

BACKHOE LOADERS

Product Comparison TRAINING

KOMATSU

VS

VOLVO

KOMATSU

VOLVO

Side-by-side feature comparison has been done with WB93R-5 and BL71
in KUE in April 2005



KOMATSU WB93R-5

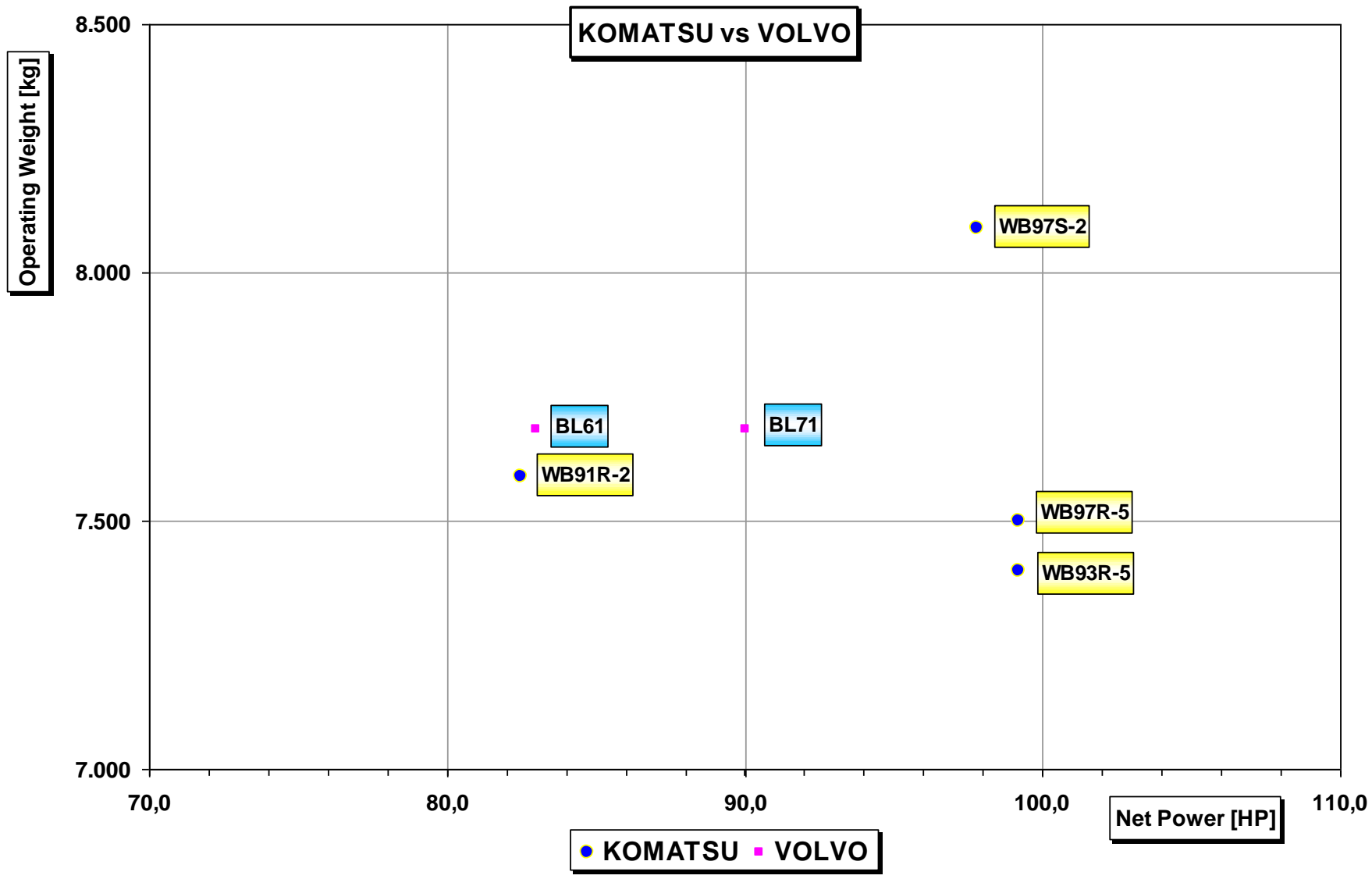
CONFIGURATION

- P-Shuttle T/M
- PPC joystick for loader
- Mechanical levers for backhoe
- Net power: 99,2 HP
- Std operating weight: 7.400 kg

VOLVO BL71

CONFIGURATION

- P-Shuttle T/M
- PPC joystick for loader
- Mechanical levers for backhoe
- Net power: 90 HP
- Std operating weight: 7.680 kg





- Modern design and new styling
- Round glass surfaces
- Excellent visibility all around
- Wide doors for a better access
- Lower position of the cab: only 3 steps to enter
- Larger cab



- All flat glasses
- Doors have openable windows that reduce side visibility
- Smaller entrance doors
- Cab position is higher with 4 steps to enter: not an easy access



- **Strong and protecting roof**
- **All the windows have a strong metallic frame for a better glass protection**



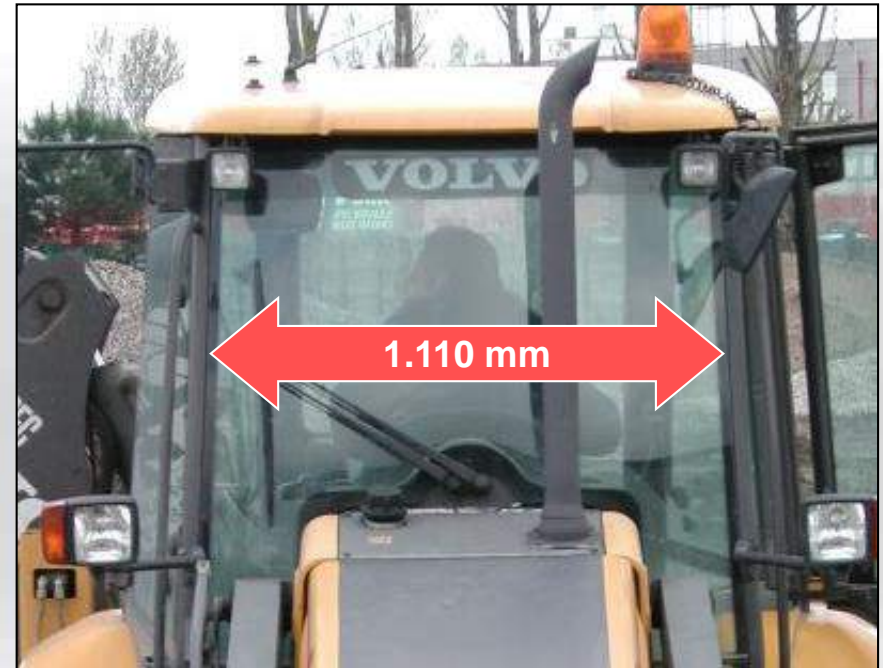
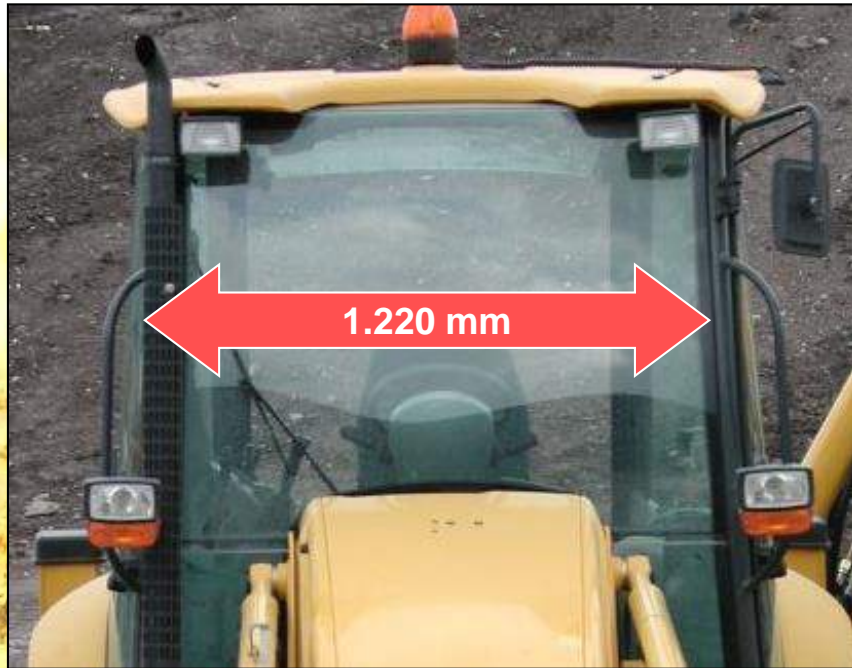
- **Front and rear side windows are mounted without frame: higher possibility of damage**



- **Excellent visibility to the front working area thanks to the sloping engine bonnet and exhaust gas pipe at cab side**



- **Exhaust gas pipe and high engine bonnet reduce visibility to the front working area**
- **Loader is not very visible**
- **Less central visibility due to mono-link cylinder**



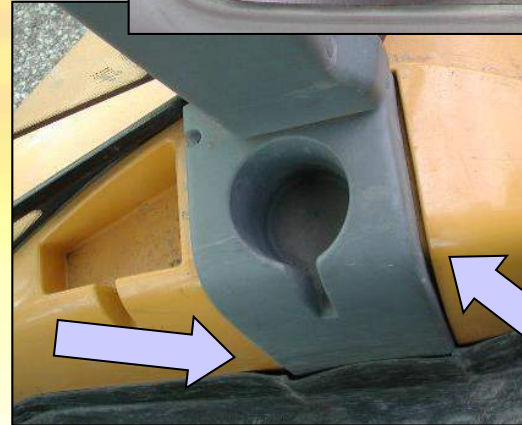
+10% LARGER WINDSHIELD

- Upper window gives a perfect visibility in high position for loading operations
- Loader is completely visible

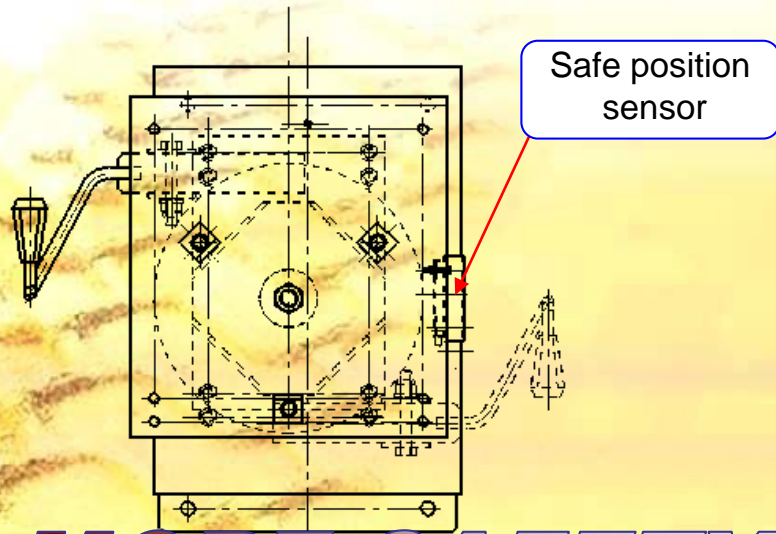
- No upper window available
- Loader is not completely visible



- Lockable storage compartment
- Better finishing inside cab
- 8 all-around air vents standard



- Poor finishing of panels and plastics
- Only 4 air vents standard



MORE SAFETY

- The “Safe Position” seat sensor warns with an acoustic alarm the operator when the seat is out of the Loader position and the Fwd/Rev shifter is activated
- This application complies with the European Standard (EN 474-3)

N/A

- **Not available**



- **Parallel linkage**
- **Divergent structure: better stability and less torsion**

- **Mono cylinder linkage**
- **Possible problems of torsion**
- **Not popular in Europe**



- **Self-levelling when lifting and lowering (max angle 11°), ideal with forks**

- **NO self levelling system**
...but advertised in the brochure



+24% LIFTING CAPACITY
+19% BUCKET BREAKOUT FORCE

- **Lifting capacity at max height: 3.900 kg**
- **Bucket breakout force: 6.500 kg (std bucket)**



- **Lifting capacity at max height: 3.150 kg**
- **Bucket breakout force: 5.450 kg (std bucket)**



- **PPC joystick standard (for the whole range)**
- **Multifunction joystick**
 - **On top: open/close 4x1 bucket, de-clutch, differential lock**
 - **Underneath: Speed-up, kick down (only with P-shift)**

- **PPC joystick standard**
- **Multifunction joystick**
 - **On top: Fwd/Neutral/Rev selector, open/close 4x1 bucket**
 - **Underneath: de-clutch**



- **New S-Shaped boom**
- **Excavator style**
- **Easier truck loading capacity**



- **Slightly curved boom**
- **Telescopic arm looks weak**



+35% LIFT CAPACITY

- Arm breakout force: 4.000 kg
- Bucket breakout force: 6.100 kg
- Lift capacity at full reach (SAE J31)
 - standard: 1.550 kg
 - with extended telesc.: 1.200 kg

- Arm breakout force: 3.980 kg
- Bucket breakout force: 6.010 kg
- Lift capacity at full reach (SAE J31)
 - standard: 1.147 kg
 - with extended telesc.: 938 kg



+7% DIG DEPTH (WB93R)
+14% DIG DEPTH (WB97R)

- **WB93R-5 Digging depth [SAE]**
 - standard: 4.540 mm
 - with extended telesc.: 5.650 mm
- **WB97R-5 Digging depth [SAE]**
 - standard: 4.840 mm
 - with extended telesc.: 6.080 mm

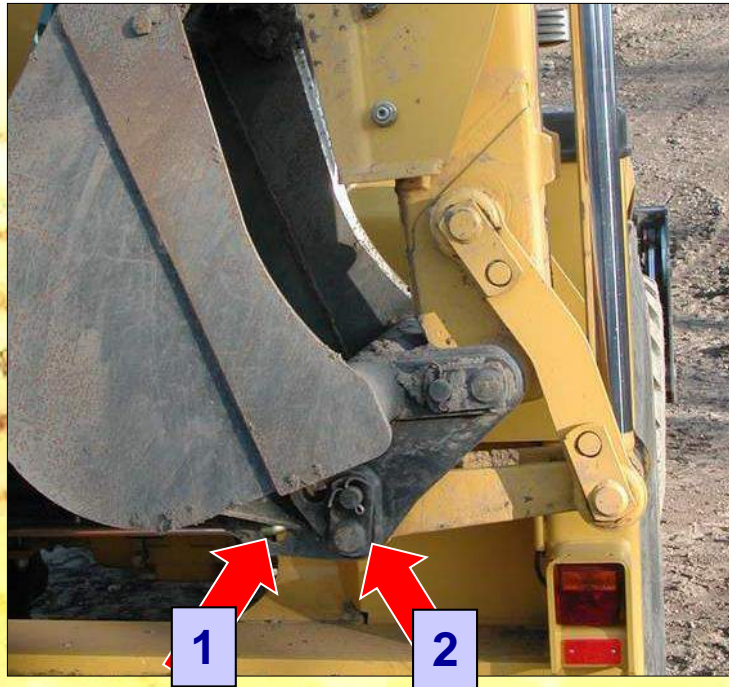
- **Digging depth [SAE]**
 - standard: 4.244 mm
 - with extended telesc.: 5.314 mm
- **Same for BL71 and BL61**



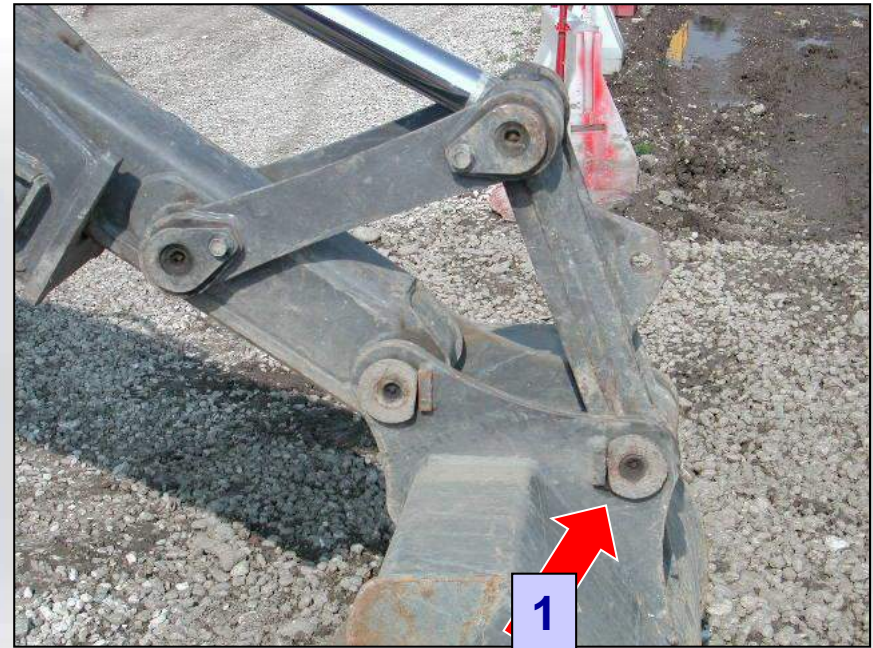
- **Mechanical levers are standard for WB93R-5**
- **PPC joysticks as option**
- **Standard PPC controls for stabilisers**



- **Mechanical levers**
- **PPC not available**



- **2 digging positions:**
 - 1) close to bucket teeth: plinth digging (vertical digging)
 - 2) far from bucket teeth: higher force and bucket rotating angle



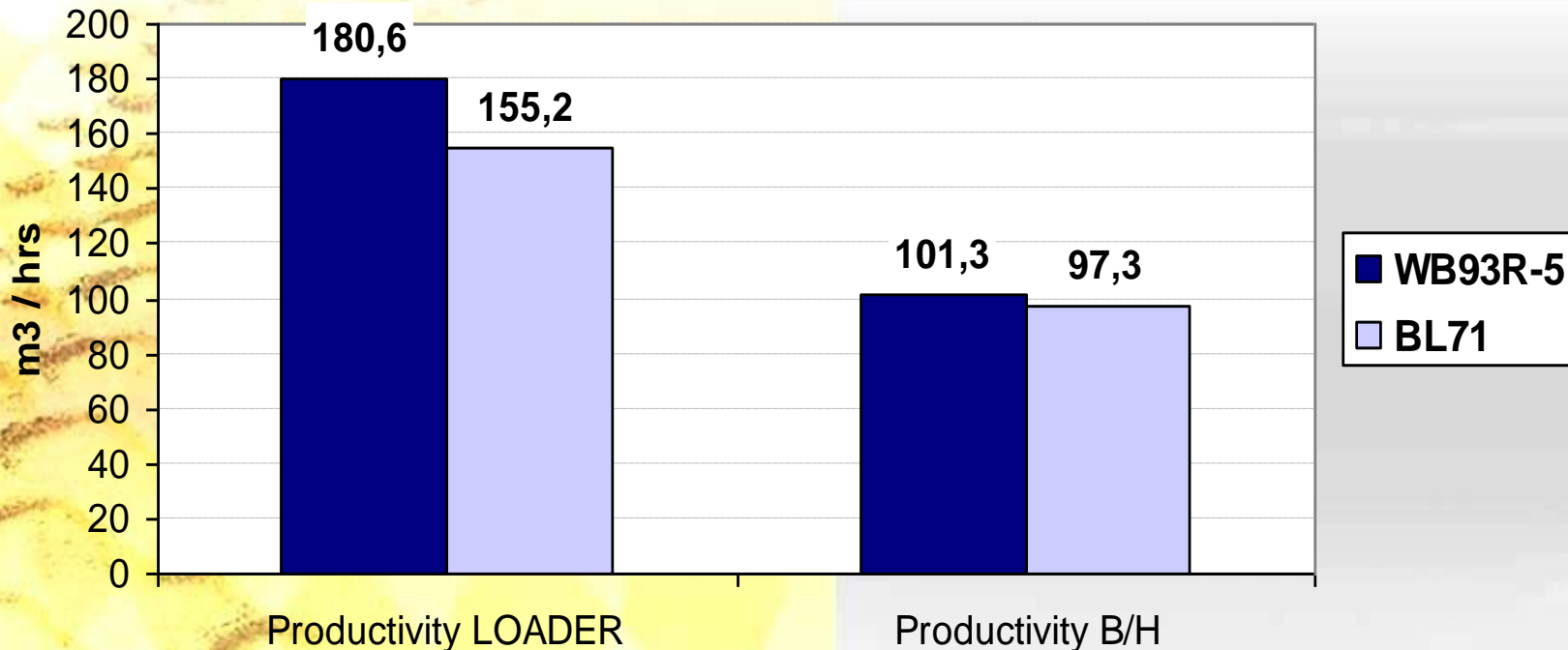
- **Only 1 digging position: no customisation**



- The upper part of the stabiliser is protected by a rubber cap
- Stabilisers are adjustable from 2 sides



- The upper part of the stabiliser is not covered: mud and dirt can enter
- Stabilisers are adjustable only from 1 side

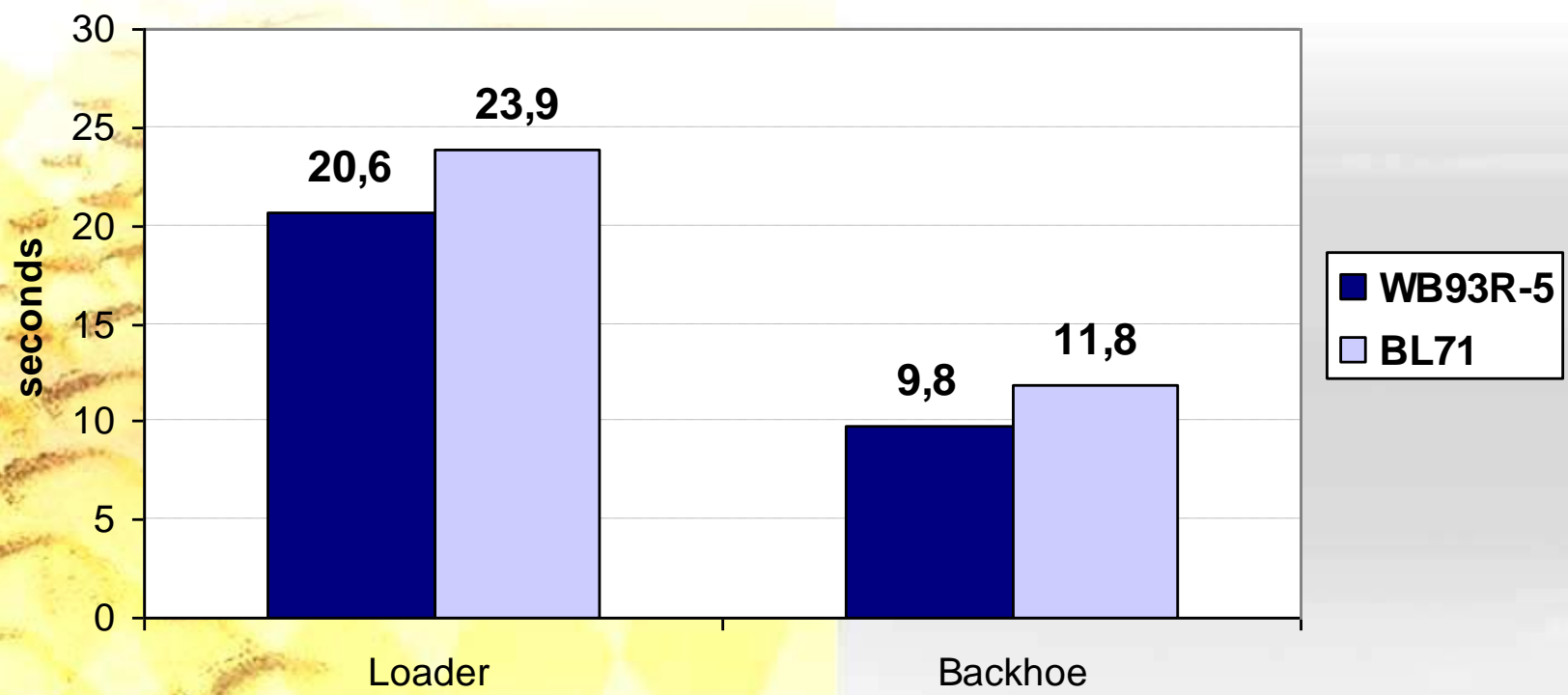


+16% LOADER PRODUCTIVITY

+4% BACKHOE PRODUCTIVITY

Test conditions, according to KES (Komatsu Engineering Standard):

- LOADER: V-shape loading on a truck (2.850 mm height)
- BACKHOE: trench digging and dumping at 45° - 1.700 rpm

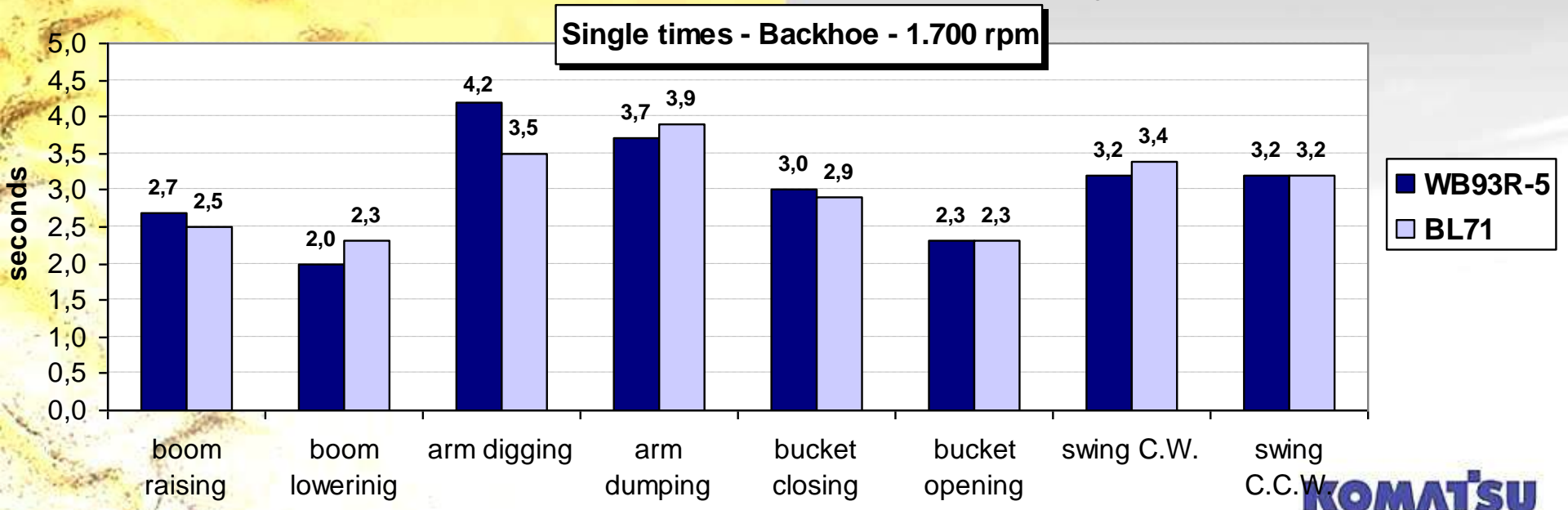
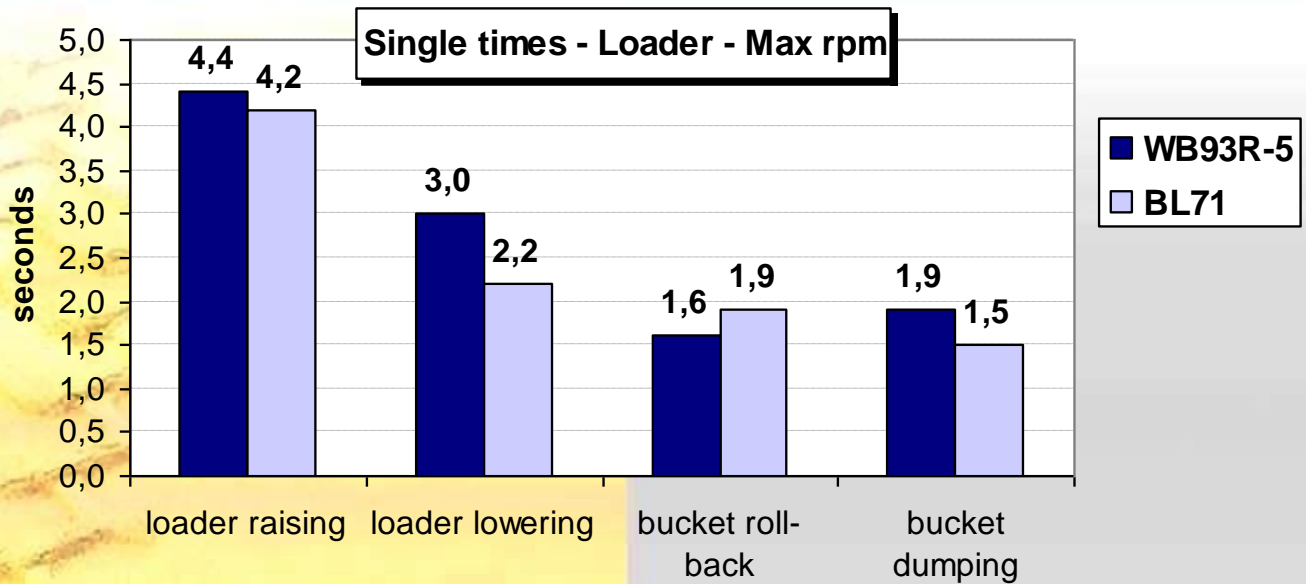


+16% FASTER LOADER

+20% FASTER BACKHOE

Test conditions, according to KES:

- LOADER: V-shape loading on a truck (2.850 mm height)
- BACKHOE: trench digging and dumping at 45° - 1.700 rpm



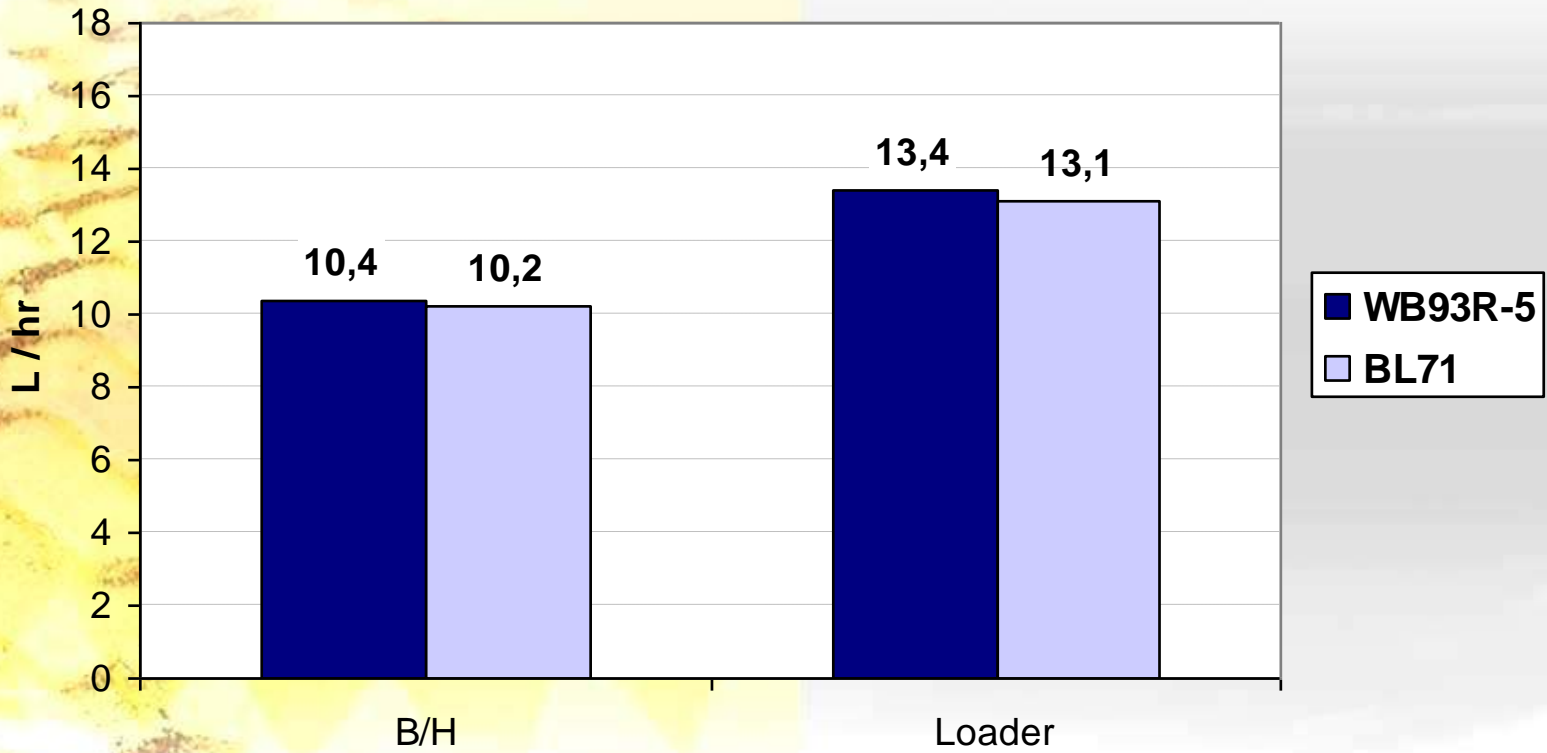


+10% ENGINE POWER

- Displacement: 4,5 L
- Aspiration: Turbo
- Power: 99,2 HP (SAE)
- Max torque: 398 Nm at 1400 rpm
- Muffler with insulation material
- Stage 2



- Displacement: 4 L
- Aspiration: Turbo
- Power: 90 HP (SAE)
- Max torque: 383 Nm at 1500 rpm
- Muffler without insulation material
- Stage 2



Test conditions, according to KES:

- **LOADER:** V-shape loading on a truck (2.850 mm height)
- **BACKHOE:** trench digging and dumping at 45° - 1.700 rpm



- Max speed: 40km/h
- Power Shuttle transmission
- 4-speed
- Gear lever is in a comfortable position, near the seat



- Max speed: 38,5 km/h
- Power Shuttle transmission
- 4-speed
- Gear lever is far from the operator



- **Oscillation: 20° (total)**
- **Double acting steering cylinder**
- **Remote grease fitting**



- **Oscillation: 16° (total); the smallest value in the market, with JCB**
- **Double acting steering cylinders**

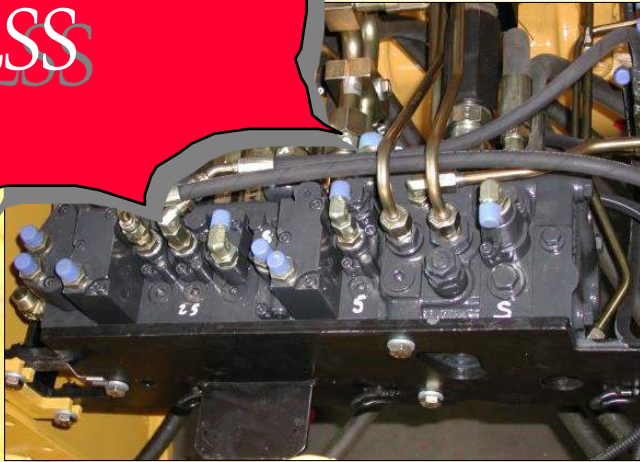


- **100% electro-hydraulic differential lock, controlled by a switch on the PPC joystick**



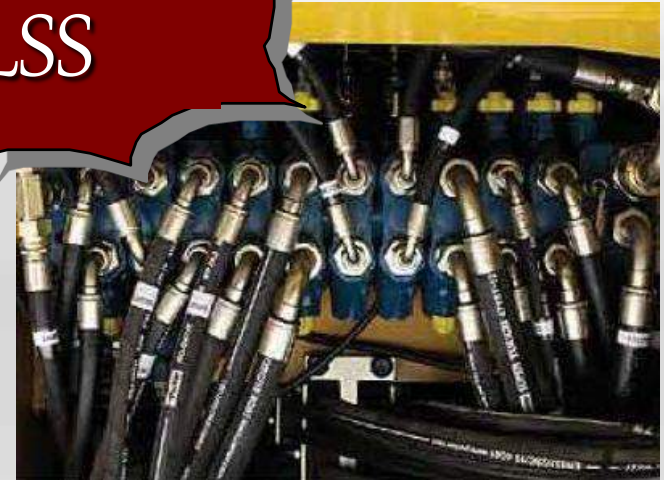
- **100% electro-hydraulic differential lock, controlled by a small pedal very close to brakes. It can be engaged accidentally**

CLSS



- **Komatsu CLSS (Closed Load Sensing System) : more power to the working equipment at any engine rpm**
- **LIFD (Load Independent Flow Divider): the system forces the oil to all circuits regardless the different load**
- **One valve for loader and backhoe**

CLSS



- **Closed center, Load sensing**
- **LIFD inside**
- **One valve for loader and backhoe**
- ***Similar to Komatsu system***



- **Variable displacement piston pump**
 - **Flow: 165 l/min**
 - **Pressure: 250 bar**
 - **Hydraulic power: 92 Hp**



- **Variable displacement piston pump**
 - **Flow: 160 l/min**
 - **Pressure: 250 bar**
 - **Hydraulic power: 89 Hp**



Power/Economy switch



Speed-Up switch

N/A

MORE CONTROLLABILITY

- Backhoe
 - Power: max hydraulic power available
 - Economy: finishing works and fuel saving
- Loader
 - Speed Up: increases speed of 15%

- No working modes available



- One piece fully tiltable bonnet
- There is a large knob to open the bonnet
- All checks and filters are well grouped and easy to reach
- Maintenance is possible also with the loader arm lowered



- One piece tiltable bonnet with internal insulation
- There is no handle to raise the bonnet
- Filters are on the right and checks on the left
- Engine is difficult to reach when loader arm is lowered



- Lockable compartment, on the side
- Wide toolbox, separate from the battery area
- Lockable in open position
- Interval for hydraulic oil replacement : 2000 hours



- Toolbox: smaller
- Battery is located on a sliding drawer under the toolbox
- Interval for hydraulic oil replacement: 1000 hours



+25% CAPACITY

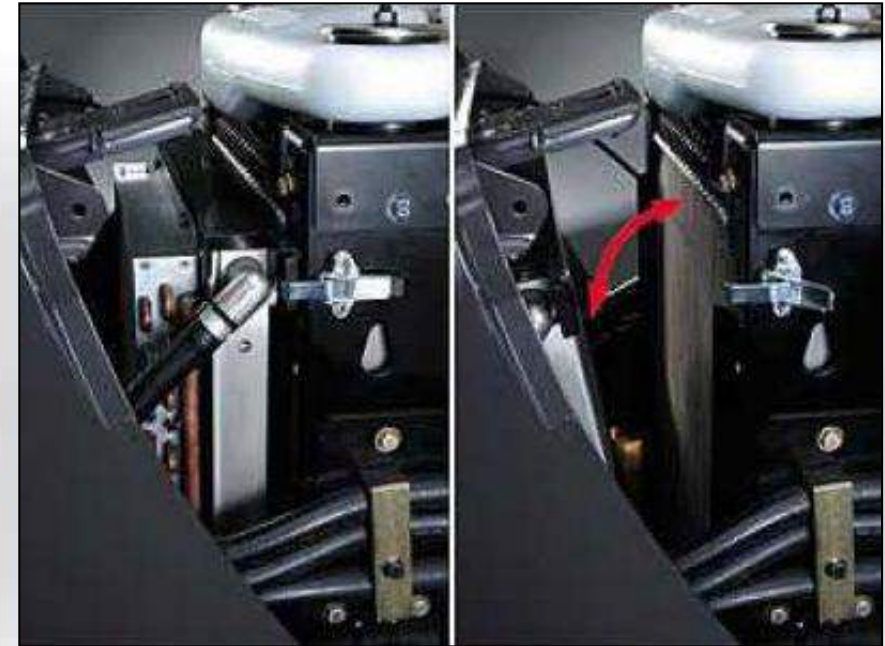
- Capacity: 150 liters
- Low position: easy to refill, also with poly-tanks
- Strainer is standard
- The top of the tank it's a very wide step for cab entrance



- Capacity: 120 liters
- Higher position vs Komatsu
- Not wide feet space over the tank



- 1 radiator, with 3 separate sections side-by-side, aluminum type (T/M oil, engine water, hydraulic oil)
- Easy to clean
- Better structure and quality
- Radiator is mounted on 4 elastic supports



- 2 different radiators, one in front to the other
- Hydraulic oil radiator is tiltable: system used by Komatsu in the past
- More complicate to clean

• **LOADER, superior performances:**

Stronger loader structure, with less torsion

+24% lifting capacity

+19% bucket breakout force

+16% productivity

+16% faster cycle time

self levelling

• **BACKHOE, superior performances:**

+35% lifting capacity

+14% digging depth for WB97R-5; +8% for WB93R-5

+4% productivity

+20% faster cycle time

- Engine: +10% power and higher torque
- Better visibility (front and upper)
- Better styling, ergonomics and comfort of the cab
- Larger cab
- PPC servo-controls for backhoe are not available for Volvo
- Working modes for loader and backhoe (Speed-Up and Power & Economy). Not available for Volvo
- Fuel tank: +25% capacity and easy-to-refill
- Longer (double) hydraulic oil change interval



Please consider this Training for use internal only to KOMATSU Sales Network.