'' \times 8'' \times 16' = 192 \text{ lineal inches or } 1,536 \text{ sq. in.}$$



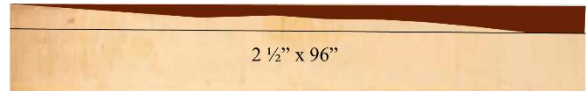
$$\begin{aligned} 8'' \times 48'' &= 48'' \text{ or } 384 \text{ sq. in.} \\ 8'' \times 42'' &= 42'' \text{ or } 336 \text{ sq. in.} \\ 8'' \times 54'' &= 54'' \text{ or } 432 \text{ sq. in.} \\ \text{Total} &= 144'' \text{ or } 1,152 \text{ sq. in.} = 75\% \text{ Recovery} \end{aligned}$$

- c) Recovery: 75%, grade: Select Shop.

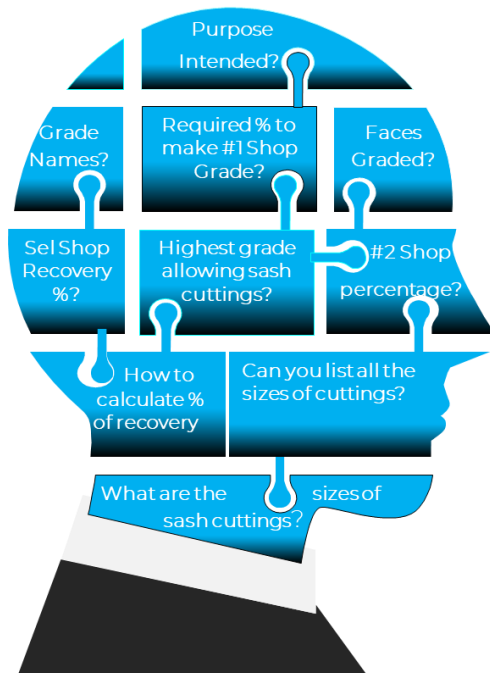
XIII. Sash Cutting Example:

- a) Piece: 2 inches thick, 4 inches wide, 8 feet long.
 b) Full-width cuttings not possible due to wane.
 c) Valid sash cutting 2½ inches wide, full length.
 d) Recovery: 62%, grade: Number Three Shop.
 e) Note: Minimum 50% sash cuttings required for Number Three Shop.

$$2'' \times 4'' \times 8' = 384 \text{ sq. in.}$$



$$\begin{aligned} 2 \frac{1}{2}'' \times 96'' &= 240 \text{ sq. in.} \\ \text{Total} &= 240 \text{ sq. in.} = 62\% \text{ Recovery} \end{aligned}$$



NLGA Shop Review

Some Thought Provoking Concepts

- 1 #2 Shop % Recovery?
33 1/3% to 50%
- 2 Grade Names?
Select Shop, #1 Shop, #2 Shop, and #3 Shop
- 3 Faces Graded?
Poorest face
- 4 What is the minimum recovery required to make #1 Shop?
50%
- 5 Purpose Intended?
Cutting Qualities
- 6 Highest grade allowing sash cuttings?
#3 Shop
- 7 What is the minimum % recovery needed to make Select Shop?
70%
- 8 What are the sizes of Sash cuttings?
2 1/2", 3 1/2", 4 1/2" wide, 28" and longer
- 9 Except sash cuttings, can you list all of the sizes of valid cuttings?
9 1/4" & wider, 18" & longer
5" & wider, 36" and longer
Narrower than 5", must be full width, 36" and longer
- 10 How do you calculate the % of recovery?
Sum of all valid cutting's area divided by total area of piece multiplied by 100