



H480C

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Manager

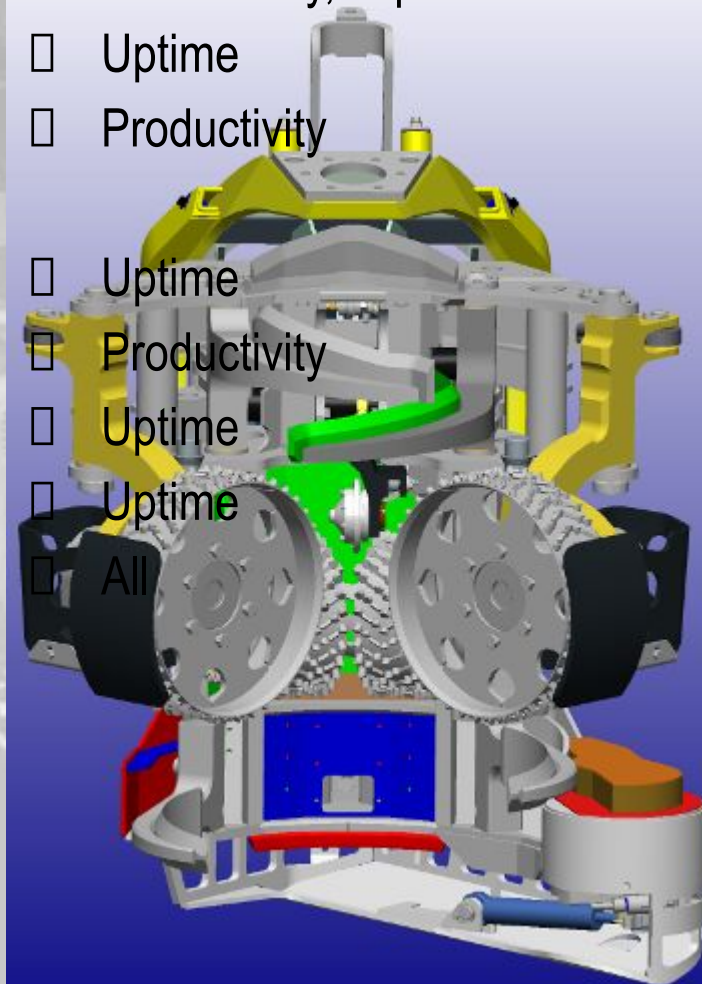


H480C 2009 Update: Design Goals



- 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)

- Productivity, Oper. Costs
- Uptime
- Productivity
- Uptime
- Productivity
- Uptime
- Uptime
- All



Comparison 758HD/H480/H480C



X=satisfactory
 XX= good
 XXX= excellent

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

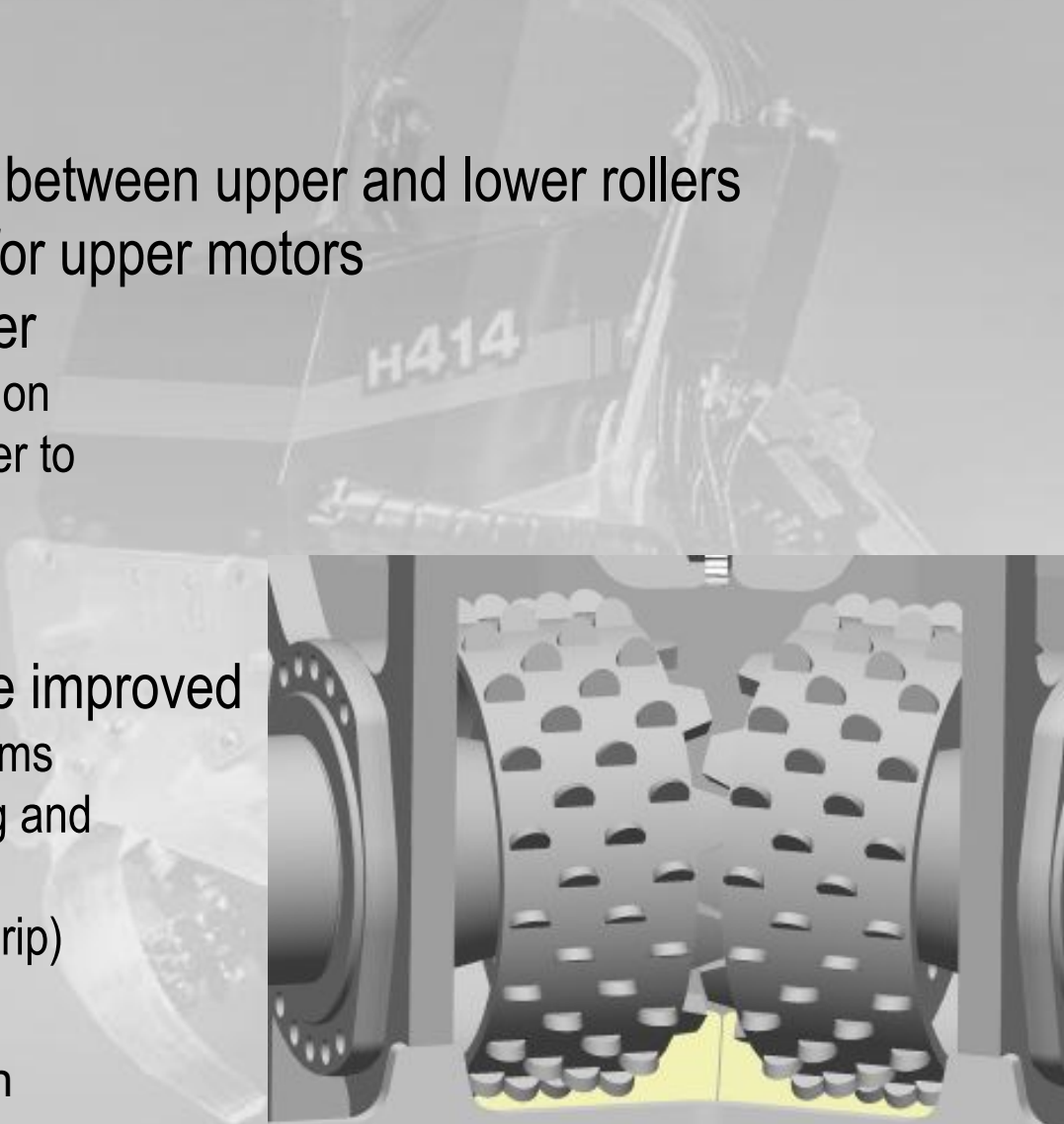
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Feeding Performance: Speed Ratio



- Improve current speed ratio between upper and lower rollers
- Bigger M14 fastening bolts for upper motors
- □ 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
 - □ Update will get new roller arms
 - (to improve small tree feeding and big tree holding)
 - and new feed rollers (better grip)

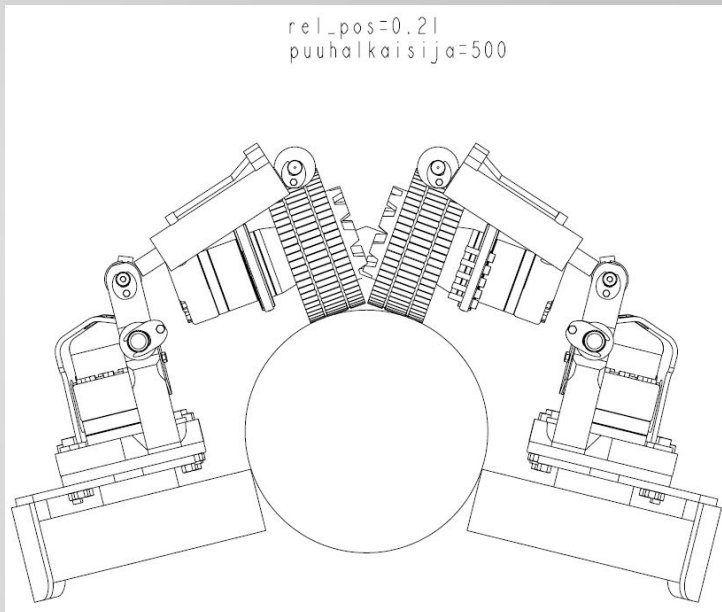


Feeding Performance: Tree holding

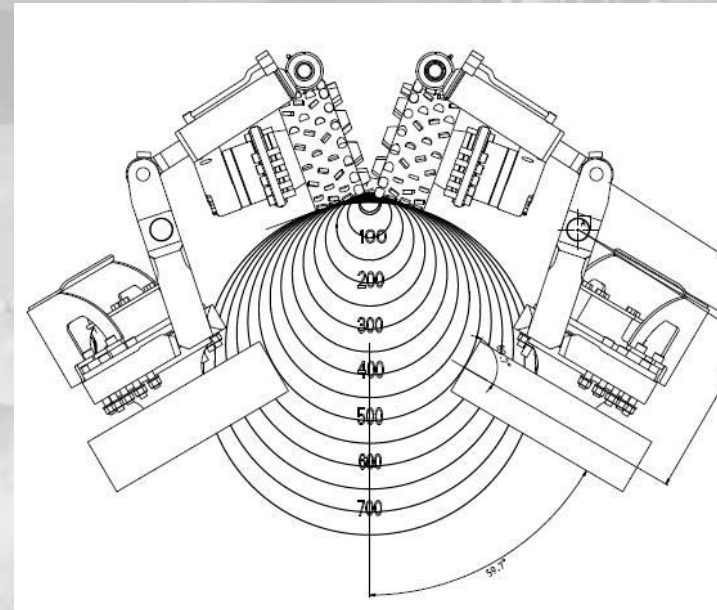


- Improve small tree feeding & big tree holding
 - □ New Roller arms for Danfoss & Poclain motors

Current H480 (D500)



The New H480C (D500)



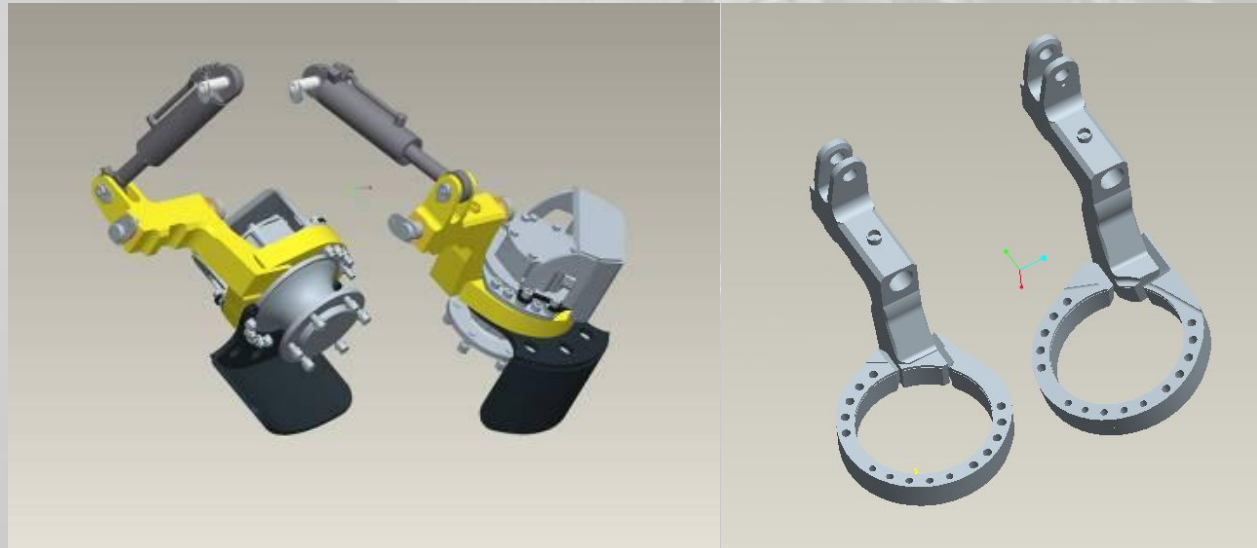
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Feeding Performance: Roller Arms



- New stronger & re-designed Danfoss feed roller arms
 - Material change 70 mm \square 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

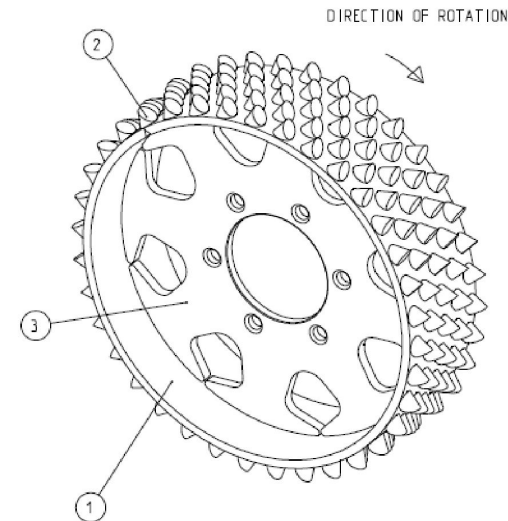


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Feeding Performance: Lower Roller Spikes



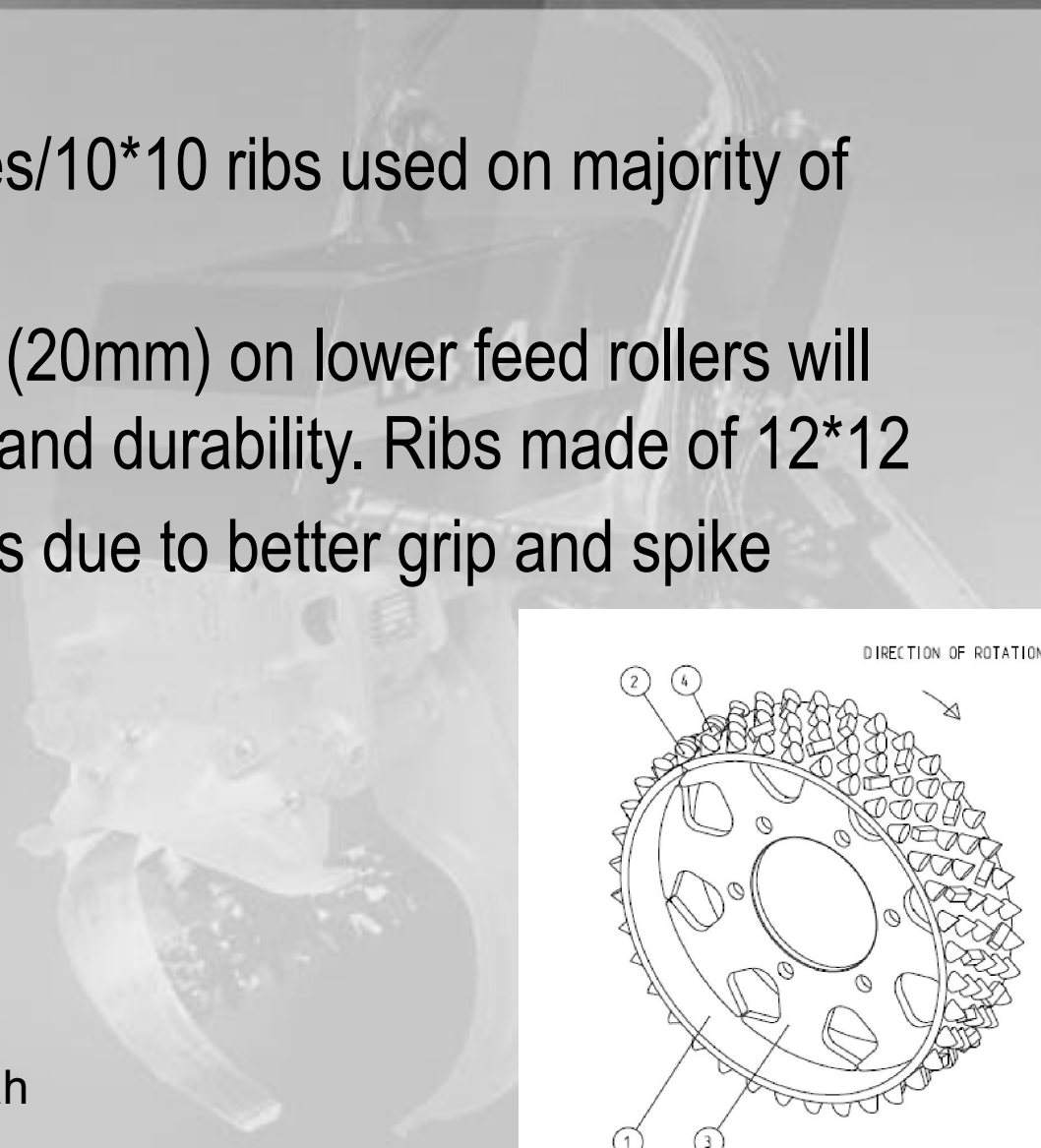
- Currently 14mm spikes used on majority of feed rollers.
- Going to bigger spike (20mm) on lower feed rollers will guarantee better grip and durability.
- Less feeding damages due to better grip and spike design.



Feeding Performance: Lower Roller V-type

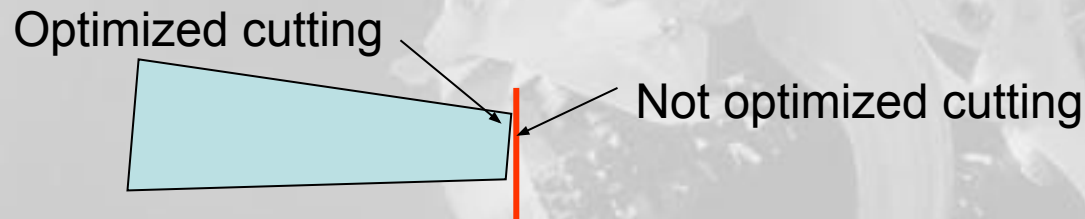


- Currently 14mm spikes/10*10 ribs used on majority of feed rollers.
- Going to bigger spike (20mm) on lower feed rollers will guarantee better grip and durability. Ribs made of 12*12
- Less feeding damages due to better grip and spike design.



- 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

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

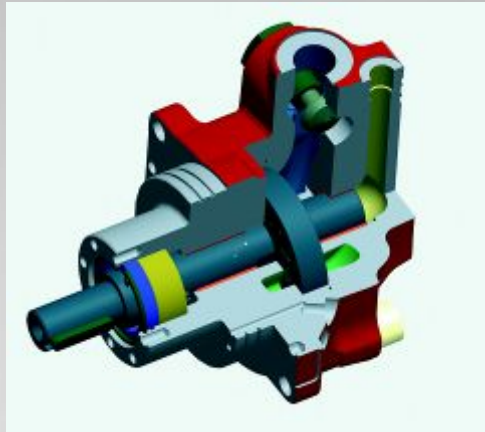


Sawing performance



- 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 \square 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)

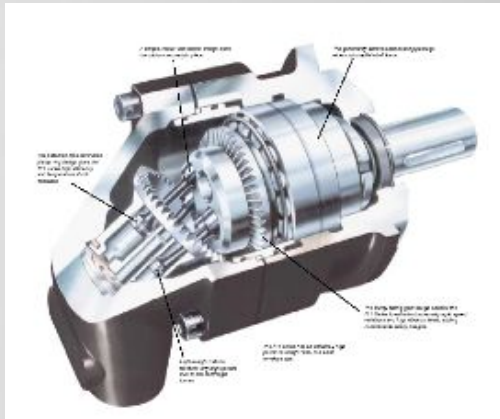
H480C Saw device



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

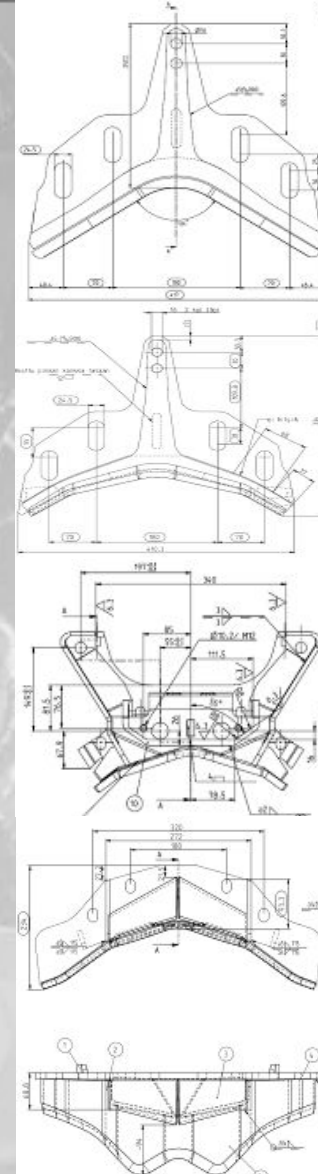


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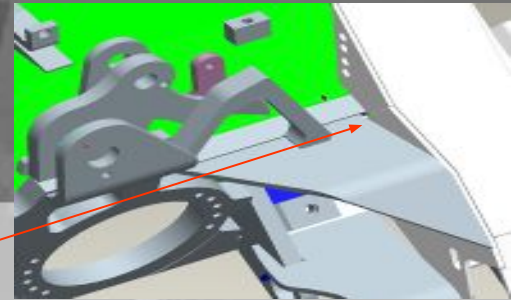
Fixed top knife (ECR021746)

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

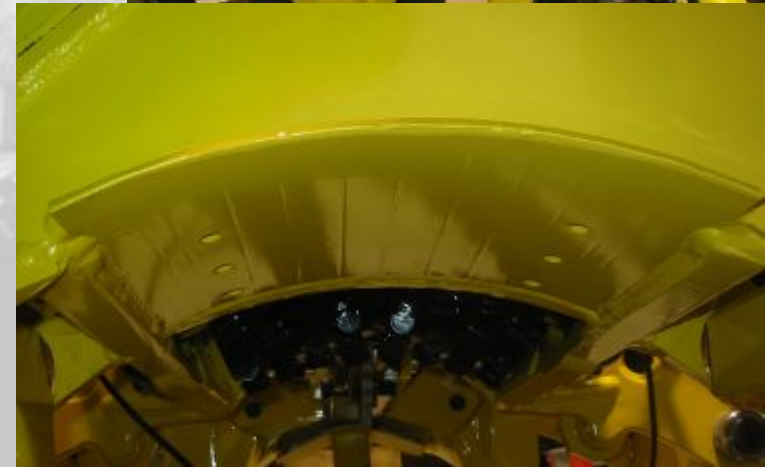
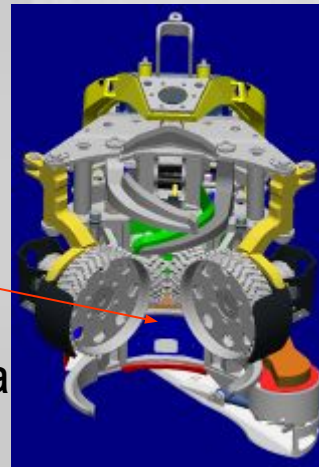


Saw box fastening & rear frame

- 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



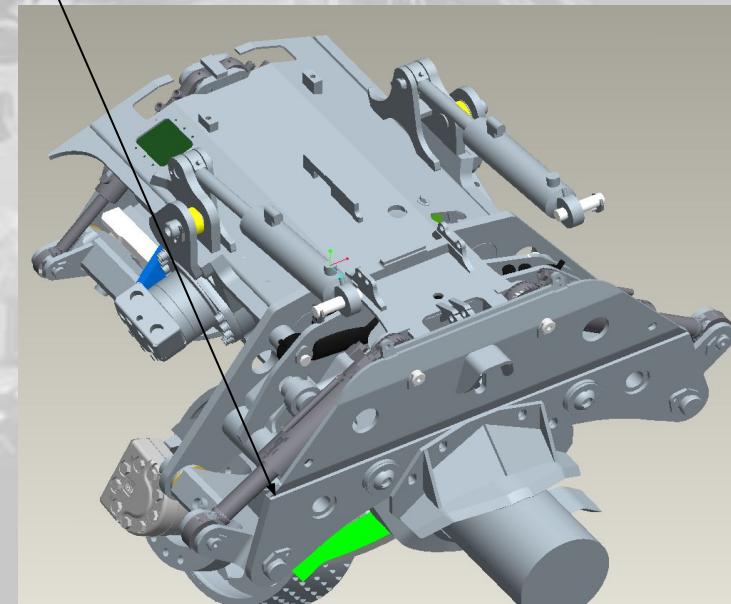
- Replacing
 - Pin assembly F635772 (high warranty)
 - Straight and boggie style rockers
- By bolted 'service door / wear plate'



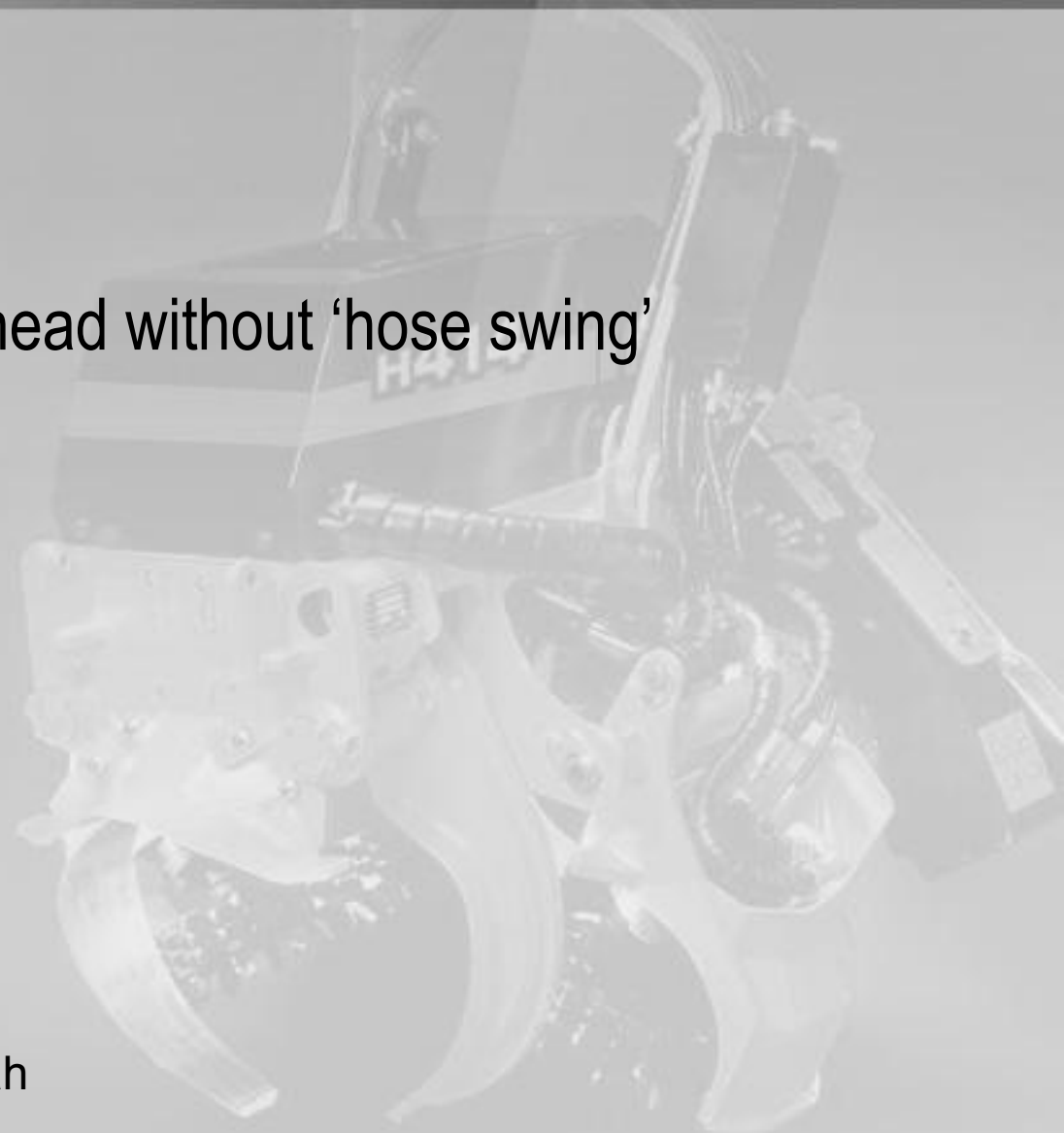
Cylinders



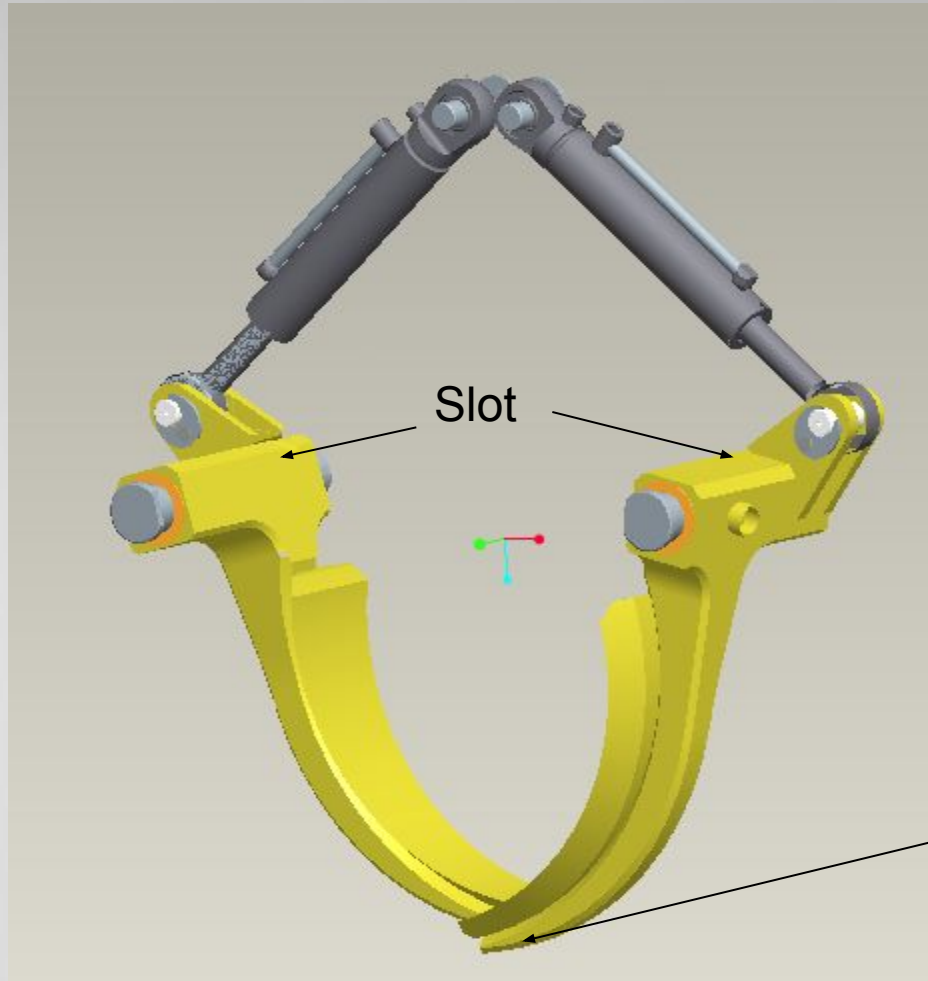
- New roller arm cylinders F074420
 - Better welding between rod & eye
 - (Will fit only to H480C roller arms)
- 'Face plate' shaped to protect cylinder fittings (see picture below)
- Welding improvement to front knife cylinder (F634640) since winter -09
 - Rod & eye connection



- Hoses from boom to head without 'hose swing'



New rear knife cylinder.



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

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New front knives. WJH480H000519...



Standard, R90 radius

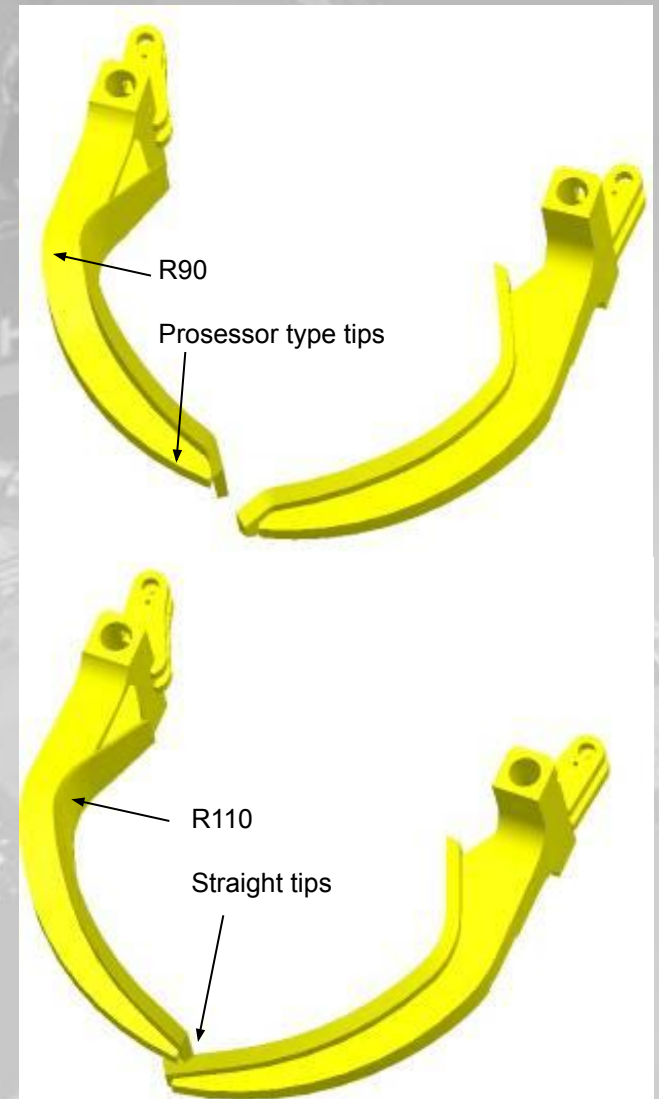
F646612

F646613

French version, R110 radius,

F646949

F646910



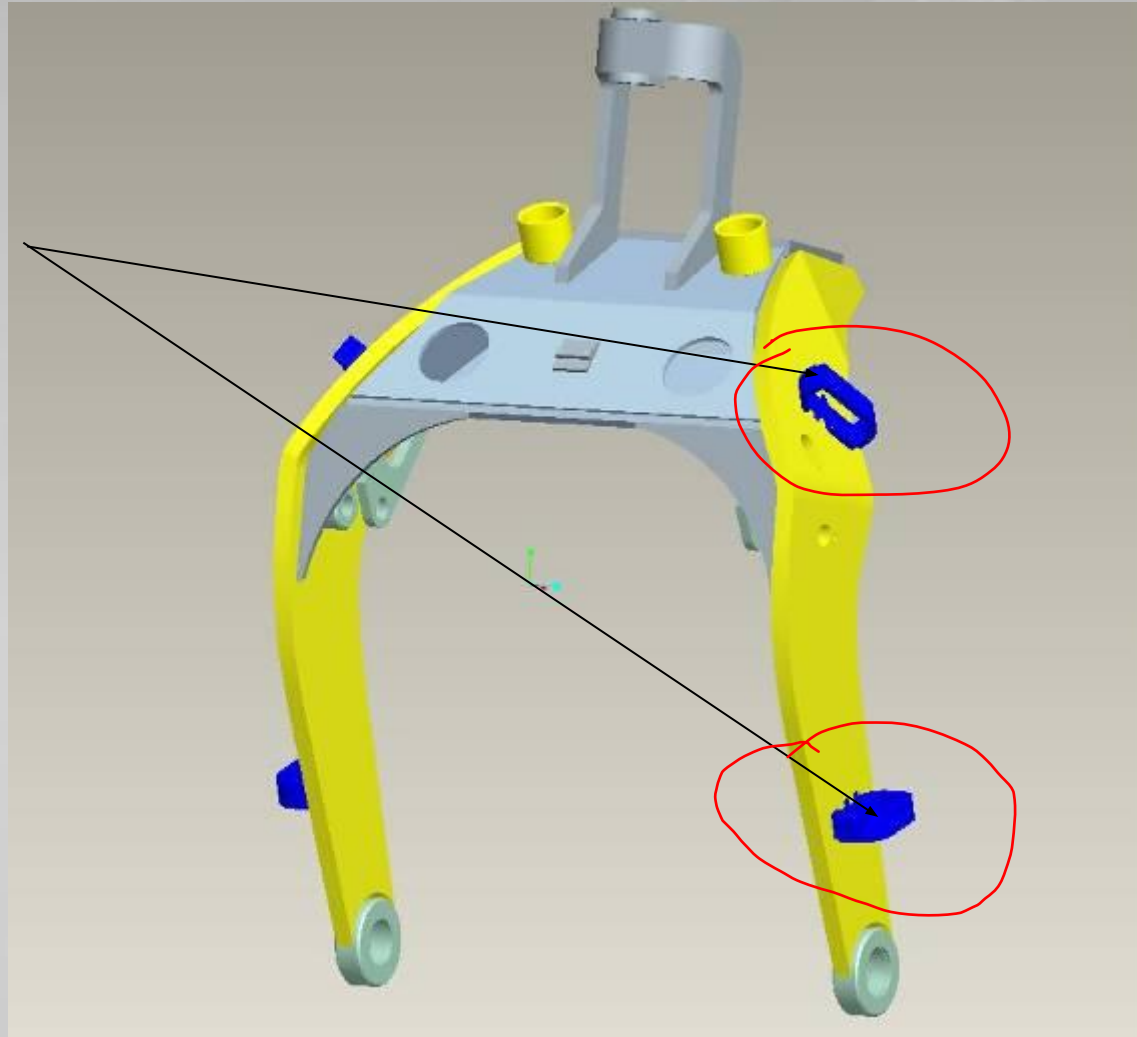
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Tilt frame



New tilt cover
brackets



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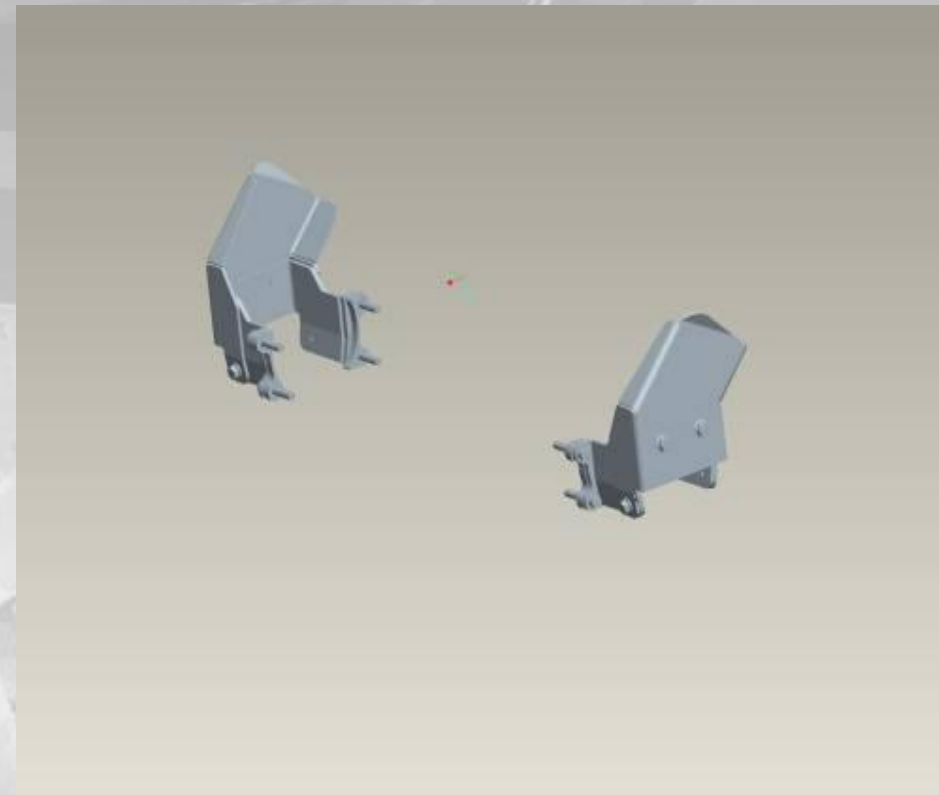
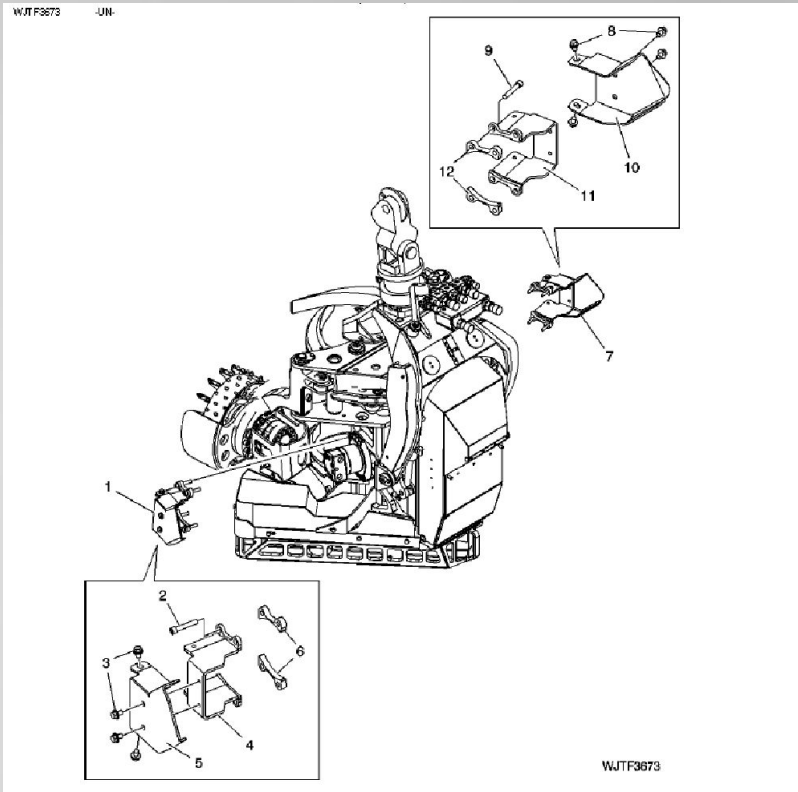
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Upper knife shields (option)



Right F640571
Left F641116

V00758



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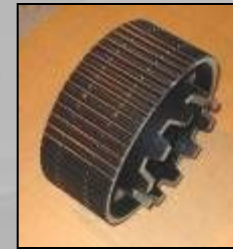
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Feed Rollers



- Upper Rollers

- V-type rollers
- Thumbnail spikes gives traction
- Euca rollers



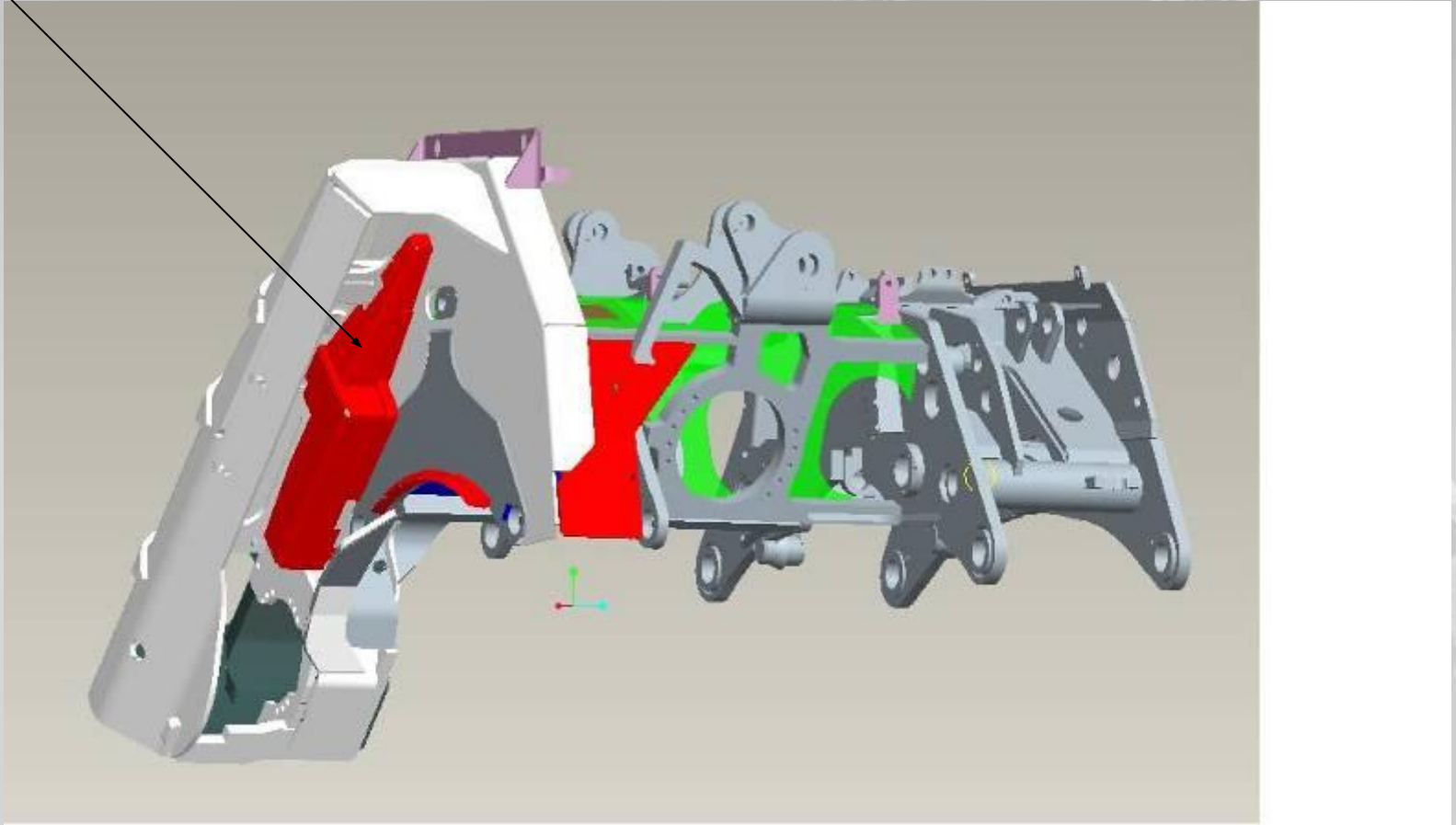
- Down Rollers,

- 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



Better protection for SC saw unit



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Measuring wheels H480/758HD

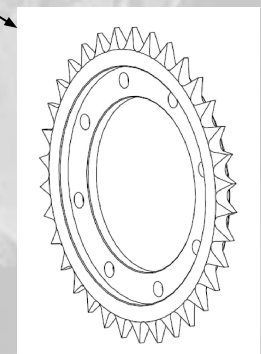
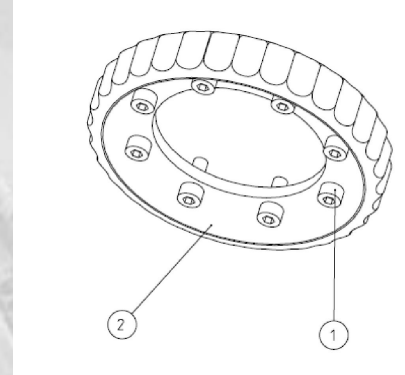
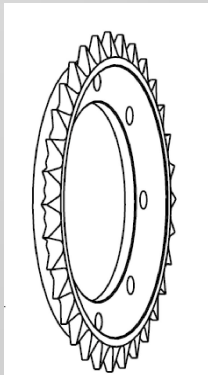
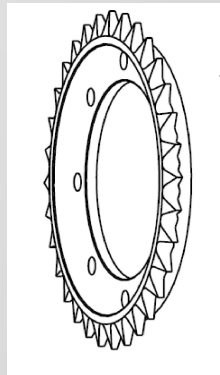
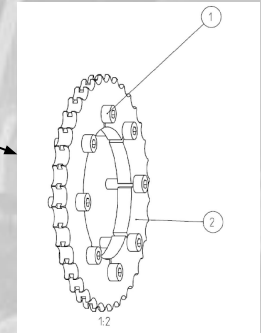
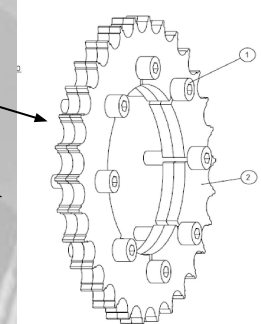


Big diameter:

Narrow pl 6 sharp tips **F655667** 1, 2 tai 3 pcs
(replaces **F645981**)

Special F645983
H270 F633609
Euca F645982
Canada F648841 2 pcs

Notice: sharp tips



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SuperCut 100



- 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.

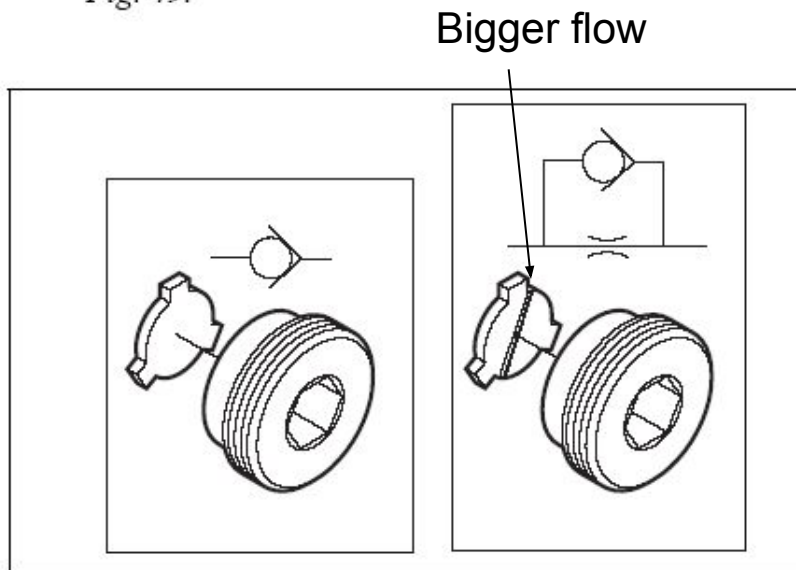
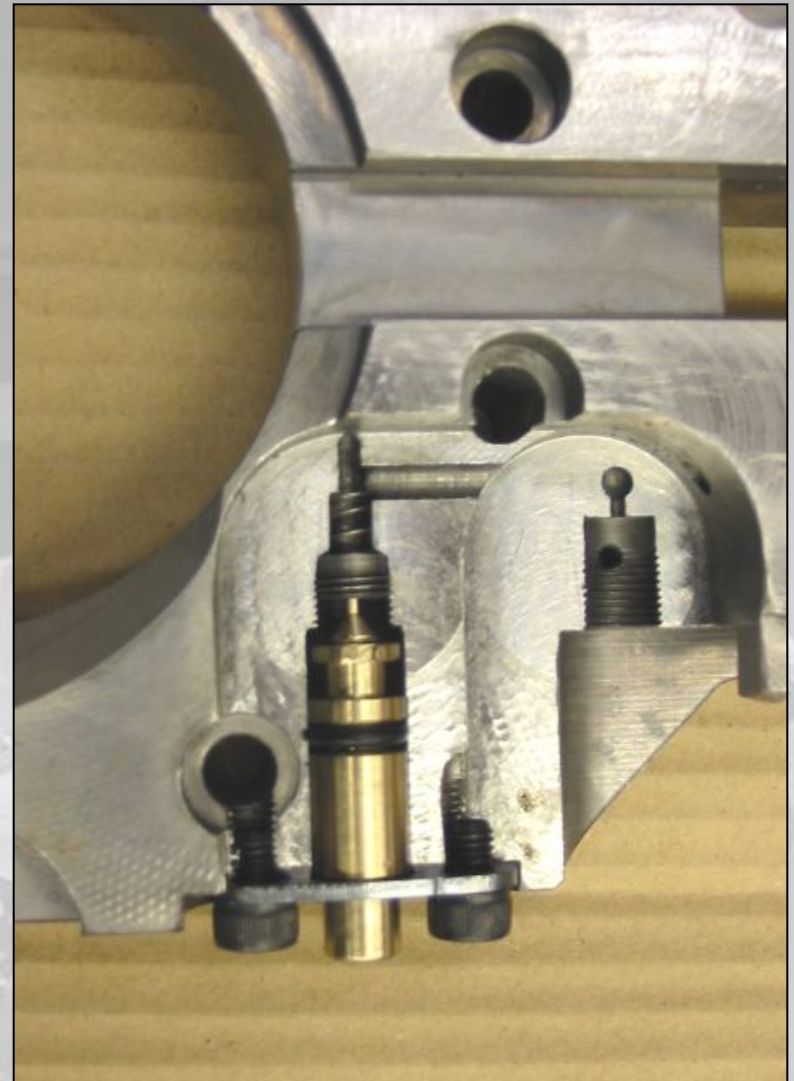


Fig. 49 Check valve / Restrictor check valve assembly



Saw valve



Saw manifold
40 bar pilot
pressure

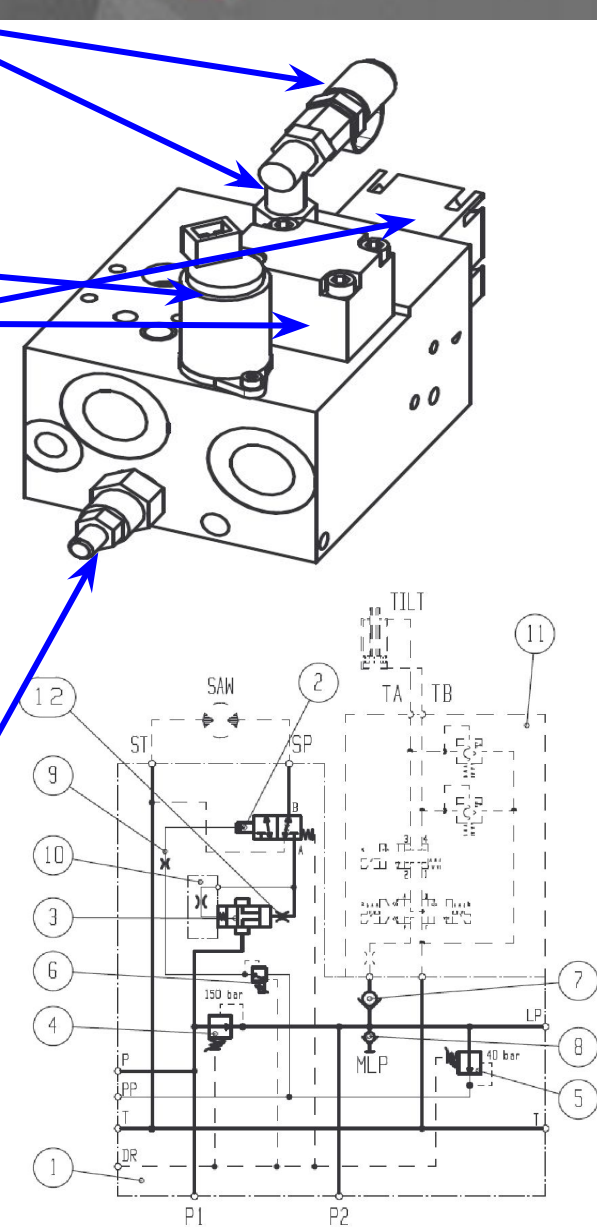
Control valve

Compensator valve
Better spring

EJH480 #568...
EJH270E000616...
EJH290X000034

Tilt pressure

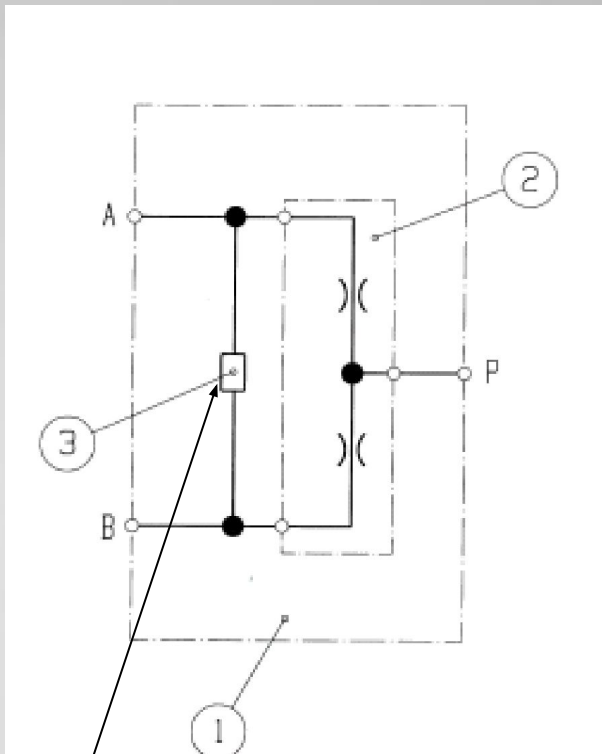
Pilot pressure



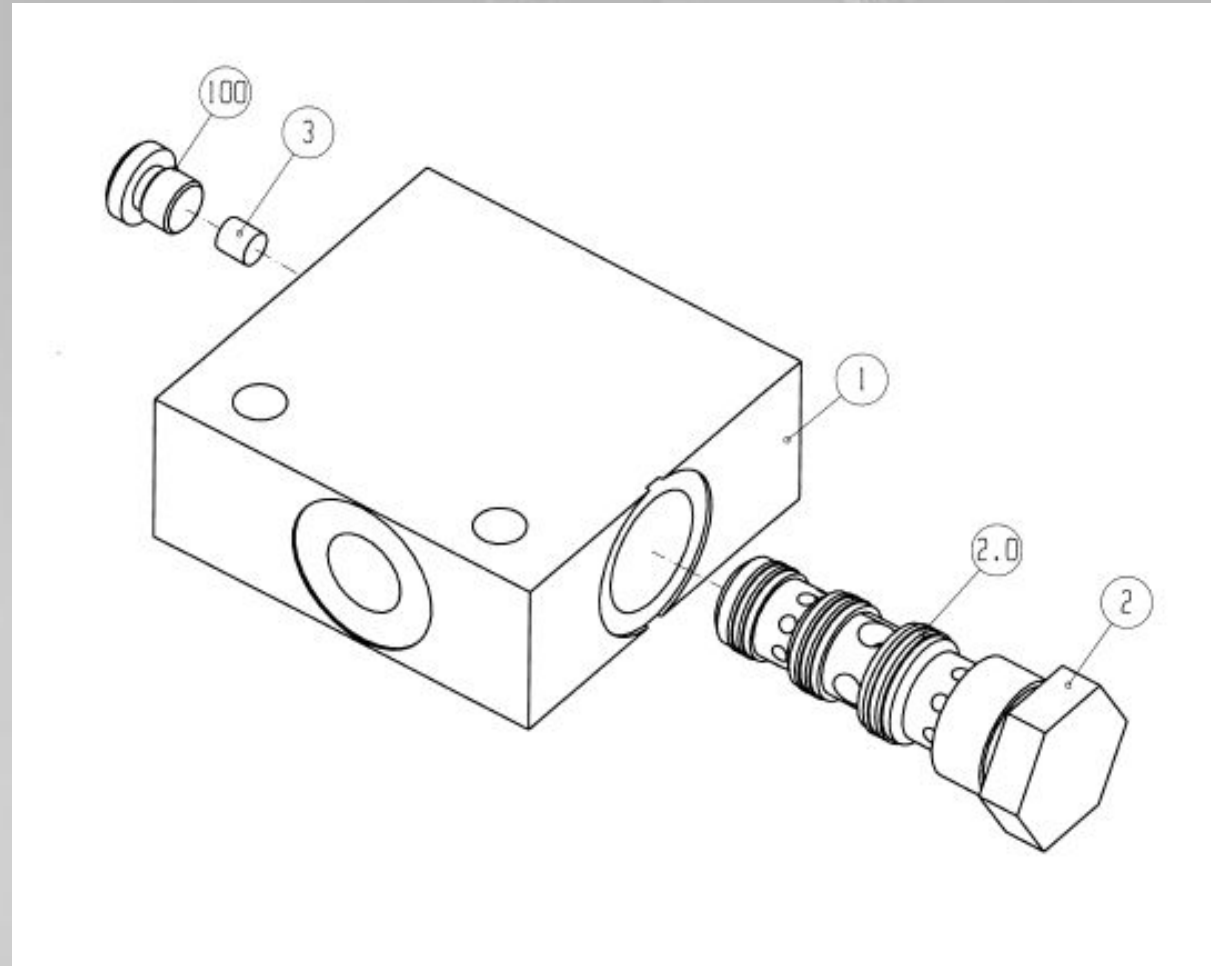
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Flow divider for rollers or knives (F064309)



Orifice 0,6 mm added



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Special tools



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8.5.2006

Check valves and tools

| F-codes for valve | Type | Thread | Tool | Momentti |
|-------------------|------------|--------|---------|----------|
| F008631 | Hawe RK1 | G1/4 | F046592 | 10 Nm |
| F069999 | Hawe RE1 | G1/4 | 5 mm | 10 Nm |
| F059996 | EDI-system | G1/4 | 3 mm | 4 Nm |
| F018124 | Hawe RB1 | G1/4 | 7 mm | 15 Nm |
| F008653 | Hawe RK2 | G3/8 | F062897 | 15 Nm |
| F018776 | Hawe RB2 | G3/8 | 6 mm | 20 Nm |
| F067334 | Lokomec | G3/8 | F062897 | 70Nm |
| F018813 | Hawe RK3 | G1/2 | F070194 | 30 Nm |
| F018814 | Hawe RB3 | G1/2 | 8 mm | 40 Nm |
| F018836 | Frutingen | G3/4 | F046591 | 60 Nm |

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