

Demonstration and Start-up

2010 LEXION Product Training
CLAAS Academy
March 1 – 5, 2010

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Demonstration Checklist »

- » Determine the crop(s) to be harvested for demonstration
- » Size the demo combine and header(s) relative to the desire and need of the prospect
- » Determine the prospect's expectations (e.g. grain loss, grain quality, acres / hour, etc.)
- » Is a competitive combine available to complete a Value Calculator (recommended)
- » Ask if fungicides have been applied? If so, more aggressive settings may be required
- » The combine & header should be properly configured (yield monitors calibrated) and crop settings loaded and adjusted according to the LEXION Settings & Adjustments guide prior to going to the field
- » Insist on demoing in the most productive field(s), or section of the field
- » Avoid opening a field or harvesting its headlands, as this will lower the average productivity
- » Start a work order (on all combines) for each field to be demonstrated in to determine the productivity and efficiency of each combine
- » Start with a full fuel tank in all combines, to determine fuel consumption (use fuel consumption monitor if available)
- » Perform at least three grain loss checks using a pre-determined measuring device
- » Determine the quality (damage and FM) and moisture of the crop
- » Complete Value Calculator (with prospect) prior to completing the demo

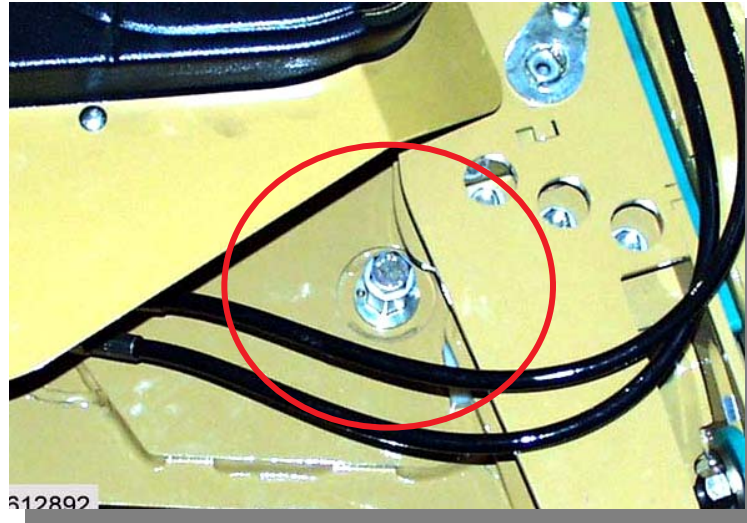


Section 1: Configuration

1. Feederhouse drum position
2. Threshing speed range
3. Pre-concave / Main concave
4. 3-speed rotor step drive
5. Chopper speed range

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Configuration » Feederhouse drum position and speed

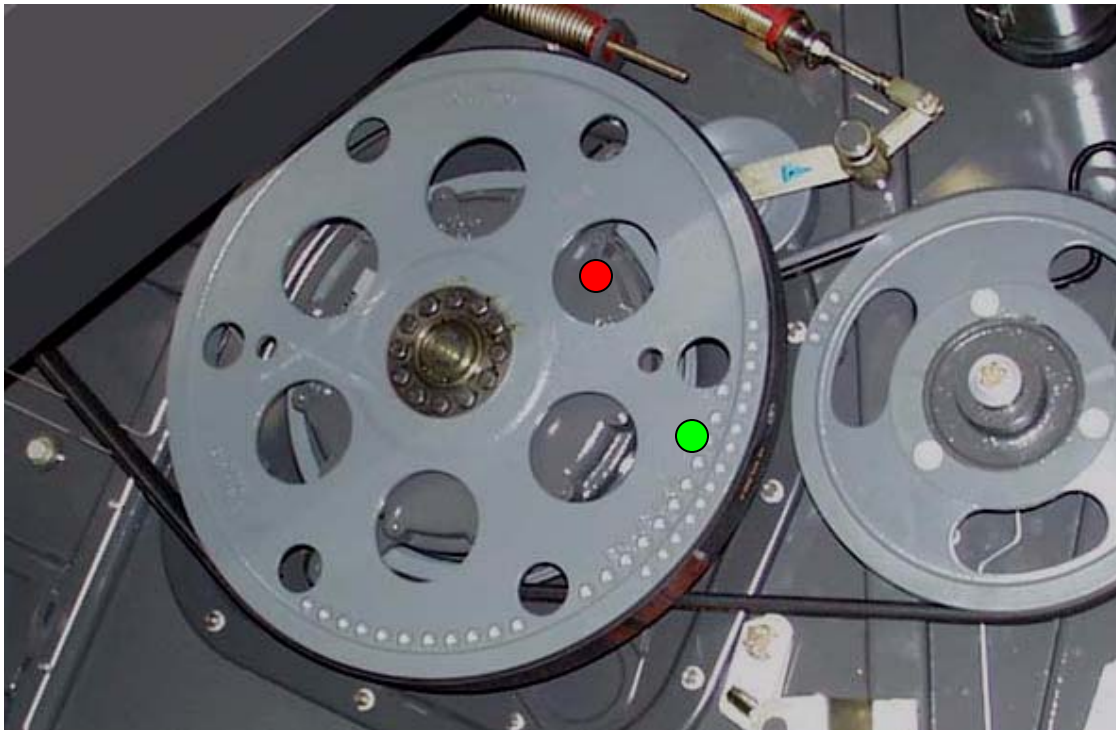


Rotate bushing
according to
decal

- » Up for Corn and Sunflowers; Down for Small grains, Seed crops (grass seed, alfalfa seed, etc.) and soybeans
- » Optional Up: Rice, Soybeans and Edible beans and Peas (pending conditions)
- » FH speed - Reference settings guide for initial setting (varies by crop type and conditions)
- 👍 Rule of thumb (pending crop type):
 - » 375 rpm for tough-to-thresh,
 - » 350 – 375 rpm for moderate-to-thresh crop,
 - » \leq 350 for easy-to-thresh crop

Configuration » Threshing speed range

- » Set the APS to the proper speed range
- » Slow range for corn and edible beans
- » High range for soybeans, small grains (e.g. wheat, barley, oats, flax, grass seed) and rice



Slow range = Gear box
locked to side of machine

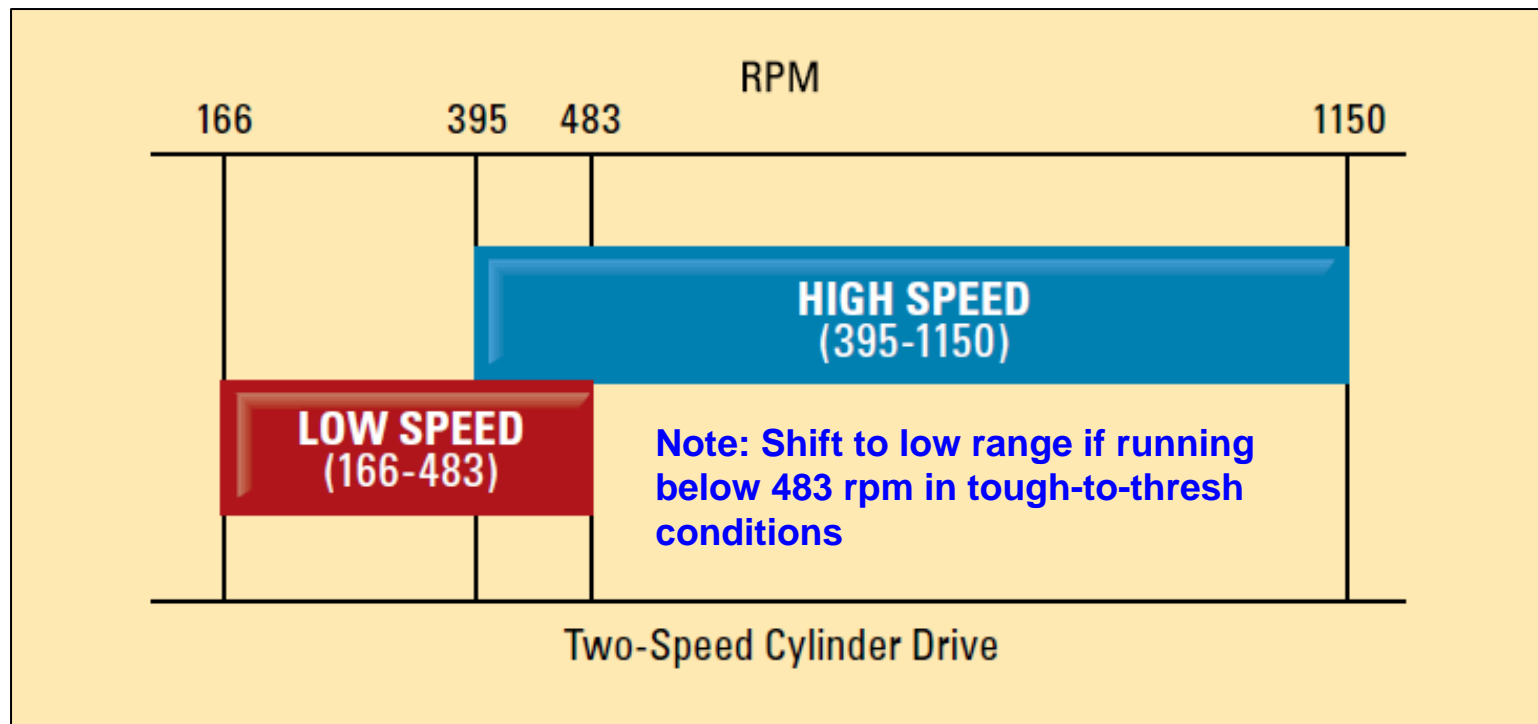
High range = Gear box
and pulley connected

● Gear box

● Pulley

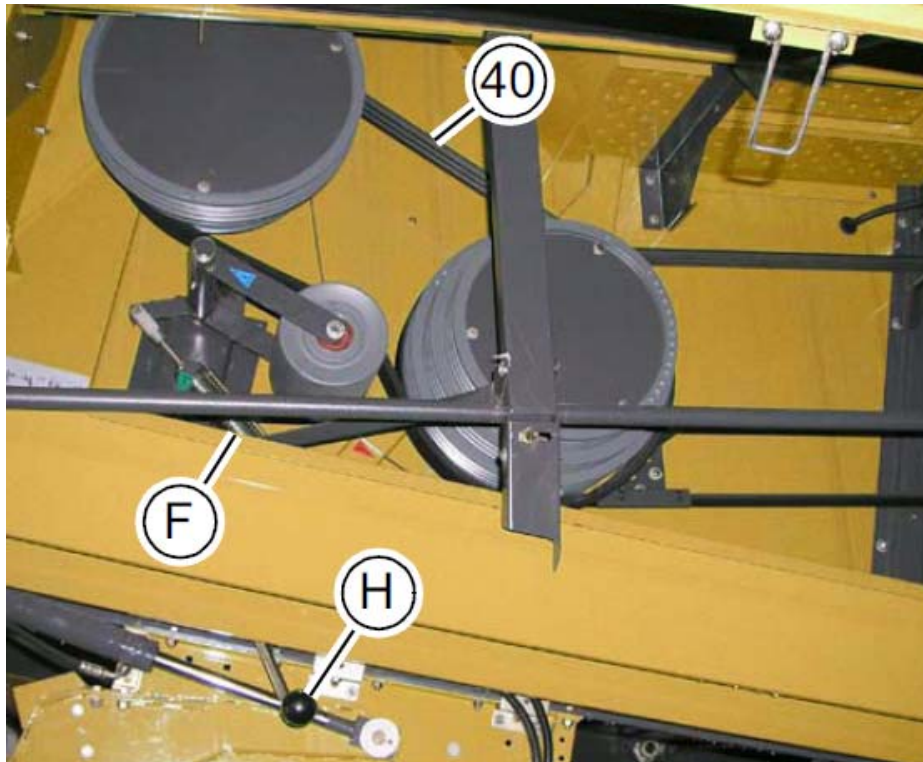
Configuration » Threshing speed

- » Set the APS to the proper speed range
- » Slow range for corn and edible beans
- » High range for soybeans, small grains (e.g. wheat, barley, oats, flax, grass seed) and rice

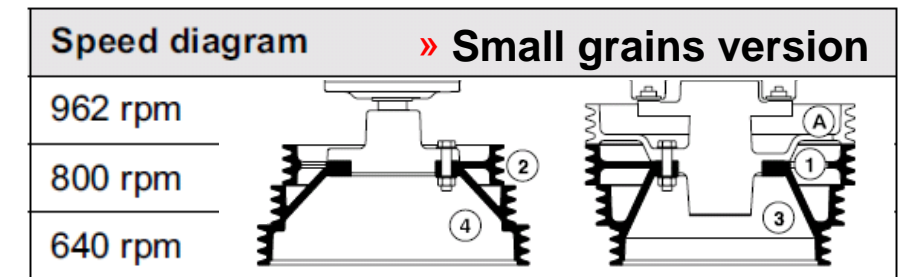
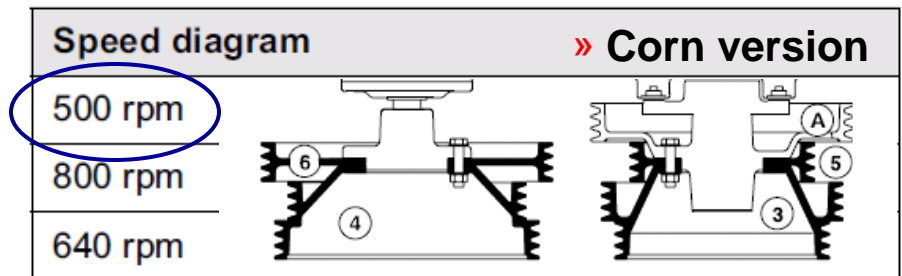


Configuration » 3-speed Rotor drive

- » Not recommended for corn
- » Set the APS to the proper speed range
- » Slow range for corn and edible beans
- » High range for soybeans, small grains (e.g. wheat, barley, oats, flax, grass seed) and rice



Not slow enough for corn, install 300 rpm set



Configuration » Pre-concave



Correct pre-concave grates installed prior to harvest

- » 19 x 40mm: corn, edible beans & peas, rice (optional)
- » 12 x 40mm: soybeans, wheat & rice (optional)
- » 10 x 40mm: wheat, soybeans, rice (optional)
- » 6.5 x 40mm: wheat (only)

Note: Using the correct pre-concave grates reduces the need for closing the dis-awning plates and to take advantage of pre-separation area



Configuration » Main Concave



Main concave options

- » N7 / 18 small grains concave
- » N18 large wire concave (universal)
- » Round-bar concave (corn, soybeans, edible beans)

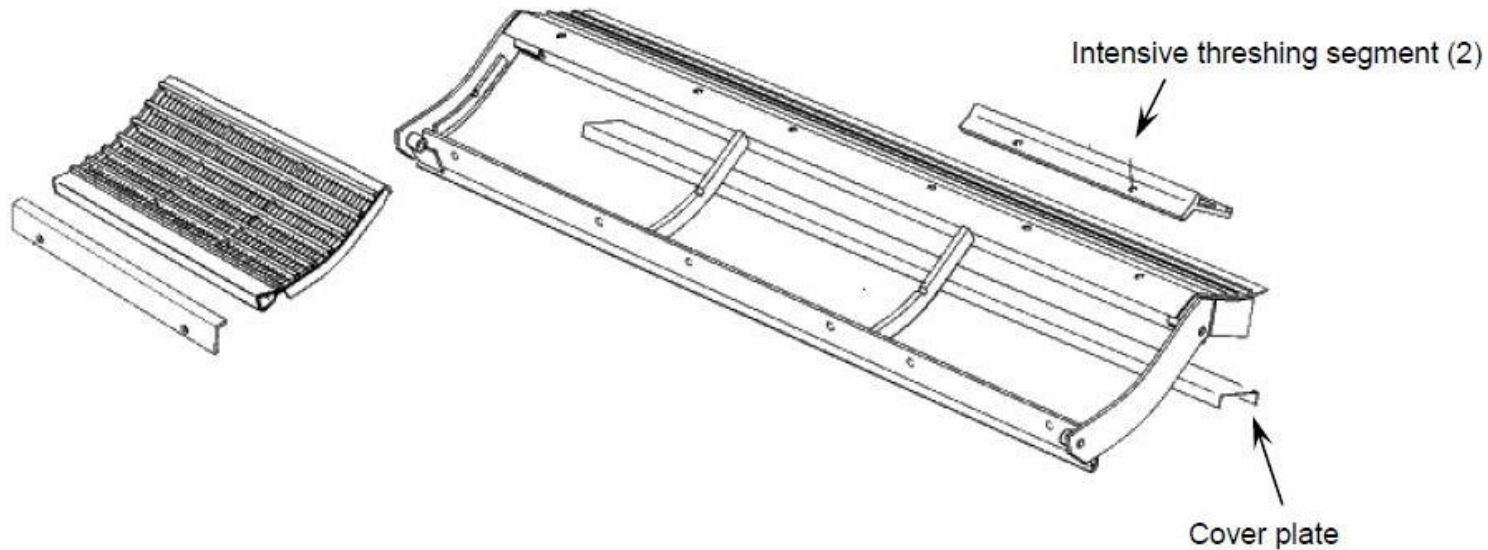


N18 large wire

vs.

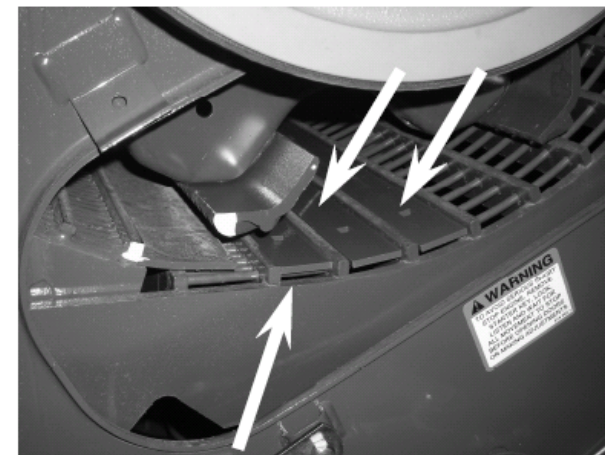
Round bar **(new)**

Configuration » Filler plates

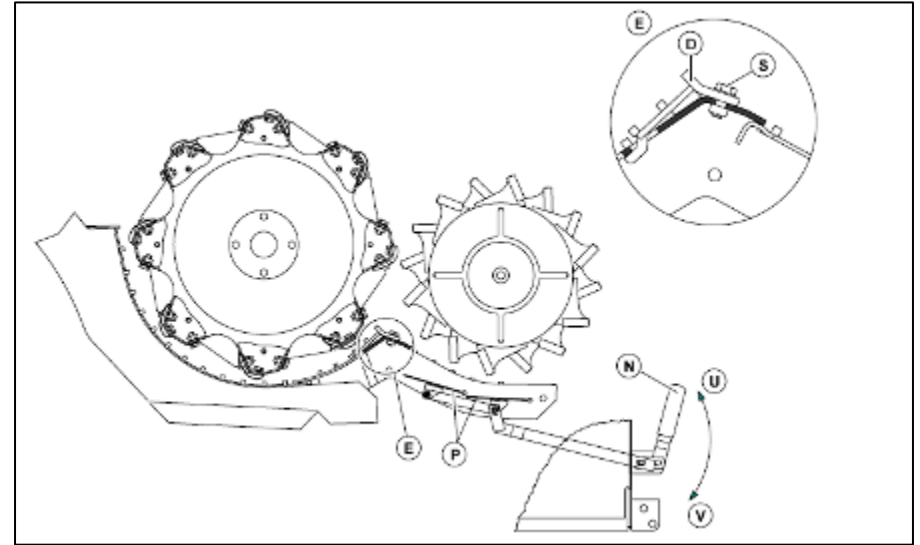


Maximizing threshing performance with an N18 concave in small grains

- » Install cover plate under back slope of pre-concave
- » Install intensive threshing segments
- » Main concave filler strips (three segments at a time) →



Configuration » Intensive Threshing Segments



- » Use as needed in extremely tough-to-thresh conditions (e.g. hard-to-thresh wheat)
- » Not recommended for corn, soybeans, edibles or rice
- » Use **caution** when using, may cause grain and excess straw damage in dry conditions

Configuration » Dis-awning plates

- » Open dis-awning plates to start, close as needed
- » Make sure TC filler plates are removed for rice
- » Concave filler plates for wheat (optional), see bulletin



Closed



Open

Configuration » Rock trap



Closed



Open

Keep it clean!

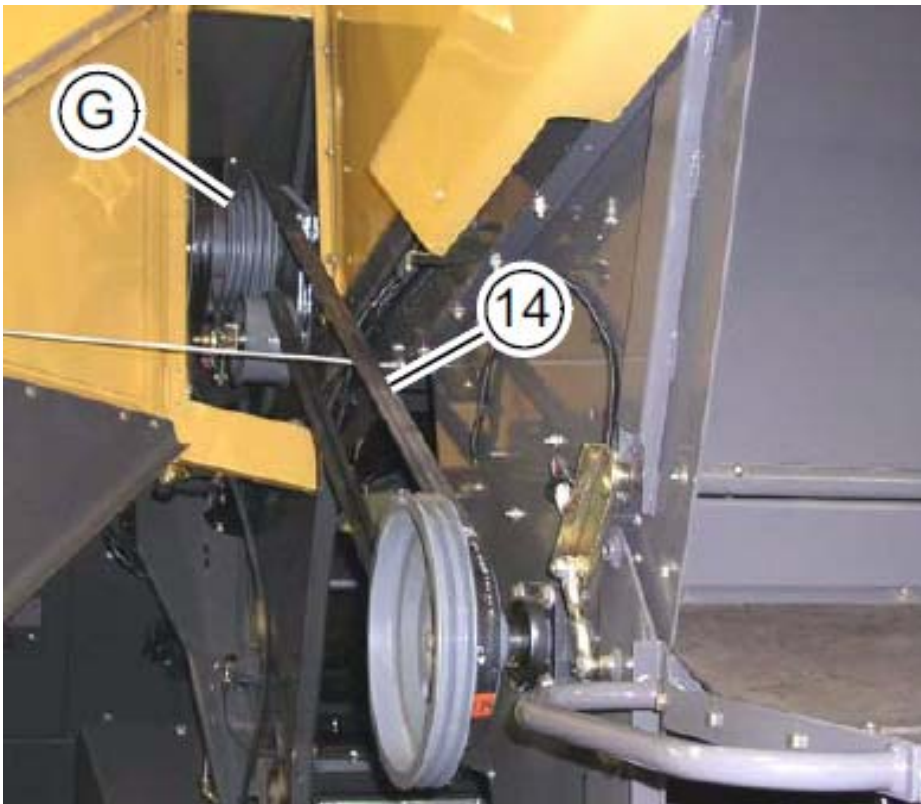
» A full rock trap may cause foreign objects to enter APS more frequently

Configuration » Prep-pan floor segments



- » If the prep-pan floor is built-up with dirt and debris cleaning performance can be challenged by inconsistent feeding resulting in surges in grain loss
- » Inspect daily when harvesting in very high moisture crops or in muddy conditions

Configuration » Chopper (if equipped)

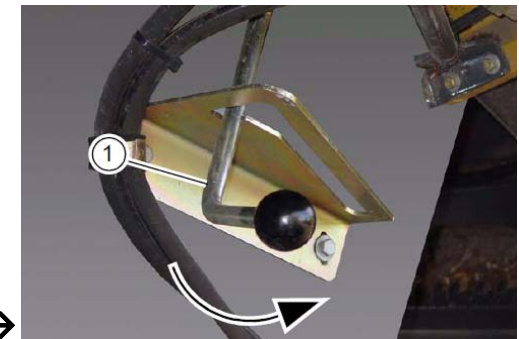


A.

- » **A. High speed (large pulley driving small pulley): Small grains, soybeans and rice**
- » **B. Low speed (small pulley driving large pulley): Corn**

B.

Drive belt (14) detention lever →



Section 2: C.E.B.I.S.

CLAAS Electronic Board Information System

Layout

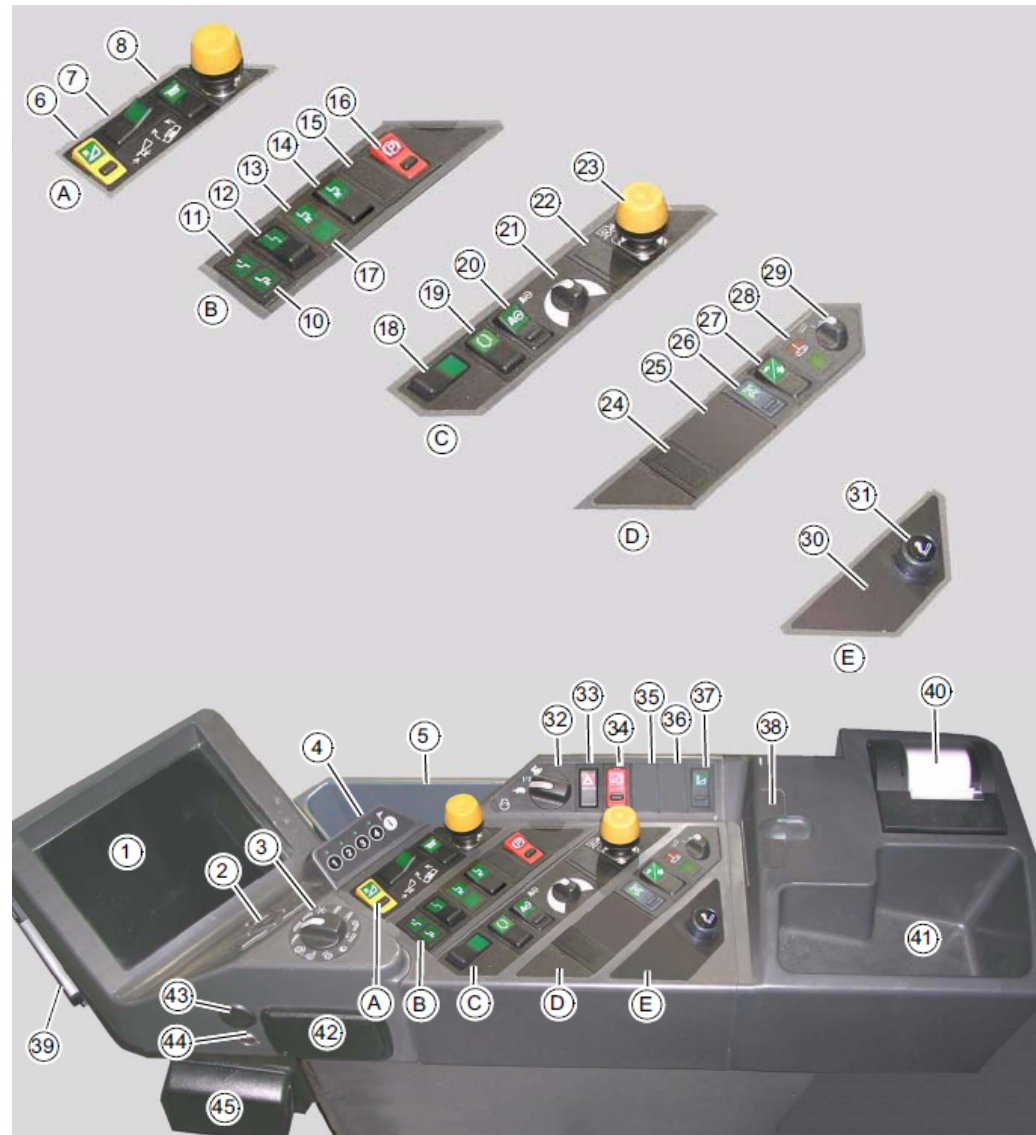
Controls

Key steps for demonstration or start-up

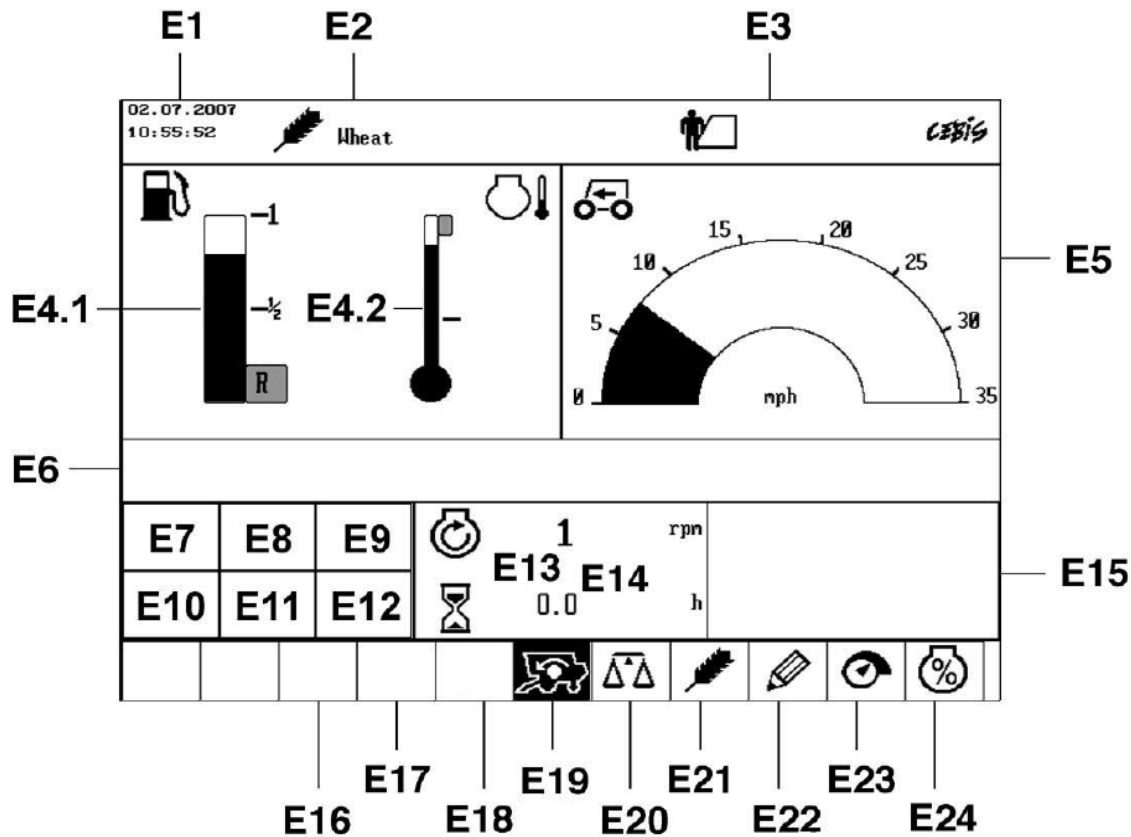
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C.E.B.I.S. layout »

1. Central display terminal (#1) →
 - a. 10-inch mono-chrome display
2. In line-of-sight with header
3. Monitors all machine functions except for MTS pressure (#28) →
4. Integrated PCMCIA card reader for LEXION yield mapping (#39) →
5. Serial interface for GPS and printer (#40) →

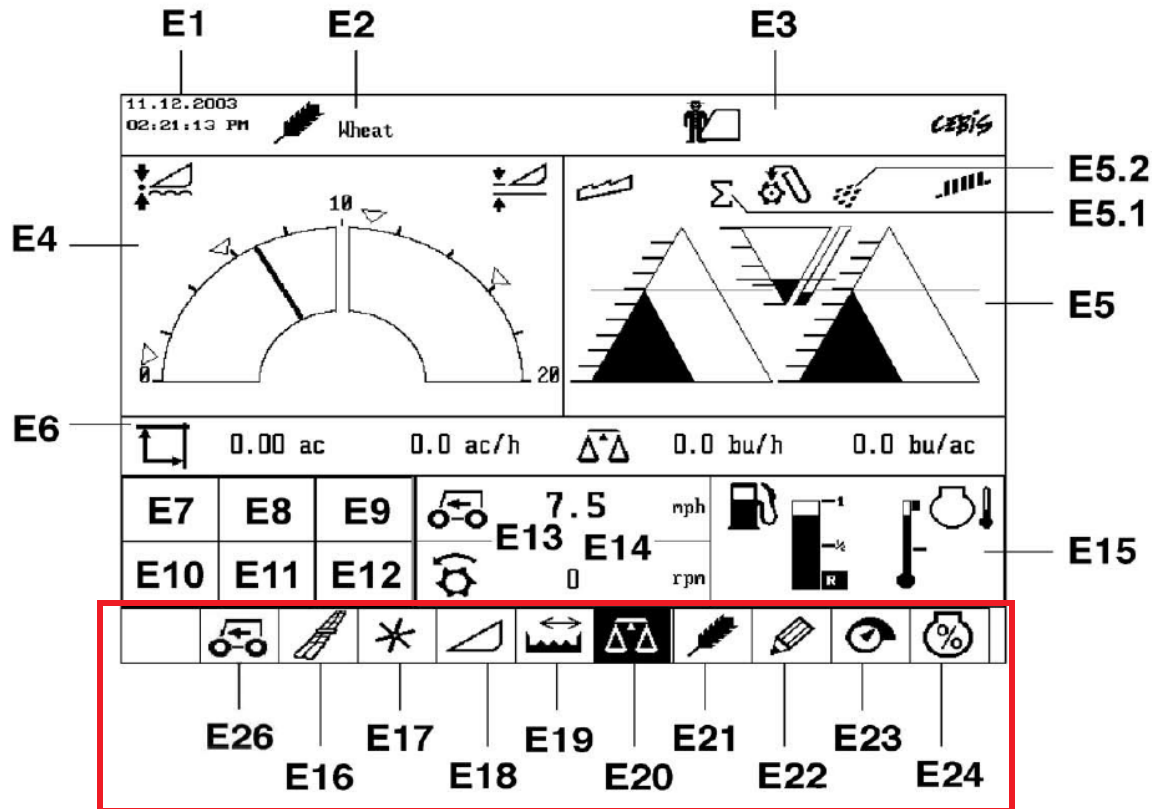


Road / Transport screen »



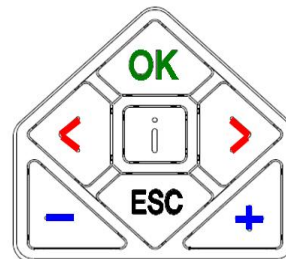
	Designation
E1	Date and time
E2	Crop
E3	Customer name
E4.1	Fuel gauge
E4.2	Engine temperature
E5	Ground speed
E6	not used
E7	Indicator field – See CEBIS operation
E8	Indicator field – See CEBIS operation
E9	Indicator field – See CEBIS operation
E10	Indicator field – See CEBIS operation
E11	Indicator field – See CEBIS operation
E12	Indicator field – See CEBIS operation
E13	Engine speed
E14	Engine hours
E15	Settings display field
E16	not used

Field operations screen »

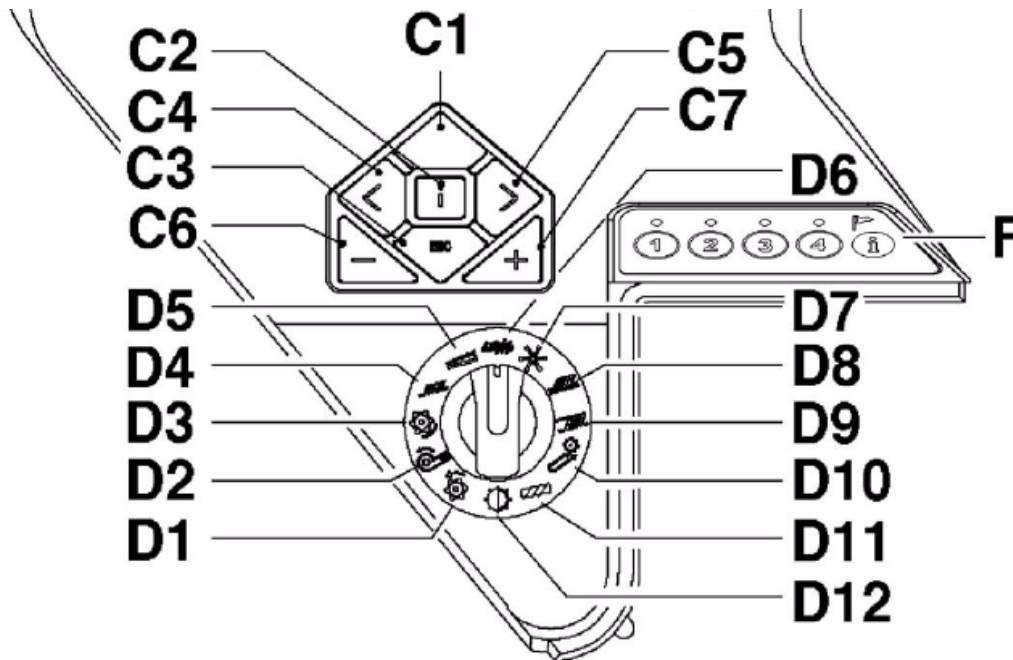


	Designation
E1	Date and time
E2	Crop
E3	Customer name
E4	Cutting height display
E5	Throughput monitor and alarm
E5.1	Display of the tailings volume
E5.2	Display of the portion of grain in the tailings
E6	Display of area data, yield data, area production and throughput
E7	Indicator field – See CEBIS operation
E8	Indicator field – See CEBIS operation
E9	Indicator field – See CEBIS operation
E10	Indicator field – See CEBIS operation
E11	Indicator field – See CEBIS operation
E12	Indicator field – See CEBIS operation
E13	Ground speed
E14	Customizable display: drum speed, engine load, picking plate position or grain density
E15	Settings display field
E16	GPS
E17	Presets for reel
E18	Presets for header
E19	Partial width steps
E20	Yield
E21	Crop selection
E22	Registration (Recording of harvest work)
E23	Settings
E24	Engine load drop

Menu Icons



C.E.B.I.S. control panel »



C keys

	Designation
C1	Confirmation key
C2	Help (displays help text for the current menu item)
C3	Return to next higher menu level
C4	Moves cursor to the left for menu selection
C5	Moves cursor to the right for menu selection
C6	Minus key - reduce value
C7	Plus key - increase value

Rotary switch D

	Designation
D1	Threshing drum speed
D2	Fan speed speed
D3	Concave adjustment
D4	Grain loss monitor sensitivity - sieves
D5	Grain loss monitor sensitivity - rotors or walkers
D6	CEBIS menu bar
D7	Reel speed
D8	Upper sieve adjustment
D9	Lower sieve adjustment
D10	Feederhouse speed
D11	Rotor speed
D12	Contrast

Multi-function control lever (propulsion) »



FORWARD

Neutral

Reverse

Back-up
alarm
sounds

1. Must be in neutral to start

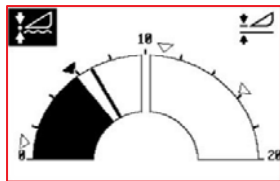
Feederhouse Raise / Lower and CAC control »



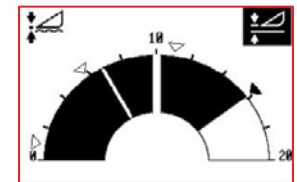
Feederhouse Raise / Lower and CAC control »

Push top to lower feeder house

Tap left side to engage Auto-contour and to switch / toggle between pre-set cutting heights (left half of arc)

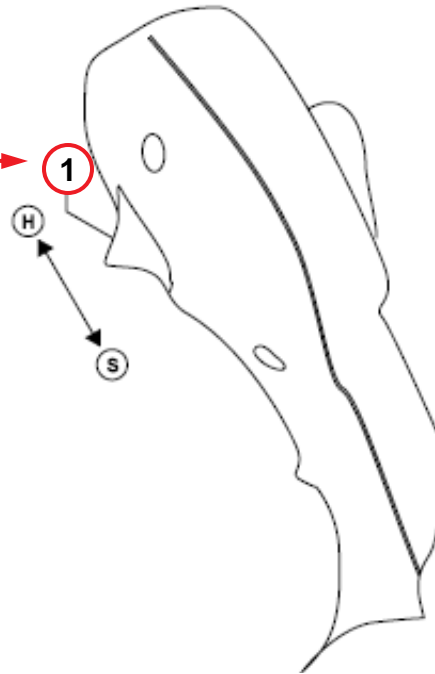


Tap right side to switch / toggle between Contour pre-set cutting heights (right half of arc)



Push bottom to raise feeder house

Multi-function control lever »

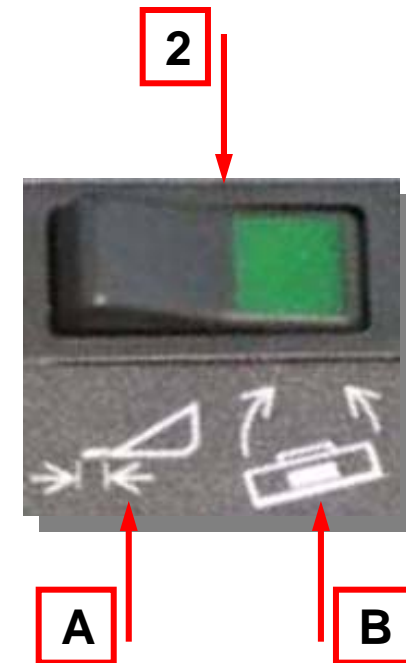


H =	Swinging header to the left (header cross leveling)
	Extend table (VARIO header)
	Lift table (MAX FLEX header)
S =	Swinging header to the right (header cross leveling)
	Retract table (VARIO header)
	Lower table (MAX FLEX header)

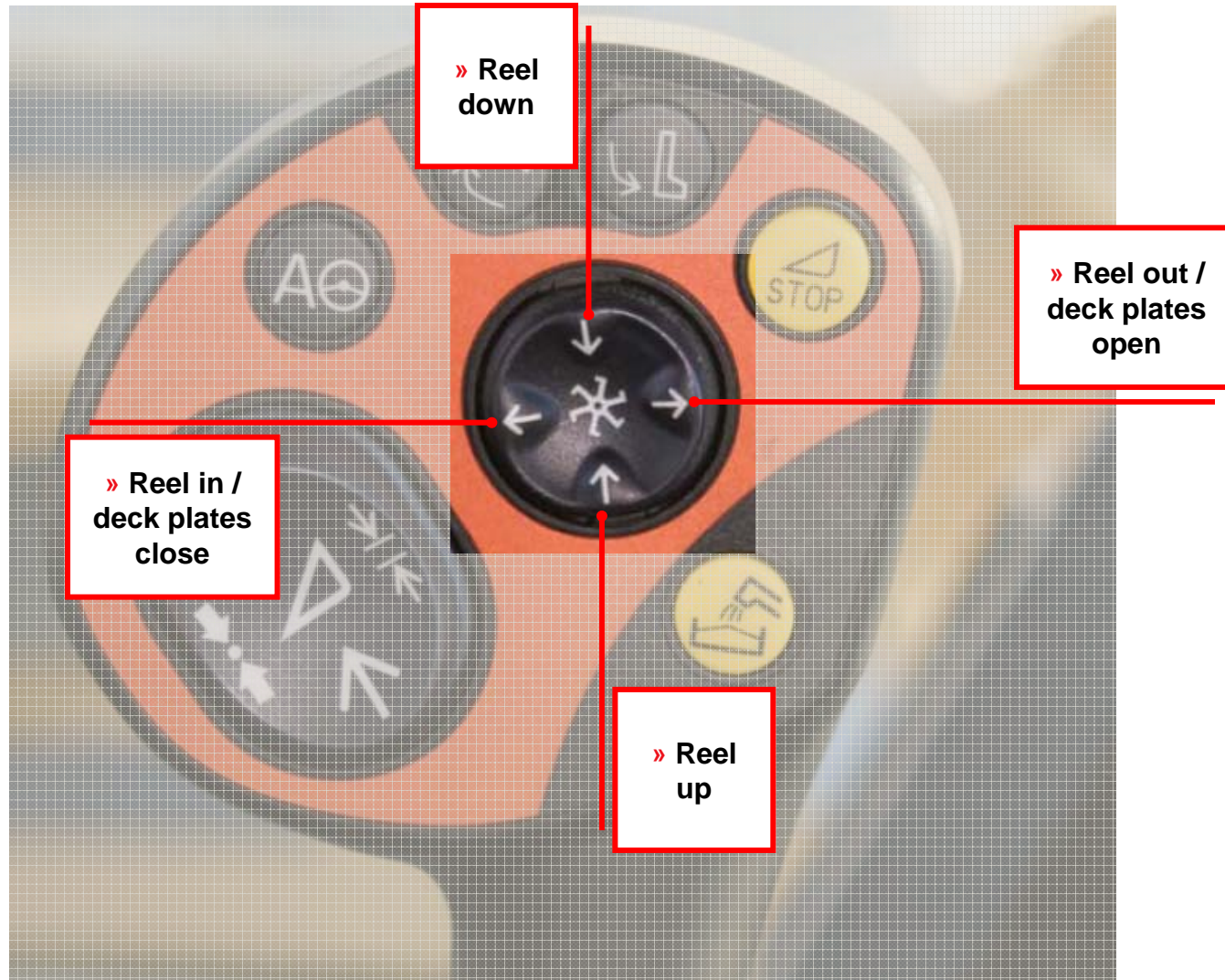
1. Manual control switch

2. Rocker switch (2) determines the function of the manual control switch (1)

- A. Switched to **A** controls the Vario cutter bar fore/aft position and the Max Flex cutter bar rigid to flex mode
- B. Switched to **B** enables manual lateral tilt control



Reel position and Deck plate control »



Feederhouse **STOP!** »



Unloading tube swing Out / In »

» Swing out:
Push and hold for
3 sec.
(alarm will sound)



» Swing in:
Push once

Unloading **ON / OFF** »

- » Tap once to engage
- » Tap again to disengage














Auto-Pilot ON »



Functions necessary for demo or start-up »

Location

Description

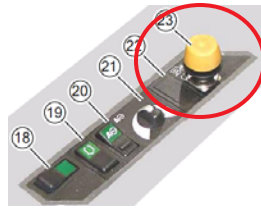
-  1. **Learn speeds:** (1) Max no-load, (2) Learn
-  2. **Learn sieve end stops**
-  3. **Load crop settings**
-  4. **Enter working (header) width**
-  5. **Learn cutting height limits** (each time head is changed)
-  6. **Set individual pre-set cutting heights**
-  7. **Learn working position** (activates automatic functions)
-  8. **Set CAC sensitivity**
-  9. **Auto-header ON/OFF** (auto-reel speed)
-  10. **Set auto-reel speeds**
-  11. **Set clock**



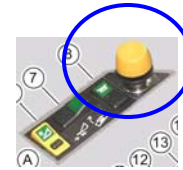


1. Learn speeds: (1) Max no-load & (2) Learn

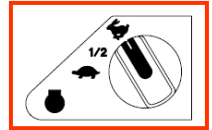
Switch on: Engine / **Separator**



/ **Feederhouse**

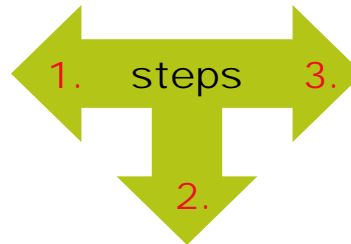


/ **Full throttle**



Location: / OK / Speeds / OK / 1) Max. no load speed 2) Learn (speeds)

31.01.2006 12:15:12		Wheat		CEBIS	
0.00 ac		0.0 ac/h		0.0 bu/h	
0.0 bu/ac					
Header	Speeds	Tachometer	Separation		
CEBIS	Maintenance	Operator's manual	Code protection		

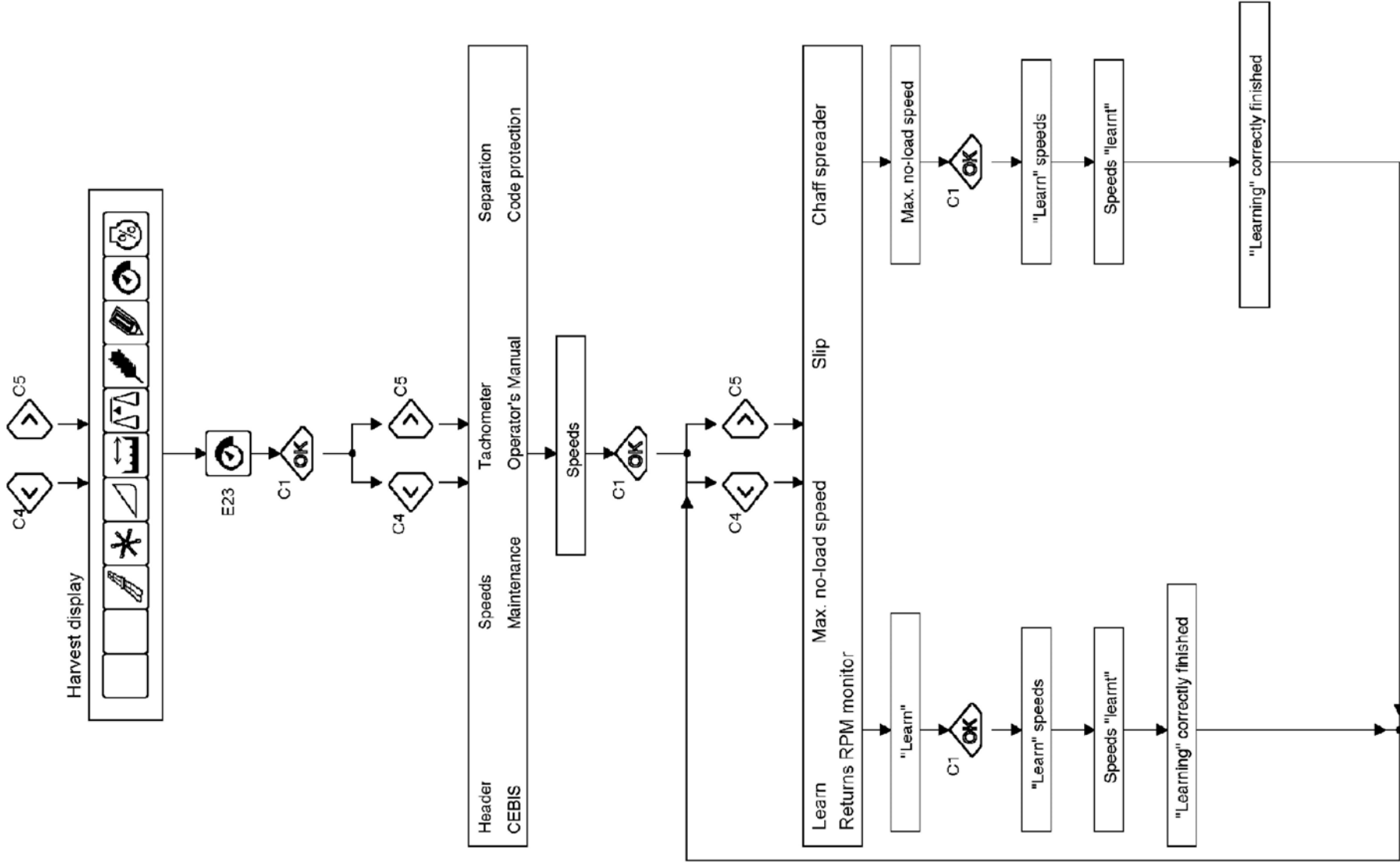


55522		Wheat		CEBIS	
	Program.	Actual	Max.no-load speed	0	
Threshing cylinder	0	0	Rated speed	0	
Fan	0	0	Returns RPM monitor	ON	
Feeder chain	0	0			
Returns	0	0			
Tank filler auger	0	0			
Rotor	0	0			
Chopper	0	0			
Main drive	0	0			
Learning speeds started					
Learn	Max.no-load speed	Slip	Chaff spreader		
Returns RPM monitor					

55523		Wheat		CEBIS	
	Program.	Actual	Max.no-load speed	0	
Threshing cylinder	0	0	Rated speed	0	
Fan	0	0	Returns RPM monitor	ON	
Feeder chain	0	0			
Returns	0	0			
Tank filler auger	0	0			
Rotor	0	0			
Chopper	0	0			
Main drive	0	0			
Learning speeds started					
Learn	Max.no-load speed	Slip	Chaff spreader		
Returns RPM monitor					

Note: Hit OK after speeds have been learned to confirm

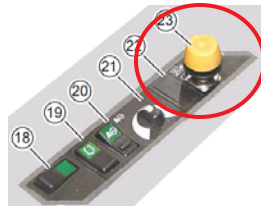
Speeds



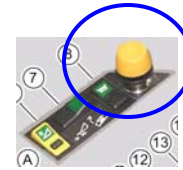


Learn speeds: (1) Max no-load & (2) Learn »

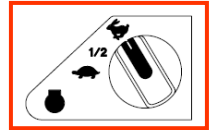
Switch on: Engine / **Separator**



/ **Feederhouse**



/ **Full throttle**



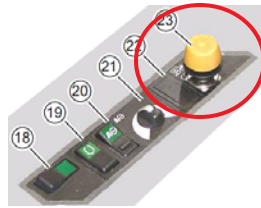
1. Max no-load speed **calibrates the main engine speed sensor**
 2. Learn (speeds) **calibrates all peripheral speed sensors back to the main engine speed sensor**
- » **Proper calibration of both speed functions ensures accuracy of the % engine load monitor and belt slip alarms**

Frequency:

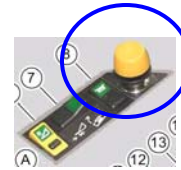
1. After each header change (each type of head exerts a different load on the combine)
2. A) Chopping → windrowing and B) Windrowing → chopping
3. Following belt maintenance (e.g. tensioning)

2. Learn sieve end stops (upper and lower) »

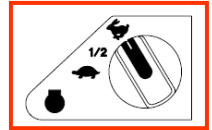
Switch on: Engine / **Separator**





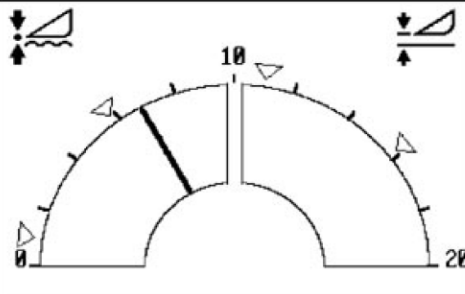

/ **Feederhouse**



/ **Full throttle**



Location:  / OK / Separation...

55541	 Wheat		CEBIS
		Separation Upp.sieve adjustn. OFF Low.sieve adjustn. OFF Returns limit 0 %	
Learning started			
Sensor test Upp.sieve end stops Low.sieve end stops Upp.sieve adjustn. Low.sieve adjustn. Returns limit Set zero returns			
			

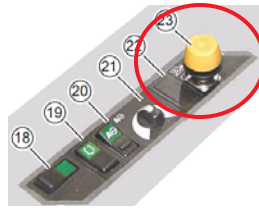
Sieve end stops:

1. Highlight **Upp. sieve end stops** / OK to start
 - a. Learns maximum travel of sieve adjustment
2. Repeat step one for **Low. sieve end stops**

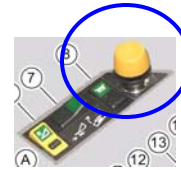


3. Load crop settings

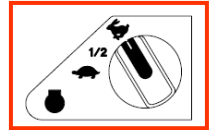
Switch on: Engine / **Separator**



/ **Feederhouse**



/ **Full throttle**



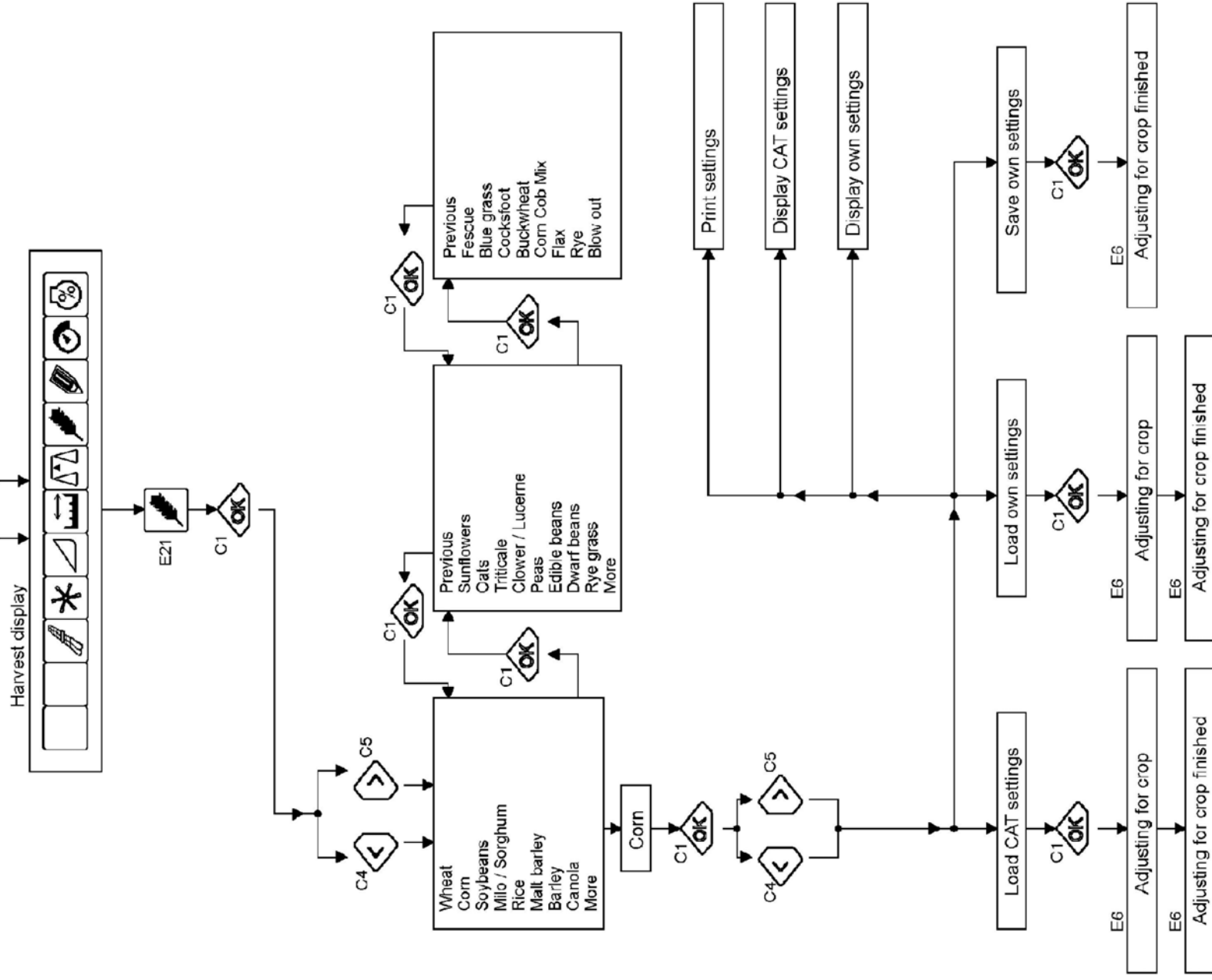
Location: / OK / Select a crop / OK / Load LEX. settings

604796		Wheat				CEBIS	
Wheat							
	Program.	Actual		Program.	Actual		
Threshing cylinder	0	0	Sieve sensitivity	5.0	5.0		
Fan	0	0	Separation sensitivity	5.0	5.0		
Threshing concave	0	0	Grain size, sieves	MEDIUM	MEDIUM		
Upper sieve	0	0	Grain size, separ.	MEDIUM	MEDIUM		
Lower sieve	0	0	Weight per bushel	58.3	58.0		
Feeder chain	0	0	Rotor	960.0	960.0		
Check adjustments:							
Pre-separ. wind duct	0		Disawner	OFF			
Height/intake auger	0		Threshing segment	removed			
	0.00 ac	0.0 ac/h		0.0 bu/h	0.0 bu/ac		
Wheat	Corn	Soybeans	Milo/Sorghum				
Rice	Malt barley	Barley	Canola				
More							



614369		Wheat				CEBIS	
Wheat							
	Program.	Actual		Program.	Actual		
Threshing cylinder	0	0	Sieve sensitivity	5.0	5.0		
Fan	0	0	Separation sensitivity	5.0	5.0		
Threshing concave	0	0	Grain size, sieves	MEDIUM	MEDIUM		
Upper sieve	0	0	Grain size, separ.	MEDIUM	MEDIUM		
Lower sieve	0	0	Weight per bushel	58.3	58.0		
Feeder chain	0	0	Rotor	960.0	960.0		
Check adjustments:							
Pre-separ. wind duct	0		Disawner	OFF			
Height/intake auger	0		Threshing segment	removed			
Adjusting for crop							
Load LEX.settings		Load own settings		Store own settings		Print settings	
Display LEX.setting		Display own settings					

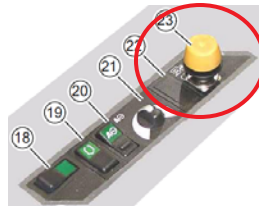
Crop settings



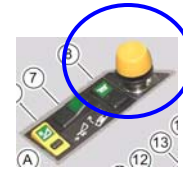


Load crop settings »

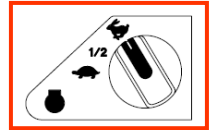
Switch on: Engine / **Separator**



/ **Feederhouse**



/ **Full throttle**



604796		Wheat		CEBIS	
Wheat					
Threshing cylinder	Program. 0	Actual 0	Sieve sensitivity	Program. 5.0	Actual 5.0
Fan	0	0	Separation sensitivity	5.0	5.0
Threshing concave	0	0	Grain size, sieves	MEDIUM	MEDIUM
Upper sieve	0	0	Grain size, separ.	MEDIUM	MEDIUM
Lower sieve	0	0	Weight per bushel	58.3	58.0
Feeder chain	0	0	Rotor	960.0	960.0
Check adjustments:			Disawner OFF		
Pre-separ. wind duct	0	0	Threshing segment	removed	
Height/intake auger	0	0			
	0.00 ac	0.0 ac/h		0.0 bu/h	0.0 bu/ac
Wheat	Corn	Soybeans	Milo/Sorghum		
Rice	Malt barley	Barley	Canola		
More					



614369		Wheat		CEBIS	
Wheat					
Threshing cylinder	Program. 0	Actual 0	Sieve sensitivity	Program. 5.0	Actual 5.0
Fan	0	0	Separation sensitivity	5.0	5.0
Threshing concave	0	0	Grain size, sieves	MEDIUM	MEDIUM
Upper sieve	0	0	Grain size, separ.	MEDIUM	MEDIUM
Lower sieve	0	0	Weight per bushel	58.3	58.0
Feeder chain	0	0	Rotor	960.0	960.0
Check adjustments:			Disawner OFF		
Pre-separ. wind duct	0	0	Threshing segment	removed	
Height/intake auger	0	0			
Adjusting for crop					
Load LEX.settings	Load own settings	Store own settings	Print settings		
Display LEX.setting	Display own settings				

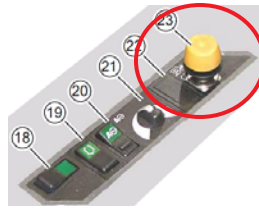
Importance of crop settings

1. Ensures that all systems are set to the specific crop simultaneously:
speed (rpm), tolerance (mm), weight and sensitivity
2. Any system that does not correctly load during the automatic crop settings function will be highlighted on the screen to inform the operator which system is not functioning properly.
Note: Ideal for pre-harvest inspection.

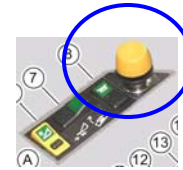


4. Learn working width »

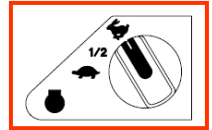
Switch on: Engine / **Separator**



/ **Feederhouse**



/ **Full throttle**



Location: / OK / Header / OK / Working width

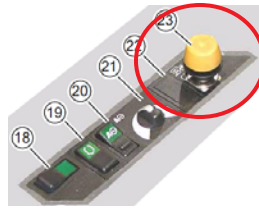
Working width:

1. Highlight Working width / OK
2. Use + / – keys to adjust value in right-hand window
3. OK to confirm

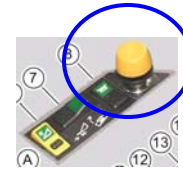
55510 Wheat				CEBIS	
		Sensitivity CAC		32 %	
		Partial width prop.		4	
		Working position		OFF	
		Working width		28.5 Ft	
		Auto header		OFF	
		Auto reel height		OFF	
		Vario auton.ON/OFF		OFF	
0.00 ac		0.0 ac/h		0.0 bu/h	
				0.0 bu/ac	
Sensitivity CAC		Cutt.height limits		Partial width prop.	
Working width		Auto reel height		Working position	
Table length stops		Fore/aft reel stops		Reel end stops	
		Vario auton.ON/OFF		Auto header	
				End. deck plates	

5. Learn cutting height limits »

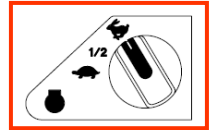
Switch on: Engine / **Separator**



/ **Feederhouse**



/ **Full throttle**



Location: / OK / Header / OK / Cutt. height limits / OK

Learning started:

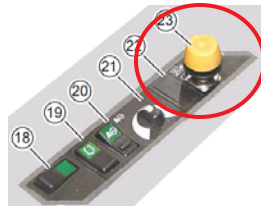
1. Header up
 2. Header down
 3. Header up
 4. Header down
 5. Learning correctly finished
 6. OK
- Only Steps 1 & 2 on standard feederhouse

55506	Wheat		CEBIS
		Sensitivity CAC 32 % Partial width prop. 6 Working position OFF Working width 0.0 ft Auto header OFF Auto reel height OFF Vario auton.ON/OFF OFF	
Learning started			
Sensitivity CAC	Cutt.height limits	Partial width prop.	Working position
Working width	Auto reel height	Reel end stops	Auto header
Table length stops	Fore/aft reel stops	Vario auton.ON/OFF	End. deck plates

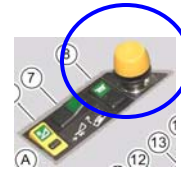


6. Learn individual cutting heights »

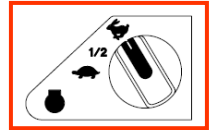
Switch on: Engine / **Separator**




/ **Feederhouse**

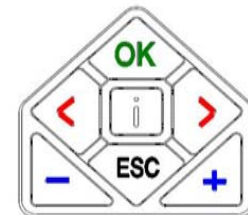
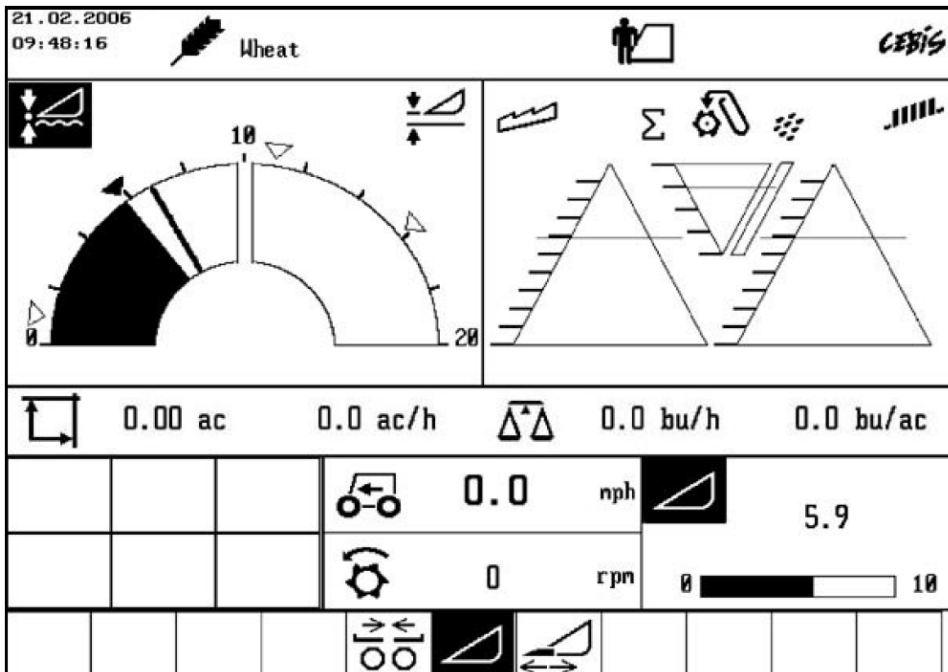


/ **Full throttle**



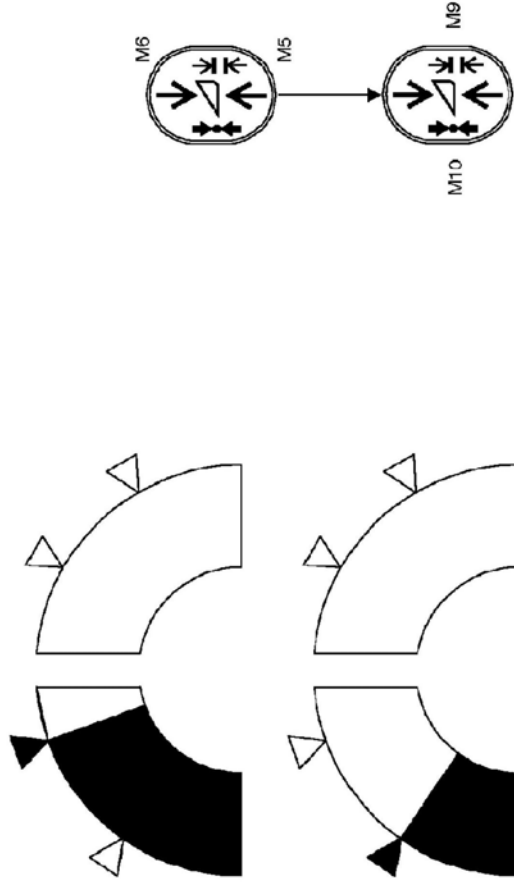
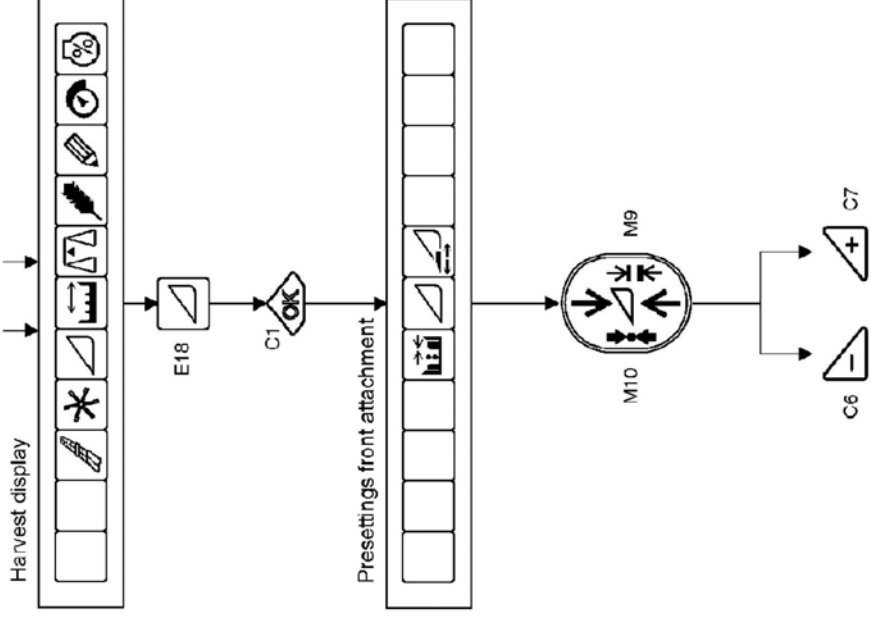
Cutting heights:

1. Using the arrow keys scroll over to the header  icon / OK
2. Tap the side of the raise / lower button to select the position you want to adjust



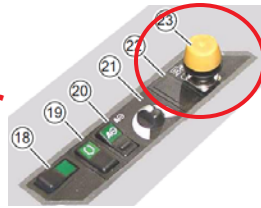
3. Using the + / - buttons adjust the selected cutting height position up or down using the bar graph as reference

Pre-set cutting heights

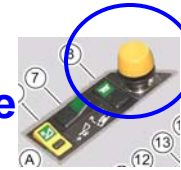


7. Learn working position »

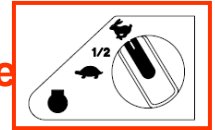
Switch on: Engine / Separator



/ Feederhouse



/ Full throttle



Location: < > / OK / Header / OK / Working position / OK / OK to confirm

55508	Wheat		CEBIS
		Sensitivity CAC 32 % Partial width prop. 4 Working position OFF Working width 0.0 ft Auto header OFF Auto reel height OFF Vario auton.ON/OFF OFF	
Learning started			
Sensitivity CAC	Cutt.height limits	Partial width prop.	Working position
Working width	Auto reel height	Reel end stops	Auto header
Table length stops	Fore/aft reel stops	Vario auton.ON/OFF	End. deck plates

» Prior to setting the working position, raise/lower the feederhouse just below the highest pre-set (▲) and learn Working position.

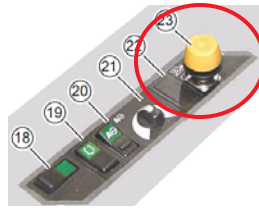
» Working position switches off the automatic functions (auto-contour, acre counter, data logging, etc.) when the header is raised out of the cut

Note: Setting the working position closer to the actual cutting position increases accuracy when logging field performance data.

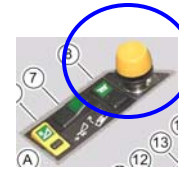


Learn working position »

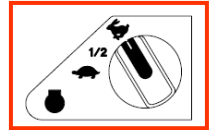
Switch on: Engine / **Separator**



/ **Feederhouse**



/ **Full throttle**



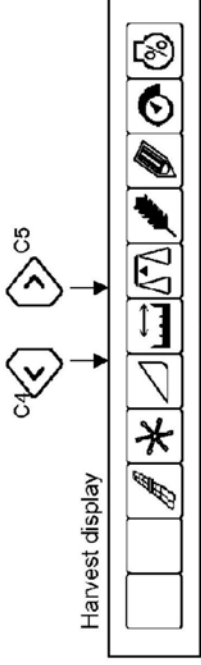
Location: / OK / Header / OK / Working position / OK

55508	Wheat		CEBIS
		Sensitivity CAC 32 % Partial width prop. 4 Working position OFF Working width 0.0 ft Auto header OFF Auto reel height OFF Vario auton.ON/OFF OFF	
Learning started			
Sensitivity CAC	Cutt.height limits	Partial width prop.	Working position
Working width	Auto reel height	Reel end stops	Auto header
Table length stops	Fore/aft reel stops	Vario auton.ON/OFF	End. deck plates

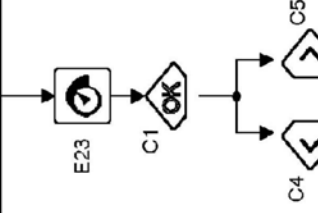
Learning started:

1. Position learned
2. OK to confirm

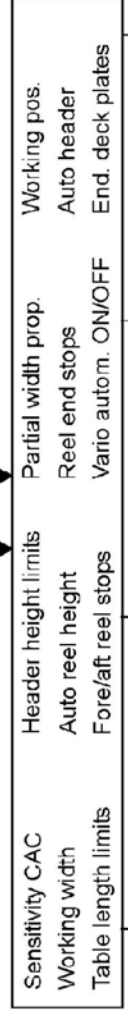
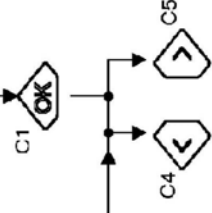
1. Working width



2. Cutting height limits

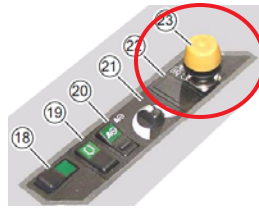


3. Working positions



8. CAC sensitivity »

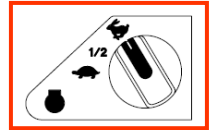
Switch on: Engine / Separator



/ Feederhouse



/ Full throttle



Location: / OK / Header / OK / Sensitivity CAC

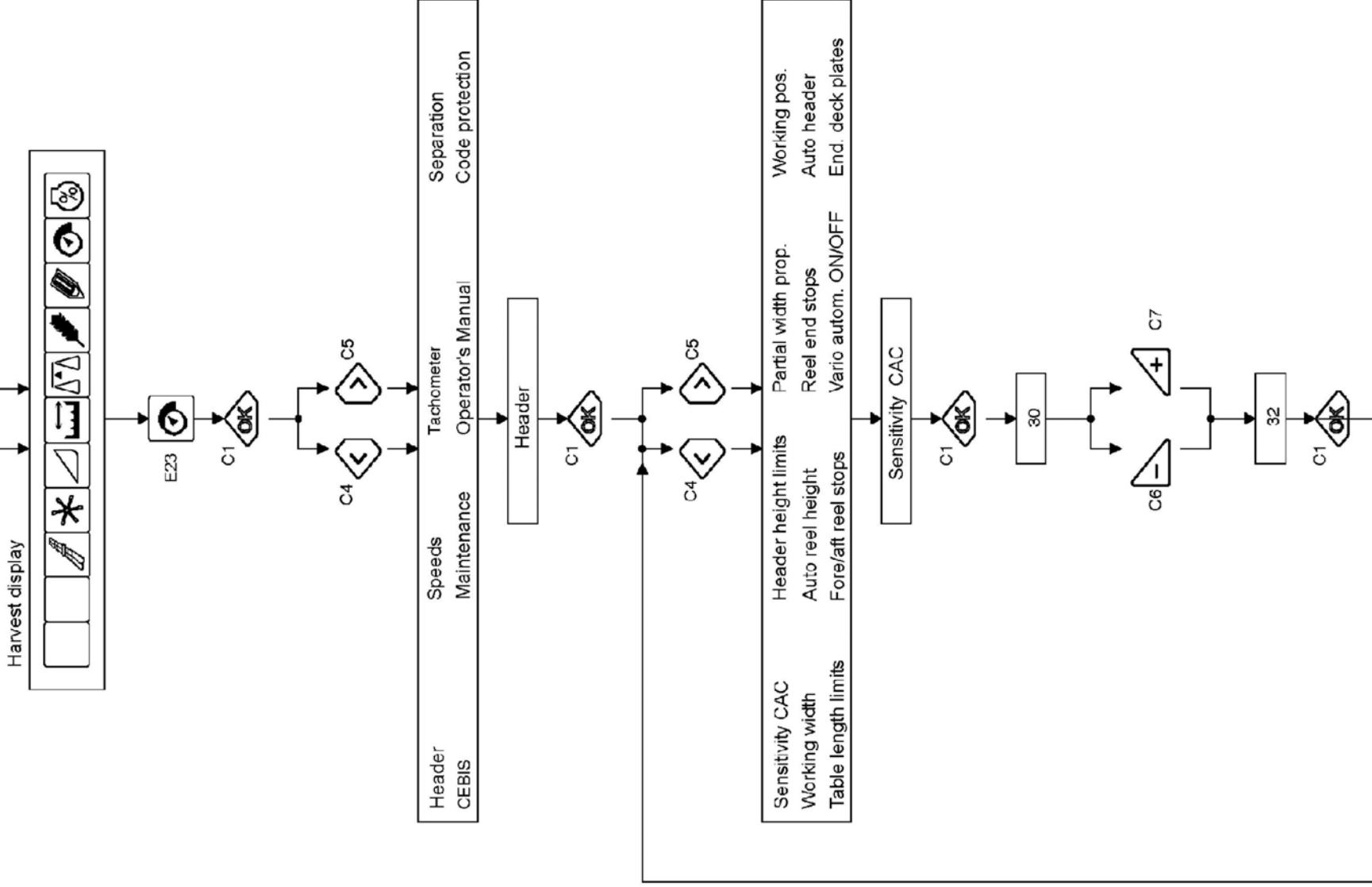
CAC sensitivity:

1. Highlight Sensitivity CAC / OK
2. Use + / – keys to adjust value in right-hand window (reference chart below)
3. OK to confirm

55504	Wheat		CEBIS
		Sensitivity CAC 32 %	
		Partial width prop. 6	
		Working position OFF	
		Working width 0.0 ft	
		Auto header OFF	
		Auto reel height OFF	
		Vario auton.ON/OFF OFF	
	0.00 ac	0.0 ac/h	0.0 bu/h 0.0 bu/ac
Sensitivity CAC	Cutt.height limits	Partial width prop.	Working position
Working width	Auto reel height	Reel end stops	Auto header
Table length stops	Fore/aft reel stops	Vario auton.ON/OFF	End. deck plates

Header	from	to	Recommendation:
Grain header	0%	48%	32%
Soy bean header	49%	60%	55%
Corn header	61%	100%	80%

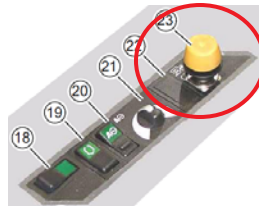
Sensitivity CAC



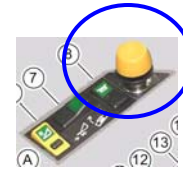


9. Auto header ON/OFF (auto reel speed) »

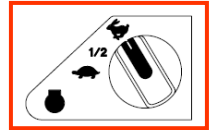
Switch on: Engine / **Separator**



/ **Feederhouse**



/ **Full throttle**



Location: / OK / Header / OK / Auto header

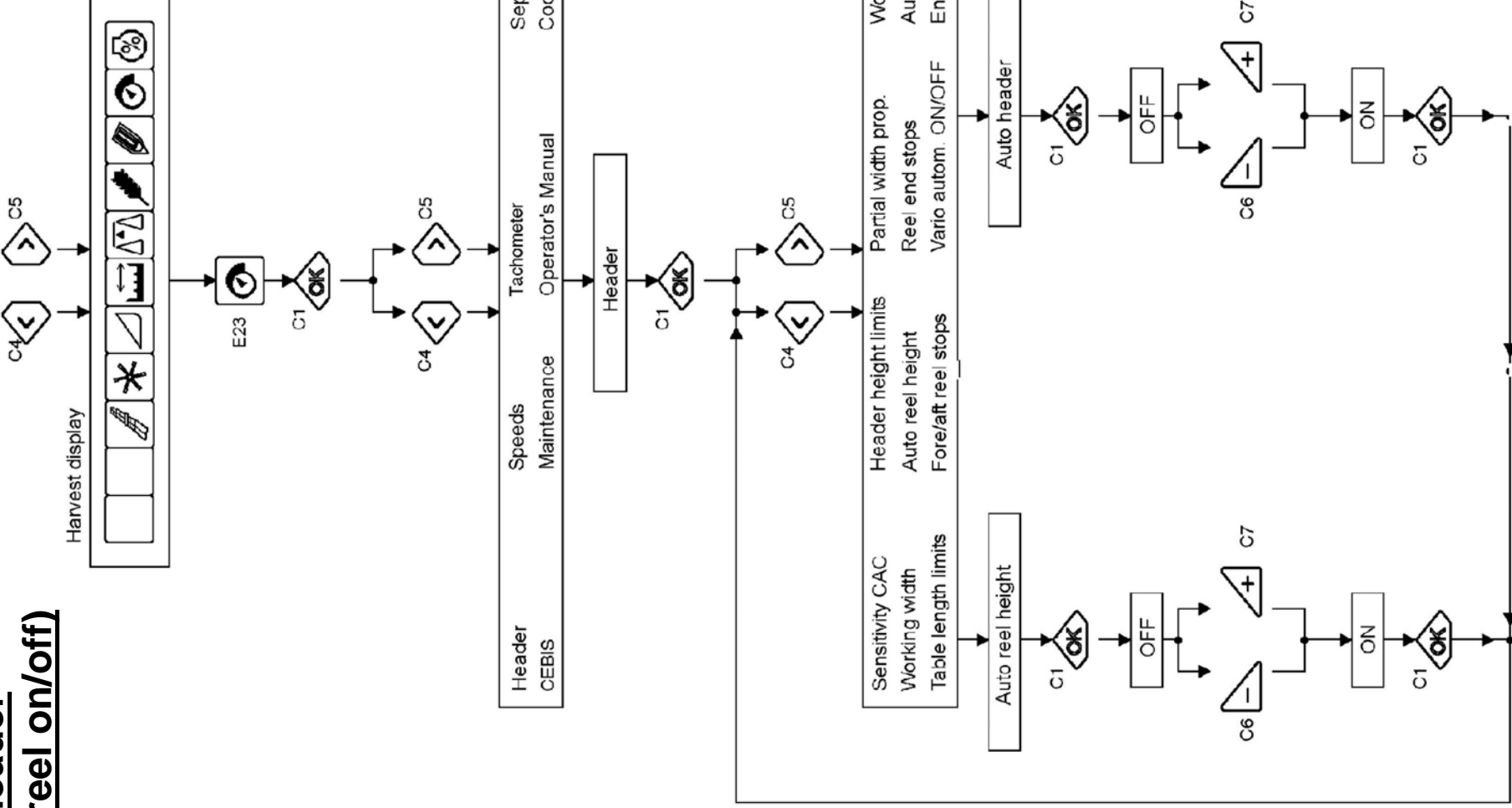
Auto header

Auto header:

1. Highlight **Auto header / OK**
2. Use + / - buttons to turn on/off

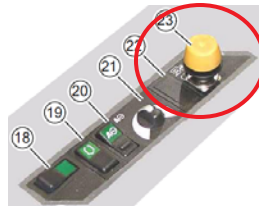
55514	Wheat		CEBIS
	10	20	Sensitivity CAC 32 % Partial width prop. 4 Working position OFF Working width 28.5 ft Auto header ON Auto reel height ON Vario auton.ON/OFF OFF
	0.00 ac	0.0 ac/h	0.0 bu/h 0.0 bu/ac
Sensitivity CAC	Cutt.height limits	Partial width prop.	Working position
Working width	Auto reel height	Reel end stops	Auto header
Table length stops	Fore/aft reel stops	Vario auton.ON/OFF	End. deck plates

Auto header (auto reel on/off)

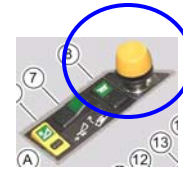


* 10. Auto reel speed »

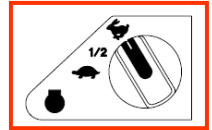
Switch on: Engine / **Separator**



/ **Feederhouse**



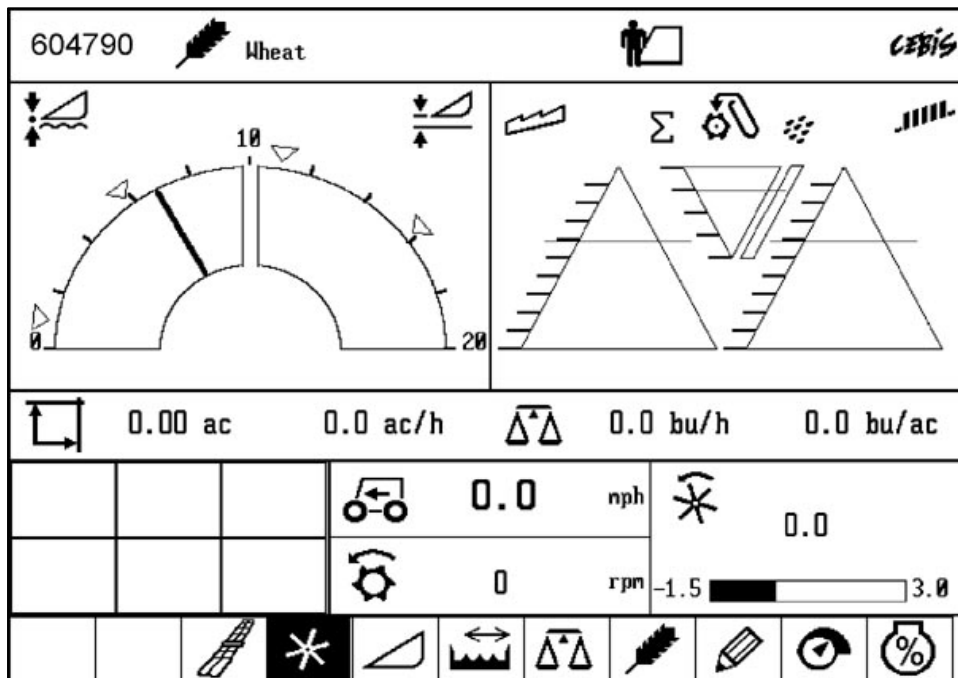
/ **Full throttle**



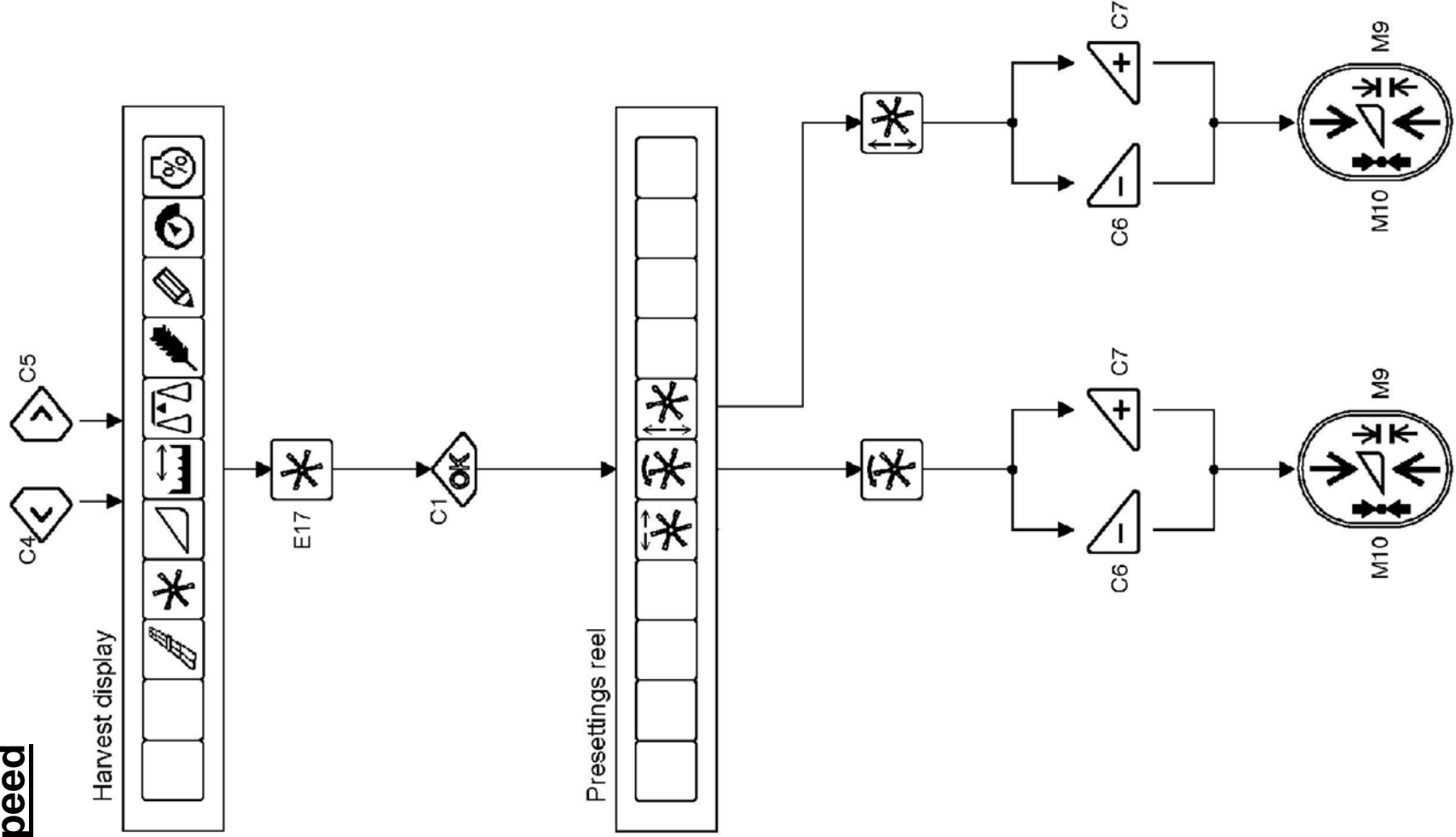
Location: * / OK (optional)

Auto reel speed:

1. Select Reel icon / OK
2. Use + / - buttons to adjust speed (see status bar)
3. In km/hr.
-1 mph – 1.9 mph



Auto reel speed



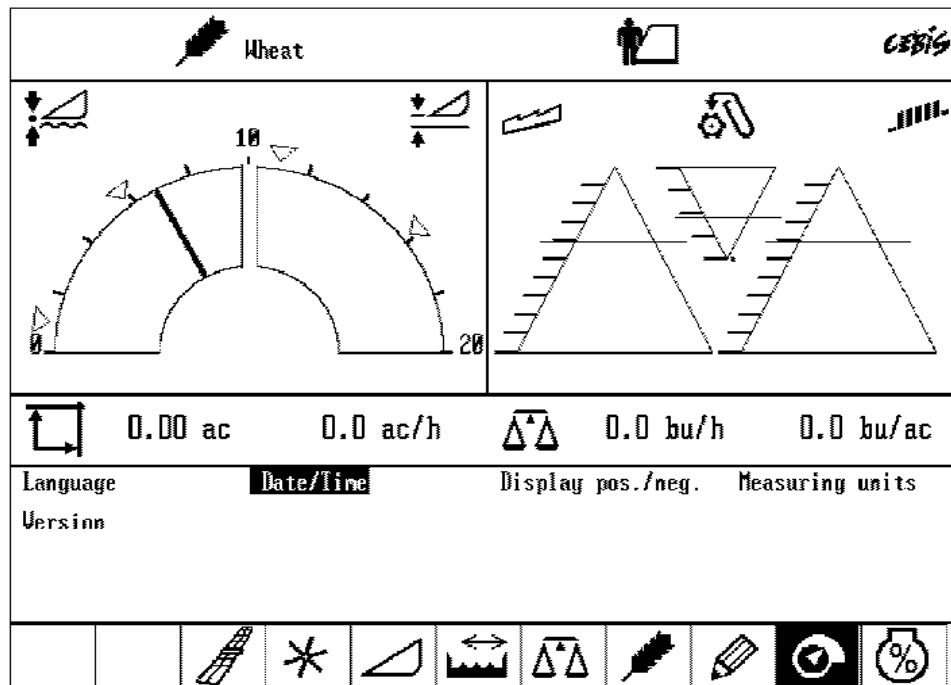


11. Set clock »

Switch on: Ignition

Set clock to 24 hour time

1. Example: 1300 hours vs. 1:00pm





12. LEXION engine hours and separator hours »

Switch on: Ignition

604839	Wheat		CEBIS
Total recorder			
Engine hours	0.00	h	
Separator hours	0.00	h	
Chopper hours	0.00	h	
Area	0.00	ac	
Chopper area	0.00	ac	
Dist. travelled	0.00	mi	
Travelled dist.to work	0.00	mi	
Crop yield	0.00	bu	
Fuel consumption	0.0	gal	
Fuel consumption - field	0.0	gal	
Fuel consumption - road	0.0	gal	
Printer			

Engine and Separator hours:

1. Under the pencil icon, select **Total recorder**

Section 3: Settings and Adjustments

1. Auto-contour
2. Crop settings
3. Pre-concaves
4. Chopper speed range

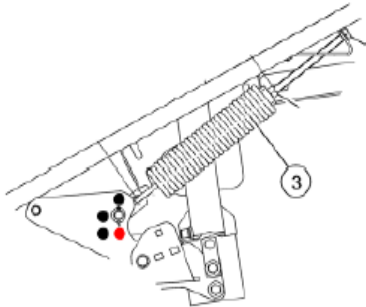
CLAAS

CLAAS Auto-contour » Flex heads

Header segment

Step A

Drop the front anchor pin (left and right) for the knife drive suspension spring (3) one **hole**.



Step B

With the head sitting on the ground, on a trailer or attached to the feeder house, with the cutter bar pulled up using the hydraulic cutter bar adjustment function, adjust the left and right end suspension springs (3) so that there is a 3-inch threaded gap showing between the top spring casting and the bracket holding the threaded rod.



3-inch threaded gap

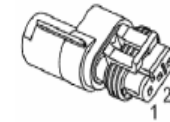
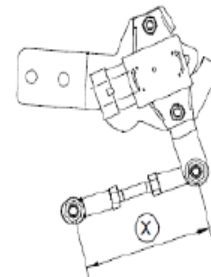
=



6th coil flush with end of wrench

Step C

Adjust the threaded rod between the auto-contour sensors (left and right) so that X = 95 mm (3.75 inches) from center-to-center of each ball joint. Make sure that both sensors are reading at least a range of 3 – 3.1 V dc.



Pin 1: Ground
Pin 2: 12 V dc
Pin 3: Signal

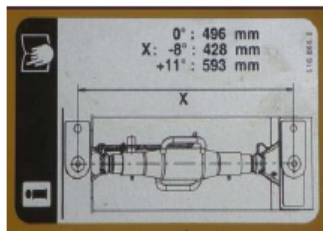
CLAAS Auto-contour » Flex heads

Step D

Set the HP feederhouse top link to 0 – 1 degrees back to start.

NOTE: each time an adjustment is made to the top-link, the cutting heights must be re-set using the decals located under the rubber flaps on the end divider points (see step 3 under the CEBIS segment)

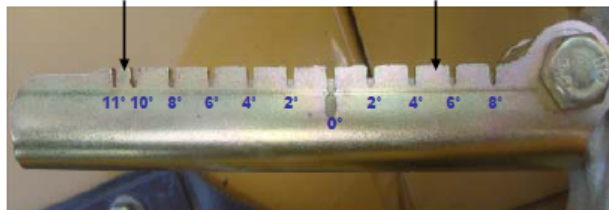
Current HP adjustment



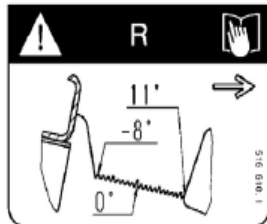
0 degrees

1 degree interval

2 degree intervals



"Saw-tooth" indicator adjustment (2004-2007)

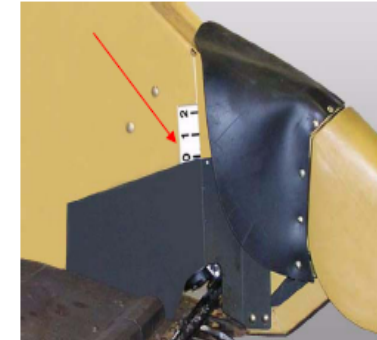
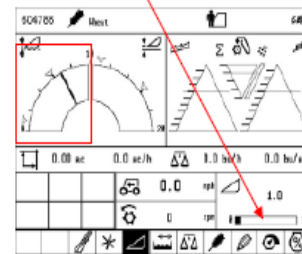


Step E

- Locate the numerical decal under the rubber flaps on the end divider points
- Set the lowest cutting height at 0 and the highest cutting position to + 1

Average cutting height position settings (pending HP faceplate angle)

- = 5.5 – 6.0 (low position)
- = 7.0 – 7.2 (high position)



NOTE: Re-learn Cutting Height Limits once the positions have been learned

CLAAS Auto-contour » Flex heads

» Note: Complete the (Max) flex head and HP feederhouse settings (steps A – E) prior to starting the CEBIS set-up below.




Function		CEBIS icon bar					Address																		
1. Enter working width	< >		OK	Header	OK	Working width	+ / -	Optional: 1 – 1.5 ft. shorter than actual header width to account for overlap.																	
2. Learn cutting height limits	< >		OK	Header	OK	Cutt. Height limits (follow instructions on screen)	OK	Repeat after each header switch or whenever a change has been made to the HP feederhouse angle																	
3. Set individual cutting heights	< >				+ / -		Complete for each cutting position (▲). Average flex head starting cutting heights: Lower position (5.5 - 6.0); Upper position (7.0 - 7.2)																		
<p>Note: the left & right hand sides of the feederhouse raise / lower button (A) correspond with the left & right hand sides of the cutting height arc (B).</p>																									
4. Set working position	< >		OK	Header	OK	Working position		OK																	
5. Set CAC sensitivity	< >		OK	Header	OK	Sensitivity CAC	OK	<table border="1"> <thead> <tr> <th>Header</th> <th>from</th> <th>to</th> <th>Recommendation:</th> </tr> </thead> <tbody> <tr> <td>Grain header</td> <td>0%</td> <td>48%</td> <td>32%</td> </tr> <tr> <td>Soy bean header</td> <td>49%</td> <td>60%</td> <td>55%</td> </tr> <tr> <td>Corn header</td> <td>61%</td> <td>100%</td> <td>80%</td> </tr> </tbody> </table>		Header	from	to	Recommendation:	Grain header	0%	48%	32%	Soy bean header	49%	60%	55%	Corn header	61%	100%	80%
Header	from	to	Recommendation:																						
Grain header	0%	48%	32%																						
Soy bean header	49%	60%	55%																						
Corn header	61%	100%	80%																						

CLAAS Auto-contour » Corn heads and Rigid heads

Function		CEBIS icon bar						Address																
1. Enter working width	< >		OK	Header	OK	Working width	+ / -	Optional: 1 - 1.5 ft. shorter than actual header width to account for overlap.																
2. Learn cutting height limits	< >		OK	Header	OK	Cutt. Height limits (follow instructions on screen)	OK	For best results, repeat after each header switch and/or whenever a change has been made to the HP feederhouse angle																
3. Set individual cutting heights	< >				+ / -			Complete for each cutting position (▲). Average flex head starting cutting heights, with HP set at 0° to +/- 1°: Lower position (5.5 - 6.0); Upper position (7.0 - 7.2)																
<p>Note: the left & right hand sides of the feederhouse raise / lower button (A) correspond with the left & right hand sides of the cutting height arc (B).</p>																								
4. Set working position	< >		OK	Header	OK	Working position		OK																
5. Set CAC sensitivity	< >		OK	Header	OK	Sensitivity CAC	OK	<table border="1"> <thead> <tr> <th>Header</th> <th>from</th> <th>to</th> <th>Recommendation:</th> </tr> </thead> <tbody> <tr> <td>Grain header</td> <td>0%</td> <td>48%</td> <td>32%</td> </tr> <tr> <td>Soy bean header</td> <td>49%</td> <td>60%</td> <td>55%</td> </tr> <tr> <td>Corn header</td> <td>61%</td> <td>100%</td> <td>80%</td> </tr> </tbody> </table>	Header	from	to	Recommendation:	Grain header	0%	48%	32%	Soy bean header	49%	60%	55%	Corn header	61%	100%	80%
Header	from	to	Recommendation:																					
Grain header	0%	48%	32%																					
Soy bean header	49%	60%	55%																					
Corn header	61%	100%	80%																					




Settings and Adjustments » Crop settings

- » Load combine settings on CEBIS for each crop to be harvested
 - » Loads the pre-sets for each specific crop
 - » Ideal for troubleshooting the system (whatever doesn't load indicates where to look for the problem)
- » **Always fine-tune according to settings guide** prior to harvest

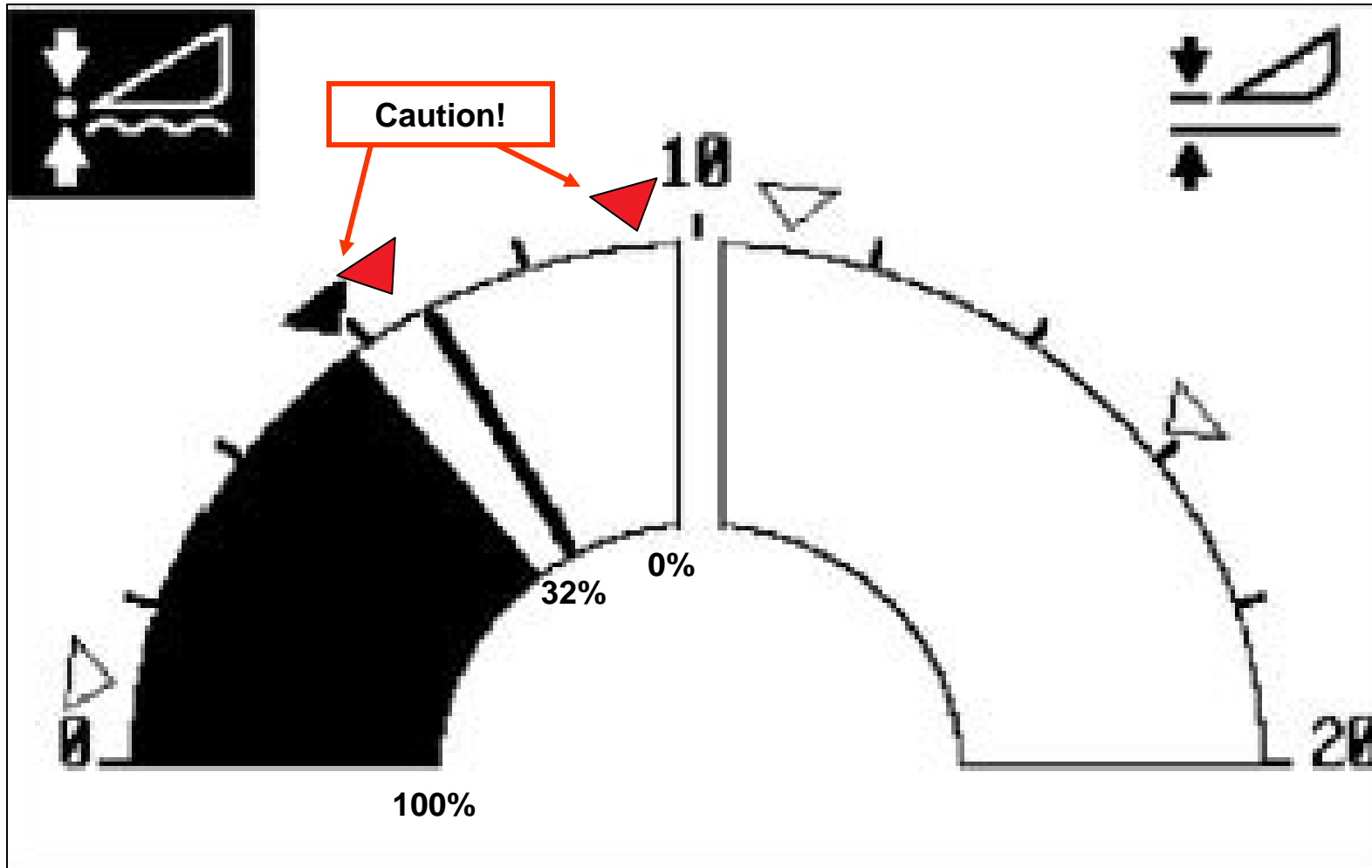
614369		Wheat		CEBIS	
Wheat					
		Program.	Actual	Program.	Actual
Threshing cylinder		0	0	Sieve sensitivity	5.0 5.0
Fan		0	0	Separation sensitivity	5.0 5.0
Threshing concave		0	0	Grain size, sieves	MEDIUM MEDIUM
Upper sieve		0	0	Grain size, separ.	MEDIUM MEDIUM
Lower sieve		0	0	Weight per bushel	58.3 58.0
Feeder chain		0	0	Rotor	960.0 960.0
Check adjustments:					
Pre-separ. wind duct		0		Disawner	OFF
Height/intake auger		0		Threshing segment	removed
Adjusting for crop					
Load LEX.settings	Load own settings	Store own settings	Print settings		
Display LEX.setting	Display own settings				
					

Settings and Adjustments » Rotor speed

- » Always make sure that the rotor speed is set at least to 10% to 100 rpm's over what the APS speed is set to. This will ensure optimal flow of material from threshing to separation
- » Exception: Corn, adjust as needed (above or below rotor threshing speed)

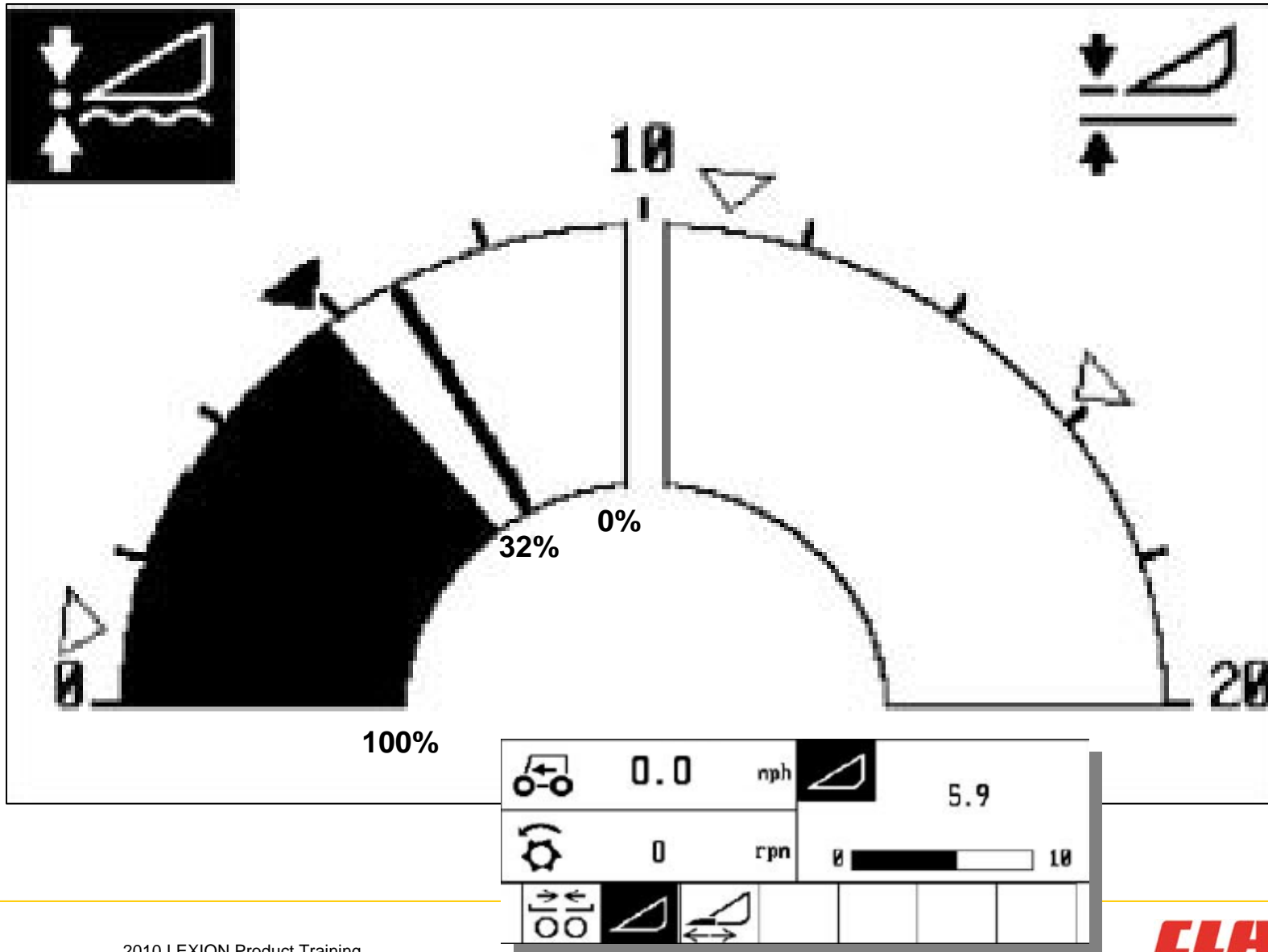
Rotary Switch D			Learning conditions	Display field (E 15)	+/- keys (C6) and (C7)	
D 11	Rotary Speed		> Min. working speed, threshing mechanism ON	960 rpm		

Settings and Adjustments » Auto-contour



◀ Triangles should not touch

Settings and Adjustments » Auto-contour



Settings and Adjustments » Auto-contour

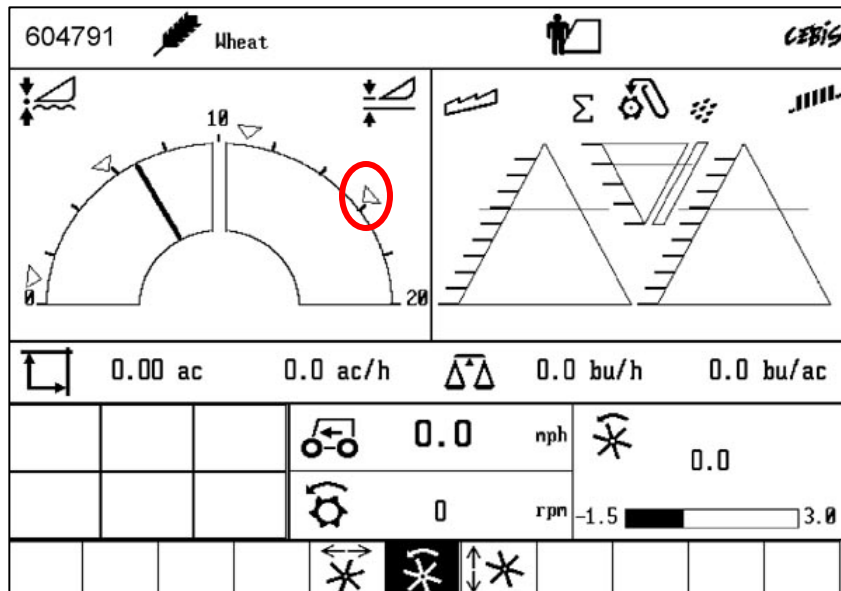
CAC sensitivity

Header	from	to	Recommendation:
Cutter bar in rigid position	0%	48%	32%
Flex head	49%	60%	55%
Corn head	61%	100%	80%

Wheat

Soybeans

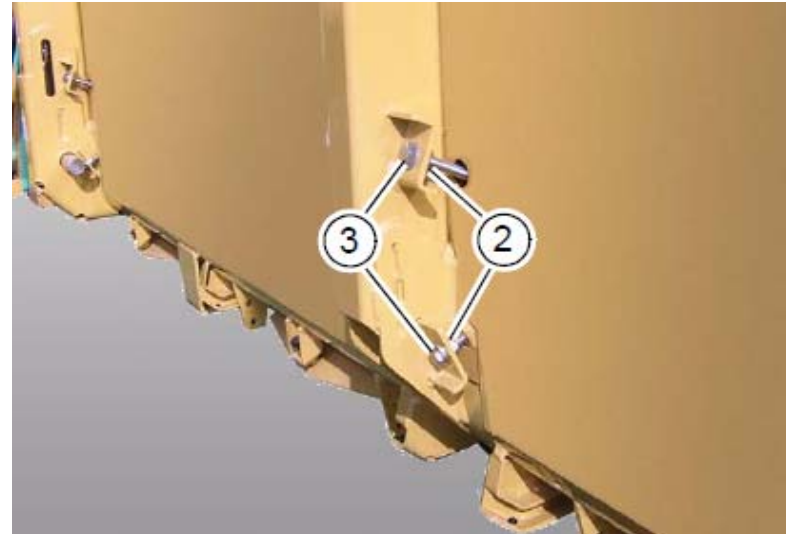
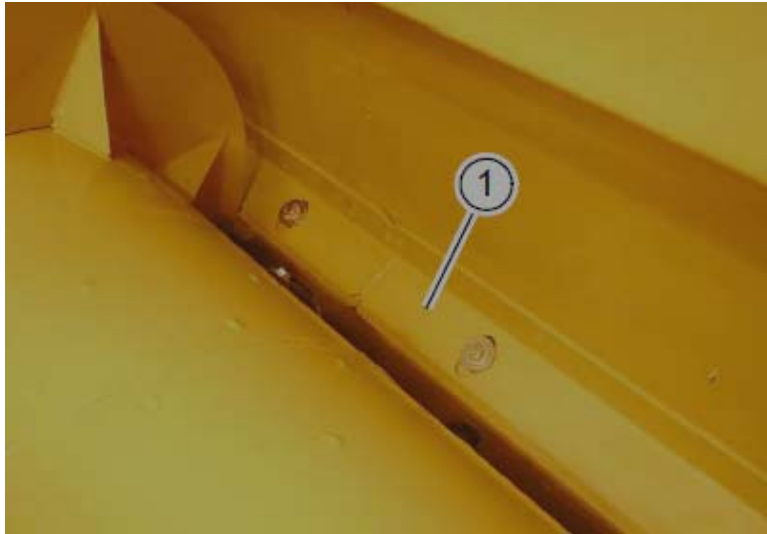
Settings and Adjustments »



Reel speed and position

- » Reel speed: Typically 1 mph (1.6 kph) over ground speed (read-out is in kph)
- » Set each position (**triangle**) separately
- » Reel tines should be set perpendicular to cutter bar to start
 - » Angle inward for more aggressive feeding, outward for less aggressive

Settings and Adjustments » Stripper plate adjustment

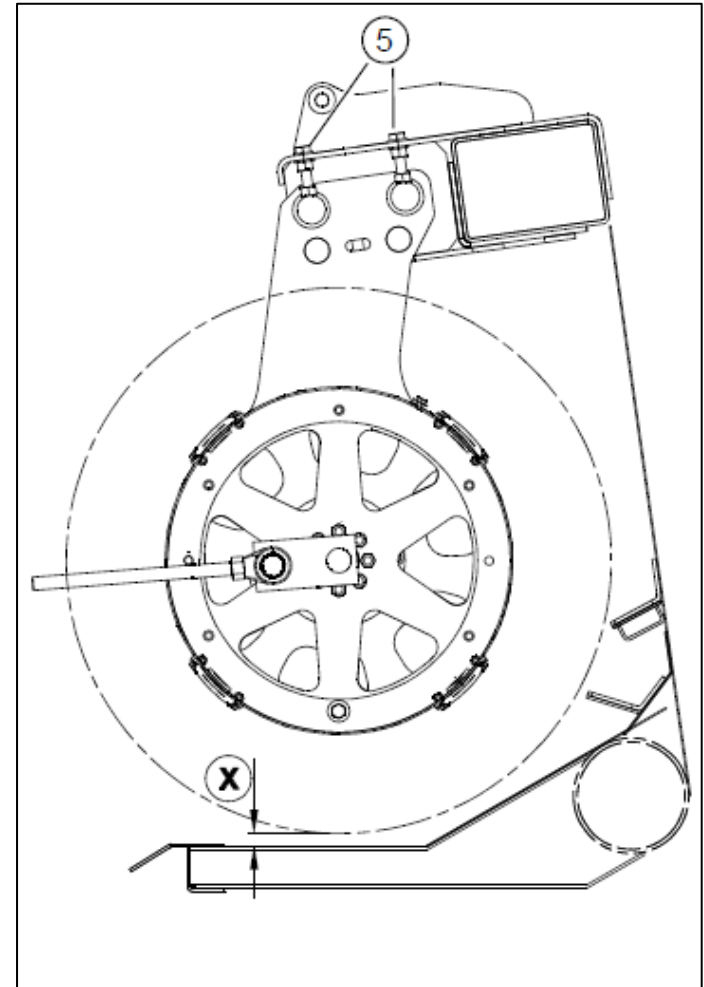


- » Adjust stripper plates (1) to the necessary tolerance to the table auger flighting to prevent back-feeding
- » Use draw bolts (3) to screw plates in/out

Settings and Adjustments » Table auger position

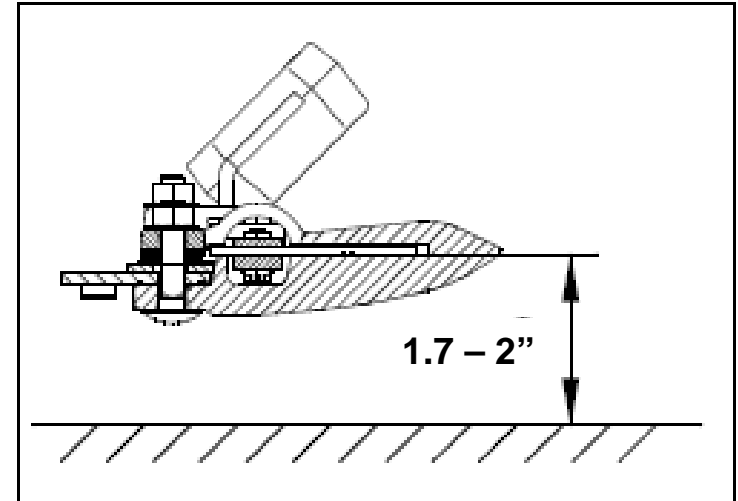
Table auger vertical position (X)

- » Possible adjustment if back-feeding from the sides of the auger remains after stripper plate adjustment
- » Incremental vertical adjustment



Settings and Adjustments » Cutter bar position

- » HP set to 0 degrees
- » Adjust end divider spring tension according to conditions
- » Set lowest cutting position to 0 on divider decal



7290



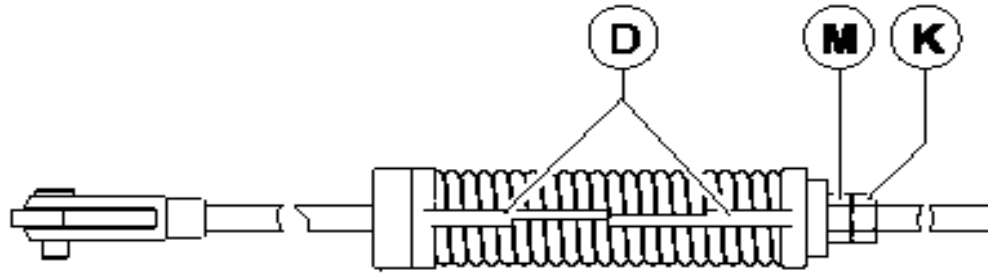
1025

Settings and Adjustments » Belt tension and adjustment

- » Know proper tensioning procedures
- » Always set tensioners to the indicators
- » Make sure that the **detention nut** is backed away from tensioner



Settings and Adjustments » Belt tension and adjustment



Adjust spring tension until indicators (D) touch

Tip-to-Tip indicators

- » Header Drive 2nd stage (with or with out variable speed)
- » Impeller Drive
- » Chopper Drive 2nd & 3rd stage
- » Rotor Drive 1st stage
- » Fan Drive 3rd stage
- » Threshing Cylinder Drive

Settings and Adjustments » Belt tension and adjustment



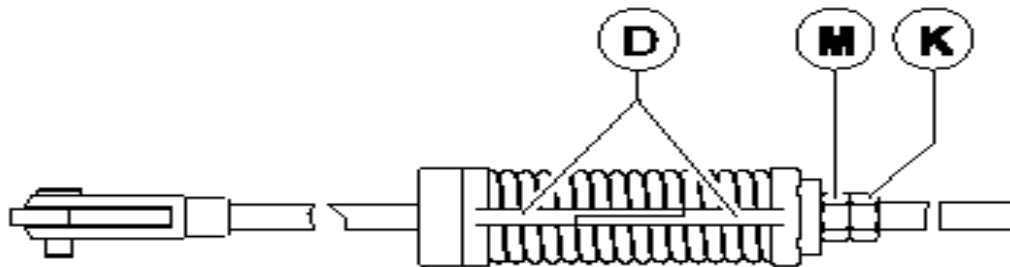
Fixed idlers

- » Stage 1 & 2 of cleaning system
 - » Loosen pulley jam nut before adjusting spring tension
 - » Re-tension jam nut after adjustment

Settings and Adjustments » Belt tension and adjustment

Over-lapping indicators

- » Chaff spreader Hydraulic pump
- » Fan Drive 1st Stage
- » APS drive



Adjust spring tension until indicators (D) overlap

What to do if combine plugs? »



Do not engage processor to remove slug!!!

What to do if combine plugs? »

Do not engage processor to remove slug!!!

1. **Common cause of most belt damage / failure**
2. **If the slug kills the engine under low idle, it will kill it under high idle – remove slug first!**

Locate the region plugged

1. **Under the APS cylinder?**
2. **Between the threshing cylinder and impeller?**
3. **Rotors?**

What to do if combine plugs? »

APS cylinder plugged

1. Open concave all the way (50mm)
2. De-tension APS cylinder belt
3. Use the paddles on the APS cylinder to pry it backward



What to do if combine plugs? »



Threshing cylinder (TC) is plugged

1. Disconnect APS reduction drive **bolts**
2. Open concave all the way (50mm)
3. Use same prying method with APS cylinder to dis-lodge

What to do if combine plugs? »

Region between TC and Impeller plugged

1. Disconnect APS reduction drive bolts
2. Drop the chopper
3. Engage separator and clean out the rotors
4. Re-engage the APS reduction bolts on low side
5. De-tension the rear impeller drive belt on the left-hand side (see picture)
6. Remove APS access door below the cab
7. Ensure concave is open all the way (50mm)
8. Engage separator
9. Slug should exit onto the feederhouse as separator engages



What to do if combine plugs? »

Rotors plugged

1. Disconnect APS reduction drive bolts
2. Drop the chopper
3. Separate the rotor drive **coupler** between gear boxes
4. Engage separator and clean out the right-hand rotor
5. Re-connect the rotor drive **coupler**
6. Engage separator and clean out the left-hand rotor



Settings and Adjustment tips »

Dry corn (< 20% moisture)

- » 19x40mm pre-concave grates
- » Keep dis-awning plates open
- » Round-bar main concave
- » Set concave to 2 mm over cob diameter to start
- » Threshing cylinder in low range (325 – 365 rpm)
- » Variable speed rotors set to 325 – 350 rpm
- » Set loss sensors to large 6.0

Soft, brittle cobs:

- » Cobs split length ways, slow cylinder in 10 rpm increments
- » Corn left on cob pieces, tighten concave in 1 mm increments.
- » Install 12x40 mm pre-concave grates with dis-awning plates open

High moisture corn:

- » 19x40mm pre-concave grates
- » Keep dis-awning plates open
- » Set concave to 2 mm over cob diameter to start
- » Threshing cylinder in low range (365 – 425rpm)
- » Variable speed rotors set to 380 – 400 rpm
- » Set loss sensors to large 6.0

Popcorn:

- » 19x40mm pre-concave grates
- » Dis-awning plates can be closed to fill main concave lighter crop
- » Set concave to 2 mm over cob diameter to start
- » Threshing cylinder @ 300 rpm to start
- » Higher quality: slow cylinder in 10 rpm increments and increase rotor speed in 30 rpm increments
- » Standard sieves

Settings and Adjustment tips »

Green-stem soybeans

- » 10 or 12 x 40mm pre-concave grates
- » Keep dis-awning plates open to start
- » Set concave no wider than 16mm to start
- » Threshing cylinder in high range, set to 650 – 700 rpm to start
- » Rotor speed to 750 – 800 rpm
- » Standard sieves may be required

Edible peas (Purple hull or Black-eye)

- » 10 or 12 x 40mm pre-concave grates
- » Keep dis-awning plates open
- » Set concave 30mm to start
- » Threshing cylinder in low range, set to 350 rpm to start
- » Rotor speed to 600 rpm
- » Standard sieves

Seed soybeans

- » 19 x 40mm pre-concave grates to start (dis-awning plates closed)
- » 12 x 40mm grates if green stems (dis-awning plates open)
- » Set concave between 18 – 20mm
- » Threshing cylinder in high range, set to 600 rpm to start
- » Rotor speed to 700 rpm
- » Standard upper sieve may be required

Wheat

- » 6.5 x 40mm pre-concave grates recommended (larger can be used, dis-awning plates may be closed more frequently)
- » Bearded wheat may require dis-awning plates to be closed
- » Install concave filler plates in corn versions
- » Set concave to 13mm to start
- » Threshing cylinder in high range, set to 600 – 700 rpm to start
- » Rotor speed to 700 – 850 rpm

Settings and Adjustment tips »

Rice (rasp bar threshing)

- » 10 or 12 x 40mm pre-concave grates, 19 x 40mm corn grates can be used in easy-to-thresh conditions
- » Keep dis-awning plates open always
- » Threshing cylinder in high range at 700 – 750 rpm to start
- » Ensure rotor speed is a minimum of 100 rpm over threshing speed
- » Standard sieves

Edible beans

- » 19 x 40 pre-concave grates
- » Dis-awning plates open
- » Threshing to low range, start at 300 - 325 rpm
- » Standard sieves