Combine Gathering Attachments for Lodged Corn

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Combine Gathering Attachments for Lodged Corn

Abstract
Wind damage or stalk rots can cause lodged corn that is difficult to gather with standard corn harvesting equipment. Powered attachments for corn heads are available to assist the gathering process and reduce the number of missed stalks and ears. These attachments assist the flow of corn stalks up and over the snouts and into the gathering chains and cross augers. While required travel speed may still be significantly reduced from normal, these attachments can greatly reduce head plugging and field gathering losses. This article will discuss several combine head attachments to assist in gathering lodged corn and has resources for finding these attachments.

Disciplines
Agricultural Science | Agriculture
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Finger reel attachments

Finger reels consist of a horizontal rotating shaft with long (3-4 feet) slender steel bars (fingers) that rotate like a small grain reel to help move lodged corn stalks into the gathering chains and cross augers. The fingers are often in pairs for each row, offset slightly to the right and left of the row to allow passage of standing corn between the fingers. The fingertips are often curved toward the row to guide lodged stalks into the gathering chains and curved away from the direction of rotation to release the stalks as they near the cross augers. The mounting brackets allow the shaft location, both up-down, and forward-aft, to be adjusted so that the fingertips clear the gathering chains below and clear the cross augers and ear savers behind. Some models include flexible fingertip extensions to reduce the risk of mechanical damage if the fingertips contact the gathering mechanism. The mounting brackets are attached to the framework of the head.

The drive mechanism for finger reels is often a variable speed hydraulic orbital motor and chain gear reduction, allowing the operator to set the reel speed and resulting fingertip
gathering speed slightly faster than the forward travel of the combine.

Kelderman Corn Reel. Photo courtesy of Kelderman Manufacturing

Paddle reel attachments

Paddle reels consist of a horizontal rotating shaft with a set of (typically 3) paddles per row, approximately 12-18 inches long and 4-8 inches wide. The paddle material and shape varies by model. These rotating paddles assist material movement up the gathering chains and into the cross augers. An additional set of paddles is often mounted at the center of the head to assist in clearing crop congestion at the feeder house entrance. Compared to finger reel attachments, the paddles set slightly lower and farther aft in the head. Paddle reels may be designed less for getting lodged stalks into the gathering chains, and more for
moving tangled stalks up the stripper bars and into the cross augers. To assist in their function in variable conditions, the shaft and paddle location both up-down and forward-aft is hydraulically adjustable on-the-go. The drive mechanism is typically a variable speed hydraulic orbital motor and chain gear reduction.

Snout cone attachments

Snout cones consist of tapered cones with shallow (1-2 inch) helical flighting. The cones are mounted in line with, and just above the snouts. The cones rotate to use screw-auger action to lift lodged and tangled stalks up and pull them back over the snouts. The support and bearing at the front end of the cone is covered by a protective tapered hood to prevent catching of stalks.

When snout cones are mounted over every snout, they are typically driven by a horizontal shaft that is powered by a variable speed hydraulic orbital motor. The horizontal shaft powers the rear ends of all the cone axles through right angle drives. When snout cones are mounted only over the outside snouts to gather stalks lodged outside the head swath, they...
are typically powered with a variable speed hydraulic orbital motor connected directly to the individual cone axle.

Roll-A-Cone Corn Lifters with integrated paddle reel. Photo courtesy of Roll-A-Cone Manufacturing

Combinations of attachments

Snout cones (end snouts, or all snouts) are sometimes offered in combination with finger or paddle reels. In these cases, the drive mechanism for the reel may also power the snout cones.
Suppliers

Equipment suppliers for gathering process attachments have years of experience, testing, and product refinement. While home manufacture of these types of attachments may be possible, reliability and safety are critical around gathering equipment and tested commercially available attachments are highly recommended.

Suppliers of gathering process attachments as of 2020 include the following (inclusion does not suggest endorsement, nor does omission indicate lack of endorsement, but simply difficulty in finding current contact information).

**Finger Reels:**

- Kelderman (Oskaloosa, IA) [https://kelderman.com/corn-reels/](https://kelderman.com/corn-reels/) 641-673-0468
- Meteer (Athens, IL) [https://www.meteer.com/](https://www.meteer.com/) 217-636-8109

**Finger Reels, Paddle Reels, Snout Cones:**
- Patriot (Minden, NE) https://patriotequip.com/products/down-corn-equipment/ 308-832-0220

**Paddle Reels:**

- Hawkins Ag (Holdrege NE) https://www.hawkinsag.com/corn-reel/ 308-708-8185

**Snout Cones, Paddle Reels:**


**Category:** Equipment and Machinery

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**Crop:**

Corn

**Tags:** combine harvest Equipment combine attachments lodged corn derecho downed corn

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