

The Liebherr Hydraulic Excavators 900, 902, 912, 922, 932, 942



LIEBHERR

The Better Machine.

The Liebherr line of hydraulic excavators consist of well-sized machines ranging in weight from 28,000 lbs (12 t) to 450,000 lbs (200 t), of which the smaller models are available in both crawler and rubber-tire versions. This brochure covers models weighing from 28,000 lbs (12 t) through 65,000 lbs (30 t) - the 900 through the 942.

Major features of all Liebherr hydraulic excavators are characterized by their modern state-of-the-art technology and extensive attachment program. Engine output, hydraulic system, and attachment geometry work together to transform power and speed most efficiently into top performance. Low fuel consumption, easy maintenance, and preventive maintenance, as well as high availability and long life, are additional natural traits of all Liebherr excavators. Consequently, highly satisfied Liebherr excavator owners, and many repeat sales are the result. In addition, resale prices are high, even after many years of machine utilization.

Liebherr hydraulic excavators prove their value on a daily basis, all over the world, and in a wide variety of applications.



Powerful, Fast and Versatile.



Advanced technology

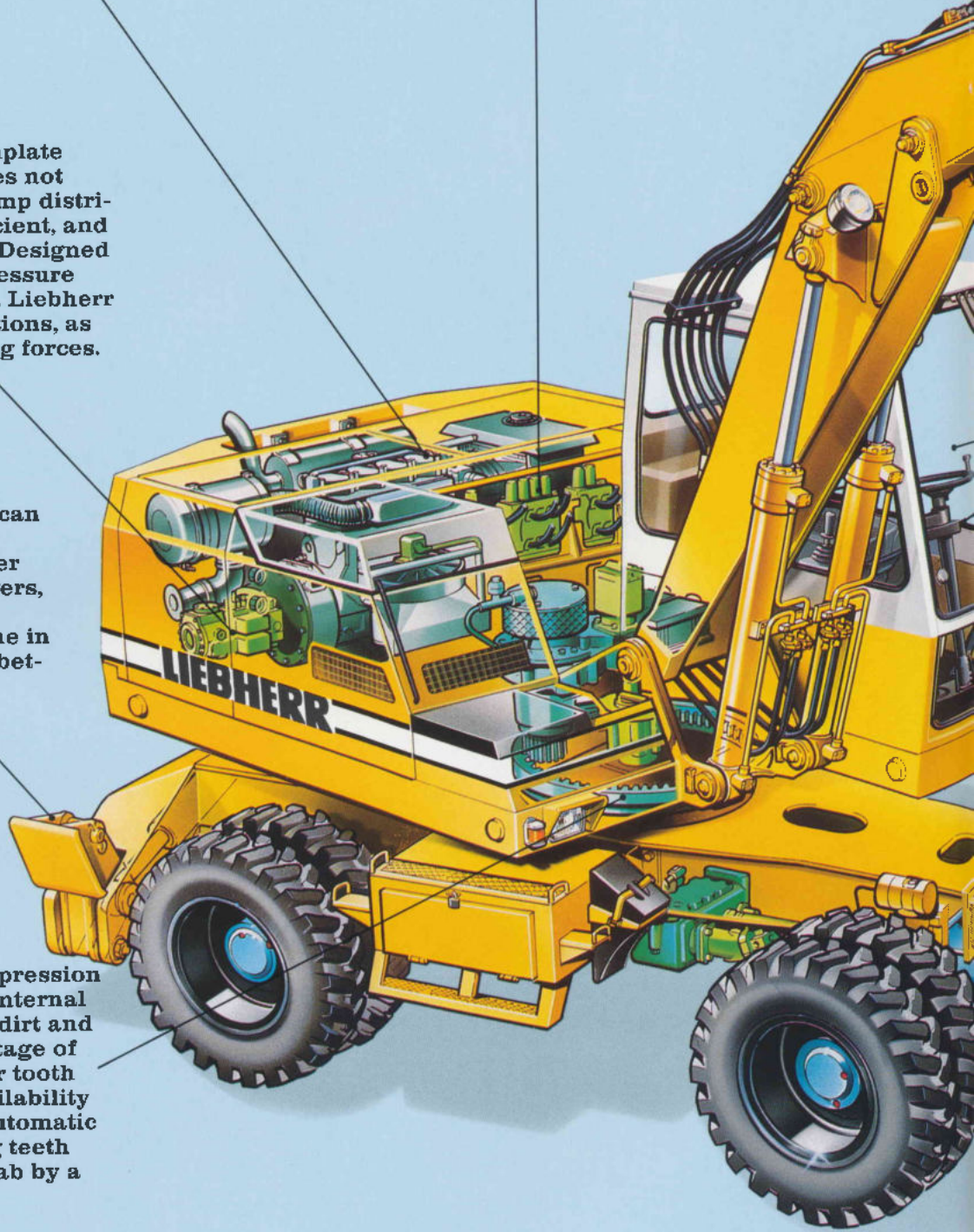
A water-cooled Liebherr construction diesel engine, or an optional air-cooled Deutz diesel engine, is the source of strength for the machine. Low engine RPM results in less fuel consumption, less noise, and lower emission values.

Summated horsepower control, flow summation, and priority swing provide independent control of all attachment functions simultaneous to swing or travel.

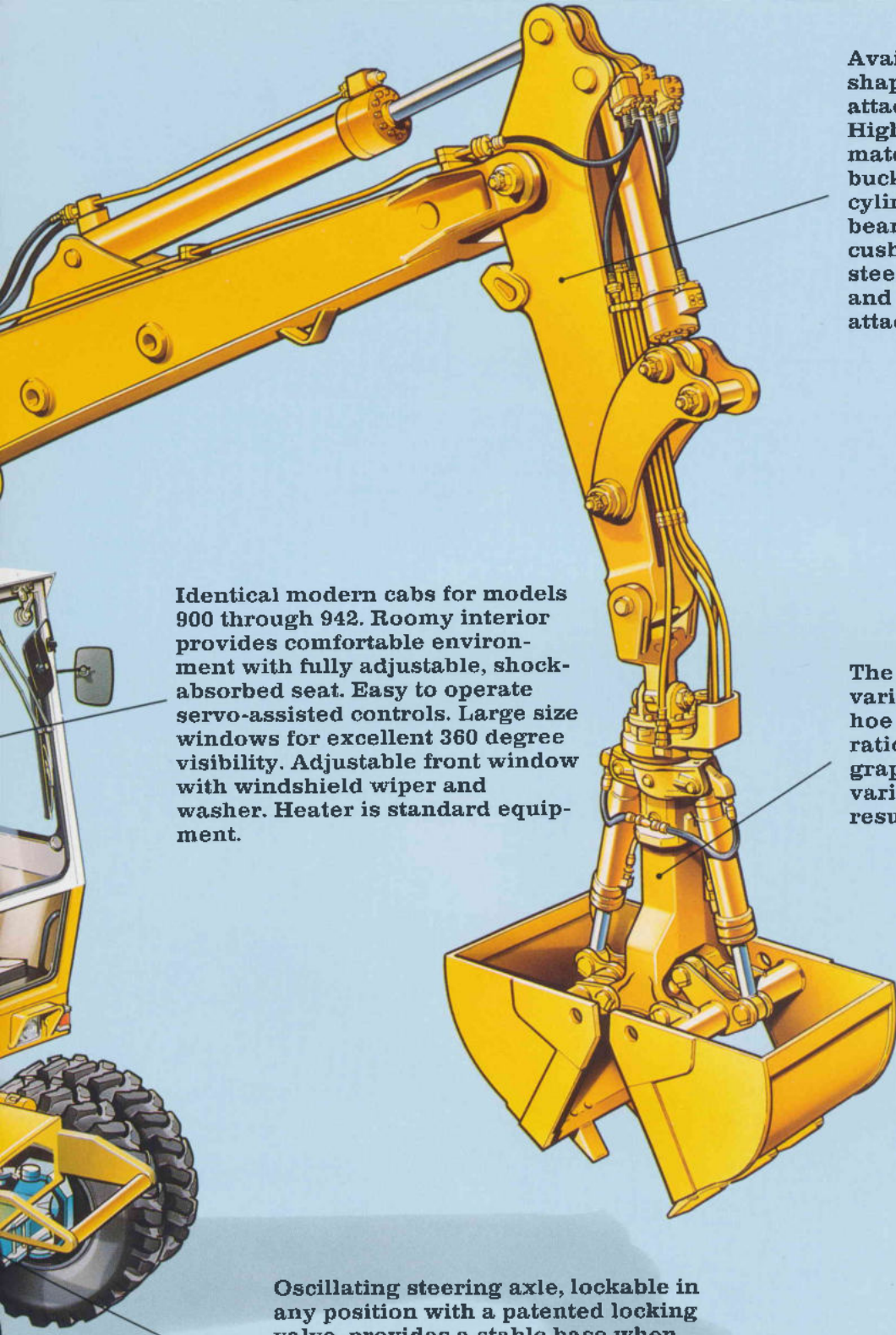
The efficient Liebherr swashplate double pump is compact, does not require a speed reducing pump distributor gear, is extremely efficient, and requires little maintenance. Designed to provide high hydraulic pressure and flow at high availability. Liebherr pumps deliver fast work motions, as well as high breakout and dig forces.

Rubber-tire undercarriages can be equipped with either a rugged torque-resistant dozer blade, rear-mounted outriggers, or front and rear outriggers. Crawler undercarriages come in STD, LC, or HD versions, to better fit the application.

Liebherr manufactured compression ball swing ring with strong internal teeth is well protected from dirt and debris. An additional advantage of internal teeth is the stronger tooth design, which increases availability and life expectancy. Semi-automatic lubrication of the swing ring teeth from within the operator's cab by a switch on the console.



Advanced Technology For You



Availability of different lengths and shapes of booms and sticks match the attachment to the job requirements. High dig and breakout forces; well matched and powerful boom-stick-bucket attachment geometry. All cylinders with sealed, self-aligning bearings and hydraulic cylinder cushioning. Stress-flow designed cast steel components in high stress areas and sealed pivots throughout the attachment for long service intervals.

Identical modern cabs for models 900 through 942. Roomy interior provides comfortable environment with fully adjustable, shock-absorbed seat. Easy to operate servo-assisted controls. Large size windows for excellent 360 degree visibility. Adjustable front window with windshield wiper and washer. Heater is standard equipment.

The right attachment for a wide variety of applications, whether backhoe attachments in different configurations, clamshells, or multi-tine grapples, etc. Availability of a wide variety of job proven attachments results in fast and effective work.

Oscillating steering axle, lockable in any position with a patented locking valve, provides a stable base when digging without outriggers or when traveling with a suspended load. Large oscillating angle and high ground clearance allow for excellent off-road maneuverability.

Benefit.



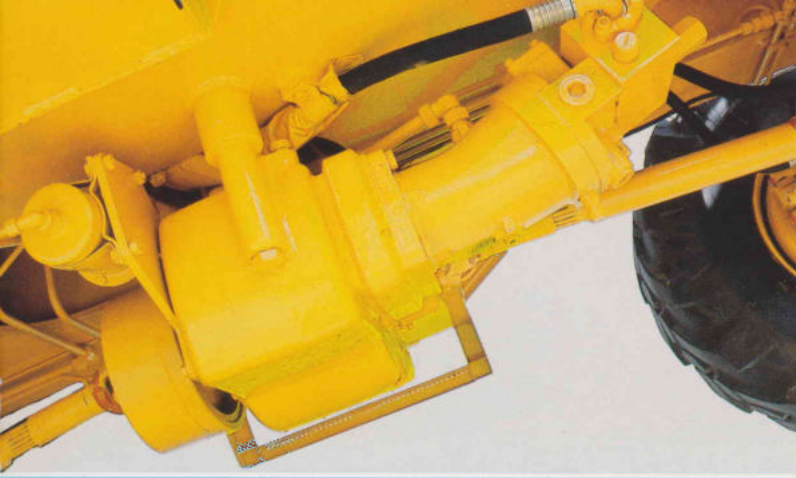
For special applications, a rugged, torque resistant dozer blade can be attached for light dozing, backfilling, and increased stability over end. The dozer blade can be raised and lowered during machine travel.



The steering axle oscillates, and can be locked in any position with two hydraulic cylinders, to provide high stability during digging or lifting. Once blocked, special patented check valves protect the axle from hydraulic line breakages, which is particularly important when traveling with a load. The generous oscillating angle and high ground clearance allow for excellent mobility in rough terrain.



High Stability For Strong Performance



A high efficiency variable flow hydraulic travel motor supplies high drawbar pull and fast travel speeds. Integrated automatic brake valve to prevent overspeeding when traveling downhill is standard. Four wheel drive via a 2-speed, hydrostatic transmission provides a wide speed range and high drawbar pull.

When maximum stability is required for the handling of heavy loads, sets of two and four outriggers are available. Each outrigger is operated by an independent cylinder, and equipped with hydraulically controlled check valves to protect the machine in case of a hydraulic line breakage. Pivoting outrigger pads self-adjust to the floor in unlevel conditions, and minimize damage to road surfaces.



The strong and torque resistant Liebherr undercarriage is designed according to latest developments, and manufactured in Liebherr's most modern facilities. All forces and shocks from the attachment are safely absorbed and led into the ground. A well-balanced weight distribution on front and rear axle provides an even load on the undercarriage frame while working. This results in excellent travel behavior, both on and off the road.

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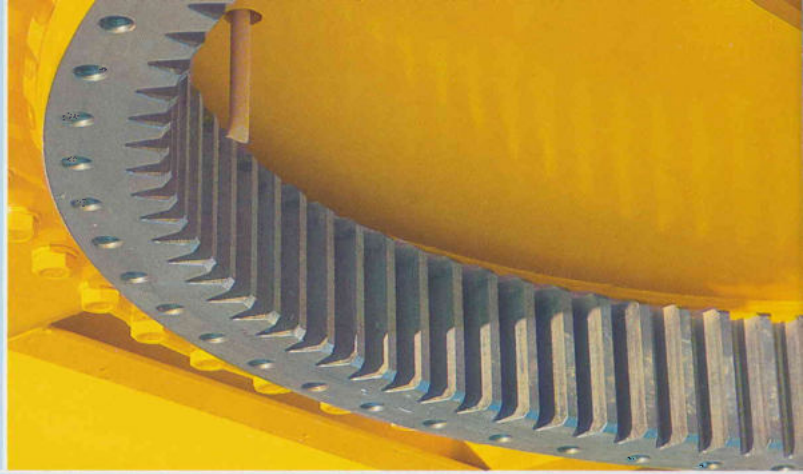
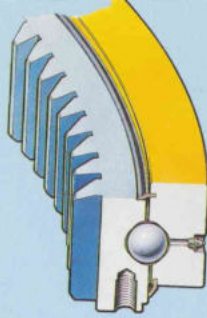
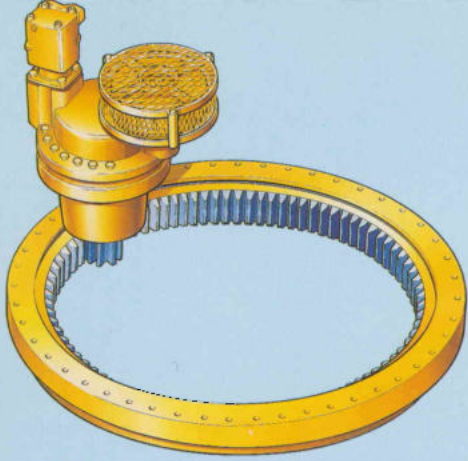


The large overlapping design and straight hollowbox cross beams of the carbody provide high strength and torque resistance to the crawler undercarriage structure. All forces and shocks coming from the attachment are distributed evenly and dissipated over large areas. The undercarriage structure is designed to work under heavy loads and in rough terrain.

Even in rough conditions, Liebherr undercarriages provide true mobility and power with their high ground clearance and strong drawbar pull. Operator controlled standard travel brakes and digging locks, provide a safe work environment, even in the most difficult circumstances.



The Right Undercarriage For E



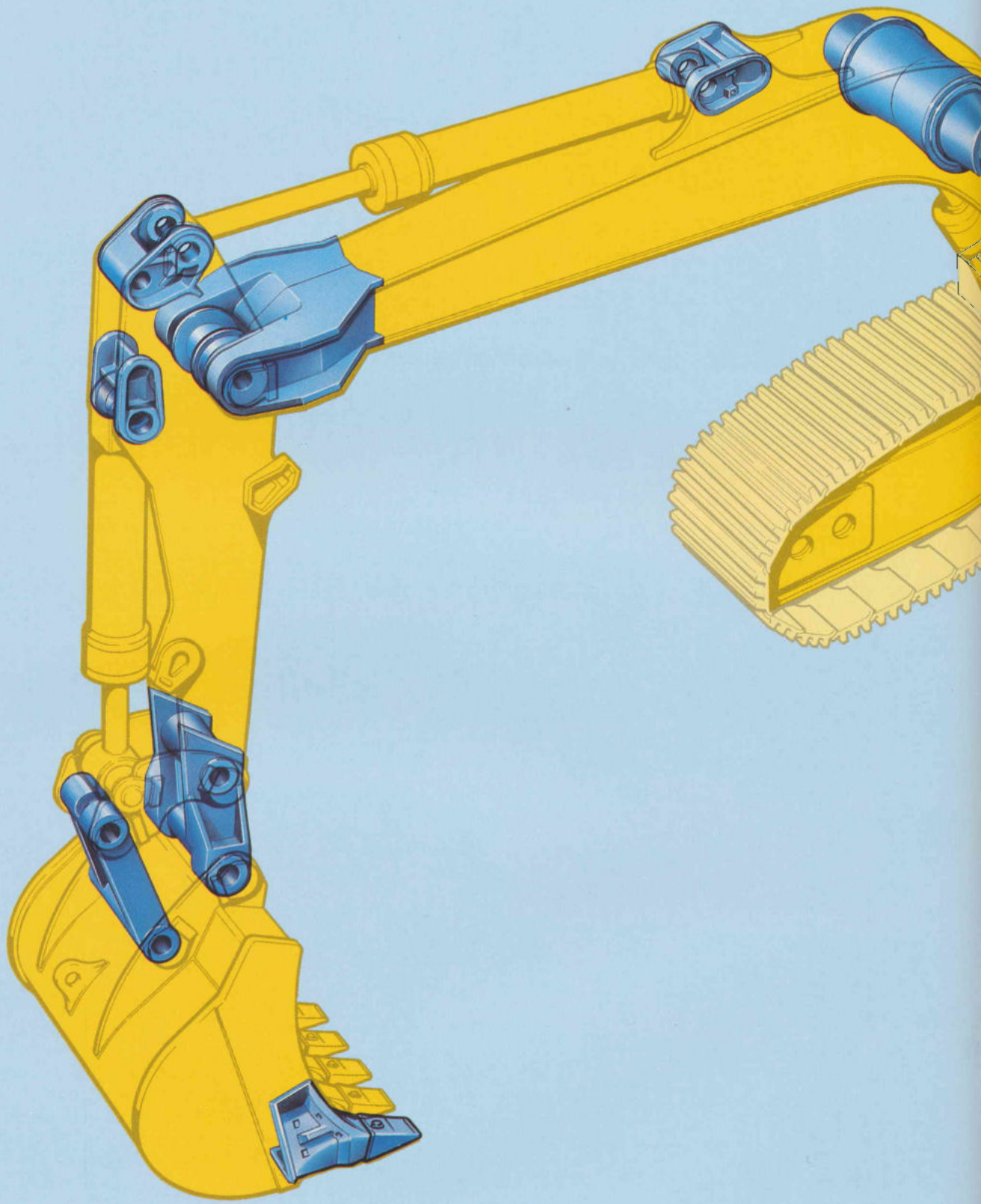
The Liebherr swing drive unit, with modular hydraulic motor and operator-controlled swing brake, delivers fast and powerful swing acceleration. Hydraulic countering provides the most efficient deceleration. For precise positioning, or in the event of an emergency situation, Liebherr uppers are standard equipped with an operator-controlled swing brake and swing lock.

The large diameter, Liebherr manufactured, single ball swing ring has internal teeth for excellent protection from outside dirt and debris. The compression ball design avoids loads and shocks on the race edges for longer swingring life. Internal teeth allow for a wider tooth base and more advantageous tooth meshing of the swing ring and pinion for better availability and longer life expectancy. Swing ring teeth lubrication is provided directly by a switch inside the cab.

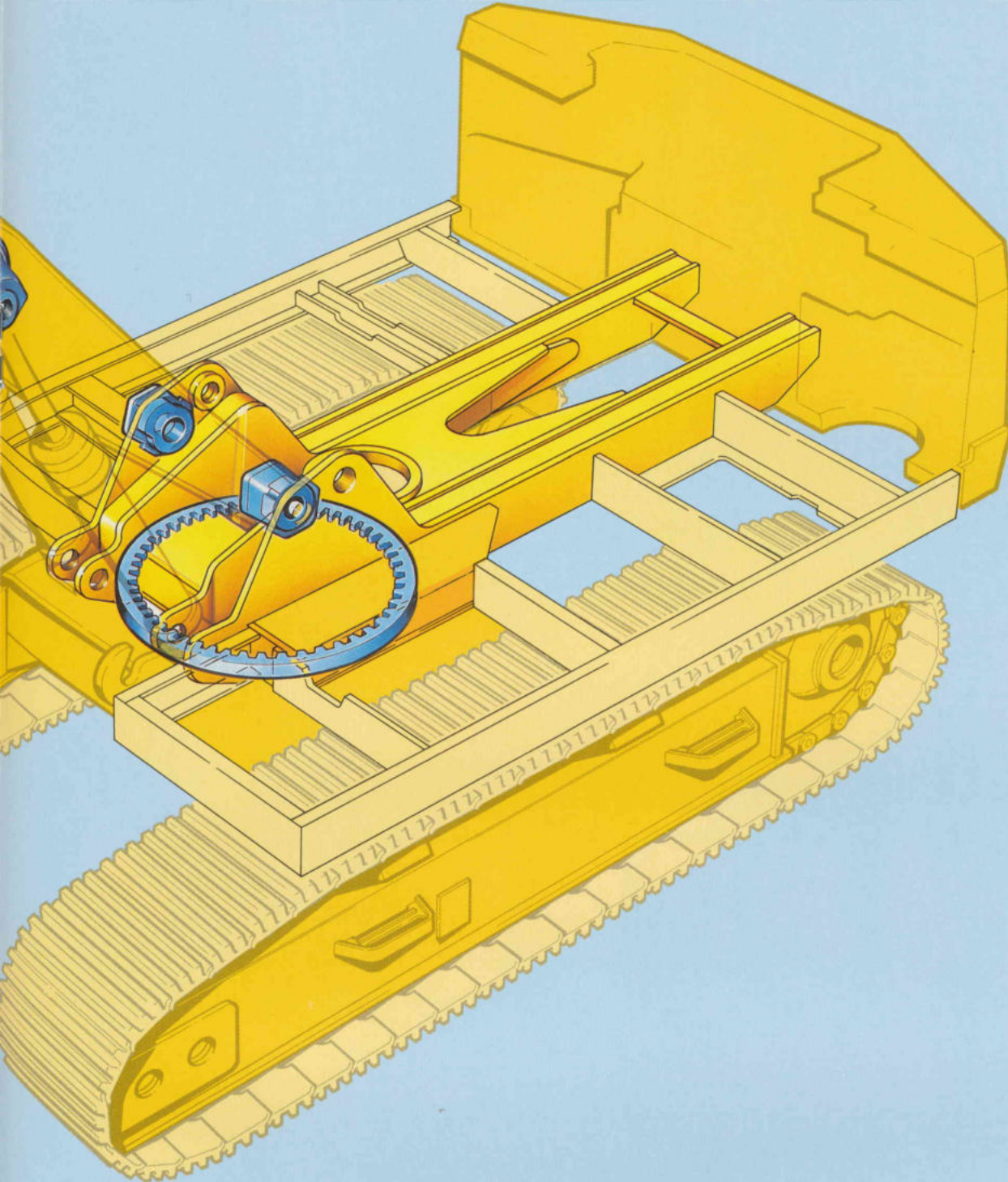


The stable, rugged undercarriage offers an ideal base to fully utilize the machines available power and speed, for big production. High mobility, even in tightest conditions, with independent travel drives for each side frame, up to and including counterrotation. To better match the machine to different applications, LC and HD undercarriages are available for soft, or hard applications.

very Application.



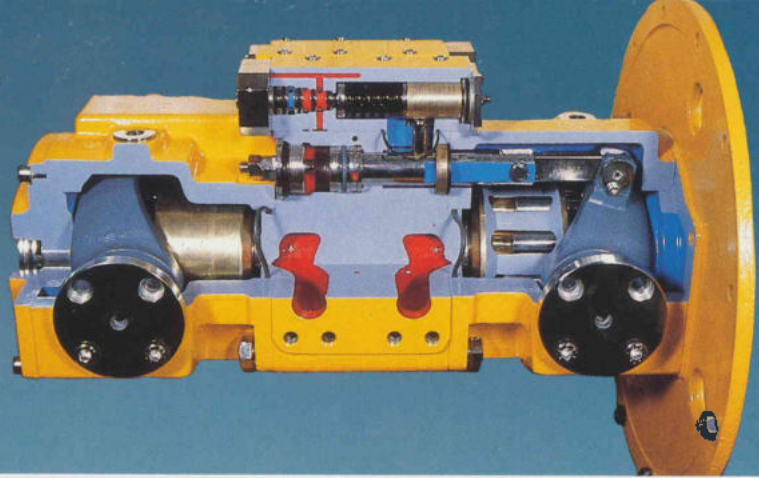
Smooth Power Flow With Redu



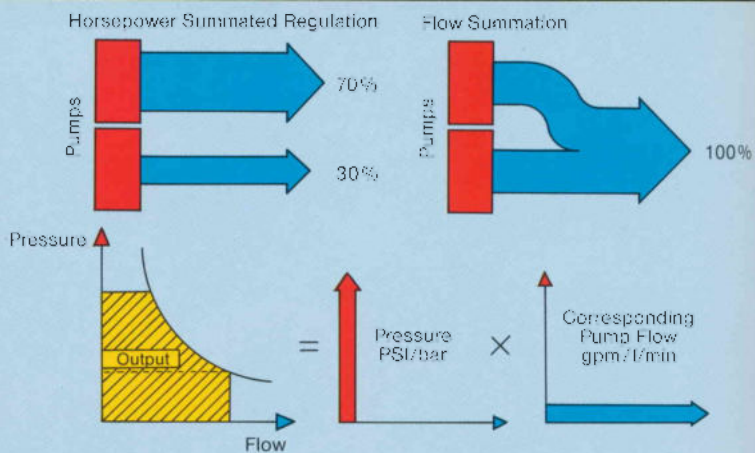
To provide the most reliable and strongest attachment structures, all Liebherr attachments incorporate stress-flow designed cast steel components in high stress areas. Cast steel provides reliable strength where needed and integrates easily into the steel structure of the hollow box attachment - this feature avoids fishplating and keeps welding seams far away from high stress areas, for better availability and longer life.

The backbone of the upper frame consists of a hollow box, torque resistant steel structure, which provides a solid base for swingring, engine, counterweight, and attachment. All forces and shocks from the attachment are safely led through the swing tower into the undercarriage structure. The power flow is even and not interrupted by cross welding seams or bolt connections.

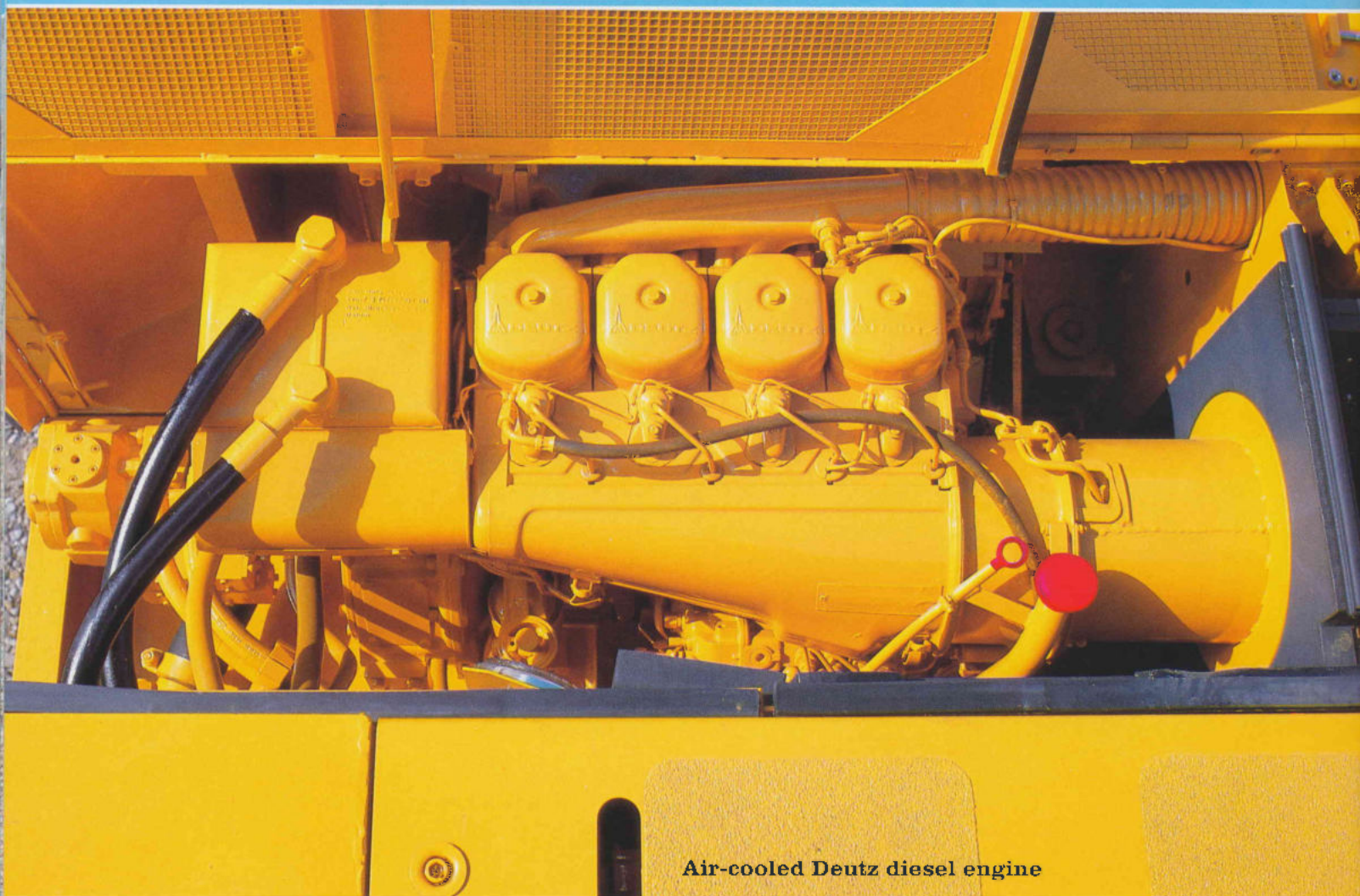
ced Stress On Components.



The Liebherr manufactured swashplate-type double pump with summated horsepower control is designed to work at high hydraulic pressures, providing optimum efficiency and long life. The pump unit is easy to service due to its simple and compact design. The single shaft drive system avoids the need for a pump distributor gear, and due to its modular design each pump unit can be easily exchanged, even in the field.

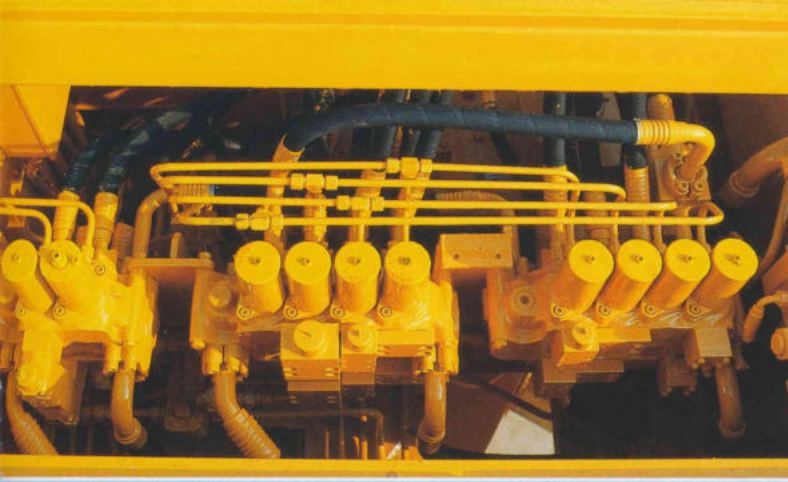


The combination of Horsepower Summated Regulation and Flow Summation allows the most efficient and most economical utilization of available engine horsepower with the lowest possible fuel consumption. Summated Horsepower Regulation allows full utilization of all available engine horsepower by each individual pump, at any instance depending on the power needed. Flow summation speeds up work motions, since both pumps feed into a single end user.

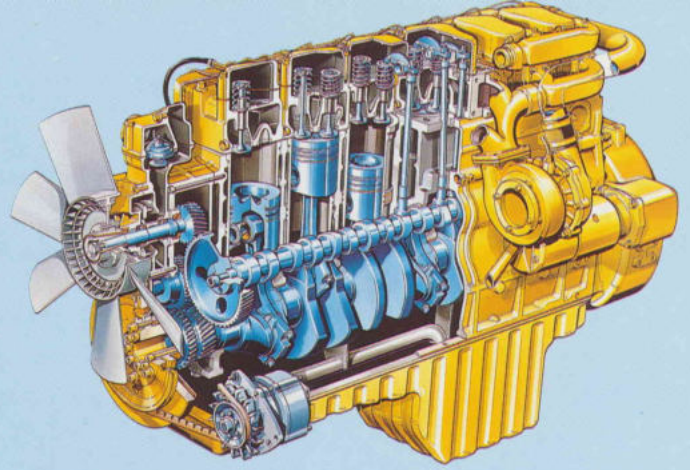


Air-cooled Deutz diesel engine

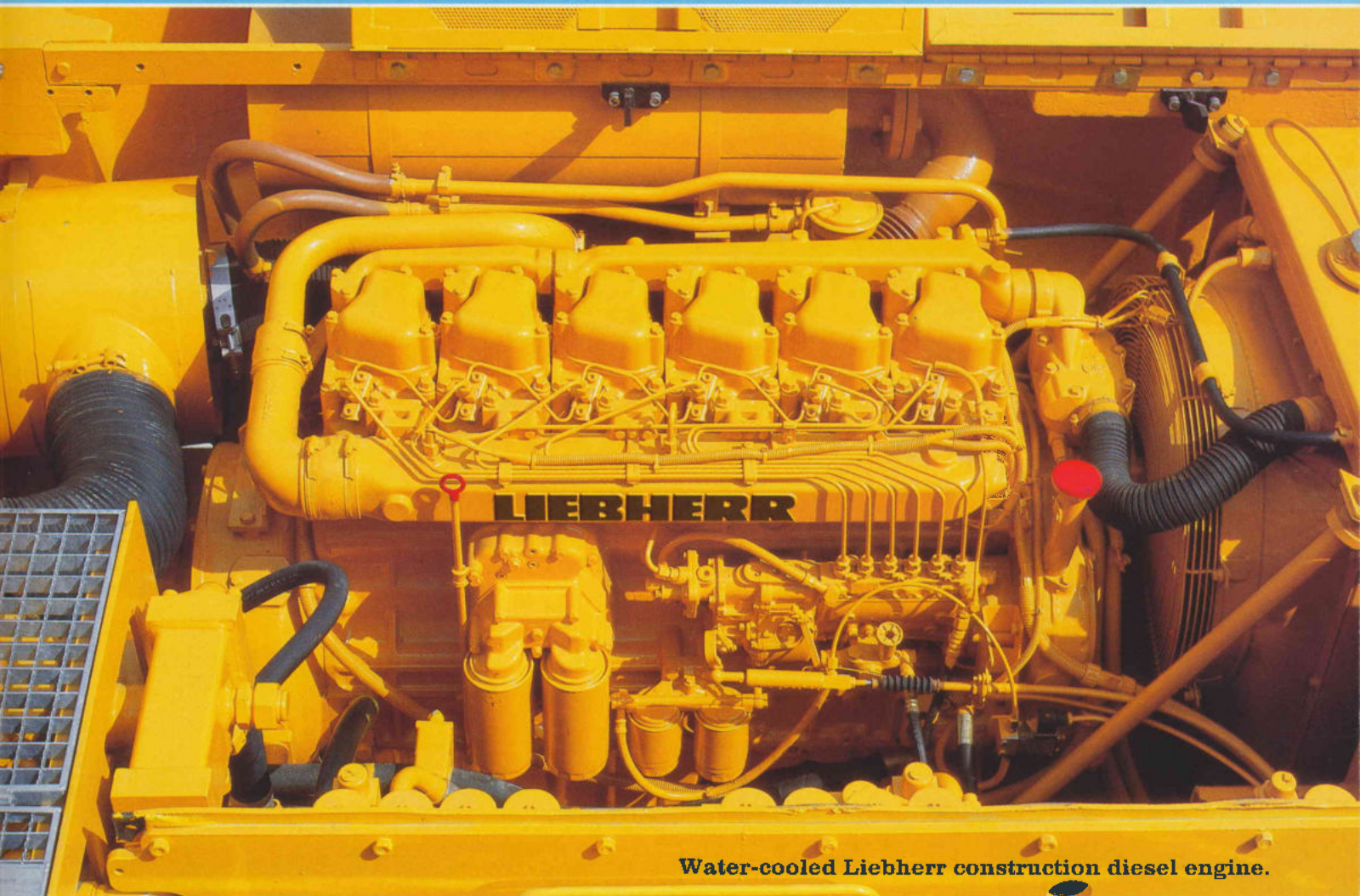
High Performance And Econo



All control valves are centrally located in the upper frame to provide short and efficient hydraulic connections. All valve motions are servo-assisted. The swing has absolute priority over all other functions, and can be controlled simultaneously with attachment or travel. Likewise, travel drive can be controlled simultaneously with the attachment functions.



The water-cooled Liebherr construction diesel engine is a heavy, highly efficient, over-designed engine, built especially for the demanding use in construction machinery. All service components are located on one side of the engine for easier maintenance. Cooling fan, compressor, and auxiliary hydraulic pumps are driven by an internal gear drive, which eliminates V-belts. This state-of-the-art engine is reliable and efficient by design.



Water-cooled Liebherr construction diesel engine.

my Together.

The ergonomic design of the operator's cab, with plenty of space and oversized windows, provides excellent 360 degree operator visibility. All instruments, gauges, and controls are within easy reach and view of the operator. Heater, windshield defroster and fresh air fan, grab rails, etc., are all standard equipment.



Operating Comfort For Increased



The comfortable, suspended operator seat is shaped according to latest ergonomic developments and is fully adjustable to the height and weight of the operator. Armrests are standard, and servo-assisted joystick control consoles adjust with the seat.



Liebherr has a handle on fuel consumption. If the operator releases the low-idle-sensor ring equipped joysticks, the engine automatically throttles back to idle speed, after an adjustable time delay. As soon as the operator touches the joysticks again, the engine will automatically speed up to the preadjusted RPM. This unique feature lowers fuel consumption and improves both noise and exhaust emissions.



Travel is controlled by two independent toe-heel foot pedals. This design leaves the operator's hand free for simultaneous control of attachment or swing, and improves work efficiency and safety. Next to the travel pedals is the operator controlled air-over-hydraulic swing emergency brake.



The foot pedals on the rubber tire models are similar to those in a car. The right pedal controls travel speed, while the left is the travel brake. On the other side of the steering column is the swing brake pedal.

ed Performance



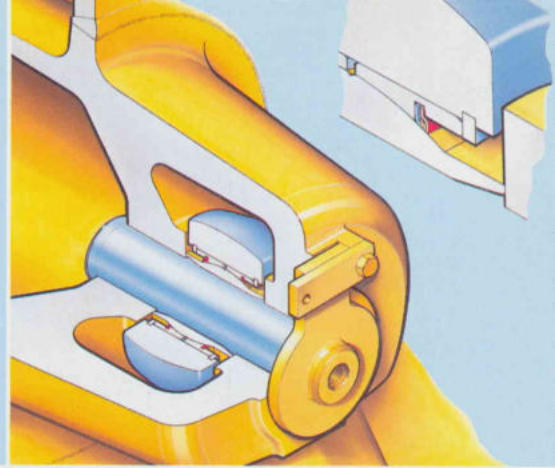
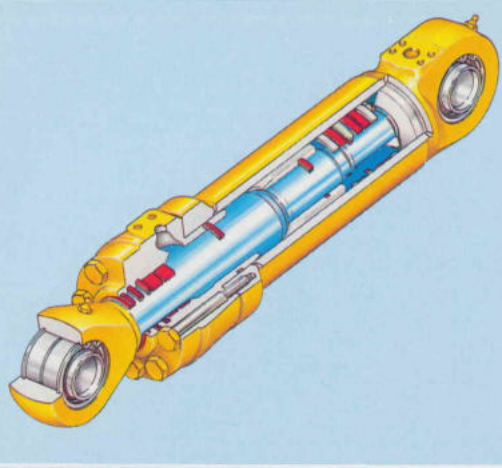
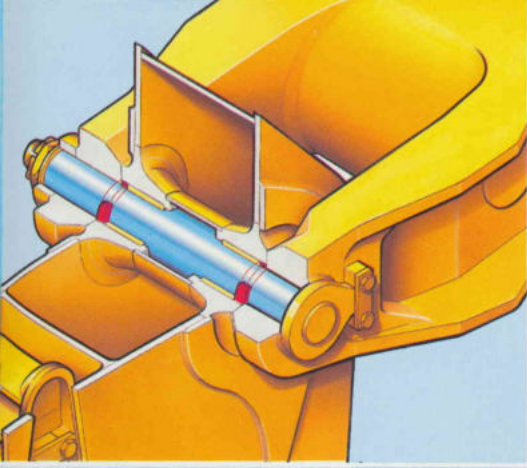
Liebherr backhoe buckets are designed for fast and easy penetration, high fill, and fast and complete dumping. They are equipped with a highly wear-resistant bottom plate, cast steel cutting edge, cast steel wrap-around corners that include the corner adapter. All buckets are equipped with a rugged safety hook for safe and easy lifting.

A separate valve block, installed on the bucket cylinder, allows for easy attachment change between backhoe buckets and clamshell or multitine grapple, without complicated switching of hydraulic hoses.

Optional clamshell buckets can be equipped with different types and capacities of shells to efficiently fit a specific application. All are equipped with a patented safety lifting hook, which retracts into the structure when not in use.



The Detail Is The Difference



Hardened and chromed pins, wear-resistant bushings, and sealed pivots throughout the attachment, increase service intervals and improve availability and life expectancy of the attachment.

All cylinders are made by Liebherr. Piston rod and eye are forged from one piece of steel. Shock absorbing stop at full extension is standard. All cylinders equipped with self-aligning bearings at both ends. Specially developed Liebherr seals guarantee long and trouble-free operation.

Hoist cylinders are mounted on the boom in cast steel brackets which are an integrated part of the steel structure. The self-aligning bushings of the pistons are sealed with special lip seals to keep grease in and dirt out, and to increase service intervals and life expectancy of all involved components.



the Right choice



| 900 B | | 902 | | 912 | |
|-----------------------------|------------------------|--|--|--|--|
| Engine HP | | 50 / 68 | 60 / 81 | 70 / 95 | |
| Engine RPM | | 2000 | 2000 | 2000 | |
| Working weight of machine | | | | | |
| Rubber-tire excavators | lb | 26.460 - 28.665 | 28.665 - 34.400 | 37.485 - 39.690 | |
| | kg | 12.000 - 13.000 | 13.000 - 15.600 | 17.000 - 18.000 | |
| Crawler excavators | lb | 31.090 - 33.515 | 34.400 - 36.825 | 39.250 - 46.525 | |
| | kg | 14.100 - 15.200 | 15.600 - 16.700 | 17.000 - 21.100 | |
| Backhoe bucket capacities | cuyd (m ³) | ³ / ₁₆ - 1.17 0.14 - 0.90 | ³ / ₁₆ - 1.17 0.14 - 0.90 | ³ / ₁₆ - 1.50 0.15 - 1.15 | |
| Clamshell bucket capacities | cuyd (m ³) | ¹ / ₄ - 1.05 0.20 - 0.80 | ¹ / ₄ - 1.31 0.20 - 1.00 | ¹ / ₄ - 1.31 0.20 - 1.00 | |



The Right Machine For Every A



| 922 | 932 | 942 |
|--|--|---|
| 100/136 | 112/152 | 132/180 |
| 2000 | 2000 | 2000 |
| 43.440 - 46.085 19.700 - 20.900 | - | 69.900 31.700 |
| 43.660 - 47.190 19.800 - 21.400 | 52.920 - 57.770 24.000 - 26.200 | 63.945 - 69.900 29.000 - 31.700 |
| ⁵ / ₁₆ - 2.22 0.24 - 1.70 | ⁵ / ₁₆ - 2.61 0.24 - 2.00 | ¹³ / ₁₆ - 3.27 0.60 - 2.50 |
| ¹ / ₄ - 2.62 0.20 - 2.00 | ⁹ / ₁₆ - 2.62 0.45 - 2.00 | ⁹ / ₁₆ - 2.62 0.45 - 2.00 |



pplication.



Liebherr-Hydraulikbagger GmbH, Kirchdorf/Aller, Germany



Liebherr France S.A., Colmar, France



Liebherr-America INC., Newport News, Virginia USA