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**GALION**  
ROLLERS • GRADERS • CRANES

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**THE GALION IRON WORKS & MFG. COMPANY** division of Jeffrey Galion Inc. Galion, Ohio 44833, U.S.A.

# NEW **WABCO** 444 MOTOR GRADER



**WABCO  
444  
GRADER**

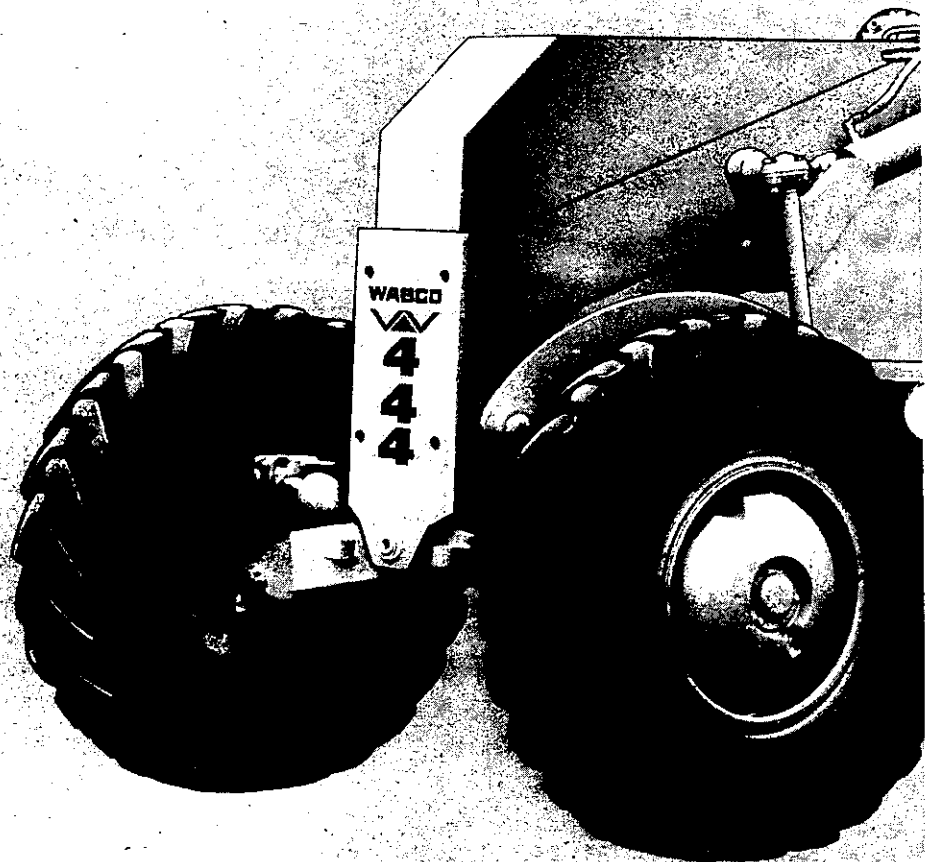
**high performance... low operating cost**

**M**eat rising road building and maintenance costs in the Seventies with this new, WABCO 444 motor grader. It is designed for high performance... smoother, more accurate blading.

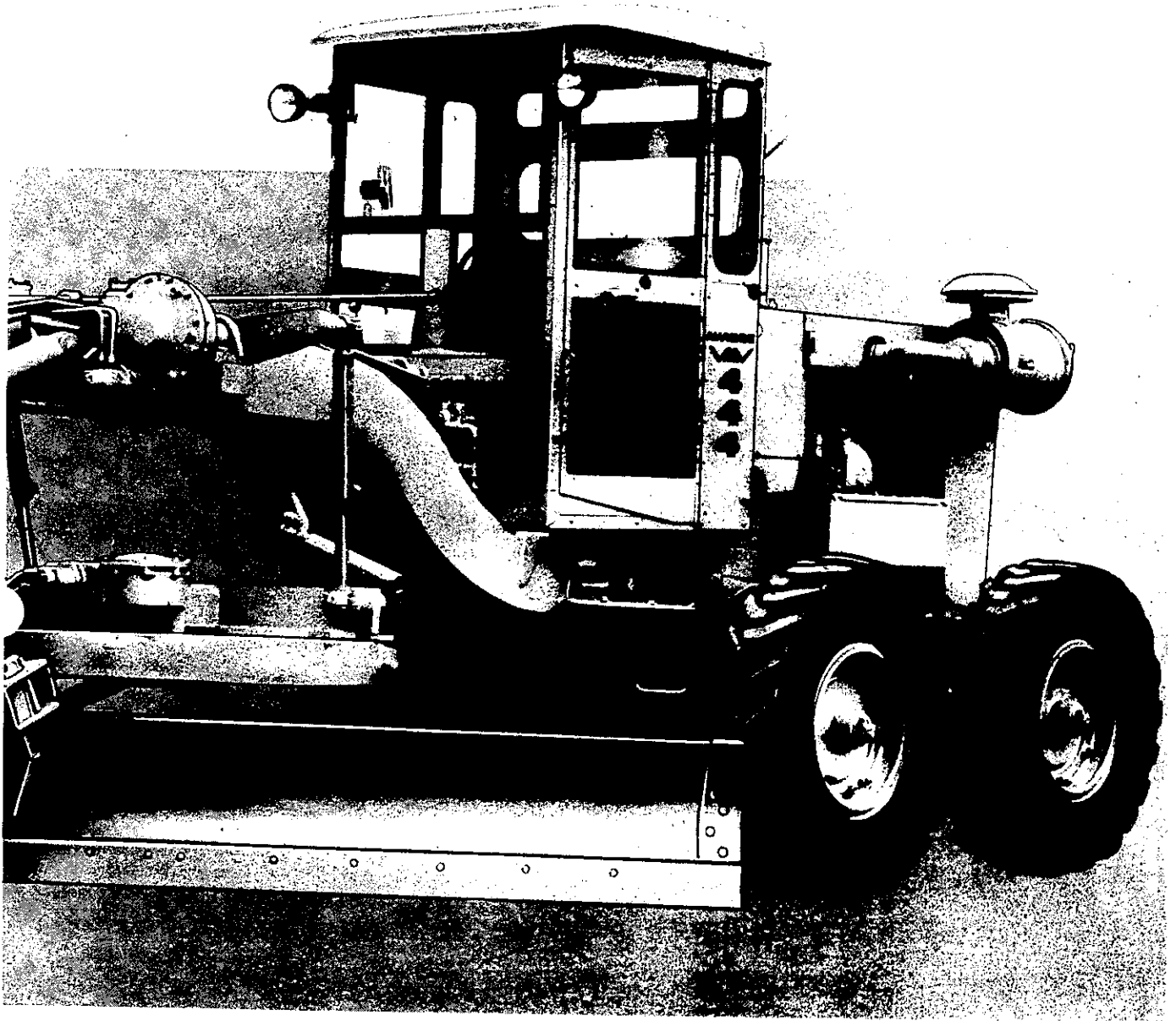
You will quickly notice operators do better work on the 444 grader because of its new, double-locking hydraulic-over-mechanical control system. Plus its high-torque-rise 125-hp Detroit Diesel or big-displacement 128-hp Cummins engine, that delivers no-stall lugging ability in tough going. The heavy-duty, low-silhouette WABCO frame provides low center of gravity... for better stability on slope or ditching applications... yet offers plenty of clearance for free, easy movement of the blade.

You'll also like the low maintenance cost and the high quality of this 25,000/26,100-lb. (11,340/11,839 kg) Model 444 grader. Anti-friction bearings, for example, are located throughout drive train. Front end is the most rugged in the business. Big, 63" (1,6 m) circle is precision machined... top, bottom and inside.

High performance... low operating cost. That is the new WABCO 444 grader.



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## improved frame design for better

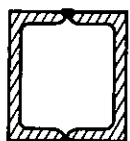
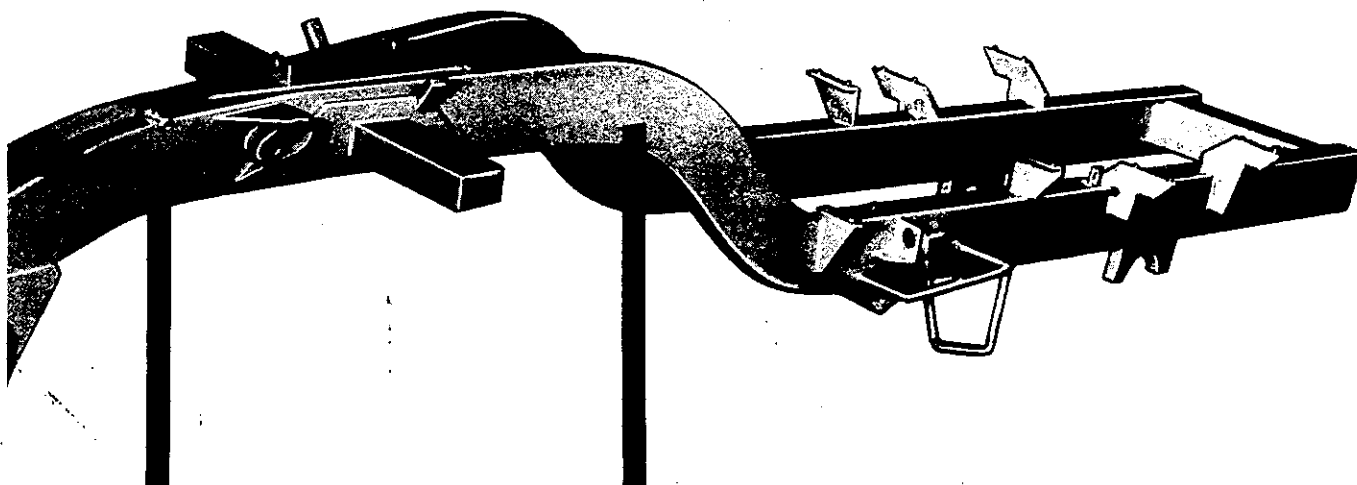
**N**ew, low-silhouette frame on the WABCO 444 grader provides low center of gravity, yet offers plenty of clearance for free, easy movement of the blade. Result: better performance, sure-footed stability on slope or ditching applications.

### Continuous welded for strength

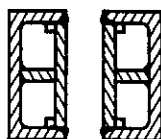
The WABCO frame is constructed of heavy-duty steel channels, continuous-welded into a one-piece box-type unit. There are *no sharp bends...no joints...no breaking points.*



# performance



Straight forward section of frame consists of channels continuously welded to each other along their entire length...to form a box rugged enough to take any operating stress.

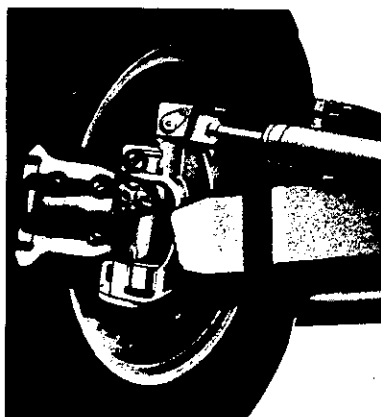


Behind the circle lift gears, the two channels spread, and are individually boxed by heavy steel plates. This is the section subject to greatest strain. You can see how WABCO design and construction adds the strength where it's needed.

## most rugged front-end for dependability

### \* High arch provides plenty of clearance

Axle arches *high* at center to provide two feet (61,0 cm) of clearance (using 13:00-24 tires) for working steep shoulder-cuts, rolling sod, loose dirt, oil mix, and to keep axle from bulldozing windrows or dragging shoulders.



Front axle on the 444 grader has no equal for strength and durability. It is made of welded heavy bar and plate, with yokes and integral kingpin spindles of forged, heat-treated alloy steel for extra strength and long life. Easily adjusted tapered roller wheel and kingpin bearings provide smooth operation and maximum support (note circled areas in photo). Bronze bushings at other wear points are easily replaced at minimum cost.

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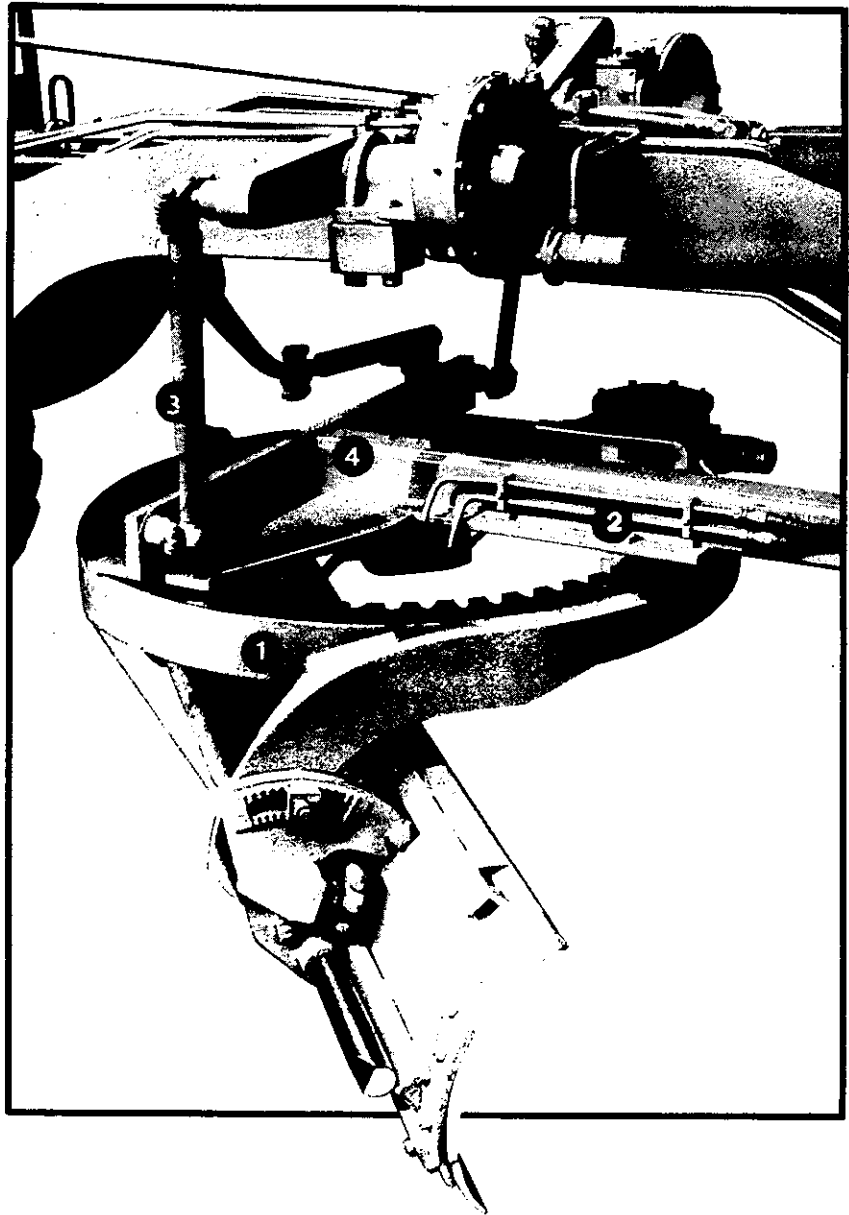
## **chatter-free blade operation from firm-and-rigid circle and drawbar**

● **Big, 63" (1,6 m) dia. circle** is welded and precision machined...top, bottom and inside for smooth and stable operation. Circle teeth carry *no* blade weight for longer life; wide upper wear surface on circle provides ample area for distribution of blade down-pressure load. Blade can be rotated in full 360° circle.

② **Rugged T-shaped drawbar** — box section, 6"x 5½" (15,24 cm x 13,97 cm) offers more strength for circle support and blade pull. "T" design permits excellent blade visibility. Drawbar has 3 adjustable circle-wearing plates.

③ **Wide-spaced lift-links for greater rigidity** — strong, telescopic, lift-links extend or retract easily, have wear-compensating shim adjustments and enclosed ball-and-socket connections. Short lift-shafts avoid springing action ... offer greater rigidity.

④ **Lasting accuracy** with enclosed gear-driven lateral shift...free from lost motion and vibration... provides rigid support to blade in all positions.



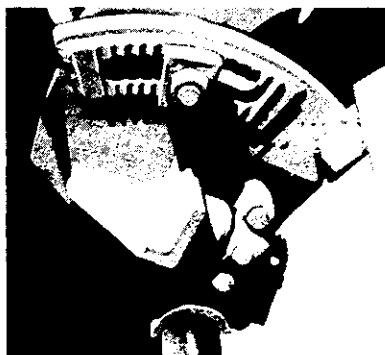
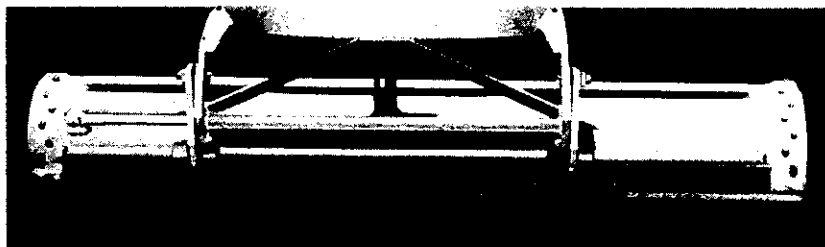


## WABCO blade design moves up to 25% more material

The WABCO 444 grader has a 3 radii moldboard. Sketches show how you benefit by bigger blade loads. By adding an extra curve at the top of the moldboard, friction is relieved so that material rolls off blade freely and with less resistance. WABCO's Full-Roll design moldboard...together with higher front axle clearance...pays off in up to 25% more material bladed per pass, compared to graders of equal size.



### choose moldboard to fit your requirements



MANUAL TILT



POWER TILT

**POWER-SHIFT** — For work requiring quick and frequent moldboard shifts, for extended reaches, or working around obstructions. Blade shifts can be made while grader is in motion, with blade remaining in the same plane. Power-shift mechanism is protected. For even more protection to slide or power-shift mechanism when working hot mix, etc., an optional deflector plate is available that can be attached easily to blade at any time.

**SLIDE-SHIFT** — Designed for work requiring occasional side-shifting of blade... where extended reach is desired for cutting high banks, low back-slopes, wide shoulders, etc.

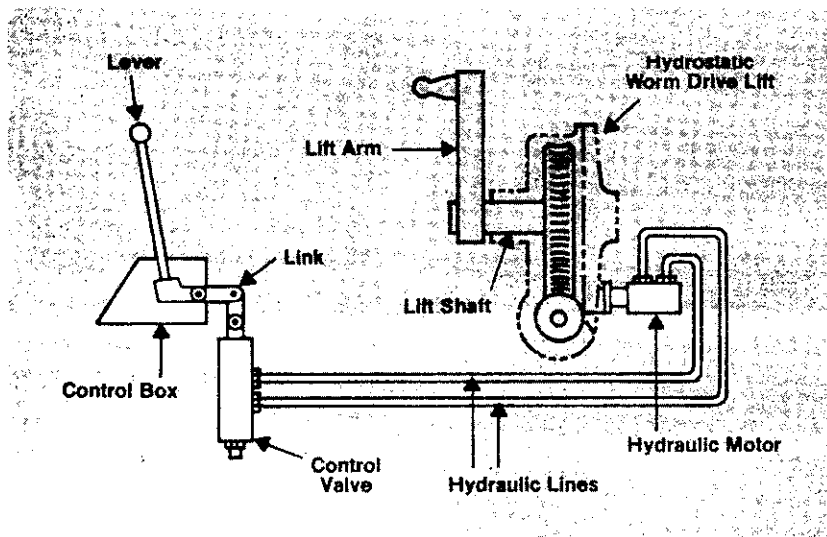
**Easy blade adjustments** — Manual tilt or optional power tilt permits operator to change blade pitch forward or backward to obtain desired angle for efficient operation in varying materials and applications.

# unique hydraulic-over-mechanical

## double-locking system eliminates all chance for blade drift

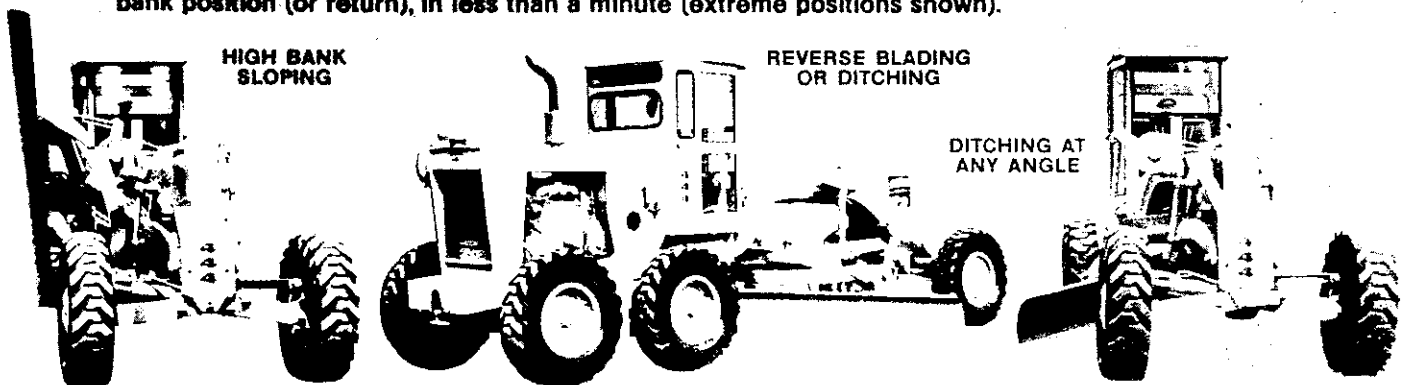
The 444 grader's unique control system combines the precise accuracy of mechanical gearing with the ease of hydraulic operation. This system has been proven around the world on the B Series WABCO 888, 777 and 666 graders.

On the 444, WABCO mechanical gearing is powered by positive-displacement hydraulic motors on the blade lifts, lateral shift and circle reverse. All other controls are operated by hydraulic rams. This gives you positive and accurate control of all grader functions. Blade movement speed is constant regardless of the number of controls used.



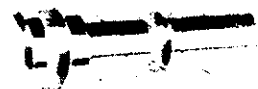
## 444 grader operator easily obtains

**These positions are obtained with blade centered on circle and without changing "average" setting of telescopic lift-links. Movements are fast...your operator can shift from a deep ditch cut to a high bank position (or return), in less than a minute (extreme positions shown).**





# controls combine smoothness with accuracy



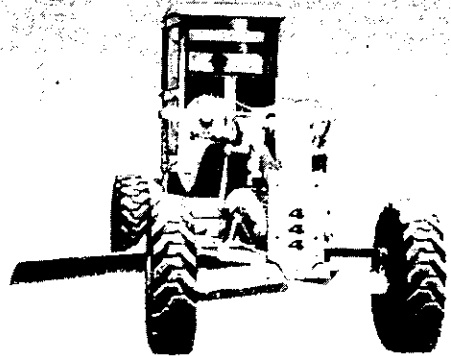
WABCO grader controls are protected against drift by a double-locking system consisting of a *hydrostatic lock* of the hydraulic motors, and a *mechanical reduction through the worm and gear of 1,000 to one*. This means that it is no longer necessary to adjust anti-coast brakes and clutches since they have been eliminated. You get improved performance ... reduced maintenance and operating costs.

**No "power-box" to cause problems, add to maintenance costs**  
 With the WABCO control system, all valves, motors, etc. are located *outside* the cab so that, actually, there is *no* power-box. Control levers, through a linkage, simply activate valves located outside the cab. In addition, there's *no* power-box heating, or oil leaks to cause operator discomfort and safety hazards.

**Positive protection to controls and linkage**  
 When WABCO motor grader blade controls are overloaded, there's *no* downtime to replace a metal shear pin. On the 444, positive protection is provided by a *pressure relief valve* that resets itself *automatically*. There's no danger of operators replacing pins with bolts or wire that could seriously damage gears and power-box. Very important, operators on WABCO machines will work their machines to *full* capacity, *without* fear of breaking a shear pin. You benefit by *more* work completed each shift for *extra* profit.

## full range of blade positions

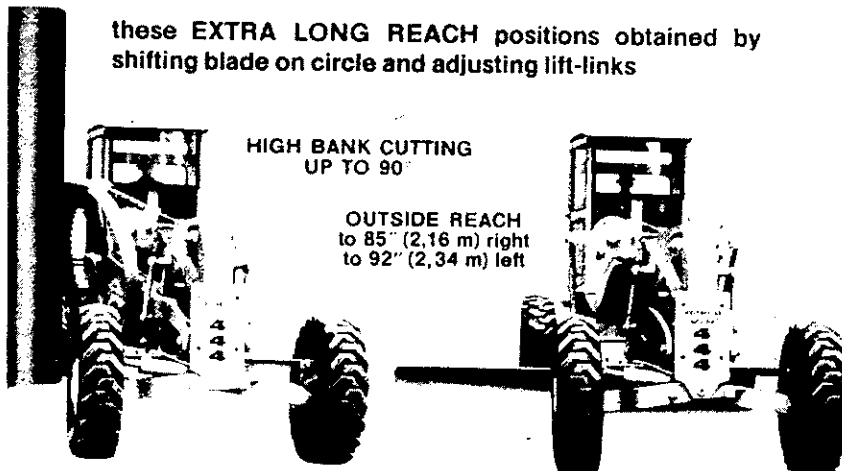
**SIDE SHIFT**  
 to 36" (91,44 cm) right  
 to 40" (101,6 cm) left



these EXTRA LONG REACH positions obtained by shifting blade on circle and adjusting lift-links

**HIGH BANK CUTTING**  
 UP TO 90°

**OUTSIDE REACH**  
 to 85" (2,16 m) right  
 to 92" (2,34 m) left



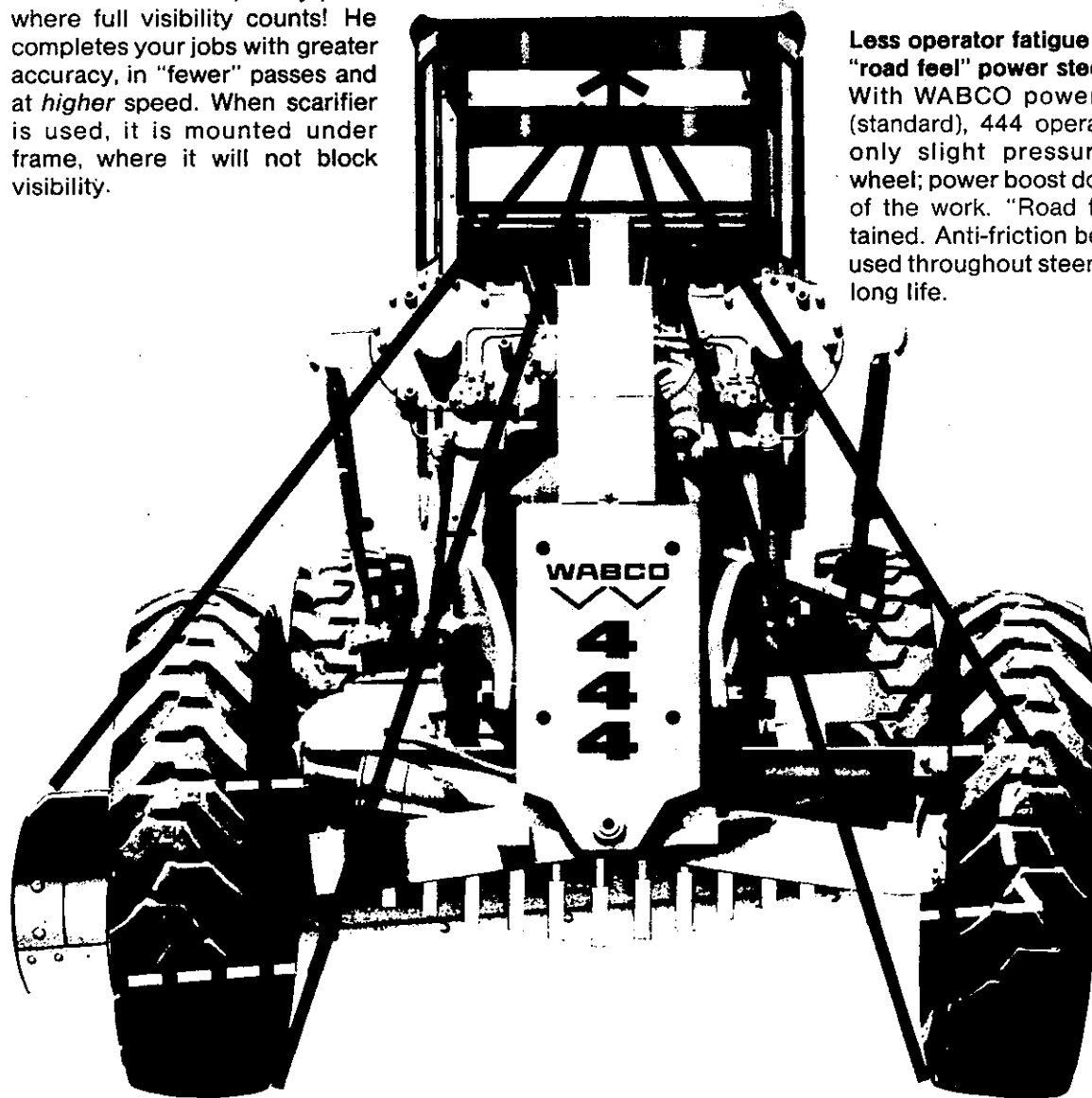
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## full-sweep visibility helps operators

Your operator, sitting or standing can see ahead and both ends and center of the blade; every point where full visibility counts! He completes your jobs with greater accuracy, in "fewer" passes and at *higher* speed. When scarifier is used, it is mounted under frame, where it will not block visibility.

### Less operator fatigue with "road feel" power steering

With WABCO power steering (standard), 444 operator exerts only slight pressure on the wheel; power boost does the rest of the work. "Road feel" is retained. Anti-friction bearings are used throughout steer system for long life.



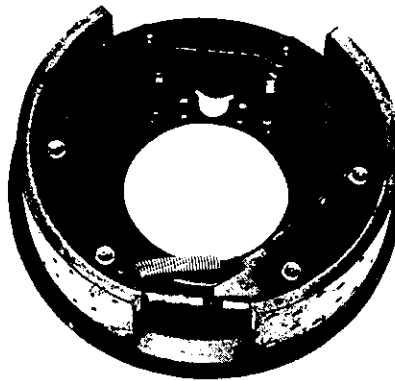
# do better work

**Sure, safe stops**

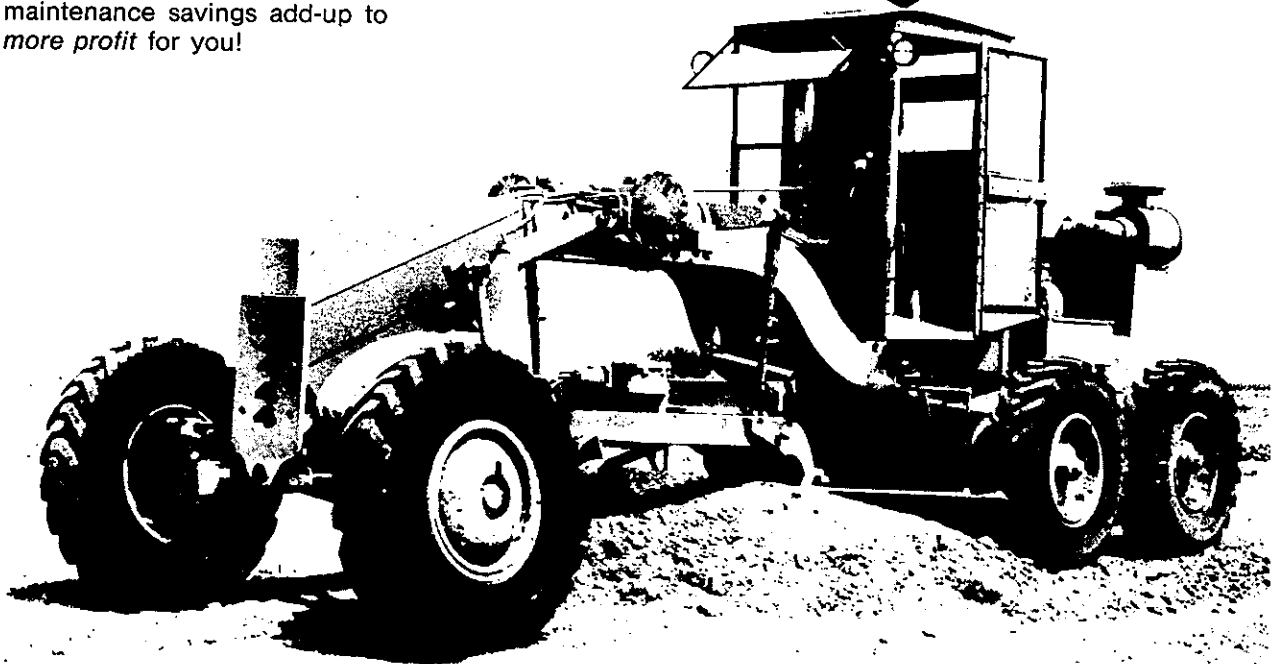
Big, drum-and-shoe hydraulic brakes provide sure, fast stops at touch of the brake pedal. Four-wheel brakes, and/or power-assist brakes available.

**No maintenance costs for brake adjustments**

Your wheel brakes are always fully and evenly adjusted because they *automatically* self-adjust every time you brake while moving in reverse. Further, brake linings are extra-thick for long life — in average conditions last thousands of hours of operation. You can save the cost of a brake reline job over the life of your WABCO motor grader. These maintenance savings add-up to *more profit* for you!



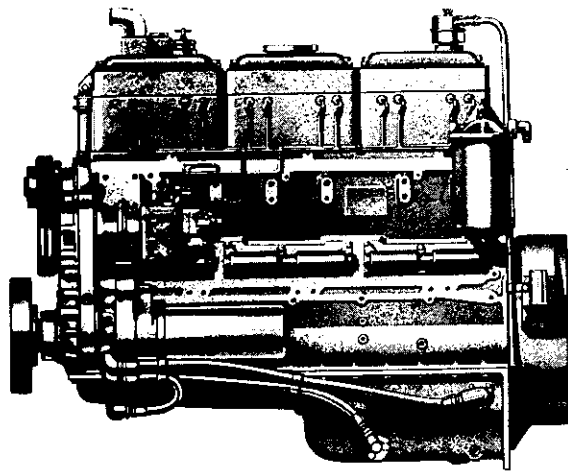
**All weather cab** offers excellent visibility. There is plenty of height for stand-up operation. Doors lock in open position and wind-shield opens for ventilation. Comfortable bench type seat is adjustable for all-shift long comfort. Controls are grouped conveniently for ease of operation.



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**more production with matched**

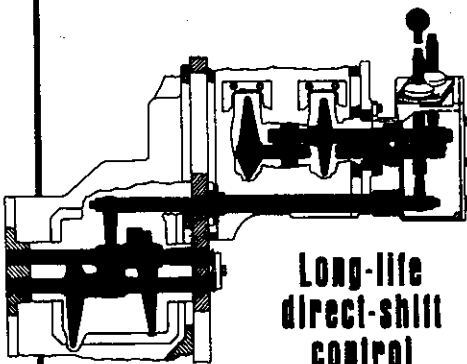
Dependent on your work applications and transmission selection, the 444 grader is powered with either Detroit Diesel or Cummins . . . the most accepted engines for construction equipment. They have high torque rise for maximum lugging power and fast acceleration, under those conditions in which the operator needs it most. You can be assured, too, that each engine has passed all the rigid quality control checks for a power plant to be used for rugged, motor grader duty. Result: you get *highest* possible rate of engine performance at *lowest* operating cost.



- **8-speed transmission and 128-hp Cummins H-743-C Diesel**

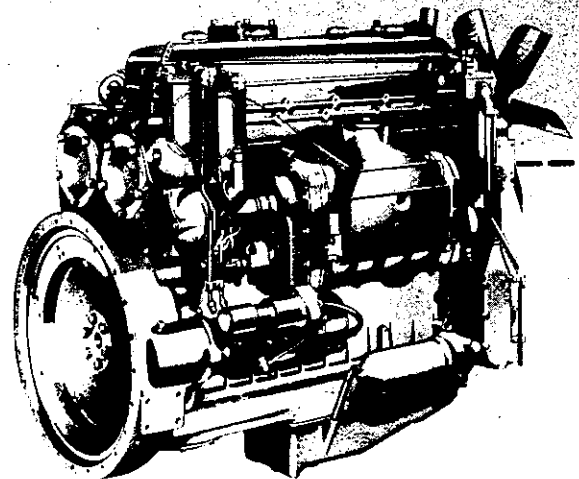
**Your choice of**

- **8-speed transmission and 125-hp Detroit Diesel 4-71NT**

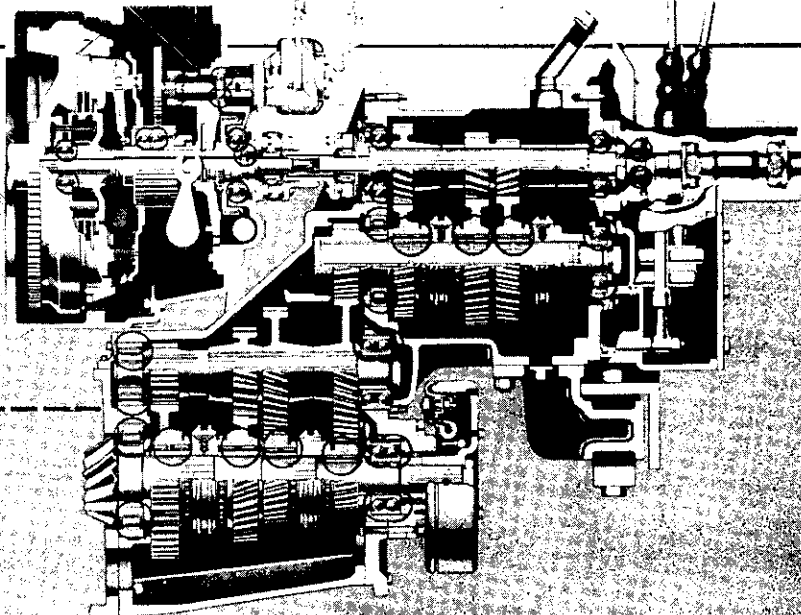


**Long-life  
direct-shift  
control**

Instead of remote control linkages that tend to loosen and wear, connection between gear-shift levers and transmission is direct. This assures easy, positive-meshing of gears, less maintenance costs.

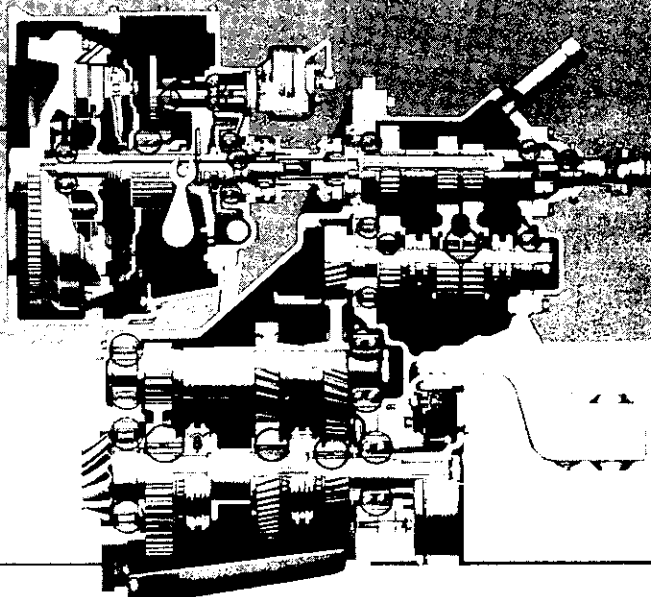


# engine-transmission combinations



**8-SPEED WABCO** transmission provides speeds forward from 2.2 to 23.0 mph (3.5 to 37.0 kph)... four reverse speeds from 1.8 to 13.2 mph (2.9 to 21.2 kph).

**6-SPEED WABCO** transmission provides speeds forward from 2.2 to 25.3 mph (3.5 to 40.7 kph)... four reverse speeds from 1.8 to 19.4 kph. Both the 6 and 8 speed transmissions are designed to match torque curves of the Cummins and Detroit Diesel engines... for smooth and efficient, high-production work. Just 10 minutes service time saves you at least 4 days of bonus production.



**Transmissions** in the WABCO 444 grader are *user rated* as the finest in the industry. Both the eight and six speed transmissions are designed to accurately match torque curves of the Cummins and Detroit Diesel engines... for smooth and efficient, high-production work.

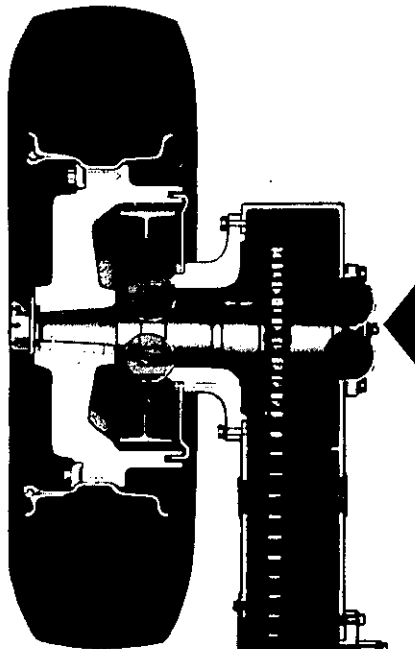
### Quality, heavy-duty components

— Precision-cut helical gears in WABCO grader transmissions are crown shaved for quietness and true mesh. Careful heat-treating gives gears and shafts a hard, wear-resistant surface that withstands shocks and abrasive action. All free-rolling gears are mounted on anti-friction bearings (note colored circles). There are no bronze bushings to bind with heat and wear. Both upper and lower transmission cases are *individually* and *fully* lubricated.

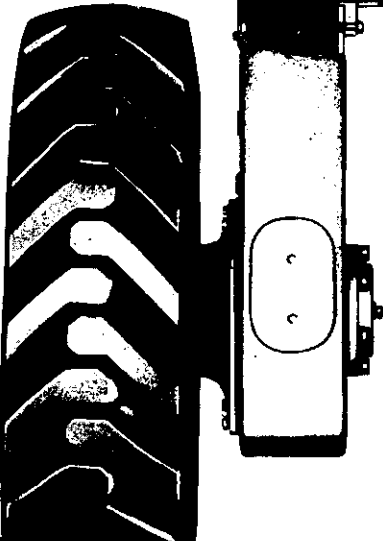
Magnetized oil plugs are used to trap metal particles from the oil. Also standard on 444 models is the highly-efficient WABCO oil clutch (see pg. 15 for details).

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## no power loss, maximum durability with anti-friction drive train



Color dots indicate position of anti-friction bearings



**Positive tandem drive**—four, big drive-wheels put maximum engine horsepower to work. Free independent oscillation provides full ground contact in the roughest terrain. Housing is all-welded box-type construction. Large driven axles are straddle mounted in tapered roller bearings. Regular motor oil can be used to lubricate chain drive.

**Full-floating rear axle**—carries no grader weight. Sturdy tubular-shaped axle carrier housings connect transmission case with tandem box on each side of grader. Anti-friction bearings throughout drive train increase efficiency, prolong life. Axles carry no weight, therefore may be removed without demounting tandem or blocking machine. It requires only one-fifth the time to repair a WABCO axle than it takes on other machines. Again, this is *extra-profit* to you!

**Husky final drive**...easily absorbs shock loads of grading, lasts longer. Heavy-duty gears are precision machined and heat-treated for quiet operation and long life. Housing is thick-walled — bull-gear and unit are mounted on roller bearings for permanent support and alignment.

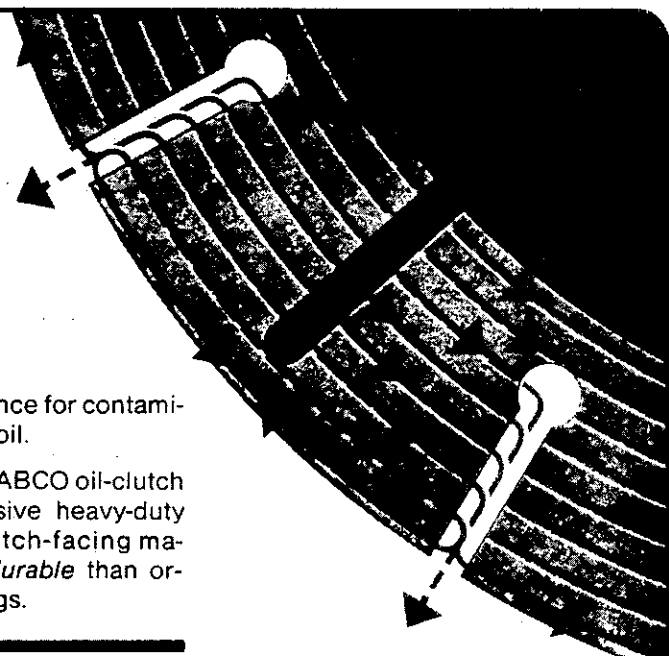
# proven WABCO oil clutch reduces maintenance costs

**E**xclusive clutch-plate design on the 444 grader permits a *wider* spread of oil, insuring complete coverage to both sides of the plate for efficient cooling and long life (note illustration). All bearings in clutch assembly, too, are constantly lubricated for dependability.

**Separate oil-system reduces upkeep costs** — Oil stays cleaner and fewer oil changes are required because the WABCO oil clutch operates with its own *separate* oil and oil-cooling system.

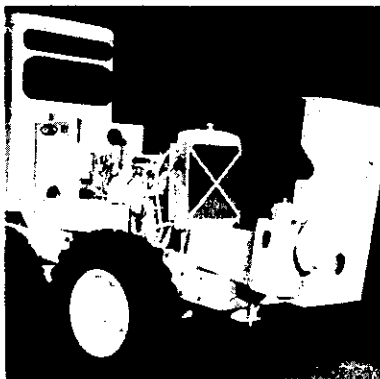
There is less chance for contamination of clutch oil.

Plate lining on WABCO oil-clutch is made of exclusive heavy-duty GRIP-TITE<sup>®</sup> clutch-facing material, *far more durable* than ordinary cork linings.



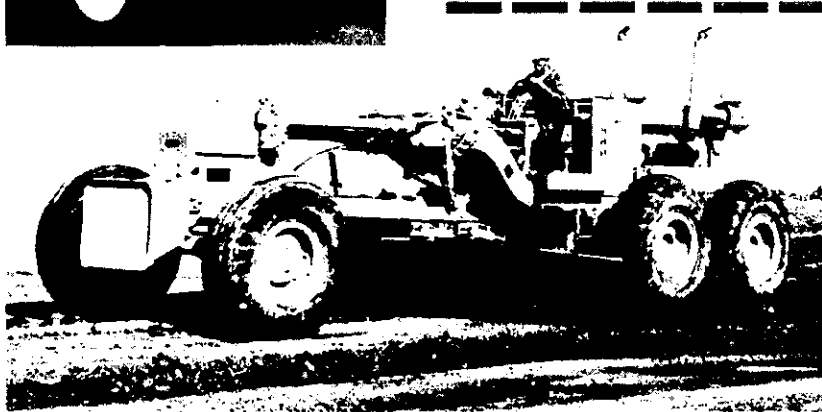
## "Flip-top" hood for easy servicing

Quick and *complete* accessibility to engine or radiator is possible with new "flip-top" hood on the 444 grader. Simply disconnect air-filter hose, remove muffler... loosen two bolts... un-hook hood latches... and you're in business! In fact, you'll find easy access to *all* major components in the 444 grader. That means less service time, *more* time on the job.



## for extra-heavy-duty assignments...

or to meet special requirements, your WABCO Distributor can offer you a grader that meets your precise specifications... up to 230 hp. See him, too, for high-production scrapers, front-end loaders and off-road trucks.



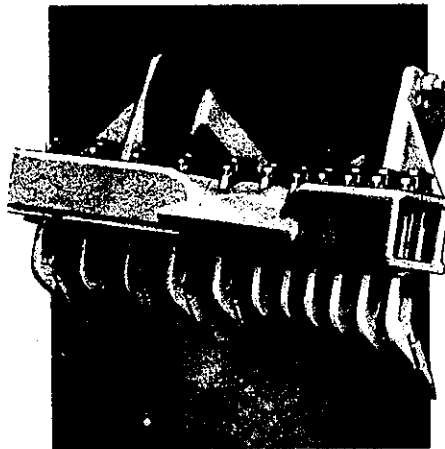
## after sale customer care

Parts and service are always readily available from your WABCO Distributor, if ever needed. Backing him and your investment are regional parts depots, plus the industry's most advanced central parts terminal in Peoria. WABCO wants *you* to be a happy, satisfied customer.

## optional attachments to increase greater work-range

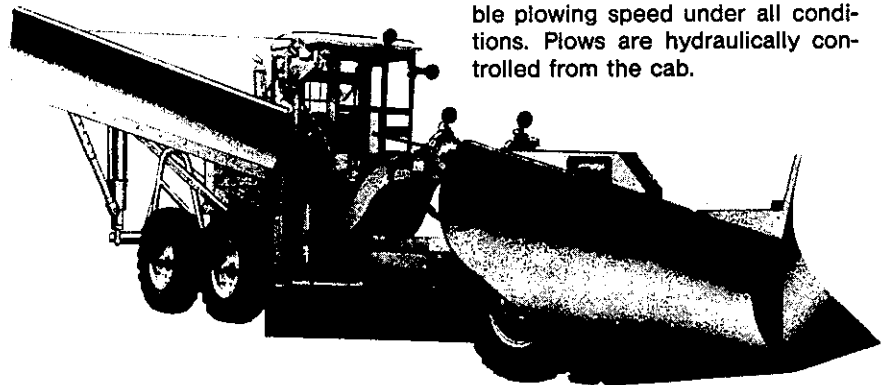
### Strong, self-cleaning V-type scarifier

For economical scarifying, this WABCO tool digs in and rips 46" (1,17 m) wide at full 8¾" (22,22 cm) depth in blacktop, hardpan, rock and gravel surfaces, and other materials. Scarifier shanks remain vertical for clean flow of material. Depth of penetration and raising are smoothly and positively controlled by lever in the cockpit. Offers multiple pitch positions. Long-wearing tooth points are replaceable. Shanks (11) are easily and quickly removed by pulling a simple locking-key. Moldboard turns full 360° with just the scarifier shank removed.



### Clear snow-clogged roads quickly, efficiently

Get winter duty from your motor graders with WABCO snow-removal attachments. Big 11' (3,35 m) wide V-type plows have high-lift curvature to roll and cast big volume to both sides. Unique WABCO design cuts resistance to reduce power and fuel consumption — permit highest possible plowing speed under all conditions. Plows are hydraulically controlled from the cab.



**Other attachments** include big 8-ft. (2,4 m) wide front-mounted bulldozer blade and front-mounted push-plate. Also available: cab, headlights, hour meter, odometer, heater, windshield wiper, adjustable defroster fan, hood sides, radiator shutter, moldboard extensions, blade end bits, tire pump, front "steering-gear" cover plate and other usual grader attachments and accessories.

**Snow wing**, with V plow or grader blade, slopes side-banks or widens surface cuts in light snow. Either end of wing can be quickly raised or lowered independently, or both ends may be adjusted simultaneously by

hydraulic power controls in the cab. Wing is also adjustable laterally for angularity by telescopic thrust-pipe connected to rear outer end. Wing may be pulled-in along side of grader for travel or when not in use.

See your WABCO Distributor for complete 444 grader specifications, as well as other high-production WABCO products. Or write: WABCO Construction Equipment Division, 2300 N.E. Adams Street, Peoria, Ill. 61601.

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