Volvo BM Wheel Loaders

L30, L50, L70, L90, L120, L160

WITH THE BENEFIT OF EXPERIENCE, THE LOADERS OF THE FUTURE ARE BUILT

VOLVO BM LOADERS HAVE SPEARHEADED LOADER DEVELOPMENT FOR MORE THAN 30 YEARS

Volvo BM loaders have been well established on the market for more than 30 years. They have been pioneers in the development of new working methods and have continuously advanced the positions of loaders in new markets. Continuous feedback from applications provides information on what different markets demand. As a result, the Volvo BM range includes everything from small utility machines up to efficient high-production loaders. The basic designs are identical throughout the product range. It is these fundamental design principles that make Volvo BM loaders such high performers. The superiority of these machines has been proven in tests and practical work on markets all over the world. We also have the product development and production resources that enable us to manufacture the most important components in the machine ourselves. This guarantees that the machines have a well-balanced construction and are of high and uniform quality.

L30 0.8 – 2.0 m³ (1.0 – 2.6 yd³)

A nimble and compact 6-tonner with all the technical refinements that have long distinguished Volvo BM wheel loaders: The lift-arm system, the attachment bracket and Automatic Power Shift. Volvo BM combines the mobility of the small loader in confined areas with a power that is hard to find in this size class.

L50 1.15 – 3.0 m³ (1.5 – 3.9 yd³)

The loader designed to provide good solid performance for the small contractor and municipal authority. Offered with the quick-coupler attachment bracket as standard, it permits front-end attachments to be switched in a matter of seconds. The L50 weighs in at about 8 tonnes.

L70 1.5 – 4.3 m³ (2.0 – 5.6 yd³)

A step larger in size and performance, this loader will meet the needs of contractors and local government departments that require more production capacity. The L70 is also equipped with the quick-coupler attachment bracket as standard to provide the versatility needed in many types of jobs encountered. It is slightly heavier at 7.5 tonnes.

L90 2.1 – 6.5 m³ (2.75 – 8.5 yd³)

This size machine – 13 tonnes – is for contractors who need a dedicated loader for materials handling, truck loading in sand and gravel pits and general contracting requirements, with the added versatility of the optional quick-coupler attachment bracket for forks, grapples and a wide range of other attachments.

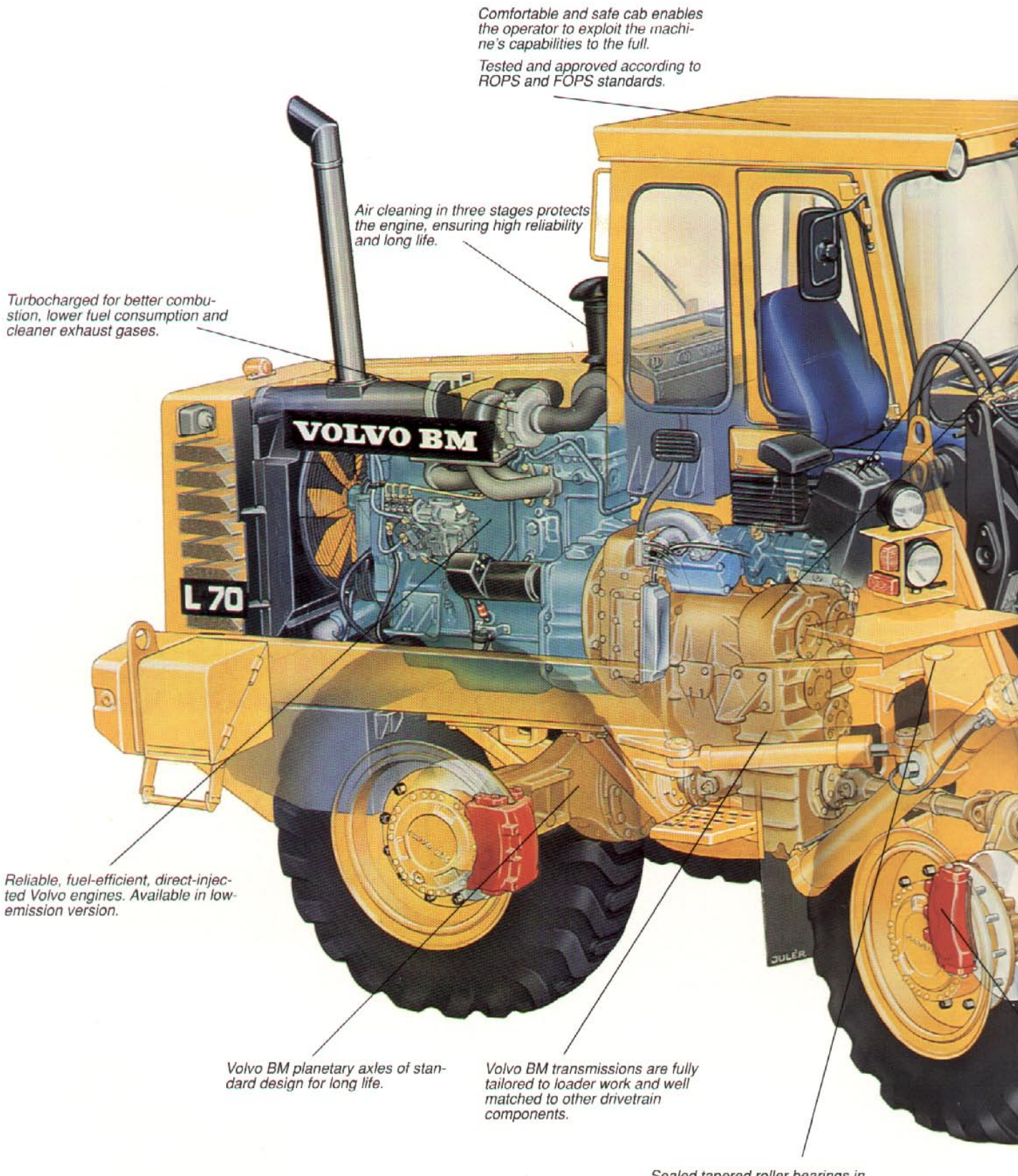
L120 2.8 – 10.0 m³ (3.7 – 13.1 yd³)

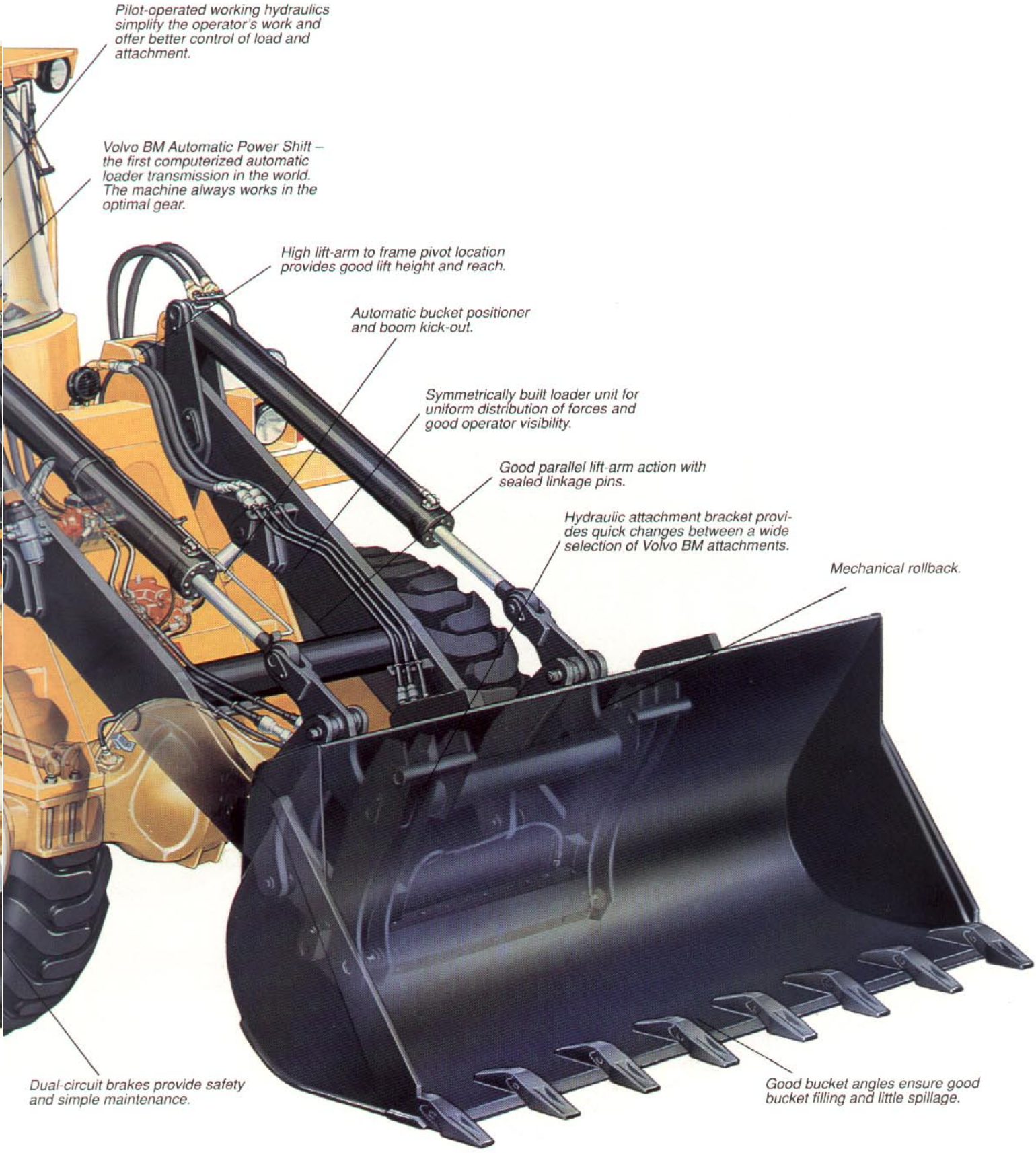
Larger prime production capability in sand, gravel and crushed stone operations, for feeding hoppers, loading trucks and other similar applications. The option of a quick-coupler attachment bracket, combined with high tilt and rollback forces, provides exceptional log grapple performance for loading and unloading of log trucks, picking and sorting, decking, and loading feed tables at the mill. It also permits quick conversion to a high volume wood chip bucket or to forks for handling sawn timber. A hefty 15-tonner.

L160 3.4 – 13.0 m³ (4.4 – 17.0 yd³)

The L160 is an exceptional, prime production loader capable of outperforming any competitive machine of comparable size, 22 tonnes. Adding the optional quick-coupler attachment bracket offers a variety of bucket capacities for handling materials of varying kinds and weights, plus forks and log grapples.

"ALLROUND" PRODUCTION-BOOSTING FEATURES MAKE THE VOLVO BM LOADER THE RIGHT ECONOMIC CHOICE




Pilot-operated working hydraulics simplify the operator's work and offer better control of load and attachment.
Volvo BM Automatic Power Shift – the first computerized automatic loader transmission in the world. The machine always works in the optimal gear.
High lift-arm to frame pivot location provides good lift height and reach.
Automatic bucket positioner and boom kick-out.
Symmetrically built loader unit for uniform distribution of forces and good operator visibility.
Good parallel lift-arm action with sealed linkage pins.
Hydraulic attachment bracket provides quick changes between a wide selection of Volvo BM attachments.
Mechanical rollback.
Dual-circuit brakes provide safety and simple maintenance.
Good bucket angles ensure good bucket filling and little spillage.

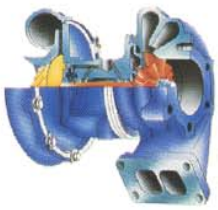
THE DRIVETRAIN – A PERFECTLY BALANCED UNIT BUILT FOR RELIABLE PERFORMANCE

VOLVO BM MACHINES ARE EQUIPPED WITH STATE-OF-THE ART ENGINES

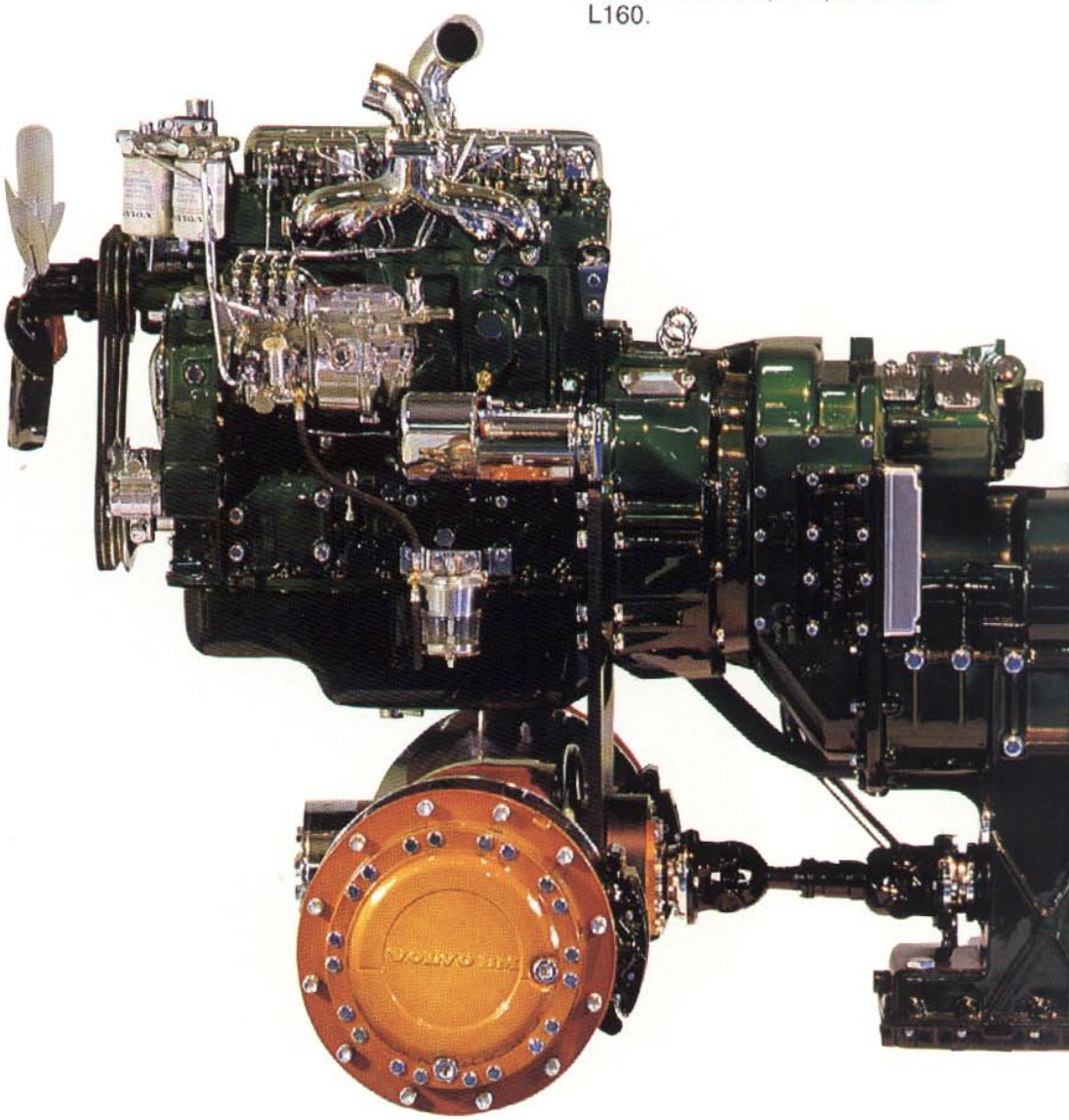
Experience combined with research in a creative environment has always kept Volvo BM machines at the forefront of technological progress. Volvo/Volvo BM engines are characterized by high performance in relation to size. This has been achieved by means of sophisticated turbocharger technology.

Fuel economy is also very good, since the engines feature very efficient combustion with low heat and friction losses.

Volvo BM low-emission engines already fulfil many of the stringent requirements that will be made for a cleaner environment in the future. The engines are renowned all over the world for their reliability, and this is no accident. A great deal of effort has been devoted to making designs as simple as possible. In this endeavour, the in-line, direct-injected engine has proven to be the right solution.



Turbocharging increases the supply of air to the engine, providing higher power, better fuel economy and lower emissions. Standard on the L70, L90, L120 and L160.



Easy to operate, uncomplicated and reliable

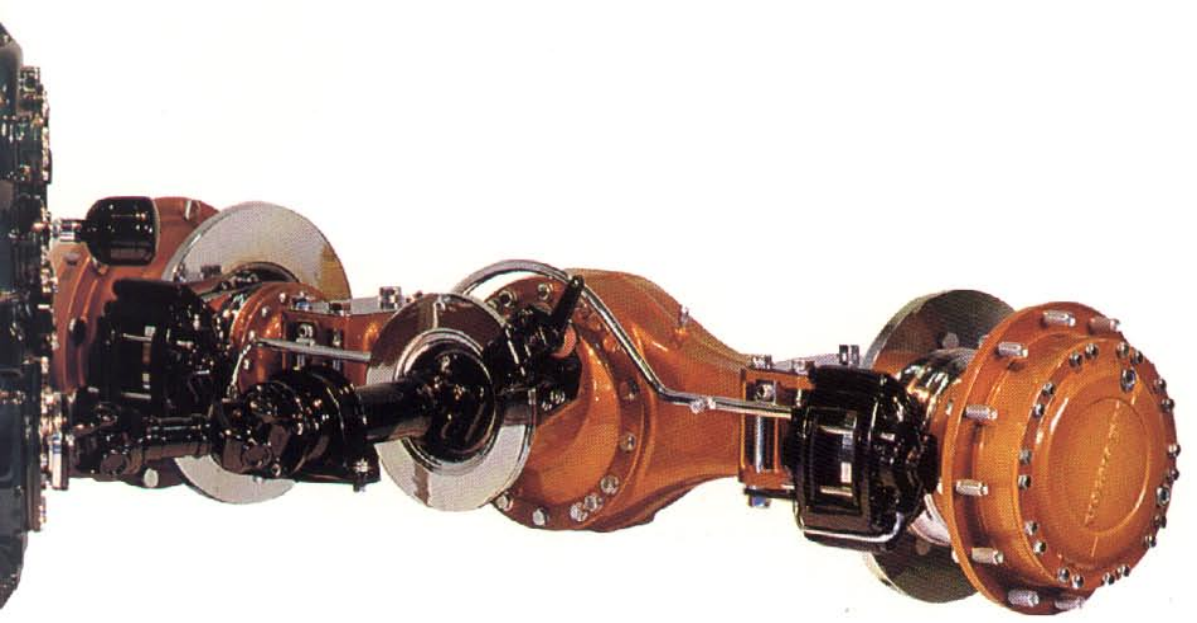
Transmissions of the countershaft type first came along in the early sixties. Since then a great deal of experience has been gathered from the field, and tireless development work in the laboratory has refined and developed the technology. As a result of this accumulated know-how and extensive corporate development resources, Volvo BM now has a new generation of transmissions with superb characteristics.

Volvo BM transmissions have four forward and four reverse gears. Hydraulically operated clutch shafts with progressive pressure build-up in the clutch packs (directional clutch modulation) ensure smooth engagement of the gears. The operator can shift between forward and reverse without having to stop. The gear lever actuates the transmission's gear selector valves electromagnetically. This permitted the development of a microcomputer-controlled automatic shift – APS.

Volvo BM Automatic Power Shift

Volvo BM Automatic Power Shift is the first computerized automatic transmission for loaders in the world. It ensures that the machine always works in the right gear. This results in optimum efficiency and economy.

Moreover, the system reduces wear and tear on components and contributes to lower fuel consumption. APS takes the guesswork out of gear shifting and takes a load off the operator, resulting in more efficient operator performance.



STRONG AND WELL BUILT

ADVANCED MANUFACTURING IN MODERN PLANTS ENSURES QUALITY

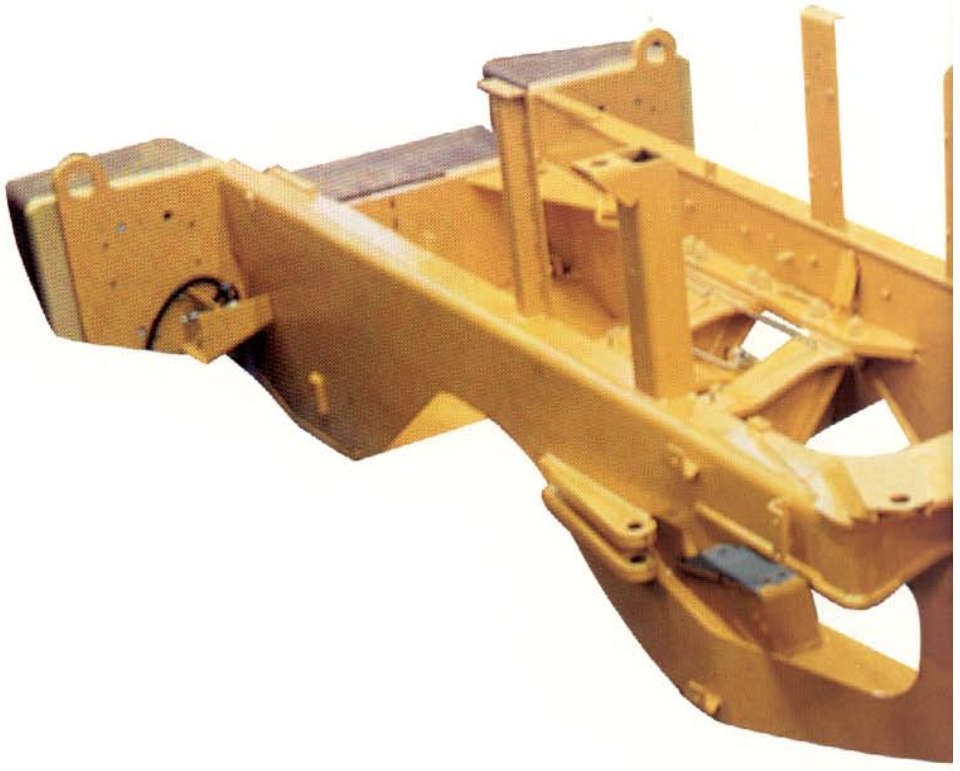
The life of a loader is largely dependent on the capacity of welded joints, bearing and frame elements to withstand severe continuous service. Volvo BM loader frames are of very rugged construction. The strong, rigid rear frame is of all-welded box-section construction. The front frame is made up of four vertical steel plates between which the lift cylinders are mounted. The cylinders are well protected, and torsional stresses in bearings are eliminated.

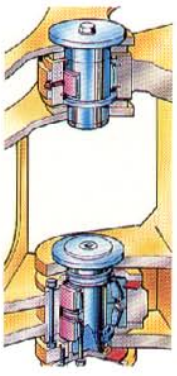
The frame has machined surfaces at all points where components are attached. A precision fit at the point of attachment increases the strength of the joint, while exactly fixing the position of the components.

This is a quality detail that results in both better function and higher reliability.

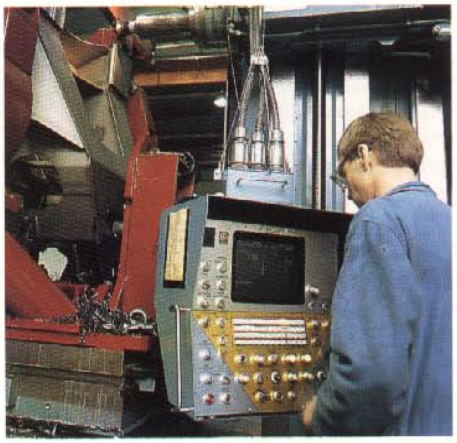
Computerized metalcutting machines and handling, painting and welding robots make manufacturing efficient and precise.

However, automation has not taken the place of professional skill. Production technicians and machine operators with long experience program the machines and make sure that the work is done properly.





The frame joint is designed to withstand high stresses. The hinge assemblies are widely spaced. The lower hinge assembly consists of two tapered roller bearings, which ensure both long life and long lubrication intervals.



Lift arms and frames that are to withstand severe loads are welded in specially-manufactured fixtures by advanced, computerized welding robots.

A LOADER UNIT BUILT TO GIVE YOU HIGH CAPACITY IN ALL SITUATIONS

A COMBINATION OF GOOD BREAKOUT FORCE, GOOD BUCKET ANGLES AND GOOD PARALLEL LIFT-ARM ACTION

The loader units on Volvo BM wheel loaders possess the combination of characteristics necessary for effective high capacity operation in every situation.

Symmetrical lift-arm system

The lift cylinders are located directly underneath the lift arms and the tilt cylinders directly above the lift arms. This symmetrical attachment obviates torsional forces, providing high reliability. In addition, the operator has very good see-through visibility.

High lift-arm-to-frame pivot location

This gives the machine high lift height in combination with good reach. It is easy to load high-sided vehicles and fill high loading bins from the access ramps found in some sorting and batching plants.

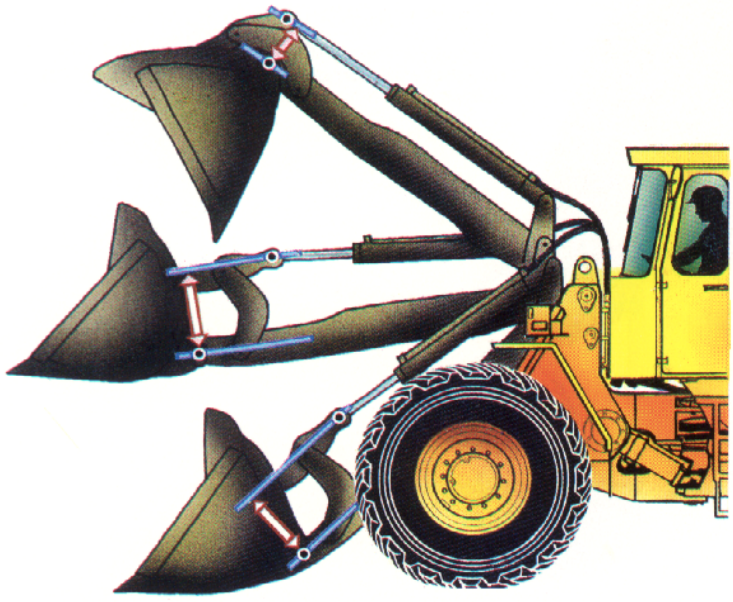
The Volvo BM loaders reach in over truck beds and railway cars from one side without scraping them with the underside of the lift-arms, which means that wide vehicles can be loaded and unloaded from one side, resulting in short loading times.

Good bucket filling

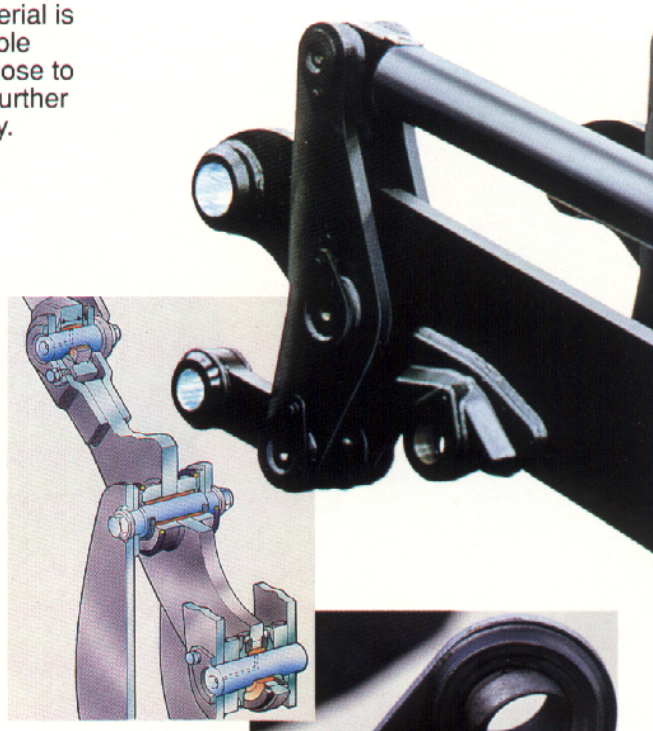
Generous bucket angles ensure little spillage and good bucket filling. Thanks to accelerated roll-back, when the bucket hits the mechanical stop, the material is thrown back against the rear of the bucket. This means that the centre of gravity of the material is shifted to the most favourable position in the bucket, as close to the front axle as possible, further enhancing machine stability.

Good parallel lift-arm action

The Volvo BM loader unit geometry provides excellent parallel lift-arm action. This enables the machine to be utilized for a wide variety of jobs, such as handling large unit loads or palletized goods.



High pivot location permits a combination of good lift height and reach. Due to the design of link-arm system, the lever that performs the tilt movement is always long (the distance between the arrows in the drawing) - this ensures high tilt and rollback forces in all positions.



The bearings are well sealed against dirt. This contributes to long life and long lubrication intervals. Self-aligning bearings are provided at high-stress points.

Mechanical dump stop

A mechanical stop at the maximum dump angle enables you to shake the material from the bucket effectively.

High tilt and rollback forces

The loader unit link-arms are specially designed to ensure that there is always a long lever throughout the tilt movement. This results in excellent tilt and rollback forces over the full lift-arm radius and good control in the top position.

This feature is essential for safe handling and precise control when unloading timber and placing heavy loads onto haulage vehicles, feed tables and into hoppers.

The symmetrical attachment of the hydraulic cylinders provides good reliability and extra good visibility through the loader unit.

Attachment bracket with quick coupler

The designers of the Volvo BM loaders realized from the start the importance of flexibility and adaptability of the machines to different jobs.

The attachment bracket with quick coupler has led to the development of a wide range of attachments and a loader unit with effective characteristics for various tasks.

Today Volvo BM has hydraulically operated attachment brackets that permit virtually instantaneous, trouble-free attachment changes.

Automatic bucket positioner and boom kick-out

The operator can activate automatic stop for the bucket and lift-arms by means of switches on the instrument panel. Automatic bucket positioner and boom kick-out are controlled by reliable inductive transmitters. The impulse is transmitted electrically all the way up to the lever mechanism.

There are two automatic stop functions that can be adjusted as needed: Rollback (bucket positioner) and raising (boom kick-out).

High quality

The lift-arm system is of high quality.

The bearings have through pins, supported on both sides, and all bearing journals have replaceable bushings. Naturally, all bearings also have effective seals that protect against dirt and retain the lubricant. Wherever there is a possibility of edge stresses, self-aligning link bearings are used: In both of the tilt cylinder mounts, in the tilt links' lower bearings and in the upper bucket hinge pin. Other bearings in the lift-arm system have pins and bushings with large bearing surfaces and thereby low specific surface pressure.

Changing attachments is simple ... With the Volvo BM hydraulic attachment bracket, you never hesitate to switch to the right attachment when it is needed.

EASY-TO-OPERATE HYDRAULIC SYSTEM WITH HIGH PERFORMANCE

THE EFFICIENT HYDRAULIC SYSTEM IS BUILT FOR HIGH RELIABILITY

The hydraulic system is easy to operate and works with sure precision. Pressure equalization to the tank takes place through an air-filtered breather.

The oil is cleaned by a magnetic core filter. This thorough cleaning makes the hydraulic system highly reliable. Another reliability detail is the fact that the vane pump is installed directly beneath the tank. A short suction line eliminates cavitation.

All the Volvo BM loaders are equipped with a three-spool valve. The smaller models are provided with piping on the lift-arms for the quick-coupler attachment bracket, since they work more often with hydraulic attachments.

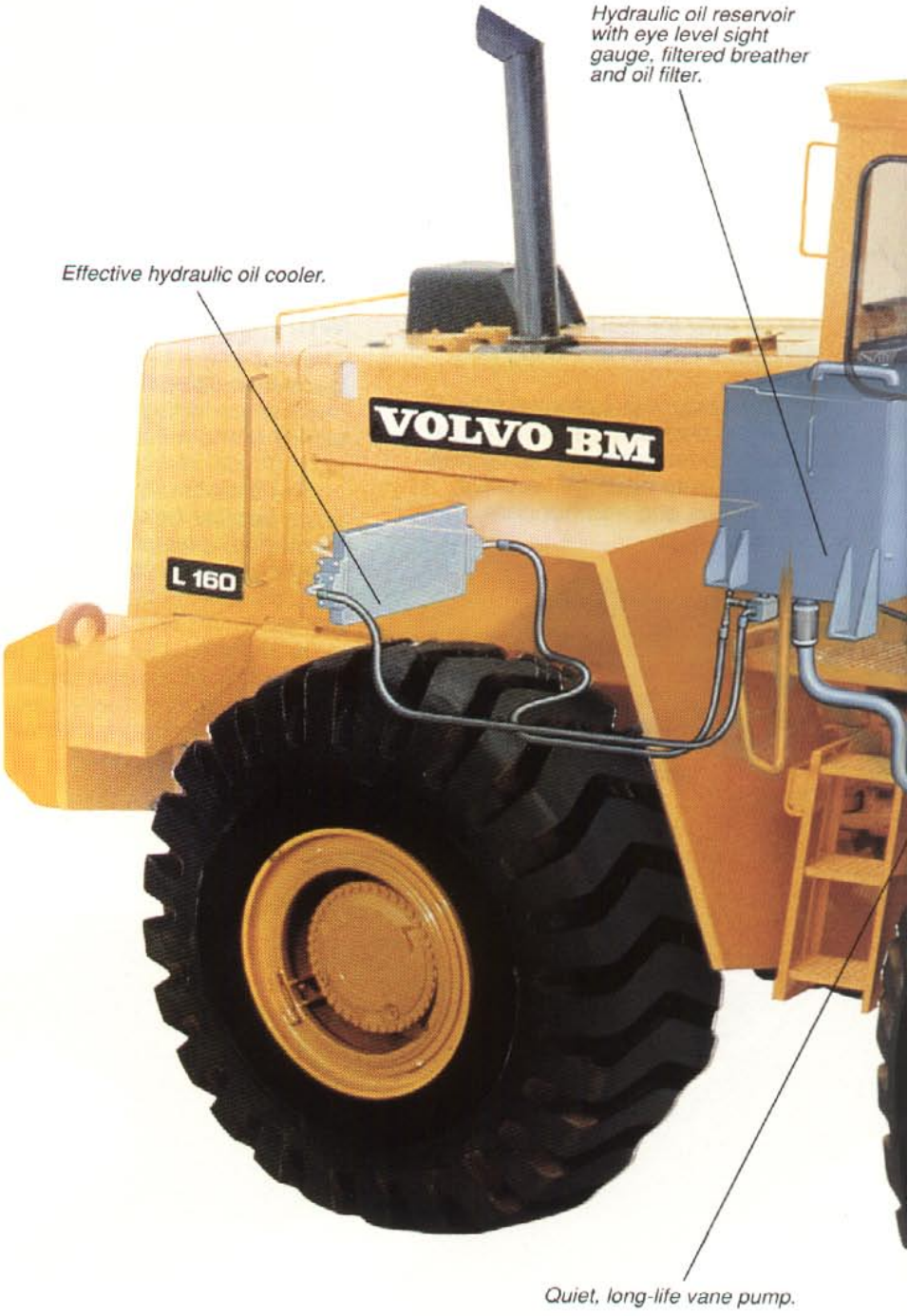
It is easy to augment the hydraulic system with a 4th hydraulic control.

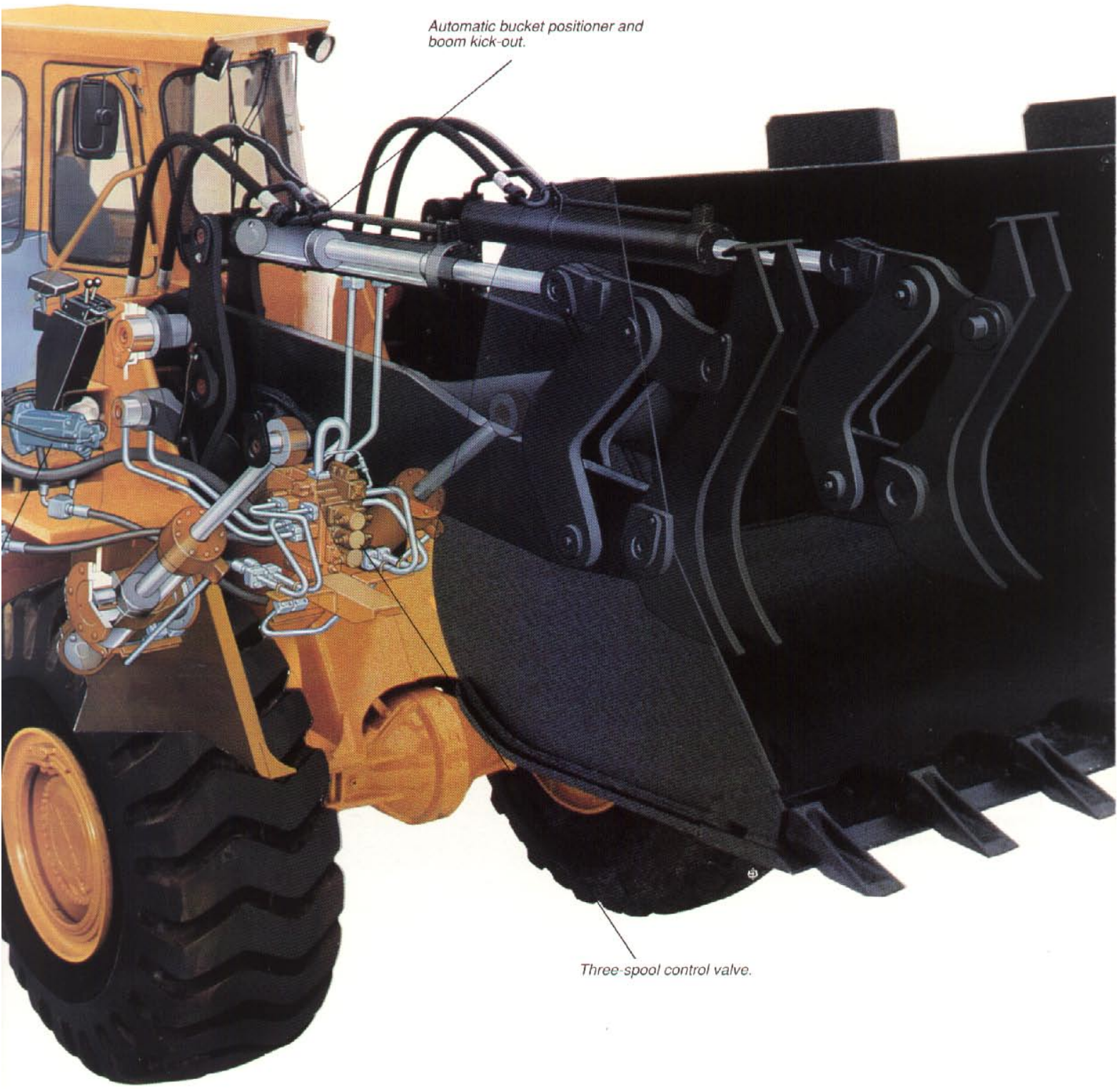
The steering system on Volvo BM loaders features precision response and easy operation. The hydraulic oil is delivered by a piston pump with variable flow. Flow and pressure are regulated automatically according to need.

The steering system has the following advantages:

- Quick and easy steering, even in uneven terrain.
- Lower fuel consumption, since the pump only draws power as needed.
- The system works quietly.

The L160 has a hydrostatic steering system with flow booster.




Automatic bucket positioner and boom kick-out.
Three-spool control valve.

COMFORT – A PRODUCTION FACTOR

THE IMPORTANT WORK DONE BY THE OPERATOR DESERVES A GOOD WORKING ENVIRONMENT

An operator requires a very special working environment to perform at his best. You can't build operators to suit the work and the machine. So instead we build machines to suit the operator.

Machines with a rationally planned operator environment where every operation can be carried out with a minimum of movement and effort.

Ergonomic experts study and prepare strict guidelines for the design and location of all controls and instruments. Fine tuning of the completed design is then carried out during practical trials.

Comfort Drive Control

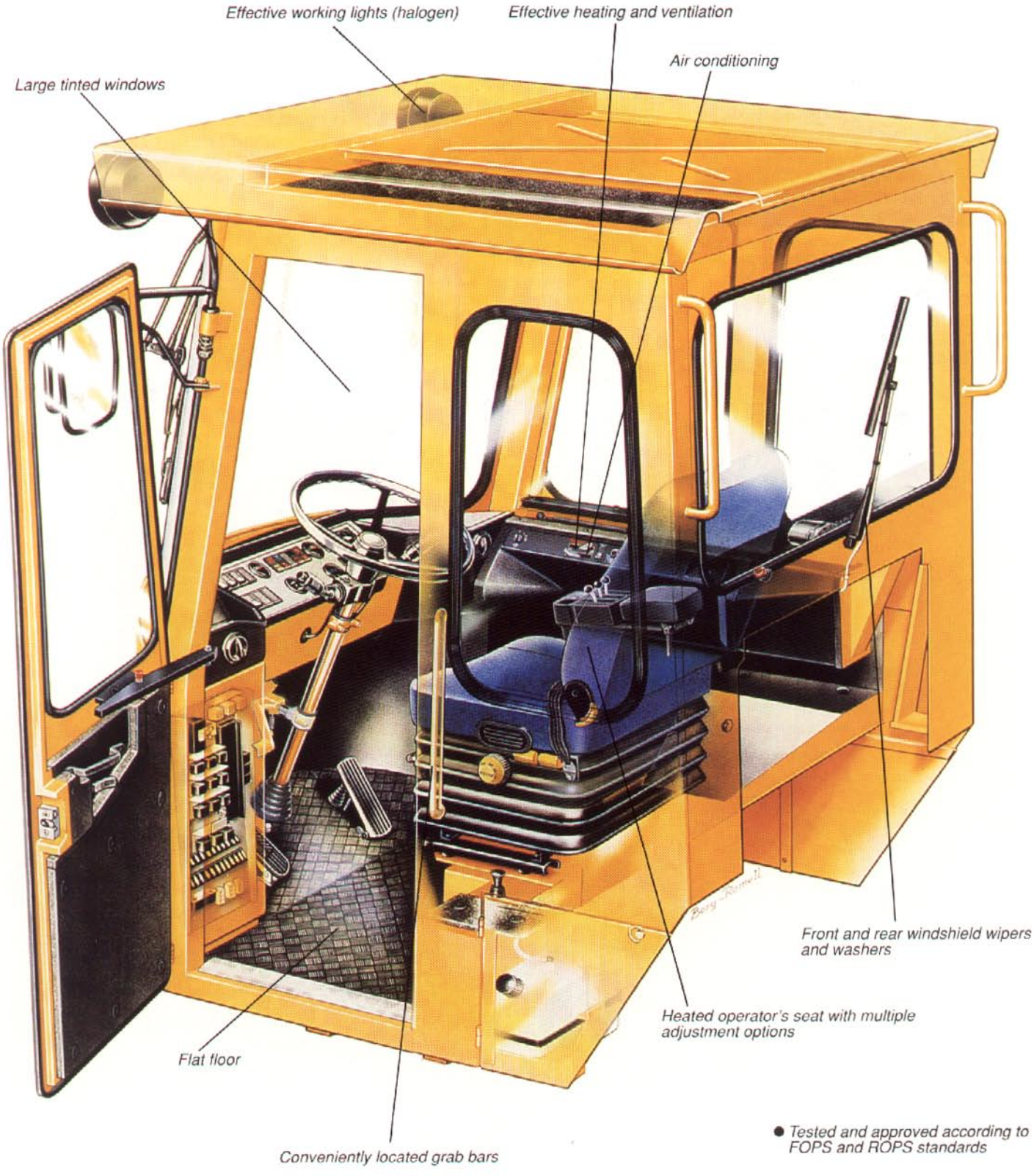
Two anatomically moulded armrests. In the left one is a small lever that can be moved to the right or left with fingertip ease. The deflection of the lever is proportional to the steering speed, so the machine can easily be maneuvered with very great precision. The same armrest also contains buttons for Automatic Power Shift, forward/reverse and kick-down.

Comfort Drive Control, CDC (optional)

Pilot-operated working hydraulics

The levers can be operated with the fingertips, and the short, distinct movements have very precise positions. The operator can maneuver the loader with a minimum of effort and with great precision.

Pilot-operated working hydraulics



● Tested and approved according to FOPS and ROPS standards

DESIGNED FOR PRACTICAL AND CONVENIENT SERVICE

VOLVO BM LOADERS ARE EASY TO SERVICE AND MAINTAIN IN EVERY DETAIL

The purpose of a Volvo BM wheel loader is to work. To this end, a great deal of effort is devoted already in the design of the machine to reduce downtimes, make the machine easily accessible for service and reduce daily checks to a minimum.

Service technicians and development engineers constantly monitor the demands of the market and feedback from the field.

This results in constant improvements for increased efficiency and operator satisfaction.

Conveniently located grab bars and footsteps make it easy to enter and leave the cab.

Easily accessible and well-protected battery box with hinged cover.

The electrical distribution box is logically arranged and conveniently located inside the cab.

The radiator grille can easily be swung out for cleaning.

All oil checks can easily be performed from ground level.

Large access panels and platforms permit easy and safe inspections.

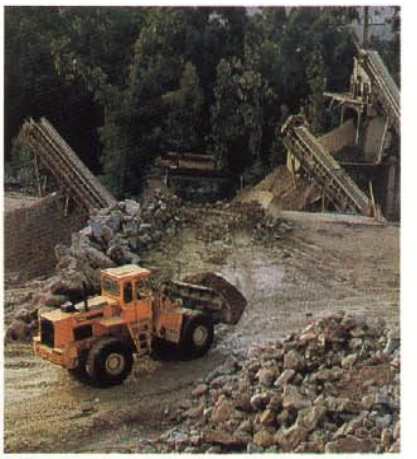
Filling up from ground level.

VOLVO BM LOADERS CAN BE FOUND EVERYWHERE GOOD TOTAL ECONOMY IS A MUST

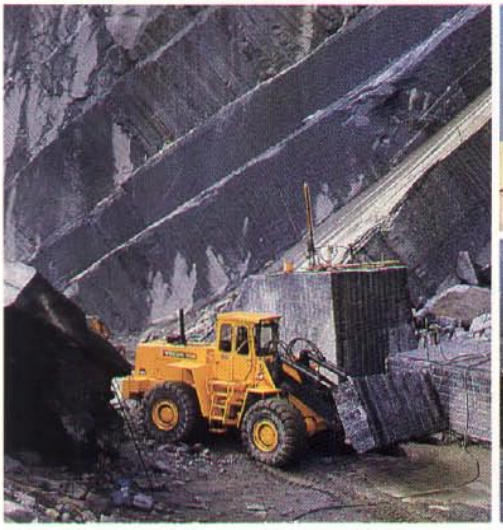
VOLVO BM LOADERS ARE POWERFUL, PRODUCTIVE, VERSATILE AND RELIABLE

You can find Volvo BM loaders almost anywhere in the world. Their economy and versatility have made these machines highly sought-after in different industries and applications.

All Volvo BM loaders have the same exclusive features; the choice of model is determined by the required capacity. Volvo BM also gives you access to the resources offered by one of the world's leading loader manufacturers: Service, technical development and the security of invested capital.




VOLVO BM QUALITY GIVES HIGH AVAILABILITY AND ECONOMY

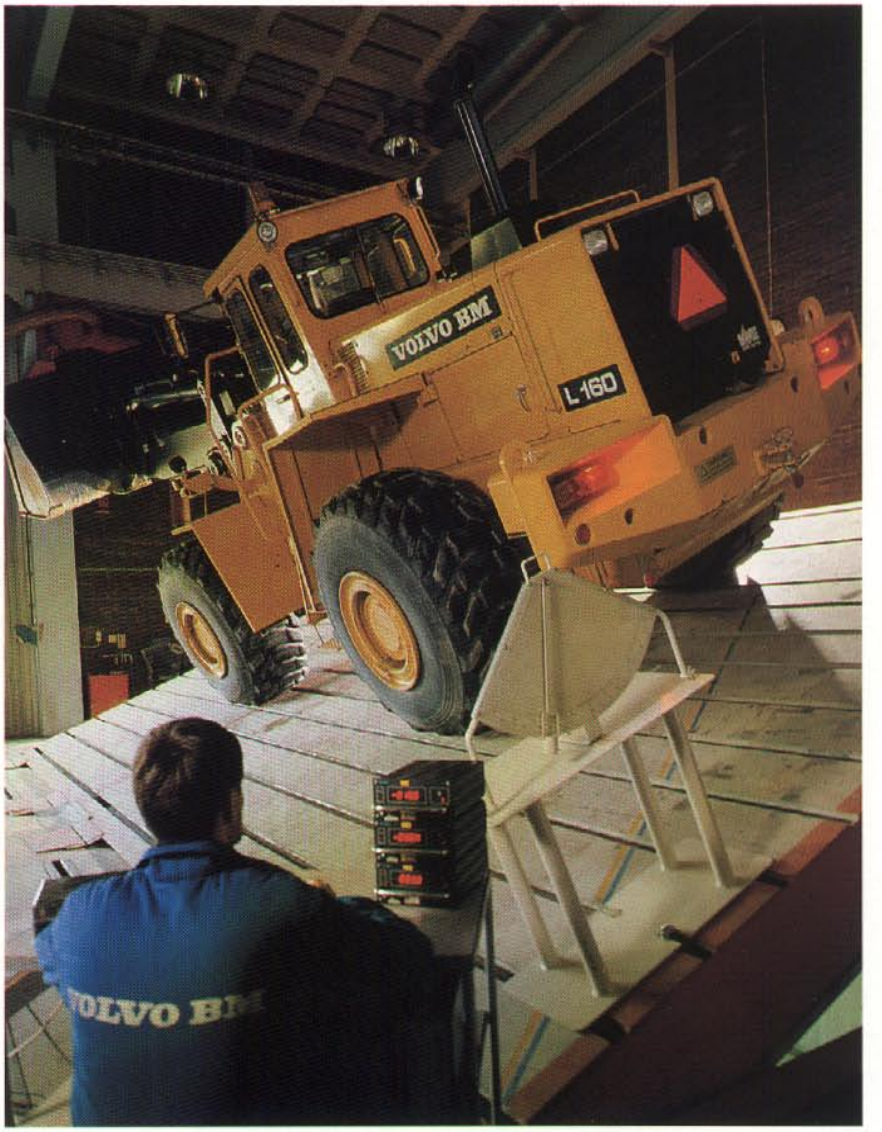
MODERN PRODUCTION TECHNOLOGY COMBINED WITH METICULOUS QUALITY CONTROL

Volvo BM quality means that you will find a whole package of positive features in each and every loader that will enable you to perform demanding jobs with few interruptions and good economy over a long period of time.

We lay the foundation for this quality by manufacturing most base components such as engines, transmissions and axles ourselves. This gives us complete control over technical design, size compatibility and the manufacturing process so that we can build loaders for optimum performance and long life.

We gather practical experience from all over the world and pool it with know-how and ultra-modern equipment for design work and laboratory testing. The end result is a product that is easy to maintain, has high capacity, long life and is economical to operate.

Modern manufacturing technology and meticulous quality control are prerequisites for high, consistent quality. State-of-the-art technology is also used in the development of Volvo BM machines.



Ultra-modern equipment for design work and laboratory testing.

The Volvo BM range includes six advanced and modern loaders – from small and nimble materials handlers to effective high-production machines. With over 100 different attachments to choose from, you can always find the right combination of machine and equipment to meet your capacity needs.

The information in this brochure applies to most Volvo BM wheel loaders. However, certain models, such as the Volvo BM L30, differ in a number of points. Moreover, the equipment varies between different models and on different markets. You will find more detailed information in special data brochures.

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