

# S-Series Combine and Front End Equipment Optimization

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“Ready To Harvest” for Wheat



John Deere Harvester Works

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## Preface

The content of this material is intended to help you know how to choose the best configuration and set up an S-Series combine and platform, for any Wheat crop and condition before going to the field.

Small Grain combine and field installed bundles are explained for attachments, to enhance performance and Grain Quality in specific Wheat conditions.

Setup and Adjustment recommendations are intended as a starting point before harvest season. Additional adjustments and fine tuning will be necessary depending on crop moisture and harvest conditions.

Crop setting checklists and Grain Quality Tips are a quick reference for configurations and operating speeds to help optimize grain quality.

*The following bundles are required to mate older heads with newer combines and newer heads with older combines.*

### Hydraulic Valve Orifice Kits

See you John Deere Dealer and reference:

DTAC Solution Number: 103357 Single Point Multicoupler

Updates/ MY16 Compatibility: All Combines and Front End Equipment

### 9100 Enhanced Combine Single Point Latching

Required for use on Harvester Works [sourced S680 and S690 Combines prior to Model Year 2016 \(Up to PIN 785000\) and Zweibrucken sourced Model Year 2015 S680 and S690 Combines.](#)

Please refer to Ag Sales Manual for other compatibility information.

### 9101 Enhanced Combine Single Point Latching

Required for use on Harvester Works sourced [Model Year 2014 and 2015 S650, S660 and S670 Combines \(Up to PIN 765000 - 775999\) and Zweibrucken sourced Model Year 2016 S660 and S670 Combines.](#) All Model Year 2014 and 2015 T Series Combines.

### 9102 Enhanced Combine Single Point Latching

Required for use on [Model Year 2012 and 2013 \(PIN 745100 - 755999\) S550, S650, S660, S670 and T Series Combines and all Combines prior to Model Year 2012 \(PIN -740999\) with Single Point Latching system.](#)

*The following bundles are required to mate older heads with newer combines.*

### Hydraulic Valve Orifice Kits

See you John Deere Dealer and reference:

DTAC Solution Number: 103357 Single Point Multicoupler Updates/ MY16 Compatibility: All Combines and Front End Equipment

### 9311 Enhanced Front End Equipment Single Point Latching

Required for use on 600F, 600R, 600D and 615P Platforms prior to Model Year 2016 (up to PIN 785000 Harvester/US built) and 900 Series Platforms with Single Point Latching System

### 9312 Enhanced Front End Equipment Single Point Latching

Required for use on 600C Corn Heads prior to Model Year 2016 (up to PIN 785000 Harvester/US built) and 90 Series Platforms with Single Point Latching System

### 9314 Enhanced Front End Equipment Single Point Latching

Required for use on 600FD prior to Model Year 2016 (up to PIN 785000 Harvester/US built)

## Draper Inspection and Adjustments

The following adjustments are critical to insure that the 600D/600FD Draper performs to its optimum:

- Sickle Sections
- Knife Guards
- Dual Knife Timing
- Reel Finger Timing

For Optimal performance and durability of cutting components:

Fine Tooth Sections recommended for wheat harvest!

- Inspect for broken or improperly adjusted hold downs, repair or replace as required.
- Inspect for dull or broken knife sections repair or replace as required.
- Inspect for dull or worn or broken guard cutting edges, repair or replace as required.
- Inspect for excessive binding between top of knife sections and top of guard slot. Binding can be caused by bent

guards, bent cutter bar or improper position of guards, repair or replace as required.

- Inspect knife head and knife drive alignment with first guard slot to insure binding is not present in areas. Repair or replace as required.
- Verify that complete cutting system turns freely by rotating the drive by hand (drive shaft removed). Keep hands and fingers away from cutting components while rotating!

Dual Knife Drive Timing – To reduce header vibration and maximize cutter bar effectiveness make sure dual knife drive is timed so the knives cross over themselves in the center of the head.

Reel Finger Timing – Proper setting of minimum reel height will protect against unexpected reel movements that can place reel fingers in contact with cutterbar. Set reel fingers above the cutter bar 65mm (625D-635D)

and 40mm(640D). See Draper OM for proper reel height and reel leveling.

Automatic Header Height Sensing – Needs to be calibrated before harvest begins to ensure a good clean cut.



Draper Back shaft Speed Feederhouse

- Operate the draper at the recommended speed 510RPM.
- The back shaft speed will default to slowest speed as soon as multi-coupler is connected and header is recognized. This is for both variable and 5-speed.
- DO NOT ATTEMPT TO OVERSPEED THE BACKSHAFT AS DAMAGE MAY OCCUR TO HEADER DRIVES.



Combine Setup and Inspection

## Feederhouse Drum Height and Chain Speed

- Front Drum position - Handle Down for wheat
- Conveyor chain speed - slow 26T or 32T for Tough Wheat.



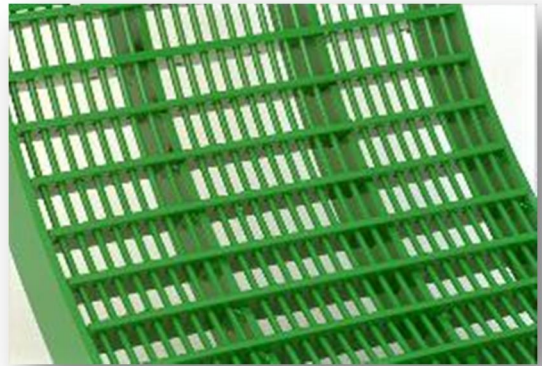
## Feed Accelerator Speed High speed





## Concaves

Small Wire is the recommended concave in all three positions for grain harvesting since its overall performance is very good in all moisture conditions. Refer to your Operator's Manual for how to Level Concaves (front to rear) and calibrated to "Zero" on clearance to the threshing elements.



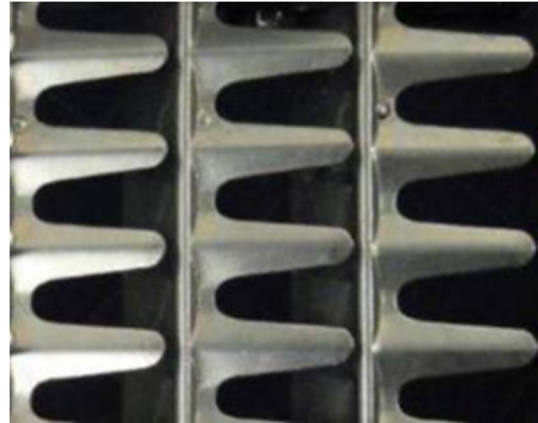
## Separator Grates

Be sure separator grate spacers are on top of rail for wheat. This will raise the grates and keep crop material flowing through the separator. Grate covers are installed 3 on the right and 2 on the left from the factory as base in the small grain machines.



## Cleaning Shoe

General Purpose chaffer (AXE60614) and general purpose sieve (AXE60449) should be used.



Be sure chaffer and sieve are calibrated so the opening exactly matches the cab display setting.

If openings do not match, follow the Factory Cal procedures.



Dual Zone adjust should measure 5mm in level land conditions and 10mm in hills.



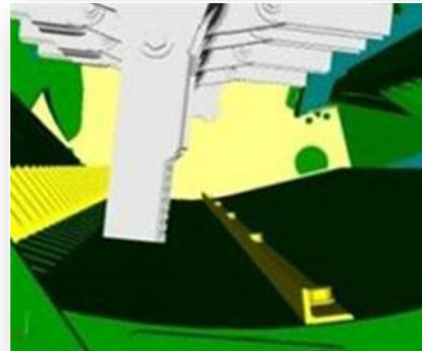
## Active Tailings System (S680, S690)

Set the lever DOWN to the closed position to tighten the concave for wheat.

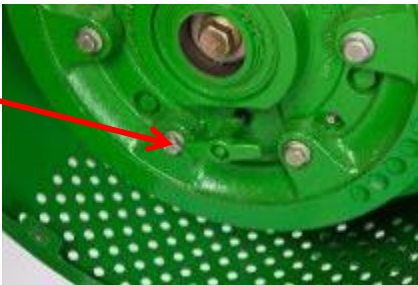


the stem cut length when desired. The controller bar is installed to the chopper floor. Risk: Controller bar increases horsepower usage.

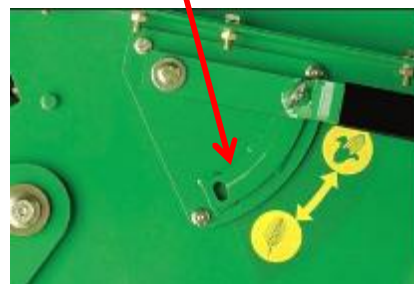
## Cob Deflector



Chopper speed on high (pull knob out). Also engage knife bank depending on preferred residue size.



Move the cob Deflector handle to the Wheat position.



## Additional Smaller Residue Sizing Option

Adding the straw chopper controller bar (available through ServiceParts) reduces

## Wheat Adjustment Checklist

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1. Draper belt speed should be matched to machine ground speed and/or crop conditions for optimum feeding performance.
2. Feederhouse Chain Speed – 26T or 32T sprocket (Tough Wheat)
3. Feederhouse Drum Down
4. Feed Accelerator on High Speed
5. Serrated Feed Accelerator Wear Strips are recommended.
6. Back shaft Speed - 510RPM / 1<sup>st</sup> Gear 5 Speed
7. Cleaning Fan speed - 820-1050 RPM
10. Rotor Speed – 750-950
11. Concave Clearance - 8-16
12. General Purpose Chaffer - Front 15-20
13. Dual Zone Chaffer manual adjust - 5mm LL/10mm Hills
14. General Purpose Sieve - 3-8
15. Install separator covers as needed to even out shoe load.
16. Top Cover vanes in the standard position unless straw is being bailed then advance them (Variable Stream rotor only).

## Grain Quality Tips for Wheat

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1. Check concaves for level front to rear. Concaves out of level may cause a pinch point increasing damage potential.
2. Calibrate and "Zero" the concave position sensor.
3. Check all the auger flighting to be sure there are no sharp edges.
4. Do not unload grain tank completely empty.  
Leave some grain in the tank to cover the augers to minimize damage.
5. Do not fill the grain tank over top of the loading auger  
The Wheat boiling up above the loading auger can add to grain damage.
6. Do not unload the grain tank at high idle.
7. Minimize free grain in tailings/rethresher as much as possible.

## Grain Tank Cleanliness for Wheat

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- Problem
  - *White Caps/Unthreshed grain*
- Solution
  - Ensure concaves are level and zeroed.
  - Make sure Active Tailings is set on the Small Grain side (tightest concave setting)
  - Close concaves 2mm till white caps are eliminated or grain damage occurs then back off 2mm.
  - Add AH228167 concave cover to the first concave to increase threshing, add one cover at a time. S760/S770 put covers over second middle concave. S780/S790 start with covers in front concave and move rearward.
  - Increase threshing speed in 50rpm increments
- Problem
  - *Sticks and stalk pieces in grain tank*
- Solution
  - Increase fan in 50RPM increments without throwing grain out the back.
  - Close chaffer opening by 2mm to help remove sticks and pieces.

## Hard Threshing Wheat

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1. Install (AH228167) concave covers in the front concave to help increase threshing and keep crop in the rotor longer
2. Densepack: All machines equipped with the General Purpose Extended wear package are Densepack ready. (Custom configuration requires rotor selection 4883). This will add twice as many threshing elements to the front of the rotor.
3. As a last resort Install small wire interrupters (AH202021) Qty 25 in the front concave *only* to increase threshing capacity. *NOTE: Plugging may occur. Bars must be removed for other crops.*

Download the GoHarvest App for addition information on, settings, loss calculator, JDParts, videos, procedures and much more.



Visit the Go Harvest link on YouTube for detailed videos on Powershut down procedure, CombineAdvisor, ActiveTerrain Adjustment, and many more.



<https://www.youtube.com/watch?v=3KR77OTdNKU&list=PL1KGsSJ4C Wk7jzH744F1bByhwXWAlxmFj>



# NOTES

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