WoodTECH 2019

Selecting the Optimal Log Singulator for Your Saw Mill Infeed

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Overview

Section

1. Specialty Log Singulators - Design Options.
2. Step Feeder, Log Singulators - Design Options.
3. Comparing Step Feeder Features.
4. GCAR Design - Step Feeder Features.
5. Information and services that potential suppliers should provide.
6. Summary - Selecting the optimal Log Singulator for your saw mill infeed.
7. GCAR Design - Step Feeder Videos.

Where we are now

Where we should be going

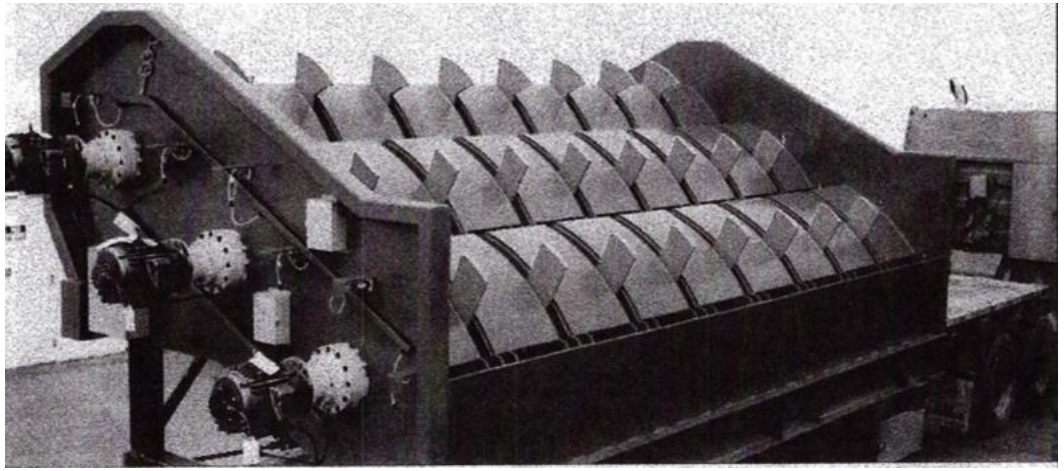
How to get there

When we arrive

Section 1: Specialty Log Singulators - Design Options

1. Springer

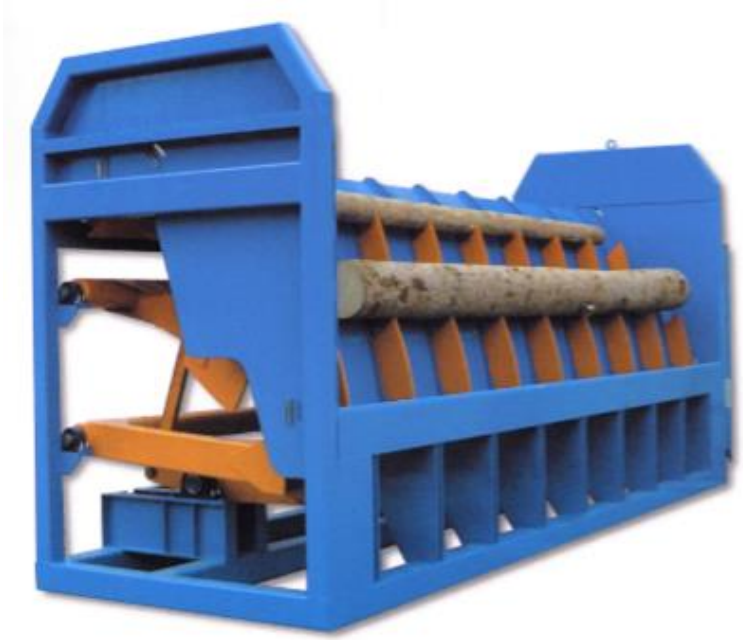
Two stage, rotary screw design complete with log ending features to a live fence with a directional screw discharge into the take-a-way conveyor.



2. Rockwell

Multistage rotary arm with individual arm drives.

Section 1: Specialty Log Singulators - Design Options



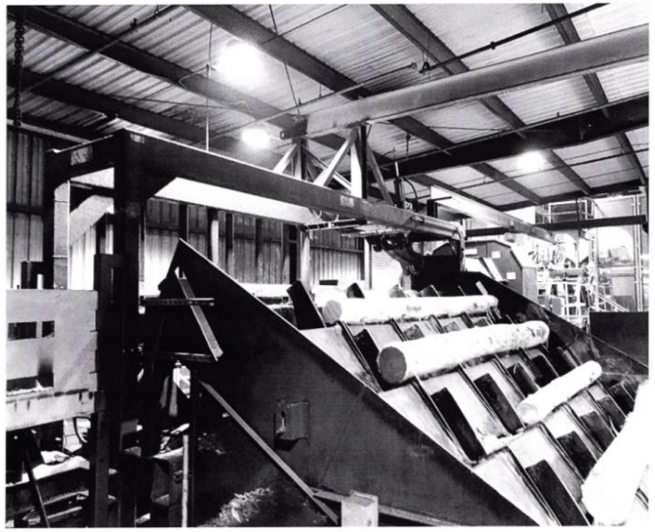
3. GCAR - VLS
Double acting, balanced reciprocating arm design, complete with a stop and loader discharge.

4. Timber Automation (LogPro)
Three connected profiles on each arm that reciprocate, to elevate, stop, then load, using a single drive.

Section 1: Specialty Log Singulators – Design Options

5. Linden – Log Ladder
Multistage reciprocating stop and loader arm design using individual drives.

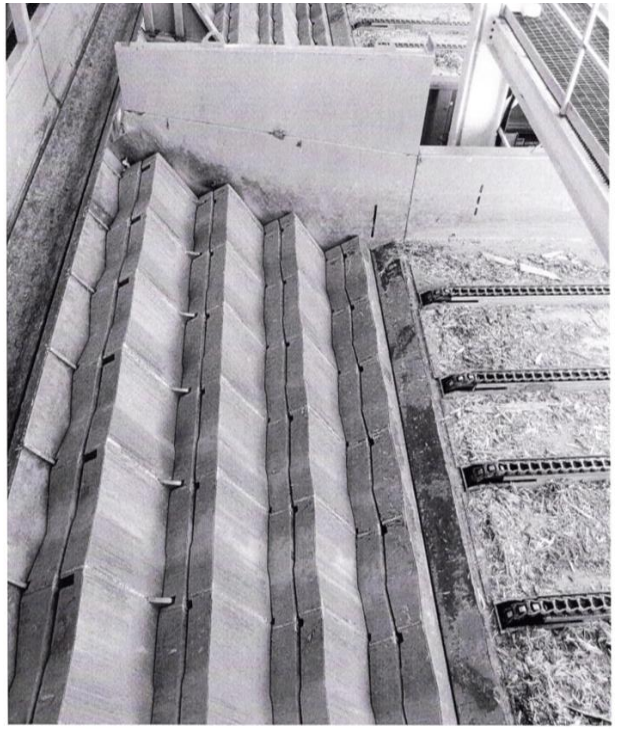
6. Linden – Quadrant
Two stage, reciprocating single or double acting design, with a stop and loader discharge.



7. Linden – S.A. Step Feeder
Single acting, reciprocating, unbalanced design.

Section 2: Step Feeder, Log Singulators - Design Option

Self Cleaning - Double Acting



1. Comact – Wave Feeder
Shallow faced, self cleaning, double acting, step feeder.

2. Linden – Step Feeder
Steep faced, self cleaning, double acting, step feeder.

Section 3: Comparing Step Feeder Features

Where we should go from here…..

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Section 3: Comparing Step Feeder Features

Item		Standard Step Feeder Design	GCAR Step Feeder Design
1.	Difficult custom designs for unique situations	No	Yes
2.	Suitable for large dense logs	No	Yes
3.	Two step design to fit inside a standard shipping container	No	Yes
4.	Dual module design for critical applications	No	Yes
5.	Electrically interlocked safety pin	No	Yes
6.	External drive and mechanism	No	Yes
7.	Log singulating cams at every step	No	Yes
8.	Shop mounted control devices	No	Yes

Section 4: GCAR Design Step Feeder Features

Canadian Patent# - 2829448 U.S. Patent# - 9102475 B2

Safety Pin & Holder
(running location)

Interlock Switch

Spare Bumpers

Safety Pin location
(servicing location)

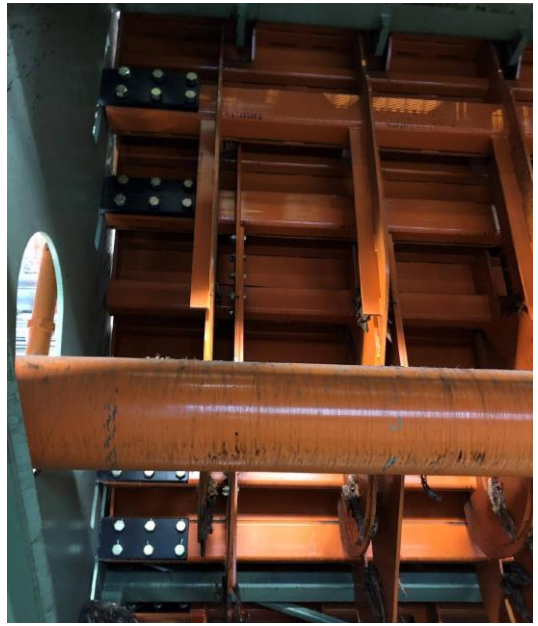
Worker Safety

Essential in a modern sawmill

Section 4: GCAR Design Step Feeder Features

Canadian Patent# - 2829448
U.S. Patent# - 9102475 B2

Standard Step feeder interior
(Residuals on both drive and structural members)



GCAR Design interior

External Drive & Non Obstructing Structural Design

Results in minimal weekend cleanup

Section 4: GCAR Design Step Feeder Features

Canadian Patent# - 2829448 U.S. Patent# - 9102475 B2

Gear motor conveniently located for crane access

All mechanism wear components easily accessible

Customized grease nipples

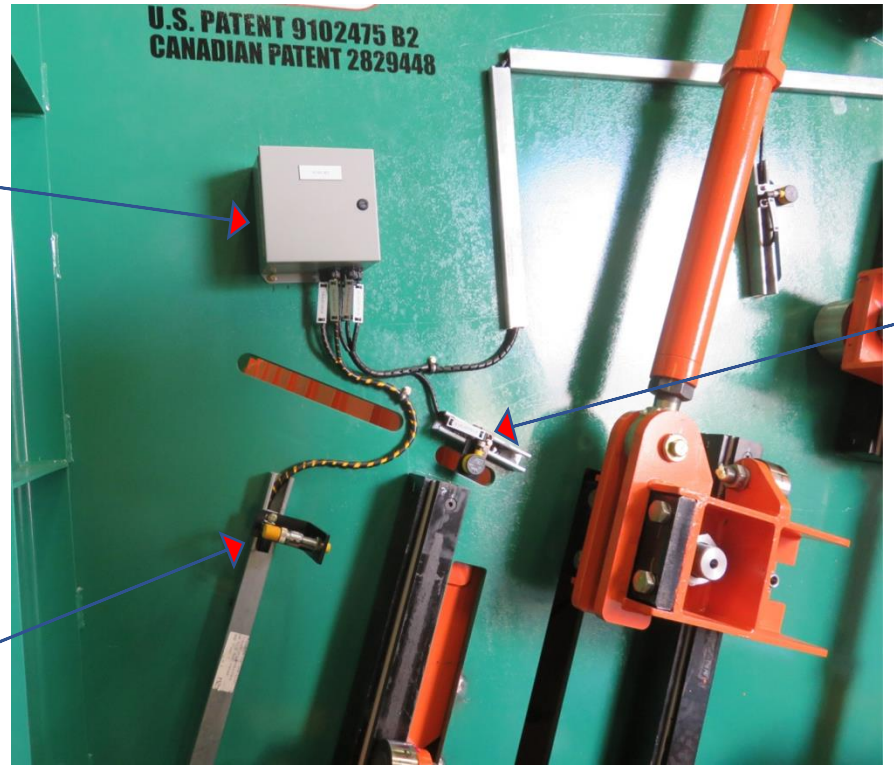
External Drive and Mechanism

Enables convenient inspection and worn part replacement

Section 4: GCAR Design Step Feeder Features

Canadian Patent# - 2829448 U.S. Patent# - 9102475 B2

Junction Box



Photocell for Log Presence Detection

Mechanism Proximity Switch

Shop mounted control devices

Reduces installation cost

Section 4: GCAR Design Step Feeder Features

Canadian Patent# - 2829448 U.S. Patent# - 9102475 B2

All critical threaded connections use Nord Lock washers

Aurora spherical rod ends

Nord Shaft mounted gear box with VFD Duty Motor, independently driven cooling fan, plus encoder

Expander pins at all pivot locations

SKF spherical plain bearings

PCI tapered track roller bearings

Shaft Mounted Gear Motor, complete with crank shaft supported on Blue Brute spherical roller bearings

Quality drive components

Ensures machine reliability and drive efficiency

Section 5: Information and Services from Suppliers

Potential suppliers should be able to provide:

✓A history of satisfied customers as reference and successful installations similar to your requirements.

✓A Log Singulator design to meet all of your project requirements for: process speed, log diet, necessary options and existing equipment compatibility.

✓Site visits to view suitable installations and visits to the manufacturing plant before or during fabrication.

✓Recommendations on various options and features being considered.

✓A productivity and reliability warrantee on the Log Singulator proposed.

Section 6: Summary - Selecting the Optimal Log Singulator

1. Identify essential process requirements.
2. Input from production and maintenance personnel concerning clean-up & maintenance costs etc.
3. Solicit proposals from suppliers offering suitable designs.
4. Conduct a cost benefit analysis.
5. Select the optimal Log Singulator.

Section 7: GCAR Design Step Feeder – Dual Module

Northern Alberta, Canada: High Speed Stud Canter Infeed During Startup

Canadian Patent# - 2829448 U.S. Patent# - 9102475 B2

Section 7: GCAR Design Step Feeder – Single Module

Pacific Northwest, U.S.A.: Large Log Sorter Infeed During Startup

Canadian Patent# - 2829448 U.S. Patent# - 9102475 B2

Thank you

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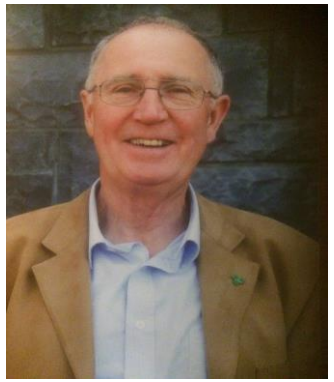

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For more information,
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