



MACHINE CHOICES

DOZER SELECTION GUIDE



CHOOSING THE RIGHT MACHINES FOR THE JOB

Every job estimate starts with putting together the list of equipment needed. It isn't enough to ask yourself, **Which machine can do the job?** It's more important to figure out which machine(s) can perform the required tasks as quickly and cost-effectively as possible.

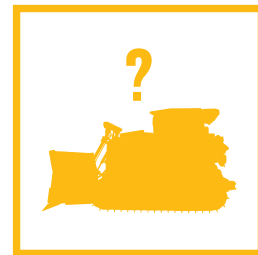
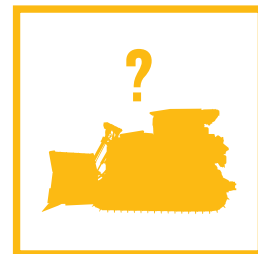
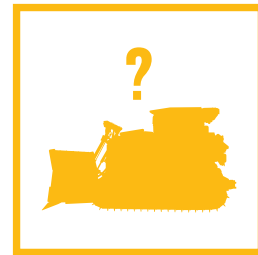
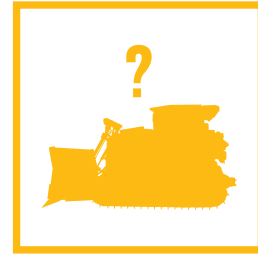
With so many choices among the types and models of construction machines available today, **How can you make sure the machine you select is precisely the right one for your job?**

And given the investment you make in a machine up front plus over its life operation and maintenance, the question also becomes, **Which machine will do the most to make you more competitive and more profitable?**

INFORMATION IS YOUR MOST POWERFUL SELECTION TOOL

Of course the key to making the best choice is pulling together good information that helps you compare options, costs and projected returns. Here's a checklist of information must-haves:

- Define the requirements for the equipment
- Consider any regulatory requirements
- Know the application characteristics
- Calculate the unit cost of production for each choice
- Compare machine sizes and their specifications
- Consider technology features and options
- List available attachments, undercarriage and blades
- Check the availability of parts and service
- Define cash flow needs
- Search for financing options
- Validate equipment safety





DOZERS – POWERFULLY VERSATILE

Dozers are versatile machines that can move and clear large amounts of material in a short amount of time. However, they can also do it with grading precision and in virtually any material condition. With multiple size and power options, along with dozens of blade, undercarriage and ripper choices, the dozer is a production workhorse suitable for nearly any jobsite.

TYPICAL APPLICATIONS

Dozers can be used for a variety of applications. Technology has expanded their grading and precision capabilities and efficiency. You should consider a dozer for these types of applications:

- Site preparation
- Grading
- Ripping
- Site clearing – debris, materials, obstructions
- Material spreading
- Pushing/pulling scrapers
- Stockpiling
- Excavation
- Land reclamation
- All types of materials and conditions

SPECIALTY CONFIGURATIONS

- Multiple undercarriage configurations
- Forestry
- Pipeline
- Fire suppression

DID YOU KNOW?

Because dozer blades can only hold so much material, short cuts are actually more efficient and effective than longer cuts. A blade can typically gather a full blade load in two tractor lengths or less.

KEY SELECTION CONSIDERATIONS

Selecting the right size and configuring your Cat® Dozer with the proper undercarriage, blades, rippers, winches and more are key to maximizing productivity and efficiency. Build your dozer for specific jobs or flexibility.

CONSIDERATION	KEY QUESTIONS	TIPS
APPLICATION	<ul style="list-style-type: none"> · Is it a variable job (such as clean-up or stockpile work) or a full-time, nonstop production application? · Is fine grading required? · Are other machines dependent on dozer production? 	<ul style="list-style-type: none"> · How you configure your Cat dozer is critical to optimizing performance. · How much you need to move and how far are also driving factors in blade selection and dozer sizing.
MATERIALS	<ul style="list-style-type: none"> · Does it need to be broken up? · How heavy/dense is it? · How abrasive is it? · How wet, hard or soft are the underfoot conditions? 	<ul style="list-style-type: none"> · Knowing the characteristics of the material (combined with the distance it has to be moved) is critical to size and power selections. · Underfoot conditions and material type will help determine the undercarriage and track shoes you need.
INTERACTION WITH FACILITIES OR OTHER EQUIPMENT	<ul style="list-style-type: none"> · How much room will the dozer have to maneuver? · Will the dozer be working in tandem with scrapers or trucks? 	<ul style="list-style-type: none"> · Understanding the job configuration and the plan for the fleet of equipment there will help you right-size the dozer for the job.
REGULATORY CONSIDERATIONS	<ul style="list-style-type: none"> · Are there any emissions, noise, transport restrictions needing consideration? 	<ul style="list-style-type: none"> · Cat dozers offer configuration options that can help comply with special regulations.

Up to **35%**
GREATER FUEL EFFICIENCY

ELECTRIC DRIVE

The Cat D6 XE is the first high drive electric drive dozer. Electric drive is the most efficient way to transfer power to the ground. This allows the dozer to push material faster on every pass, so it can do some of the work of a larger machine. At the same time, greater maneuverability means faster cycle times, making electric drive a top choice to achieve the highest level of productivity and up to 35% greater fuel efficiency.

MEDIUM DOZER CHOICES

Medium Cat dozers deliver industry-leading fuel efficiency and easy maintenance features that reduce owning and operating costs. Next Generation models include factory-integrated Cat Grade technology, which makes operators faster and more accurate. Plus, you'll find the industry's first high drive electric drive in this size class.





CHOICES THAT IMPACT PRODUCTIVITY AND OPERATING COSTS

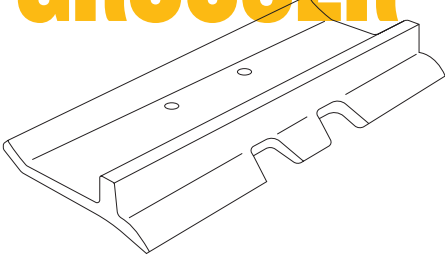
One of the biggest drivers of a dozer's efficiency and total owning and operating costs is undercarriage. A dozer's undercarriage is where its power meets the ground. Material density, hardness and abrasiveness are significant factors when choosing the right option—both for the undercarriage and shoe type. Cat undercarriage systems are designed to deliver top performance and low operating cost per hour.

TRACK TYPE	APPLICATION	KEY BENEFITS	MODEL MATCH
GENERAL DUTY	<ul style="list-style-type: none"> Best results in low- to medium-abrasion and low- to medium-impact applications Typical life targets of up to 4000 hours 	<ul style="list-style-type: none"> Lowest upfront cost in undercarriage portfolio Capable of bushing turns to add longer life and lower operating costs 100% interchangeability with Heavy Duty undercarriage 	D4 >>> D7
HEAVY DUTY EXTENDED LIFE WITH DURALINK™ (HDXL)	<ul style="list-style-type: none"> Best results in low- to medium-abrasion and moderate- to high-impact applications 	<ul style="list-style-type: none"> Advanced Duralink™ design enhances durability Increased pin and bushing retention extends wear XL coating increases seal life Upgraded link eliminates cracking and spalling 	D4 >>> D7
CAT® ABRASION™ (DIRECT REPLACEMENT FOR SYSTEMONE)	<ul style="list-style-type: none"> Best results in high-abrasion and low- to medium-impact applications with material size under 3 inches 	<ul style="list-style-type: none"> Up to 50% longer life compared to General Duty Extended Life (XL) coating reduces end grooving, corrosion and seal lip wear New track seal and load ring design reduce packing and oil loss in freeze/thaw conditions Tougher thrust ring material resists chipping and cracking Reduced maintenance cost—no bushing turns required, reusable idlers and sprocket segments 	D1 >>> D6



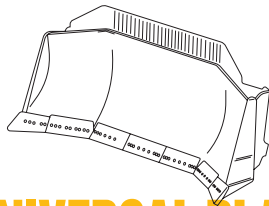
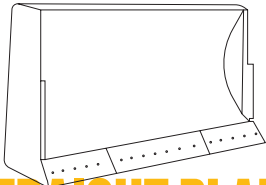
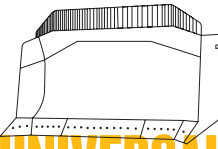

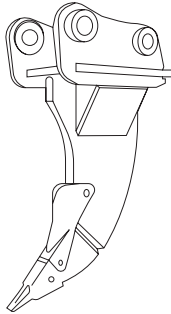
TRACK SHOE CHART

The undercarriage system and track shoe type go hand-in-hand. Type and width of shoe should be based on underfoot conditions, machine application and undercarriage wear life.

<h2 style="color: yellow;">SINGLE GROUSER</h2> 	<p>General purpose shoes for use in most applications. Available in moderate and extreme service configurations.</p>
	<p>MODERATE SERVICE Work best in low- to medium-abrasion and low- to moderate-impact conditions, providing good penetration and traction in most applications.</p> <p>EXTREME SERVICE Designed for high-impact applications, providing structural durability and additional life.</p> <p>SUPER EXTREME SERVICE For use in highly abrasive applications beyond Extreme Service conditions.</p>
<p>RULE OF THUMB: When it comes to track shoes, the general rule of thumb is to choose the narrowest shoe that provides adequate flotation and traction.</p>	<p>DID YOU KNOW?</p> <p>Field studies have found that 20% OF TRACKS ARE TOO TIGHT</p> <p>Proper track-chain tension can 50% REDUCE UNDERCARRIAGE WEAR BY UP TO</p>

MATCH THE BLADE TO THE MATERIAL

Other than the limitations of the dozer, materials are clearly the most essential factor when choosing a blade. Consider these three material characteristics when making your blade decisions:

<p>PARTICLE SIZE AND SHAPE</p> <p>The larger and sharper the particle, the harder to penetrate and roll the material. More power is needed to push this material type.</p>	<p>VOIDS</p> <p>Fewer voids in the material mean a stronger bond that must be broken to move it. Generally this material is heavy and hard to remove.</p>	<p>WATER CONTENT</p> <p>Too much moisture makes material heavy and hard to move. Lack of moisture increases the bond and requires greater force to move.</p>
 <p>UNIVERSAL BLADE</p> <p>For lighter and relatively easy-to-doze material. Designed for larger loads over longer distances.</p>	 <p>STRAIGHT BLADE</p> <p>Greater versatility. Easier to maneuver. For use with a wide range of materials.</p>	
 <p>SEMI-UNIVERSAL BLADE</p> <p>Excellent combination of the universal and straight blades. Good for tightly packed materials and load retention and capacity.</p>	 <p>VARIABLE PITCH POWER ANGLE TILT (VPAT)</p> <p>The most versatile option. Excellent blade maneuverability makes it ideal for a variety of applications.</p>	
	<p>MORE CONFIGURATION CHOICES</p> <p>Dozens of additional implement options, including custom, are available to match your dozer with your site application and material, providing you with flexibility and improved productivity. This includes counterweights, rippers, winches and drawbars.</p>	

DOZERS

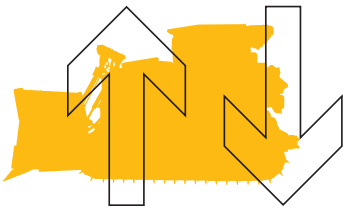
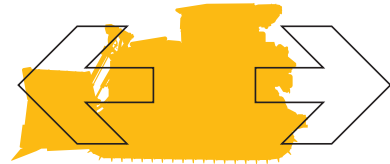
OPERATING BEST PRACTICES FOR GREATER PRODUCTIVITY

For increased productivity, greater efficiency in moving material and improved fuel efficiency, consider the following best practices when operating your dozer.



Running in reverse causes the most undercarriage wear, and it's the most unproductive time in the work cycle. **Working front to back**, which reduces the amount of reverse operation, decreases operating costs and increases productivity.

Dozing in the slot by working front to back increases load retention and blade load up to 30%.



If your jobsite slopes, **work up and down the slope** for improved safety and efficiency.

A dozer blade can only hold so much material. **Use shorter cuts** to prevent material spillage that simply needs to be dozed again. It also saves on fuel and undercarriage life.



TECHNOLOGY CAN ADD SPEED AND EFFICIENCY

Finding seasoned equipment operators has become an ongoing challenge, and this shortage can significantly slow down productivity on any job. Equipment manufacturers are continuously searching for ways to make machines easier to run for operators across all skill and experience levels. Technology has become the go-to solution to help address these challenges.

Choosing a dozer with the right level of technology requires an understanding of the technology and how it can benefit your business.

TECHNOLOGY	WHAT IT DOES	KEY BENEFITS	INVESTMENT
Cat Slope Indicate	Shows the machine cross-slope and fore/aft orientation on the primary monitor	Quick and easy reference for blade position	Standard on most dozers
Cat Grade with Slope Assist	Maintains blade angles to build pads, spread truck dumps, build embankments and more	<ul style="list-style-type: none"> · Finishes jobs up to 39% faster · Fewer passes · Less rework · Up to 82% fewer operator inputs 	No base station or laser needed, no additional hardware or software to buy
Cat Grade with 3D	Adds real-time satellite positioning guidance to automatically adjust blade movements, both lift and tilt	<ul style="list-style-type: none"> · Up to 50% more productive · Saves time, materials and rework · Up to 80% fewer operator inputs 	Factory integrated on all dozers
Auto Carry	Automates blade lift functionality	Maintains desired blade load, improves load consistency and reduces track slip	Included with Cat Grade with 3D on all dozers, included in ARO with Assist on D5-D7 dozers
Cat Grade with 3D Auto Blade Assist feature	Automates blade pitch and lift during Load/Carry/Spread cycle based on operator	<ul style="list-style-type: none"> · Requires less operator input · Increases speed and productivity 	Integrated feature of Cat Grade with 3D on D8-D9 dozers
Cat Grade with 3D Automatic Ripper Control feature	Automates ripper height	Limits track slip and reduces wear during heavy ripping applications	Integrated feature of Cat Grade with 3D on D8-D9 dozers
Cat Command	Provides remote control solution both in field and off site	<ul style="list-style-type: none"> · Enhances safety in hazardous working conditions by removing operator from the machine · Increases productivity 	Options include: Command Console for line-of-sight and Command Station for offsite remote control
Stable Blade	Makes it easy to get smooth surfaces using manual inputs	Reduces imperfections and produces smooth surfaces	Standard on D1-D4 dozers and included with the ARO with Assist package on D5-D7
Blade Load Monitor	Gives the operator real-time feedback on current load versus the optimal blade load based on ground conditions	Actively monitors machine load and track slip, coaching operators to reach optimal pushing capacity	Included in the ARO with Assist package on D5-D7 dozers
Traction Control	When track slip is detected, traction control temporarily reduces track power so the operator can adjust blade load and limit the track slip	<ul style="list-style-type: none"> · Automatically reduces track slip, saving time, fuel and track wear · Improves productivity and surface finish quality in poor underfoot conditions 	Included in the ARO with Assist package on D5-D7 dozers

HOW DO I KNOW WHAT I NEED?

Technology is an investment, so take into account some of the following questions and considerations before you make decisions on what you do or don't need.

- Know what applications and specifications you need to accomplish.
- Try out technology on a rental machine or in your dealer's demo area.
- Understand how factory-integrated technology differs from aftermarket systems.
- Ask about the differences between 2D and 3D options.
- Identify how long it will take to get your machine calibrated and ready to work.
- Determine if onsite training is needed/available.
- Allow yourself a couple of months of using it before determining its effectiveness.

For more complete information on Cat products, dealer services and industry solutions, visit us on the web at www.cat.com

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