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H480C 2009 Update: Design Goals



- Feeding performance optimization
- Upper feed rollers design rationalization
- Feeding geometry optimization (small / big trees)
- Optimization of lower feed motor lifetime
- Feeding path optimization
- Durability improvements
- Manufacturability improvements
- New options
- Other automations (mounting)



Comparison 758HD/H480/H480C



X=satisfactory

				XX= good
				XXX= excellent
	758HD	H480	H480C	Improved in H480C
Feeding small trees	Х	X	XXX	angle of rollers
Holding big trees	Х	X	XXX	angle of rollers
Delimbing small tree	Х	X	XX	new fixed knive
Feeding motors	Х	XX	XXX	Poclains, HDDanfoss, check valve in T line
Saw device OM	Х	X	N/A	n/a in H480C
Saw device SC	Х	X	XX	cylinder connected to drain
Saw motor	Х	X	XX	Bucher option, 5 bar T-pressure
Cylinders	Х	X	XX	new roller arm cylinders, improved weldi
Hosing	XX	XX	XXX	banjos away, new routings
Weight	XXX	XX	Х	more durability with weight
lenght measuring	XX	XX	XXX	new measuring rollers, H09, Drain connec
Diameter measuring	XX	XX	XX	place for new sensors.
Delimbing knives	XX	XXX	XXX	Improved allready
Roller arms	Х	XX	XXX	More steel for danfoss. Improved welding
Colour marking	Х	XX	XXX	easy pump bleeding outside. Filters
Stump treatment	Х	Х	XX	possible to use urea in SC
Additional guarding	XX	XX	XXX	Simplified snow protection
Rocker plate	Х	X	XXX	Fixed wear plate
Feed rollers	Х	Х	XX	more grip, less damage
Upper feed rollers	Х	X	XX	better teehts, no stress for upper motors
Tilt frame	XX	XX	XXX	rubber stoppers.

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Feeding Performance: Speed Ratio



- Improve current speed ratio between upper and lower rollers
- Bigger M14 fastening bolts for upper motors
- I reduce upper roller diameter
 - Affects to motor & roller location
 - Change gear to outer diameter to
 - Reduce loads
 - Reduce weight
 - Improves manufacturing
- H480C feeding power will be improved
 - I Update will get new roller arms
 - (to improve small tree feeding and
 - big tree holding)
 - and new feed rollers (better grip)



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Feeding Performance: Tree holding



- Improve small tree feeding & big tree holding
 - I New Roller arms for Danfoss & Poclain motors

Current H480 (D500)

The New H480C (D500)





Feeding Performance: Roller Arms

- New stronger & re-designed Danfoss feed roller arms
 - Material change 70 mm 1 80 mm
 - Improved small tree feeding & big tree holding
- New re-designed Poclain roller arms
 - Improved small tree feeding & big tree holding
 - Slightly modified design
- NOTE! For old (=H480 Poclain & Danfoss + 758HD Poclain) heads new roller arms can be sold as an pair only



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Feeding Performance: Lower Roller Spikes

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- Currently 14mm spikes used on majority of feed rollers.
- Going to bigger spike (20mm) on lower feed rollers will guarantee better grip and durability.
- Less feeding damages due to better grip and spike design.

DIRECTION OF ROTATION



Feeding Performance: Lower Roller V-type



- Currently 14mm spikes/10*10 ribs used on majority of feed rollers.
- Going to bigger spike (20mm) on lower feed rollers will guarantee better grip and durability. Ribs made of 12*12
- Less feeding damages due to better grip and spike design.

DIRECTION OF ROTATION



Feed motor durability



- Lower motors:
 - 5 bar back pressure to tank line (check valve)
 - Check valves to lower feed motor drain line to protect motors
 - New option: Poclain 630/Danfoss400.
 - Danfoss TMVW/TMTW HD feeding motors.
 - Right feeding ratio between upper and lower motors gives less stress. to hydraulics

Feeding path optimization



- Tree conicality is 1-1.5cm / 1 m Optimize cuts
 - Fixed top knife / upper feed rollers
 - Tree travel path needs to be optimized for delimbing
 - Note that big tree drops some amount (1 cm?) off from top knife
 - I Has been done by upper motor/roller position



Sawing performance



- Change for Saw bar feeding hydraulic coupling improves sawing performance
 - New EVO II valve block
 - New hose routing
 - · Check valves to saw motor drain line to protect motors
- Parker saw motor durability
 - Drive wheel change 12 13 teeth
 - New compensator (F-code)
- New saw motor, Bucher 20 cc
 - Alternative for Parker
 - Requires new saw valve manifold (EVO II)
 - Available also as an field kit (for some models)

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H480C Saw device

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Alternative saw motors

Bucher 20 cc -stands high revs -10500 RPM -not sensitive for cavitation



Parker 19 cc -9000PRM -Good hydraulic efficiency

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Tilt frame and tilt end damping



- New tilt brackets to mainframe (compare H414)
- Lifting up tilt causes heavy impacts to structures
- Current tilt cylinder F634639 has 20mm end damping
 - Because of mechanical structures, not all damping length is used •
 - Inefficient damping performance •
- Improve tilt up end damping:
 - Rubber dampeners (2 pcs) together with cylinder damping





Fixed top knife (ECR021746)

- Currently 5 different versions on price list + some test versions designed
- Good features connected to standard fixed knife "contorta moustache knife"





Saw box fastening & rear frame

- Better support to tilt stopper
 - (Some changes done already summer -08)
 - 'J'- plate manufacturability improvement
 - Simplify optional snow protection
 - 'Flat' saw box plate with ring (compare H414)
 - Smooth rear portion

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Rocker, Expander & Length measuring

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- Replacing
 - Pin assembly F635772 (high warranty)
 - Straight and boggie style rockers
- By bolted 'service door / wear plate'



Cylinders



- New roller arm cylinders F074420
 - Better welding between rod & eye
 - (Will fit only to H480C roller arms)
- 'Face plate' shaped to protect cylinder fittings (see picture below)
- Welding improvement to front knife cylinder (F634640) since winter -09
 - Rod & eye connection







Hoses from boom to head without 'hose swing'

New rear knife cylinder.





- Rod diameter increased from 20 mm to 25 mm
- Lenght of end cushion increased from 5 to 10 mm in both ends.
- ...WJH48000333
- Rear knives lenghtened
 30 mm

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New front knives. WJH480H000519...

Tilt frame







Feed Rollers

- Upper Rollers
 - V-type rollers
 - Thumbnail spikes gives traction
 - Euca rollers
- Down Rollers,
- Thumbnail rollers
 - MTH V-type rollers
 - Mense feeding rollers, conical type
 - Moipu feeding rollers
 - Euca feeding rollers
 - 20 dia, thumbnails v-type 12*12 bars







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Better protection for SC saw unit





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Measuring wheels H480/758HD

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SuperCut 100

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Chain tensioning pressure

Note! Depending on how the check valve is assembled, it can also function as a restrictor check valve. Please consult the nearest Hultdins dealer on how to properly equip your SuperCut saw unit. See Fig. 49.

Bigger flow







Flow divider for rollers or knives (F064309)

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Orifice 0,6 mm added

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Special tools



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