BID SUBMITTAL FORM
Alabama County Joint Bidding Program
Heavy Equipment – Bid Item: Light Duty Motor grader-Option A

Company Name: THOMPSON TRACTOR COMPANY

Address: PO BOX 10367

BIRMINGHAM AL 35202-0367

Bid Submitted by: JAY SMITH
(Name of company representative)

Title: SALES OPERATIONS MANAGER e-mail address: jaysmith@thompsontractor.com

Phone: 205-849-4242 Fax: _____

By submitting this bid, we agree:	Initials
The equipment model number identified below meets the bid specs for this bid item	
That the bid price will be honored for all counties for the period from Jan. 1, 2024 to Dec. 31, 2024.	
The equipment will be delivered at the bid price to all counties participating in the joint bid program.	
The company acknowledges the freight preparation and delivery price is to be included in the total bid price for the standard machine.	
The company representative listed above will be the contact person for purchasing this bid item under the joint bid program.	
The bid is accompanied by a current catalog or model specification document for the model number identified below.	
The bid is accompanied by a copy of the manufacturer's standard warranty as required in the bid specifications.	
The bid includes the e-verify documentation required by Alabama law.	
If awarded the bid, a performance bond will be provided upon request.	
The bid documents include the **Manufacturer's Suggested Retail Price Sheet (MSRP) for the Standard Machine.**	

Total Bid Price for Standard Machine: $ 309,949
(Total Bid Price for Standard Machine Includes Freight Preparation, Delivery and Standard Warranty Costs) *

Freight Preparation and Delivery: $ 10,401
(Included in Standard Machine Bid Price)

Manufacturer's Suggested Retail Price for Standard Machine: $ 475,473

Equipment Model #: CATERPILLAR 120 (JOYSTICK STEERING)

Description: MOTOR GRADER

Signature of company representative submitting bid: Jay Smith

Title: SALES OPERATIONS MANAGER

*** NOTE:** Award will be made based on the total cost of the **Standard Machine**. The total cost of the standard machine is to include the freight preparation, delivery and standard warranty cost. Freight preparation, delivery will be excluded from the total bid price of the standard machine in determining the percentage discount for any available options.

BID SUBMITTAL FORM: OPTION COST SHEET

By submitting this bid, we agree:

To offer any available options at the percent difference between the Manufacturer's Suggested Retail Price Sheet and the actual bid price on the Standard Machine* JAS

The bid documents include the **Manufacturer's Suggested Retail Price Sheet (MSRP)** for the Standard Machine JAS

Equipment Model #: CATERPILLAR 120 (JOYSTICK STEERING)

Description: MOTOR GRADER

Signature of company representative submitting bid: Jay Smith

Title: SALES OPERATIONS MANAGER

***Note:** The percent difference between the **Manufacturer's Suggested Retail Price Sheet (MSRP)** for the standard machine as specified by these **Bid Specifications** and the actual price bid by the vendor will be calculated to determine the percentage discount to be applied to any available options. The bid price of the freight preparation, delivery cost shall be excluded in determining the percentage discount to be applied to available options. Any individual county may choose to add any available option to the standard machine at the percentage discount at the time of purchase.

120	LIGHT DUTY MOTOR GRADER OPTION A	2024 Pricing
467-7423	120 MOTOR GRADER JOYSTICK (ALSO AVAILABLE W/ STEERING WHEEL)	$401,860
561-6489	GLOBAL ARRANGEMENT	$0
320-7431	14' PLUS MOLDBOARD	$3,045
	BLADE, 14' X 27" X 1"	
	INCLUDES END BITS WITH OVERLAY	
467-7411	COLD WEATHER PACKAGE	$995
462-6539	BLADE LIFT ACCUMULATORS	$6,171
579-6852	STANDARD DRAWBAR WITH WEAR STRIPS	-$1,999
590-7345	STAGE 5 AND T4 FINAL ENGINE	$0
422-6603	GRAVITY ENGINE OIL DRAIN	$0
462-6514	BASE HYDRAULICS	$0
563-2423	LED BRAKE & TURN SIGNALES	$546
517-0703	HEAVY DUTY ELECTRIC STARTER	$541
506-4262	JUMP START STUDS	$0
438-5768	145 AMP ALTERNATOR	$0
466-1363	CAB PLUS:	$36,271
506-2611	AIR SUSPENSION SEAT	$2,723
513-0286	SEAT BELT	-$263
466-1360	COMFORT PACKAGE (INCLUDES AM/FM RADIO)	$3,840
435-5797	GLOVE BOX	$0
471-5509	PRODUCT LINK, CELLULAR PLE742	$0
543-0221	NO GRADE CONTROL	$0
466-1315	BASIC JOYSTICK CONTROLS	$0
575-2980	AUTO ARTICULATION DEMO	$0
577-8014	GROUND LEVEL FUELING	$0
574-8803	NEXT GEN FUEL FILTER	$0
575-7683	STANDARD FAN	$0
252-0720	14.00R24 BS VUT * L2 MP BRIDGESTONE TIRES	$8,905
	RADIAL TIRES WITH MULTI-PIECE RIMS	
498-8871	REAR PANEL W/ ACCESS DOOR	$273
416-6892	TOWING HITCH	$734
0P-3978	FUEL ANTIFREEZE	$0
421-8926	SERIALIZED TECHNICAL MEDIA KIT	$0
564-5009	LOW FRONT HEADLIGHTS	$862
466-1299	LED WARNING STROBE LIGHT WITH MOUNTS	$1,734
467-7439	REAR VISION CAMERA	$3,402
466-1323	OUTSIDE MOUNTED MIRRORS	$658
453-4972	TRANSMISSION GUARD	$4,565
462-9053	BOTTOM CAB GUARD	$612
462-6655	ENGLISH DECALS	
	TOTAL BID PRICE FOR STANDARD MACHINE	**$309,949**
	FREIGHT PREPARATION AND DELIVERY	**$10,401**
	TOTAL MANUFACTURER'S SUGGESTED RETAIL PRICE FOR STANDARD MACHINE	**$475,473**

BID SPECIFICATIONS
FOR
LIGHT DUTY MOTOR GRADER – OPTION A

GENERAL

These specifications shall be construed as the minimum acceptable standards for a medium duty motor grader. Should the manufacturer's current published data or specifications exceed these standards, the manufacturer's standards shall be considered minimum and shall be furnished. All integral parts not specifically mentioned in the scope of these specifications that are necessary to provide a complete working unit shall be furnished. Additional, the machine offered for bid shall include all standard manufacturer's equipment. The motor graders must be a new current production model and shall meet all EPA and other applicable standards at the time of manufacture.

The use of specific names or numbers in the specifications is not intended to restrict the bidder or any seller or manufacturer, but is intended solely for the purpose of indicating the type, size, and quality of equipment considered best adapted to the uses of counties participating in this joint bid.

BID SUBMITTAL FORM

Each bidder must submit his or her bid on the Bid Submittal Form included in the invitation to bid package. All written warranties to be submitted shall be attached to the Bid Submittal Form.

BID PRICE

The price bid shall include all destination charges, delivery charges, title fees, rebates and all other applicable costs and refunds.

MANUALS

Each unit shall be provided with one (1) copy of the operator's manual, one (1) copy of the repair manual and one (1) copy of the current parts manual. Units will not be accepted for delivery until the manuals as outlined above are received by the purchaser.

REPLACEMENT PARTS AVAILABILITY

Parts must be available for 5 years or 7,500 hours of use for the piece of equipment bid. If replacement parts are not delivered within three (3) working days of an order being placed, the bidder will deliver an equivalent machine for the County to use at no cost to the County until such time as the parts are delivered to the County so it can affect repairs to its machine.

WARRANTY

Bidders shall submit a copy of the manufacturer's standard warranty. Warranty shall include service response time of a maximum of 36 hours within notification by county.

Yes ✓ No ___
Page #_____
or
Attachment KAS

ENGINE

Engine shall be a turbo-charged, direct injection, four-stroke, **6-cylinder** diesel engine and shall be electronically controlled for more efficient fuel injection and fuel burn. **Engine shall be designed and manufactured by the machine manufacture**

Yes ✓ No ___
Page # 14

Engine displacement shall not be less than **427.8 cu. In.** and shall develop, as standard, a rated net power of at least **139 HP.**

Yes ✓ No ___
Page # 14

Engine shall be isolation/resilient mounted to minimize sound and vibration and shall meet currently required EPA emission regulations for manufacturer.

Yes ✓ No ___
Page # 1, 14

Engine compartment enclosure doors shall be lockable without the use of external locks and accessible from the ground. All daily service points shall be accessible from ground level and grouped together.

Yes ✓ No ___
Page # 6

Engine will increase its low idle to **1,000 rpm** when the battery voltage is below **24.5** volts for more than **5** minutes to ensure adequate system voltage and battery reliability.

Yes ✓ No ___
Page # 15

STARTING SYSTEM

Shall be equipped with a **24-volt** electrical system. **100-amp** alternator.

Yes ✓ No ___
Page # BID spec p. 7

TRANSMISSION - 8 Forward Speeds, 6 Reverse Speeds

Shall be designed and built by the machine manufacturer and shall be a direct drive, power shift, counter-shaft type transmission.

Yes ✓ No ___
Page # BID spec p. 2

Shall be equipped with built-in self-diagnostic capability

Yes ✓ No ___
Page # BID spec p. 2

A controlled throttle shifting system shall be standard to smooth directional gear changes without use of the inching pedal.

Yes ✓ No ___
Page # BID spec p. 2

Electronic Throttle Control (cruise control) shall be standard and shall be controlled by a push button, located on a **3-axis** joystick as standard on the right joystick control for resuming and decreasing throttle set.

Yes ✓ No ___
Page # BID spec p. 2

Direction control shall be a **3-position** rocker switch for selecting forward, neutral, and reverse, while gear selection shall be controlled by dual push-buttons for up-shifting and down-shifting, both of which shall be incorporated into a single, **3-axis**, multi-function, left-hand joystick control.

Yes ✓ No ___
Page # BID spec p. 2

Differential Lock/Unlock shall be electro-hydraulically controlled, via a push-button, located on a single 3-axis, multi-function, right-hand joystick control.

Yes ✓ No ___
Page # BID spec p. 3

Final drive shall be a planetary design.

Yes X No
Page # BID spec p. 2

Machine shall be equipped with an electronic inching pedal for improved modulation and machine control, and with electronic over-speed protection to protect the engine and transmission from over speeding.

Yes X No
Page # BID SPEC p. 2

Also to be equipped with transmission guard.

Yes X No
Page # 4

TANDEM

Machine to be equipped with differential lock/unlock electro-hydraulically controlled with a multi-disc design .

Yes X No
Page # BID SPEC p. 2

Tandems shall be capable if oscillating **15 degrees** front tandem up and **25 degrees** front tandem down, with full machine articulation and having no interference between tandem wheel and machine structure

Yes X No
Page # BID spec p. 4

CONTROLS AND HYDRAULICS

Hydraulics system shall be a closed center, load sensing type, with a variable Displacement, axial piston-type pump.

Yes X No
Page # BID spec p. 4

Implement valves shall be electro-hydraulic, designed and built by the machine manufacturer.

Yes X No
Page # BID SPEC p 4

Lock valves shall be integrated into the main implement valve to prevent cylinder drift.

Yes X No
Page # BID spec p 4

Blade lift cylinders shall have independent float capability, actuated by two, multi-functioning, 3**-axis** joystick controls and auxiliary controls inside the cab.

Yes X No
Page # BID SPEC p. 4

Hydraulic controls shall be joystick actuated.

Yes X No
Page # 8

BLADES

Machine shall be equipped with **14 ft.** long, **24 in** high and no less than **7/8** in thick moldboard with hydraulic side shift and tip control.

Yes X No ___
Page # 120 price page

Blade shall also include reversible overlay end bits.

Yes X No ___
Page # 120 price page

All blade functions shall be hydraulically or electronically actuated.

Yes X No ___
Page # Bid spec p. 4

Blade lift accumulators shall be provided, to reduce vertical impact damage.

Yes X No ___
Page # Bid spec p 7

DRAWBAR AND CIRCLE

The circle shall be steel construction with **4** replaceable wear shoes.

Yes X No ___
Page # Bid spec 7

Rear drawbar shall be equipped with slip clutch designed to protect the circle, drawbar, and moldboard from shock when end of blade encounters, hidden objects.

Yes X No ___
Page # Bid spec p 8

Drawbar shall feature welded protective wear plates to prevent lift group contact with the primary drawbar structure.

Yes X No ___
Page # Bid spec p 6

FRAME

Articulated type main frame.

Yes X No ___
Page # 1, 8 Bid spec p. 8

Articulation joint shall have mechanical locking device to prevent frame articulation while servicing or transporting machine.

Yes X No ___
Page # Bid spec p. 8

Shall be that of a flanged box section type frame that runs from the front bolster to the articulation joint.

Yes X No ___
Page # Bid spec p. 1

STEERING

Fully hydraulic, **2-cylinder** steering system, with front steering wheel angle not less than **47.5°** left or right.

Yes X No ___
Page # Bid spec p. 4

Machine, drawbar, circle, and moldboard shall be controlled with a maximum of two multifunction, **3-axis**, joysticks, as standard.

Yes X No ___
Page # Bid spec p. 3

Joystick controls shall be mounted to adjustable pedestals, hard mounted to the cab floor, independent of the operator seat.

Yes X No ___
Page # Bid spec p. 3

USE	REF NO.	LANE 2 / 3 MANDATORY	Ship Weight lbs	LIST PRICE AT DEALER

LANE SELECTION

	0P-9002	**LANE 2 ORDER**	0	NC
		Only for dealers enrolled in the Base Orders Management (BOM) program.		
	0P-9003	**LANE 3 ORDER**	0	NC

REGIONAL PACKAGES

L	561-6489	**GLOBAL ARRANGEMENT, JOY**	0	NC
		ONLY FOR USE WITH: 460-7652 120 14B AWD MOTOR GRADER or 467-7423 120 14B MOTOR GRADER		

PERFORMANCE PACKAGES

MOLDBOARDS

L	320-9924	**MOLDBOARD, 12' BASIC**	0	NC
		INCLUDES: Moldboard 12'x 24"x7/8" (3658 x 610 x 22mm) with hydraulic side shift and 5/8" (15.89mm) end bits. Cutting edge 8"x 3/4" (203 x 19.mm) curved cutting edge. COMPATIBLE WITH ALL HYDRAULICS		
L	436-3473	**MOLDBOARD, 12' PLUS**	485	
		INCLUDES: Moldboard 12'x 24"x7/8" (3658 x 610 x 22mm) with hydraulic side shift and 5/8" (15.89mm) end bits. g edge. Cutting edge 8"x 3/4" (203 x 19mm) curved cutting edge. Reversible end bits overlay with curved edges, can protect moldboard and cutting edges. Reversible pair for use with 8" x 3/4" (203 x 19mm) cutting edge		
L	320-7431	**MOLDBOARD, 14' PLUS**	75	
		INCLUDES: Moldboard 14'x 27"x7/8" (4267 x 686 x 22mm) with hydraulic side shift and 5/8" (15.89mm) end bits. Cutting edge 8"x 3/4" (203 x 19mm) curved cutting edge. Reversible end bits overlay with curved edges, can protect moldboard and cutting edges. Reversible pair for use with 8" x 3/4" (203 x 19mm) cutting edge.		

WEATHER PACKAGES (TANDEM MACHINES)

L	467-7404	**WEATHER, STANDARD TND**	0	NC
		Recommended for year around use when typical ambient temperature range is 0 degrees C (32 degrees F) to 43 degrees C (110 degrees F) and operating at altitude below 1220 m (4000 feet). INCLUDES: Batteries, Heavy Duty - 1125 CCA Oil, Hydraulic, 10W ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER 467-7424 120 14B MOTOR GRADER		

Joystick Steering capabilities shall be ISO 5010

Yes ✓ No ___
Page # 14

Primary steering shall be achieved via a left-hand joystick, using an intuitive steering control system.

Yes ✓ No ___
Page # 14

A steering wheel and lever control option must also be available as an option to the base model.

Yes ✓ No ___
Page # 14, Bid Spec p. 9

Secondary steering shall be a standard feature.

Yes ✓ No ___
Page # 4

TIRES

All six wheels shall be **10 in** by **24 in** size multi-piece tire rims and shall provide mounting for **14.00 R24** tires.

Yes ✓ No ___
Page # Bid spec 4

Tires shall be Goodyear, Bridgestone/Firestone, or Michelin only **14.00 x R24 12PR** Bias Tires.

Yes ✓ No ___
Page # Tires →

BRAKES

Service brakes shall be multi-disc, oil-cooled and completely sealed.

Yes ✓ No ___
Page # Bid spec p 8

OIL ANALYSIS

To be included at no cost of the duration of the warranty period selected at intervals recommended by the manufacturer's warranty and maintenance schedule.

Yes ✓ No ___
Page # —

WEIGHT (STANDARD OPERATING)

Base machine weight shall not be less than **35,067 lbs.** Weight shall include standard machine configuration, lubricants, coolants, full fuel tank and operator of **200lbs** This is factory specified operating weight only. No additional weights may be added for purpose of meeting these specifications.

Yes ✓ No ___
Page # 14

USE	REF NO.	LANE 2 / 3 MANDATORY	Ship Weight lbs	LIST PRICE AT DEALER

TIRES, RIMS, AND WHEELS (CONT.)

Due to industry-wide tire availability limitations, tire brand and type cannot be guaranteed. Every effort will be made to satisfy your tire choice, but we reserve the right to change to alternate tires. If the tire brand cannot be supplied, we may contact the dealer. However, in some cases, we will change to an alternative premium brand tire without notice. If the tire type cannot be supplied, we will contact the dealer to propose alternatives. The dealer needs to choose between an alternative tire or a "rims only" option (where available) within 72 hours. If no response is provided by the deadline, the order will default to the alternative tire and will be changed at that point. As a consequence of a possible tire change, the total machine price will be decreased or increased depending on the price of the new tire.

The information provided can be used to make a tire selection based on the particular conditions at the site. When available, the tire manufacturer should be consulted regarding proper tire selection.

TIRES (TANDEM MACHINES)

MAXAM

L 578-9458 **TIRES 17.5R25 MA MS202 ** MP** 0
FOR USE IN LANE 3 ONLY
Maxam MS202 2* on 14- x 25- multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8600 lbs) 3900kg.*
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

L 578-9460 **TIRES 14.00R24 MA MS202 * MP** 0
FOR USE IN LANE 3 ONLY
Maxam MS202 2* on 14- x 25- multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8600 lbs) 3900kg.*
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

FIRESTONE

L 252-0753 **TIRES, 17.5-25 FS SRG 12PR MP** 1,061
Firestone SRG LD 12PR bias (L3) on 14" multi-piece rim.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (6393lbs) 2900 kg.**
ONLY FOR USE WITH: 468-2237 120-14A MOTOR GRADER or
467-7423 120-14A MOTOR GRADER

GOODYEAR

L 340-2602 **TIRES,13.0-24 GY SGG 12 G2 SP** 102
Goodyear SGG-2A 12PR bias (G2) on 9" single-piece rim.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (6007lbs) 2725 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER
467-7424 120 14B MOTOR GRADER

USE	REF NO.	LANE 2 / 3 MANDATORY	Ship Weight lbs	LIST PRICE AT DEALER

TIRES, RIMS, AND WHEELS (CONT.)

TIRES (TANDEM MACHINES) (Cont.)

MICHELIN

L **254-7904** **TIRES,14.0R24 MX XGLA2 * G2 SP** 709
Michelin XGLA 1* on 9" x 24" single piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (7824 lbs) 3550 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

L **252-0701** **TIRES,14.0R24 MX XSNO+ * G2 MP.** 1,282
FOR USE IN LANE 3 ONLY
Michelin XSNO 1* on 10" x 24" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (7824 lbs) 3550 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

L **252-0777** **TIRES,17.5R25 MX XSNO+ * G2 MP.** 1,093
Michelin XSNO+ 1* on 14" x 25" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8045 lbs) 3650 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

L **252-0771** **TIRES, 17.5R25 MX XTLA * L2 MP** 1,371
Michelin XTLA 1* on 14" x 25" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8045 lbs) 3650 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

L **254-7971** **TIRES, 17.5R25 MX XTLA * L2 SP** 979
Michelin XTLA 1* on 13" x 25" single piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8045 lbs) 3650 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

L **252-0679** **TIRES,14.0R24 MX XGLA2 * G2 MP** 1,069
Michelin XGLA2 1* on 10" x 24" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (7824 lbs) 3550 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER
467-7424 120 14B MOTOR GRADER

BRIDGESTONE

L **252-0708** **TIRES, 14.0R24 BS VSW * G2 MP** 1,481
FOR USE IN LANE 3 ONLY
Bridgestone VSW 1* on 10" x 24" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8045 lbs) 3650 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

L **252-0720** **TIRES, 14.0R24 BS VUT * L2 MP** 1,012
Bridgestone VUT 1* on 10" x 24" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8045 lbs) 3650 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER
467-7424 120 14B MOTOR GRADER

USE	REF NO.	LANE 2 / 3 MANDATORY	Ship Weight lbs	LIST PRICE AT DEALER

TIRES, RIMS, AND WHEELS (CONT.)

TIRES (TANDEM MACHINES) (Cont.)

L **252-0775** **TIRES, 17.5R25 BS VKT * D2A MP** 1,810
Bridgestone VKT 1* on 14" x 25" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8045 lbs) 3650 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER
467-7424 120 14B MOTOR GRADER

L **310-7331** **TIRES, 17.5R25 BS VSW * G2 MP** 1,888
Bridgestone VSW 1* on 14" x 25" multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8045 lbs) 3650 kg.**
ONLY FOR USE WITH: 467-7423 120 14B MOTOR GRADER

TRIANGLE

TIRES (AWD MACHINES)

MAXAM

L **578-9459** **TIRES 17.5R25 MA MS202 ** MP** 0
FOR USE IN LANE 3 ONLY
Maxam MS202 2* on 14- x 25- multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8600 lbs) 3900kg.**
ONLY FOR USE WITH: 460-7652 120 14B AWD MOTOR GRADER
467-7425 120 14B AWD MOTOR GRADER

L **578-9461** **TIRES 14.00R24 MA MS202 * MP** 0
FOR USE IN LANE 3 ONLY
Maxam MS202 2* on 14- x 25- multi-piece rims.
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8600 lbs) 3900kg.**
ONLY FOR USE WITH: 460-7652 120 14B AWD MOTOR GRADER
467-7425 120 14B AWD MOTOR GRADER

MICHELIN

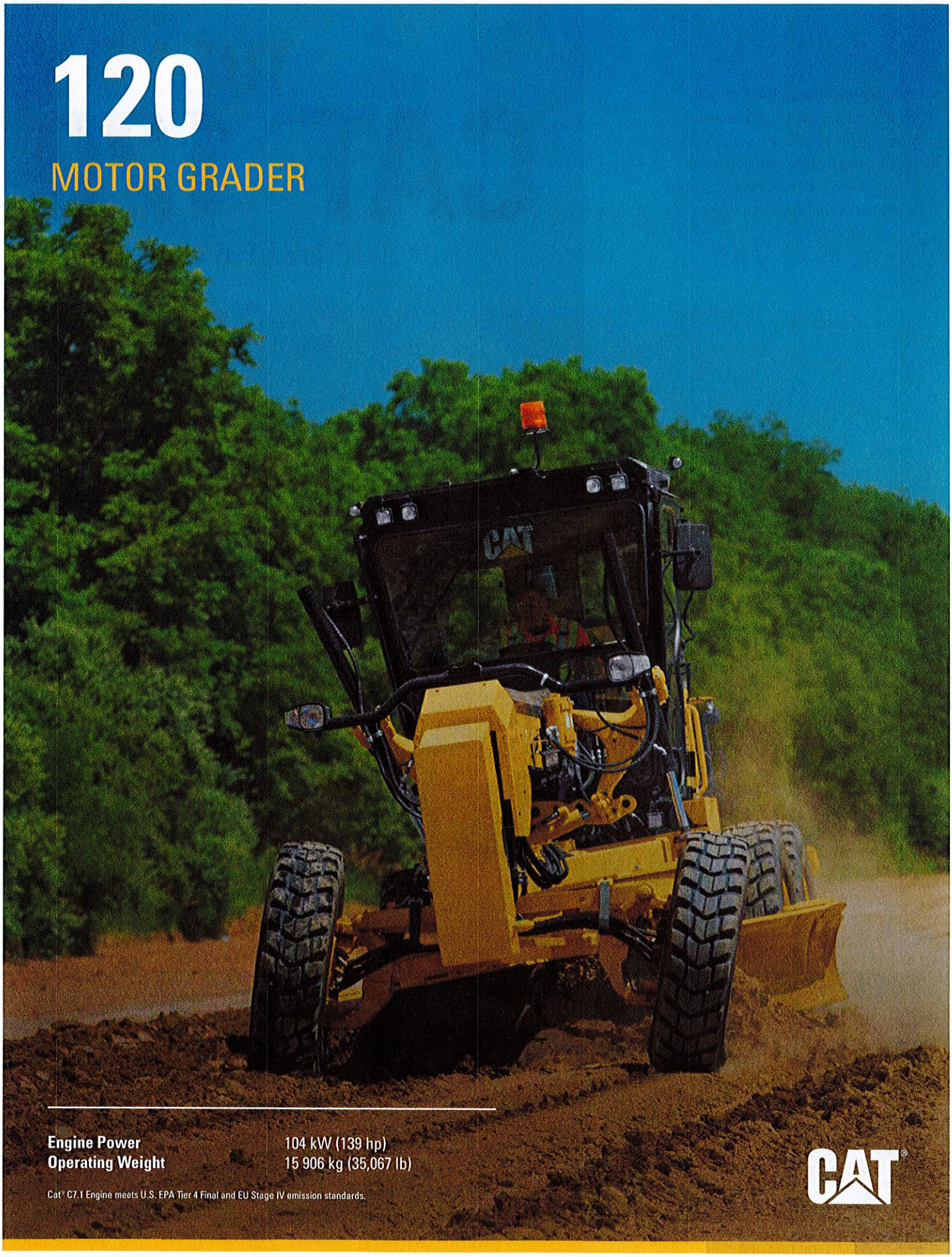
L **452-2798** **TIRES, 17.5R25 MX XSNO+ 1* MP** 0
FOR USE IN LANE 3 ONLY
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (8046lbs) 3650 kg.**
ONLY FOR USE WITH: 460-7652 120 14B AWD MOTOR GRADER
467-7425 120 14B AWD MOTOR GRADER

L **452-2802** **TIRES, 14.0R24 MX XGLA2 1* MP** 0
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (7826lbs) 3550 kg.**
ONLY FOR USE WITH: 460-7652 120 14B AWD MOTOR GRADER
467-7425 120 14B AWD MOTOR GRADER

L **452-2803** **TIRES, 14.0R24 MX XSNO+ 1* MP.** 0
THE TIRE MANUFACTURER DOES NOT RECOMMEND THIS TIRE FOR INDIVIDUAL TIRE LOADS EXCEEDING (7826lbs) 3550 kg.**
ONLY FOR USE WITH: 460-7652 120 14B AWD MOTOR GRADER
467-7425 120 14B AWD MOTOR GRADER

120

MOTOR GRADER



Engine Power	104 kW (139 hp)
Operating Weight	15 906 kg (35,067 lb)

Cat® C7.1 Engine meets U.S. EPA Tier 4 Final and EU Stage IV emission standards.

CAT®

The new Next Generation **Cat® 120** motor grader is built to fit your needs. From cab to controls, the options are in your hands, along with better fuel economy and lower maintenance costs to reduce overall operating costs.

THE NEW CAT® 120

THE NEXT GENERATION

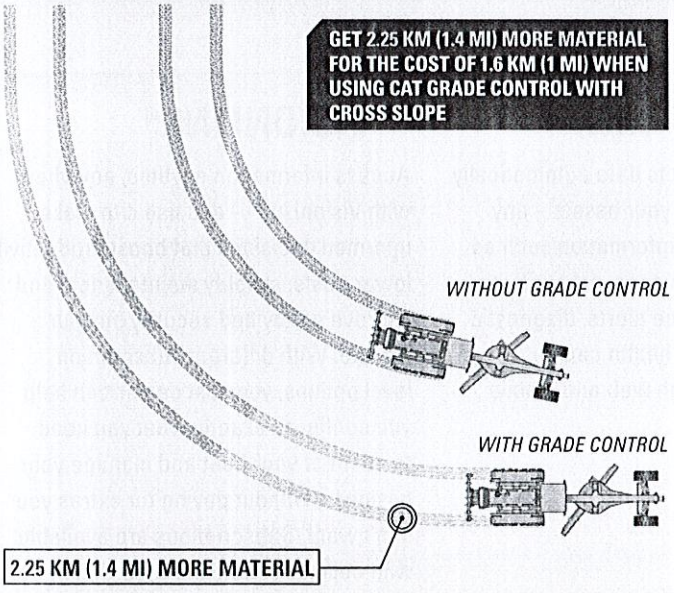
GRADING THE ROAD AHEAD

The new Cat 120 motor grader offers you total machine options including technology, controls, and cab to power through any job with the utmost performance.

+ UP TO 15 PERCENT INCREASED FUEL ECONOMY WITH THE C7.1 ENGINE
+ NEXT GENERATION CAB OPTIONS FOR MAXIMUM COMFORT
+ SPEND LESS TIME AND MONEY ON REGULAR MAINTENANCE

SAVE **MORE MATERIAL.**

Use 40% less material with Cat Grade Control with Cross Slope.



SCENARIO:

1559 M³/KM (2,039 YD³/MI) MOVED WITH NON-GRADE CONTROL – 924 M³/KM (1,208 YD³/MI) MOVED WITH GRADE CONTROL = 635 M³/KM (831 YD³/MI) MATERIAL SAVED

UP TO 15% BETTER FUEL ECONOMY[1]

Use less fuel with the Cat C7.1 Engine and ECO mode.

CAB DESIGNED FOR MAXIMUM COMFORT

The next generation cab gives you control and comfort options to promote productivity.

UP TO 15% LOWER MAINTENANCE COSTS[1]

Extend your maintenance intervals using the new filtration technology. Filters are grouped together for easy access.

[1] Compared to 120K and 120M2

TAKES THE GUESSWORK OUT OF MANAGING YOUR EQUIPMENT

CAT TECHNOLOGY

Cat LINK telematics technology helps take the complexity out of managing your job sites – by gathering data generated by your equipment, materials, and people – and serving it up to you in customizable formats.

CAT CONNECT

Cat Connect technologies give you the edge you need to improve machine and operator efficiency while working safer.

PRODUCT LINK™

Product Link™ collects data automatically and accurately from your assets – any type and any brand. Information such as location, hours, fuel usage, productivity, idle time, maintenance alerts, diagnostic codes, and machine health can be viewed online through web and mobile applications.

VISIONLINK®

Access information anytime, anywhere with VisionLink® – and use it to make informed decisions that boost productivity, lower costs, simplify maintenance, and improve safety and security on your job site. With different subscription level options, your Cat dealer can help you configure exactly what you need to connect your fleet and manage your business, without paying for extras you don't want. Subscriptions are available with cellular or satellite reporting or both.

OPTIONAL CAT GRADE TECHNOLOGY

CROSS SLOPE

Cat GRADE with Cross Slope saves you up to 40 percent in material. Cross Slope is an integrated system that enables you to achieve grade faster and more accurately by automating the cross slope of the blade and keeps your slope consistent.

CROSS SLOPE INDICATE

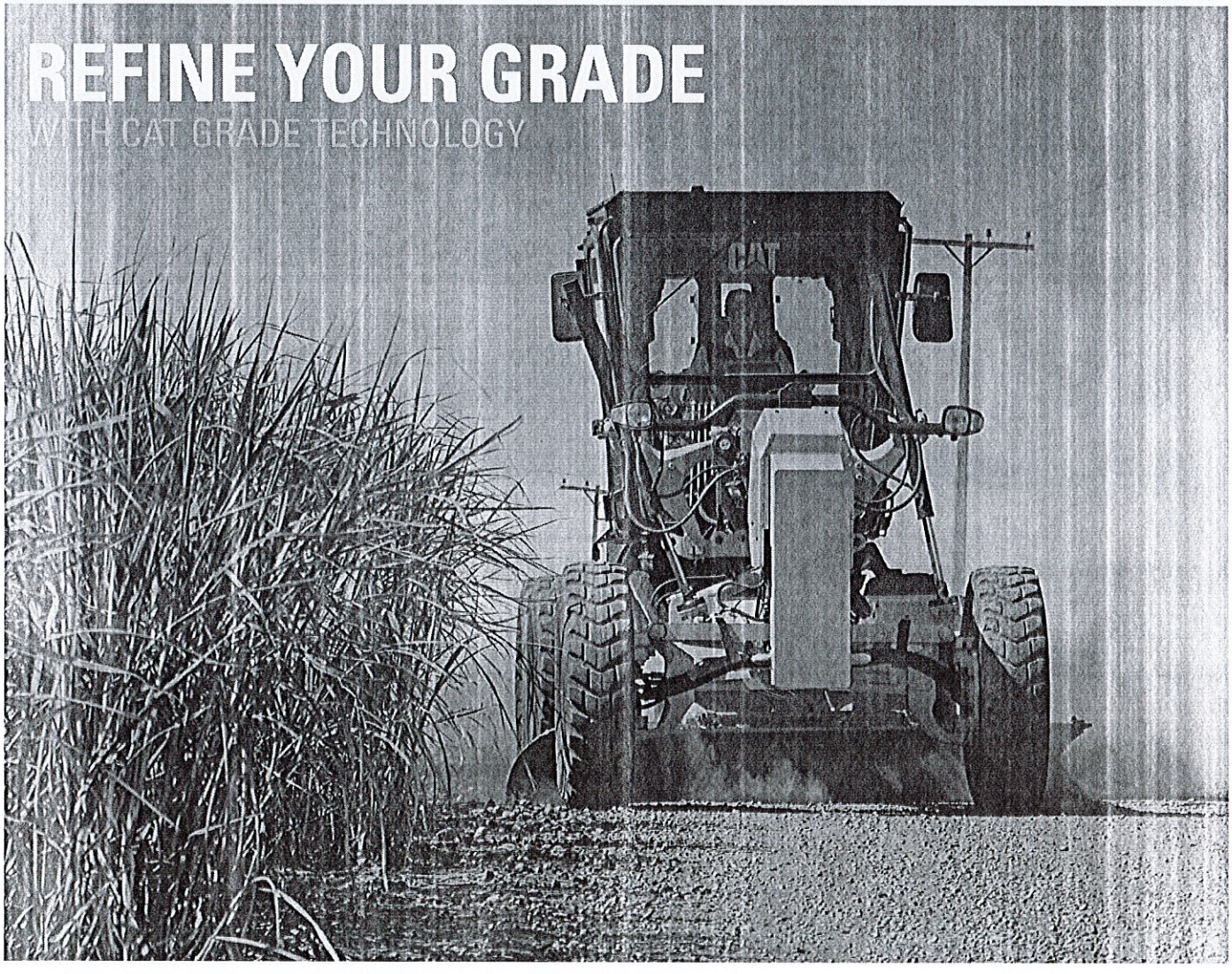
Cat GRADE with Cross Slope Indicate shows cross slope information on the integrated machine display. Cross Slope Indicate improves grading efficiency by providing real-time cross slope to you without the added expense of equipment to automate blade functions.

DIGITAL BLADE SLOPE METER

View blade slope on the integrated machine display with the Digital Blade Slope Meter. Reduce the need for manual grade checking to keep you and your worksite safer.

ADDITIONAL OPTIONS

Cat GRADE with Attachment Ready Option (ARO) gives your machine the connections to add on future Cat GRADE or other grade control systems to help you get the most out of your motor grader. Stable Blade helps improve your finished surface quality by reducing machine bounce.



NEXT GENERATION FILTERS

New filtration system makes changing filters a breeze. The filters inside the cartridge are replaced instead of the entire canister to save you up to 15 percent in costs.

LONGER SERVICE INTERVALS

Reduce your typical operating expenses with extended engine oil, hydraulic, and transmission filter change cycles. The new filters last longer to keep your motor grader active on the job site.

GROUPED LOCATION

Service your machine faster with the filters in a central location. Filters are grouped together for easy access so you can do preventative maintenance quickly and move on to the next task.

GET THE CONTROL POWER THAT YOU NEED WITH THE ALL-WHEEL DRIVE OPTION

Providing maximum power up to 141 kW (189 hp) and full power turns, the all-wheel drive option helps keep your tires moving, even if it's muddy.

MAXIMUM TRACTION WITH ALL-WHEEL DRIVE

The all-wheel drive (AWD) option assists with traction and maneuvering in loose material. The increased power with all-wheel drive handles rough terrain with extra traction for better productivity.

CONTROL OPTIONS

Get the job done with a choice of joysticks or traditional steering wheel and lever controls. Integrated technology options put more productivity at your fingertips.

IMPROVED VENTILATION

The ISO-certified ROPS cab is pressurized to lock out noise. The heating and cooling system keeps you at your ideal temperature throughout the day.

MULTIPLE CAB OPTIONS

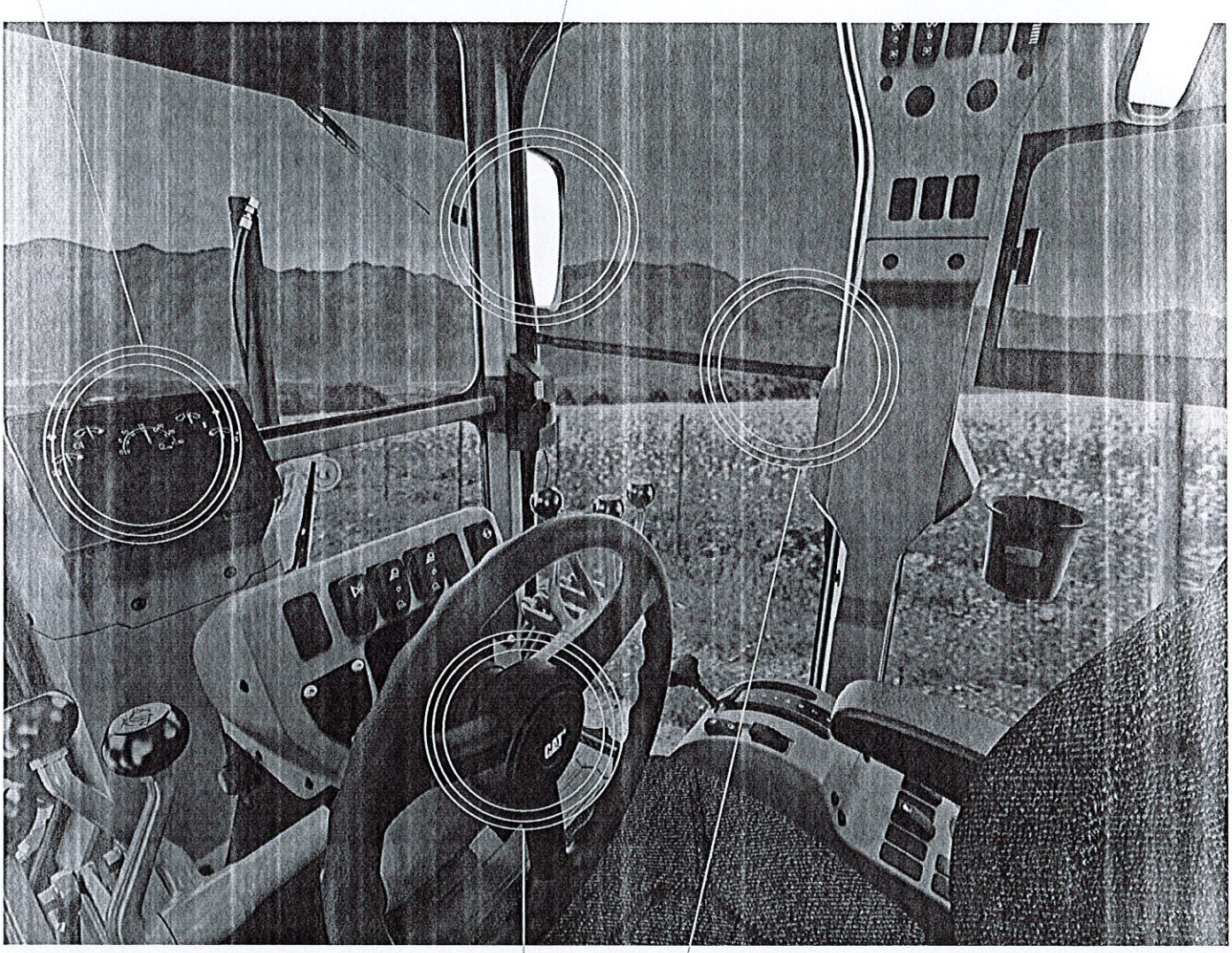
Your cab is like your office. Choose the options that you want to work comfortably, like adjustable seats. Heated/cooled seat options are available.

CONVENIENT SETTINGS

Get all the settings information that you need, including integrated technology options, on the information display screen.

EXTRAORDINARY VISIBILITY

View your job site through connecting glass windows, rear and side view mirrors. Rearview camera option offers a wide view of the back of the machine for better visibility.



STOP SAFELY

If the engine should unexpectedly stall, you can count on the secondary steering system to stop safely. If the main pump pressure should drop, the secondary steering system will turn on automatically to steer safely to a stop.

EASY ON AND OFF

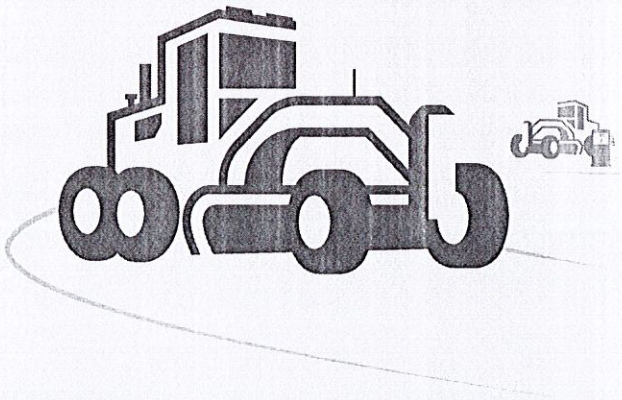
Work safely using three points of contact when entering and exiting the machine with strategically placed walkways and grab rails.

WORK MORE... FUEL LESS

Get up to 15% Fuel Savings with the Next Generation Cat® 120 Motor Grader

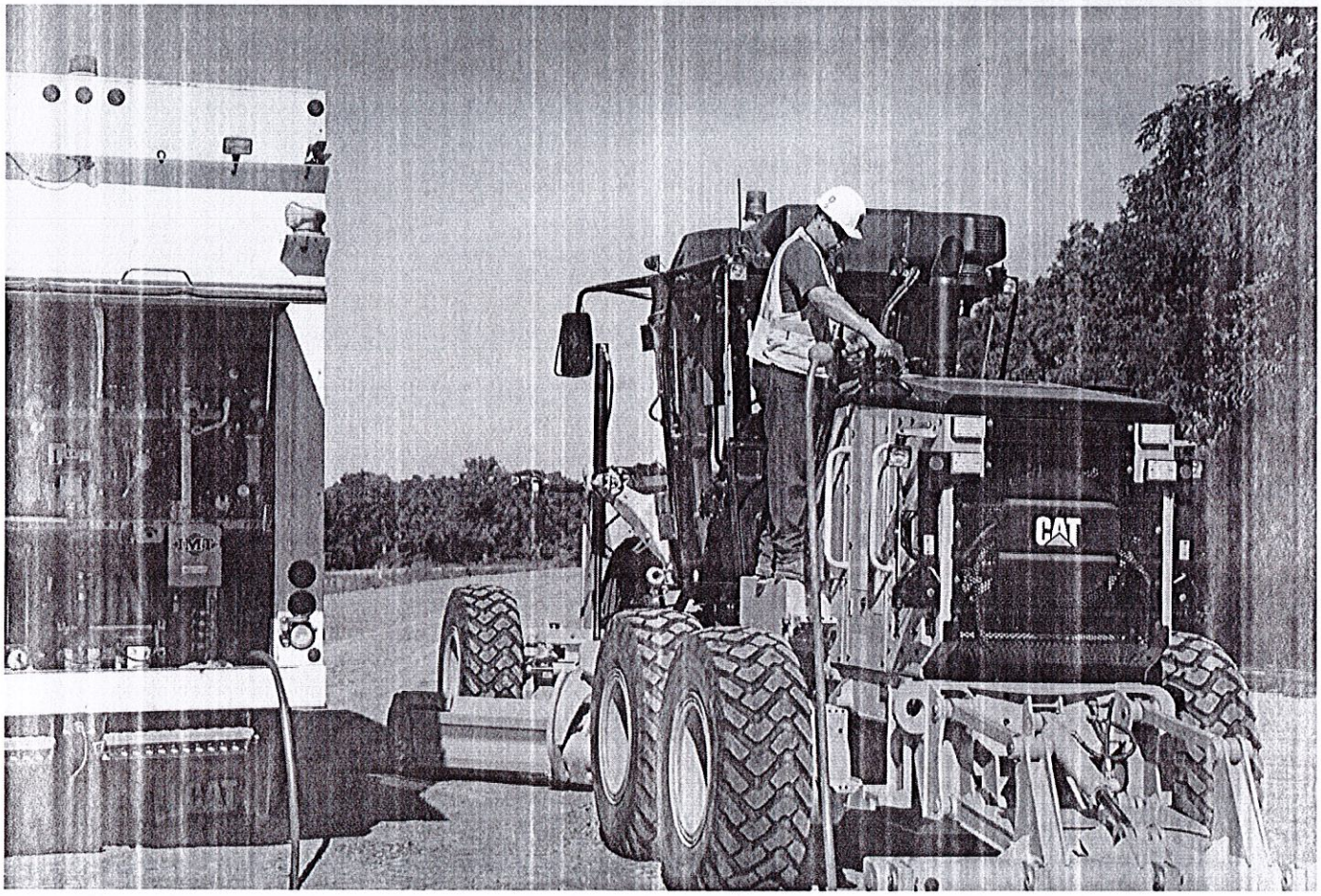
UP TO 15%
BETTER FUEL ECONOMY

Grade longer while using the same amount of fuel. The Cat C7.1 engine uses up to 10 percent less fuel. Couple this with ECO mode to save an additional 5 percent. ECO mode is an easy selection in your information display screen. Less stopping means more production.



SCENARIO:

UP TO 15% SAVINGS COMPARISON IS BASED ON 120M AND 120K CAT MOTOR GRADERS.



Keep your circle moldboard tight for precise grading throughout the motor grader's life. Durable structures with drawbar circle moldboard adjustments save you service time using replaceable wear inserts.

TOP ADJUST CIRCLE

+ EASY ACCESS
+ MAXIMUM TIGHTNESS
+ REMOVABLE ACCESS PLATES

SEE YOUR INVESTMENT GO FURTHER

DESIGNED TO LAST

MAXIMIZE COMPONENT LIFE

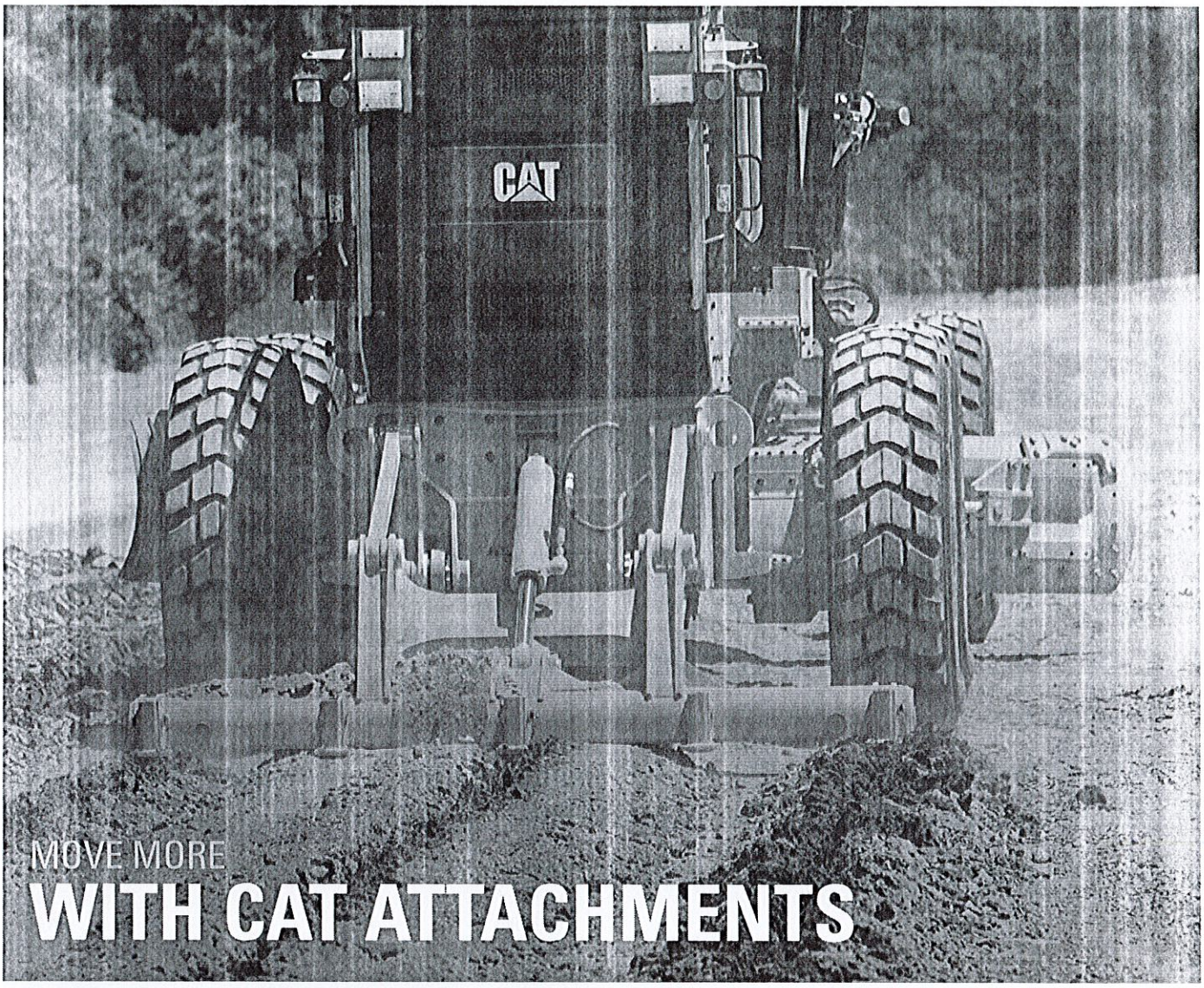
Reduce daily greasing requirements and costly repairs to your circle and pinion with the Circle Saver option. The grease fitting is easy to access and maintain.

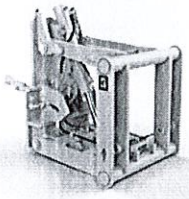
PRESERVE YOUR MACHINE

The circle drive slip clutch protects your pinion drive and circle teeth from potential damage.

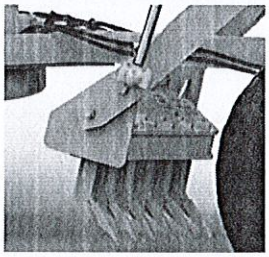
DIMINISH DAMAGE

Keep your machine running smoothly in demanding applications with optional guarding. Guards defend against potential damage to your transmission, filter, front axles, and hydraulic pumps.

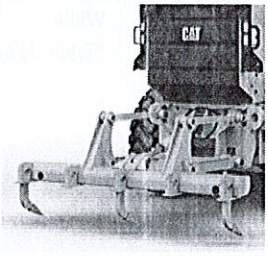




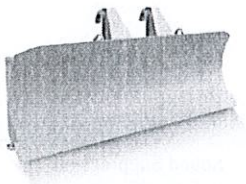
LIFT GROUP



MID MOUNT SCARIFIER



RIPPER



STRAIGHT BLADE

V-PLOW

ENHANCE YOUR PRODUCTIVITY

From rippers to blades, expand the versatility of your machine by utilizing a variety of Cat Attachments. Each one is designed to fit your needs for improved performance, safety, and stability.

TECHNICAL SPECIFICATIONS

See *cat.com* for complete specifications.

POWER TRAIN		
Engine Model		Cat C7.1
Net Power ISO 9249/SAE J1349 EEC 80/1269		104 kW-123 kW 139 hp-165 hp
All Wheel Drive Range – Net		108 kW-141 kW 145 hp-189 hp
Bore		105 mm 4.1 in
Displacement		7.01 L 427.8 in³
Stroke		135 mm 5.3 in
Engine RPM		2,000 rpm
Maximum Torque – ISO 9294	822 N·m	606 lbf-ft
Top Forward Speed	48.3 km/h	30.1 mph
Top Reverse Speed	38.1 km/h	23.7 mph
Turning Radius, Outside Front Tires	7.4 m	291.3 in

- Net Power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.
- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.6 kg of refrigerant which has a CO_2 equivalent of 2.288 metric tonnes.

WEIGHT		
Typically Equipped Machine Weight*		
Lever/Steering Wheel Weight	15 906 kg	35,067 lb
Joystick Weight	16 038 kg	35,358 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight	16 661 kg	36,731 lb
Joystick All-Wheel Drive (AWD) Weight	16 713 kg	36,846 lb

*Typically equipped operating weight is calculated with full fuel tank, coolant, lubricants, operator, push block, transmission guard, rear ripper/scarifier, 14.0R24 tires on multi-piece rims, and other equipment.

SERVICE REFILL CAPACITIES		
Fuel Tank	246 L	65 gal
Circle Drive	7 L	1.8 gal
Engine Crankcase	18 L	4.8 gal
Cooling System	52.5 L	14 gal
Hydraulic System	97 L	25.6 gal
Diesel Exhaust Fluid Tank	15 L	4 gal
Transmission and Differential	60 L	15.8 gal

BLADE RANGE		
Circle Center Shift		
Right	656 mm	26 in
Left	656 mm	26 in
Moldboard Side Shift		
Right	510 mm	20.1 in
Left	660 mm	26 in
Blade Tip Range		
Forward		40°
Backward		5°
Maximum Shoulder Reach		
Right	1905 mm	75 in
Left	1742 mm	68.6 in
Maximum Lift Above Ground	410 mm	16.1 in
Maximum Depth of Cut	775 mm	30.5 in

MOLDBOARD		
Width	3.7 m	12 ft
Height	610 mm	24 in
End Bit	152 mm	6 in
Cutting Edge	152 mm	6 in
Arc Radius	413 mm	16.3 in
Throat Clearance	120 mm	4.7 in

DIMENSIONS		
Length of Machine*	9838 mm	387 in
Maximum Height	3465 mm	136.4 in
Width	2495 mm	98.2 in

*Typically equipped with push block and ripper.

CAB FEATURES

FEATURE	DESCRIPTION	BASE	COMFORT PLUS	PREMIUM PLUS
ROPS	Sound Suppression	●	●	●
	Canopy	O	X	X
Seat	Mechanical Suspension	●	O	O
	Air Suspension	X	●	●
	Heated/Cooled	X	X	●
	Lumbar Support	X	●	●
HVAC	Heating, Ventilation, and Air Conditioning	●	●	●
	Defrost Fans	X	●	●
Information Display	Touchscreen	O	O	O
	Standard Display	O	O	O
Lighting	Halogen Bulbs	●	●	●
	LED Bulbs	O	O	O

● – standard O – optional X – not available

STANDARD & OPTIONAL EQUIPMENT

Standard and optional equipment may vary. Consult your Cat dealer for details.

POWER TRAIN	STANDARD	OPTIONAL
Cat C7.1 Engine	•	
ECO Mode	•	
All-Wheel Drive (AWD)		•
50° C (122° F) Ambient Capacity	•	
Engine Idle Shutdown Timer	•	
Differential Lock	•	

CAB	STANDARD	OPTIONAL
ROPS	•	
Mechanical Suspension Seat	•	
Air Suspension Adjustable Seat		•
Canopy		•
Touchscreen Display*	•	
Standard Information Display	•	
Adjustable Control Console (Levers)	•	
Entertainment Radio Ready	•	
Halogen Lighting	•	
LED Lighting		•
USB/Auxiliary Radio		•

*Standard touchscreen on the joystick machine.

CAT CONNECT TECHNOLOGY	STANDARD	OPTIONAL
Product Link*	•	
Cat GRADE with Digital Blade Slope Meter		•
Cat GRADE with Cross Slope Indicate		•
Cat GRADE with Cross Slope		•
Cat GRADE with Attachment Ready Option (ARO)		•
Stable Blade		•
Remote Services		•

*Optional on Lever machines.

DRAWBAR CIRCLE MOLDBOARD	STANDARD	OPTIONAL
Standard Drawbar Circle Moldboard	•	
Top Adjust Drawbar Circle Moldboard		•
Circle Drive Slip Clutch	•	
Circle Saver		•

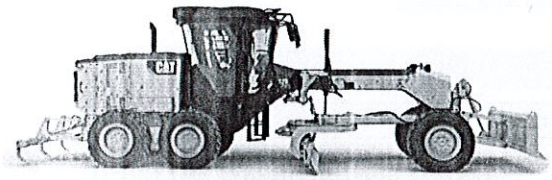
SAFETY AND SECURITY	STANDARD	OPTIONAL
Rearview Mirror	•	
Side View Mirror	•	
Signaling/Warning Horn	•	
Secondary Steering System	•	
Rearview Camera		•
Hydraulic Brakes	•	

SERVICE AND MAINTENANCE	STANDARD	OPTIONAL
Ground Level DEF Fill	•	
Grouped Location for Engine Oil and Fuel Filters	•	
Extended Life Coolant	•	

ATTACHMENTS	STANDARD	OPTIONAL
Push Block		•
Front Lift Group		•
Ripper		•
Scarifier		•
Mid Mount Scarifier		•
Front Blade		•

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

AEXQ2484
Build Number: 14A



120
Motor Grader

Technical Specifications

Engine – Tier 3 Equivalent/EU Stage IIIA

Engine Model	Cat® C7.1	
Emissions	U.S. Tier 3 Equivalent	EU Stage IIIA
Base Net Power ISO 9249/SAE J1349	93 kW	125 hp
Base Net Power EEC 80/1269 (metric)	127 hp	
Power Range – Net	93-116 kW	125-156 hp
Power Range – Net (metric)	127-158 hp	
All Wheel Drive Range – Net	97-129 kW	130-173 hp
All Wheel Drive Range – Net (metric)	131-176 hp	
Derating Altitude	4500 m	14,764 ft
Derating Altitude AWD	3000 m	9,842 ft

Engine – Tier 4 Final/EU Stage IV

Engine Model	C7.1	
Emissions	U.S. Tier 4 Final	EU Stage IV
Base Net Power ISO 9249/SAE J1349 EEC 80/1269	104 kW	140 hp
Base Net Power ISO 9249/SAE J1349 EEC 80/1269 (metric)	142 hp	
Power Range – Net	104-123 kW	140-164 hp
Power Range – Net (metric)	142-167 hp	
All Wheel Drive Range – Net	108-141 kW	144-189 hp
All Wheel Drive Range – Net (metric)	146-192 hp	
Bore	105 mm	4.1 in
Displacement	7.01 L	427.8 in^3
Stroke	135 mm	5.3 in
Engine RPM	2,000	
Number of Cylinders	6	
Torque Rise – ISO 9294	42%	
Maximum Torque – ISO 9294	822 N·m	606 lb-ft
Maximum Torque (All-Wheel Drive On)	828 N·m	611 lb-ft
Derating Altitude	3000 m	9,842 ft
Derating Altitude AWD	1676 m	5,499 ft
Maximum – Fan Speed	1,300 rpm	
Minimum – Fan Speed	600 rpm	
Ambient Capacity	50° C	122° F

- Net Power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.
- VHP Plus is standard for the 120 and 120 all-wheel drive (AWD).
- Rated speed at 2,000 rpm.

CAT®

120 Motor Grader Specifications

120 Net Power – Tier 3 Equivalent/EU Stage IIIA

Gear	Non-AWD – kW (hp)	AWD Off – kW (hp)	AWD On – kW (hp)
Forward			
1st	93 (125)	97 (130)	96 (129)
2nd	97 (130)	100 (135)	101 (136)
3rd	101 (136)	104 (140)	107 (144)
4th	108 (145)	111 (149)	115 (155)
5th	112 (150)	124 (167)	128 (171)
6th	116 (156)	129 (173)	129 (173)
7th	116 (156)	129 (173)	129 (173)
8th	116 (156)	129 (173)	129 (173)
Reverse			
1st	93 (125)	97 (130)	96 (129)
2nd	97 (130)	100 (135)	101 (136)
3rd-6th	101 (135)	104 (140)	107 (144)

120 Net Power – Tier 4 Final/EU Stage IV

Gear	Non-AWD – kW (hp)	AWD Off – kW (hp)	AWD On – kW (hp)
Forward			
1st	104 (139)	108 (145)	109 (146)
2nd	107 (143)	111 (149)	114 (153)
3rd	110 (148)	114 (153)	120 (161)
4th	119 (160)	122 (164)	122 (164)
5th	123 (165)	134 (180)	141 (189)
6th	123 (165)	134 (180)	141 (189)
7th	123 (165)	134 (180)	141 (189)
8th	123 (165)	134 (180)	134 (180)
Reverse			
1st	104 (139)	108 (145)	109 (146)
2nd	107 (143)	111 (149)	114 (153)
3rd-6th	110 (148)	114 (153)	120 (161)

Power Train

Forward/Reverse Gears	8 Forward/6 Reverse
Transmission	Direct Drive Powershift Countershaft
High Idle Speed	2,000 rpm
Low Idle Speed	
Tier 3	800 rpm
Tier 4	1,030 rpm
Air Cleaner	Dry

Hydraulic System

Type	Closed – Center	
Type Circuit	Parallel	
Pump Type	Variable Displacement Piston	
System Pressure	24 129 kPa	3500 psi
System Flow	0-200 L/min	0-53 gal/min

Operating Specifications

Top speed forward	48.3 km/h	30.1 mph
Top speed reverse	38.1 km/h	23.7 mph
Turning Radius, Outside Front Tires	7.4 m	291.3 in
Steering Range	50° Left and Right	
Articulation Angle	20° Left and Right	
Forward		
1st	4.1 km/h	2.6 mph
2nd	5.6 km/h	3.5 mph
3rd	8.2 km/h	5.1 mph
4th	11.3 km/h	7.0 mph
5th	17.7 km/h	11.0 mph
6th	24.1 km/h	15.0 mph
7th	33.2 km/h	20.6 mph
8th	48.3 km/h	30.1 mph
Reverse		
1st	3.3 km/h	2.0 mph
2nd	6.1 km/h	3.8 mph
3rd	8.9 km/h	5.5 mph
4th	14.0 km/h	8.7 mph
5th	26.2 km/h	16.3 mph
6th	38.1 km/h	23.7 mph

• Machine speed measured at 2,150 rpm with 14.00R24 radial tires, no slip.

Base Machine Weight – Tier 3 Equivalent/EU Stage IIIA

Lever/Steering Wheel Weight*	13 527 kg	29,822 lb
Joystick Weight*	13 810 kg	30,446 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight*	14 282 kg	31,486 lb
Joystick All-Wheel Drive (AWD) Weight*	14 485 kg	31,934 lb

Base Machine Weight – Tier 4 Final/EU Stage IV

Lever/Steering Wheel Weight*	13 892 kg	35,067 lb
Joystick Weight*	14 024 kg	35,358 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight*	14 647 kg	36,731 lb
Joystick All-Wheel Drive (AWD) Weight*	14 699 kg	36,846 lb

*Typically equipped includes blade, tires, push plate, ripper, bottom guard, operator, and full fluids.

Typically Equipped Machine Weight

Lever/Steering Wheel Weight*	15 699 kg	34,610 lb
Joystick Weight*	15 824 kg	34,886 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight*	16 454 kg	36,275 lb
Joystick All-Wheel Drive (AWD) Weight*	16 499 kg	36,374 lb

Typically Equipped Machine Weight

Lever/Steering Wheel Weight*	15 906 kg	35,067 lb
Joystick Weight*	16 038 kg	35,358 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight*	16 661 kg	36,731 lb
Joystick All-Wheel Drive (AWD) Weight*	16 713 kg	36,846 lb

*Typically equipped includes blade, tires, push plate, ripper, bottom guard, operator, and full fluids.

Major Component Weights

Moldboard (with cutting edge)		
3658 mm × 610 mm × 22 mm (12 ft × 24 in × 7/8 in)	670 kg	1,474 lb
4267 mm × 610 mm × 22 mm (14 ft × 24 in × 7/8 in)	782 kg	1,720 lb
Guards		
Transmission	105 kg	231 lb
Front Fender	50 kg (AWD)/ 93 kg (STD)	110 lb (AWD)/ 205 lb (STD)
Blade Extension		
LH and RH – 152.4 wide, 15.9 thick cutting edge (each)	113 kg	249 lb
LH and RH – 203.2 wide, 19 thick cutting edge (each)	127 kg	280 lb
Mid-Mount Scarifier Package	834 kg	1,835 lb
Front Lift Group	680 kg	1,496 lb
Push Plate	895 kg	1,969 lb
Rear Ripper	680 kg	1,496 lb
Front Scarifier	434 kg	956 lb

Service Refill Capacities

Fuel Tank	246 L	65 gal
Circle Drive	7 L	1.8 gal
Engine Crankcase	18 L	4.8 gal
Cooling System	52.5 L	14 gal
Hydraulic System	97 L	25.6 gal
Diesel Exhaust Fluid Tank (Tier 4 only)	15 L	4 gal
Transmission and Differential	60 L	15.8 gal
Tandem	60 L	15.8 gal

Tandems

Oscillation Front Up	15°
Oscillation Rear Up	22°

120 Motor Grader Specifications

Service Brakes

Type System	Dual Circuit Hydraulic	
Type Brake	Multiple Oil Disc	
Number of Brakes	4	
Number of Disc Assemblies (each)	6	
Size (outer diameter)	270 mm	10.6 in
Size (inner diameter)	189 mm	7.4 in
Lining Area Per Brake	3,504 cm^2	543.1 in^2

Parking Brake

Type System	Hydraulic Actuated
Type Brake	Multiple Oil Disc, Meets ISO 3450
Slope Holding Ability	30°
Secondary Brakes	Dual Circuit Control System, Applies Two Service Brakes

Moldboard

	Standard		Option 1		Option 2	
Width	3.7 m	12 ft	3.7 m	12 ft	4.3 m	14 ft
Height	610 mm	24 in	610 mm	24 in	610 mm	24 in
End Bit	152 mm	6 in	152 mm	6 in	152 mm	6 in
Cutting Edge	152 mm	6 in	203 mm	8 in	203 mm	8 in
Arc Radius	413 mm	16.3 in	413 mm	16.3 in	413 mm	16.3 in
Throat Clearance	120 mm	4.7 in	124 mm	4.9 in	89 mm	3.5 in

Drawbar Circle Moldboard

Range of Motion	Standard		Top Adjust	
Lift Cylinders	2		2	
Maximum Depth of Cut	775 mm	30.5 in	775 mm	30.5 in
Maximum Lift Above Ground	410 mm	16.1 in	410 mm	16.1 in
Throat Clearance	120 mm	4.7 in	120 mm	4.7 in
Circle Center Shift Cylinder				
Center Shift Right	656 mm	25.8 in	656 mm	25.8 in
Center Shift Left	656 mm	25.8 in	656 mm	25.8 in
Moldboard Side Shift Cylinder				
Side Shift Left	660 mm	26 in	660 mm	26 in
Side Shift Right	510 mm	20.1 in	510 mm	20.1 in
Blade Tip Cylinder				
Maximum Blade Tip Forward	40°		40°	
Maximum Blade Tip Backward	5°		5°	
Circle Drive	360° of Blade Rotation			
Link Bar	7 Positions to adjust the drawbar circle moldboard range of motion			
Drawbar Shoes	4 with replaceable wear strips			

Circle

Section	Rolled Ring Forging
Number of Teeth	64
Rotation	360°

Maximum Shoulder Reach Outside of Tires

Blade	3.7 m (12 ft)		4.3 m (14 ft)	
Right	1905 mm	75 in	2210 mm	87 in
Left	1742 mm	68.6 in	2180 mm	85.8 in

- An additional 300 mm (11.8 in) of reach can be achieved to the right or left by changing the side shift mounting bracket on the 4.3 m (14 ft) blade.

Ripper

Ripping Depth Maximum	288 mm	11.2 in
Ripper Shank Holder	5	
Ripper Shank Holder Spacing	533 mm	20.8 in
Penetration Force	5119 kg	11,287 lb
Pryout Force	2029 kg	4,474 lb
Machine Length Increase, Beam Raised	900 mm	35.1 in

Mid Mount Scarifier

Front, V-Type: Working Width	1205 mm	47.4 in
Number of Shanks	11	
Shank Spacing	116 mm	4.5 in
Scarifying Width	1031 mm	40.2 in

Electrical

Starting System Type	Direct Electric
Heavy Duty Battery	
CCA at –18°	1,125 amp
Volts	12V
Quantity	2
Extreme Duty Battery	
CCA at –18°	1,400 amp
Volts	12V
Quantity	2
Standard Alternator	145 amps at 24V
Heavy Duty Alternator	150 amps at 24V

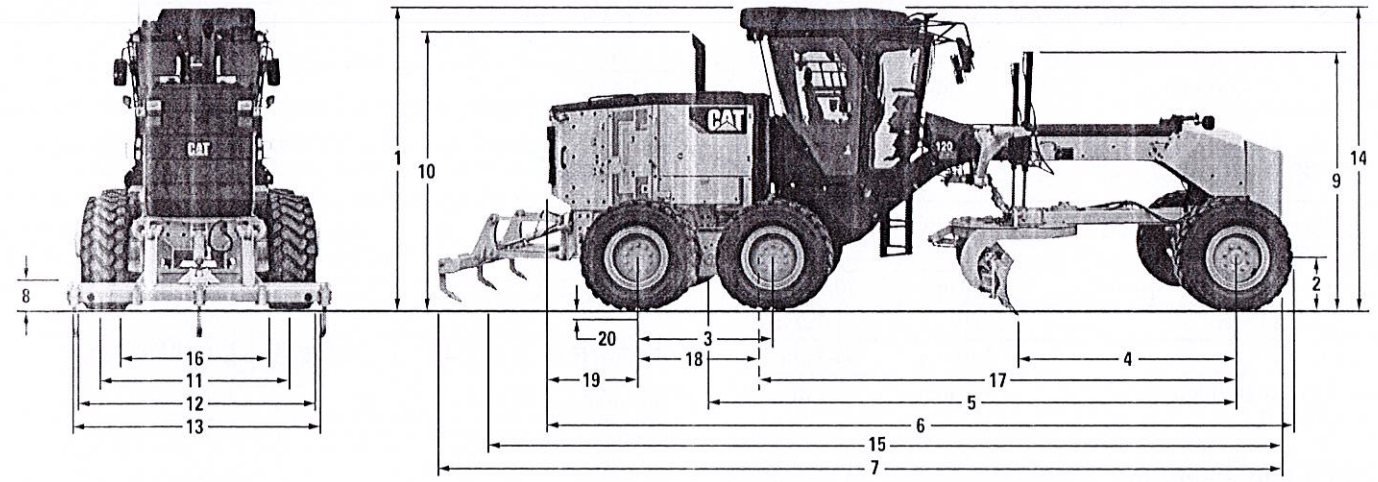
Electrical – Tier 3 Equivalent/EU Stage IIIA Lever

Starting System Type	Direct Electric
Standard Duty Battery	Only offered on Levers
CCA at –18°	900 amp
Volts	12v
Quantity	2
Heavy Duty Battery	
CCA at –18°	1,125 amp
Volts	12V
Quantity	2
Extreme Duty Battery	
CCA at –18°	1,400 amp
Volts	12V
Quantity	2
Standard Alternator – Levers	115 amps at 24V
Standard Alternator – Joystick	145 amps at 24V
Heavy Duty Alternator	150 amps at 24V

120 Motor Grader Specifications

Dimensions

All dimensions are approximate.



1	Height – Top of Cab	3465 mm	136.4 in
2	Height		
	Front Axle Center (Non AWD)	590 mm	23.2 in
	Front Axle Center (AWD)	596 mm	23.5 in
3	Length – Between Tandem Axles	1510 mm	59.5 in
4	Length		
	Front Axle to Moldboard (Non AWD)	2551 mm	100.4 in
	Length – Front Axle to Moldboard (AWD)	2516 mm	99 in
5	Length		
	Front Axle to Mid Tandem (Non AWD)	5945 mm	234 in
	Front Awd Axle to Mid Tandem (AWD)	5910 mm	232.7 in
6	Length		
	Front Tire to Rear of Machine (Non AWD)	8534 mm	336 in
	Front Tire to Rear of Machine (AWD)	8499 mm	334.6 in
7	Length – Push Plate to Ripper	9838 mm	387 in
8	Ground Clearance at Rear Axle	349 mm	13.7 in
9	Height to Top of Cylinders	2895 mm	114 in
10	Height to Exhaust Stack	3185 mm	125.4 in
	Height to Exhaust Stack (Tier 3)	2924 mm	115 in
11	Width – Tire Center Lines	2070 mm	81.5 in
12	Width – Outside Rear Tires	2491 mm	98 in
13	Width		
	Outside Front Tires (Non AWD)	2495 mm	98.2 in
	Outside Front Tires (AWD)	2638 mm	103.9 in
14	Maximum Height – with Attachments	3440 mm	135.4 in
15	Length – Push Plate to Raised Ripper	9583 mm	377 in
16	Width – Inside Rear Tires	1649 mm	64.9 in
17	Length		
	Front Axle to Articulation Hitch (Non AWD)	5284 mm	208 in
	Front Axle to Articulation Hitch (AWD)	5249 mm	206.7 in
18	Length – Rear Axle to Articulation Hitch	660 mm	26 in
19	Length – Rear Axle to Rear of Frame	1726 mm	68 in
20	Height – Tire Deflection at Performance Weight	45 mm	1.8 in

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
ENGINE		
Cat C7.1 engine	✓	
ECO mode	✓	
Extreme duty starter		✓
50° C (122° F) ambient capacity	✓	
43° C (109° F) ambient capacity – all wheel drive	✓	
All-Wheel Drive (AWD)		✓
Differential lock/unlock	✓	
Engine idle shutdown timer	✓	
Transmission, autoshift		✓
MOLDBOARD		
Standard drawbar circle moldboard	✓	
Circle drive slip clutch	✓	
Top adjust drawbar circle moldboard		✓
Circle saver		✓
ELECTRICAL		
Sealed alternator	✓	
Reversing lights	✓	
Breaker panel	✓	
900 CCA standard duty batteries*	✓	
1,125 CCA heavy duty batteries	✓	
1,400 CCA extreme duty batteries		✓
Electric starter	✓	

*Available on T3 Lever machines only (1,125 and 1,400 CCA are optional).

(continued on next page)

120 Standard and Optional Equipment

Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Lever/Steering Wheel		Joystick	
	Standard	Optional	Standard	Optional
CAB				
Vinyl seat	✓		N/A	N/A
ROPS	✓		✓	
Air suspension adjustable seat		✓	✓	
Leather heated/cooled seat		✓		✓
Seat belt, retractable	✓		✓	
Seat belt, indication		✓		✓
203 mm (8 in) touchscreen monitor*		✓	✓	
254 mm (10 in) hybrid information display	✓		N/A	N/A
Canopy cab (T3 lever only)		✓	N/A	N/A
Heating, ventilation, and air conditioning (HVAC) system**		✓	✓	
Defrost fans		✓		✓
Halogen lighting		✓		✓
Cup and bottle holders	✓		✓	
Implement lockout		✓	✓	
Adjustable control console	✓		✓	
Interior lights (dome lamp)	✓		✓	
LED lighting		✓		✓
Entertainment Radio Ready		✓	✓	
Coat hook	✓		✓	
USB/Auxiliary Radio		✓		✓
Joystick controls		N/A	✓	
Communication radio mounting		✓		✓
Steering wheel and lever controls	✓		N/A	
Heated mirrors		✓		✓
Electric throttle control	✓		✓	
Front windshield wiper	✓		✓	
Front windshield wiper (lower)		✓	N/A	N/A
Rear wiper		✓		✓
Rear window screen		✓		✓
Cab storage	✓		✓	
Side window wipers	N/A	N/A		✓
Slider side window		✓		✓

(continued on next page)

Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

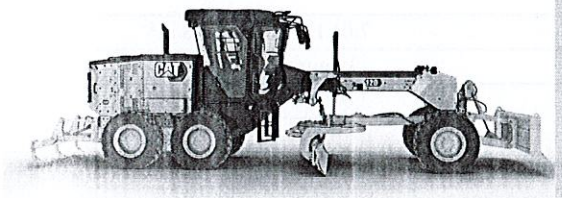
	Standard	Optional
SAFETY AND SECURITY		
Parking brake	✓	
Back up alarm	✓	
Signaling/warning horn	✓	
Warning beacon		✓
Rearview mirror	✓	
Rearview camera		✓
Hydraulic brakes	✓	
Secondary steering system	✓	
Side view mirrors	✓	
Strategically placed walkways and grab rails	✓	
SERVICE AND MAINTENANCE		
Ground level DEF fill – Tier 4 Final/EU Stage IV	✓	
Grouped location for engine oil and fuel filters	✓	
Extended Life Coolant	✓	
CAT CONNECT TECHNOLOGY		
Cat GRADE with Digital Blade Slope Meter		✓
Cat GRADE with Cross Slope Indicate		✓
Cat GRADE with Cross Slope		✓
Cat GRADE Attachment Ready Option (ARO)		✓
Stable blade		✓
Product Link*	✓	
Remote services		✓
*Optional on Lever models.		
GUARDS		
Front fenders*		✓
Rear fenders		✓
Front axle guard for all-wheel drive		✓
Transmission		✓
Cover, under cab platform		✓
*Not available for lever and steering wheel tandem machines.		
ATTACHMENTS		
Push block		✓
Ripper		✓
Scarifier		✓
Mid mount scarifier		✓
Front lift group		✓
Front blade		✓

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

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

AEXQ2482 (12-2018)
Build Number: 14A
(Afr-ME, Aus-NZ, Jpn, CIS, Eur, China, India, Indonesia, S Am, N Am, SE Asia, Turkey)

CAT®



120
Motor Grader

Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

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CAT®

120 Motor Grader Specifications

Engine – Tier 3/Stage IIIA Equivalent

Engine Model	Cat C7.1	
Emissions	U.S. Tier 3 Equivalent	EU Stage IIIA
Base Net Power ISO 9249/SAE J1349	93 kW	125 hp
Base Net Power EEC 80/1269 (metric)	127 hp	
Power Range – Net	93-116 kW	125-156 hp
Power Range – Net (metric)	127-158 hp	
All Wheel Drive Range – Net	97-129 kW	130-173 hp
All Wheel Drive Range – Net (metric)	131-176 hp	
Derating Altitude	4500 m	14,764 ft
Derating Altitude AWD	3000 m	9,842 ft

Engine – Tier 4 Final/Stage V

Engine Model	C7.1	
Emissions	Tier 4 Final	Stage V
Base Net Power ISO 9249/SAE J1349 EEC 80/1269	104 kW	140 hp
Base Net Power ISO 9249/SAE J1349 EEC 80/1269 (metric)	142 hp	
Power Range – Net	104-123 kW	140-164 hp
Power Range – Net (metric)	142-167 hp	
All Wheel Drive Range – Net	108-141 kW	144-189 hp
All Wheel Drive Range – Net (metric)	146-192 hp	
Bore	105 mm	4.1 in
Displacement	7.01 L	427.8 in^3
Stroke	135 mm	5.3 in
Engine RPM	2,000	
Number of Cylinders	6	
Torque Rise – ISO 9249	42%	
Maximum Torque – ISO 9249	822 N·m	606 lb-ft
Maximum Torque (All-Wheel Drive On)	828 N·m	611 lb-ft
Derating Altitude	3000 m	9,842 ft
Derating Altitude AWD	1676 m	5,499 ft
Maximum – Fan Speed	1,300 rpm	
Minimum – Fan Speed	600 rpm	
Ambient Capacity	50° C	122° F

- Net Power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.
- Net power advertised is the power available at rated speed of 2,000 rpm, measured at the flywheel when engine is equipped with fan, air cleaner, muffler, and alternator.
- VHP Plus is standard for the 120 and 120 all-wheel drive (AWD).
- Rated speed at 2,000 rpm.
- Biodiesel blends up to B30 (30% blend by volume) are acceptable when blended with 500 ppm (mg/kg) sulfur or less ULSD. B30 should meet ASTM D7467 specification (biodiesel blend should meet Cat biodiesel spec, ASTM D6751 or EN 14214). Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specification are required. Consult your OMM for further machine specific fuel recommendations.

120 Net Power – Tier 3/Stage IIIA Equivalent

Gear	Non-AWD – kW (hp)	AWD Off – kW (hp)	AWD On – kW (hp)
Forward			
1st	93 (125)	97 (130)	96 (129)
2nd	97 (130)	100 (135)	101 (136)
3rd	101 (136)	104 (140)	107 (144)
4th	108 (145)	111 (149)	115 (155)
5th	112 (150)	124 (167)	128 (171)
6th	116 (156)	129 (173)	129 (173)
7th	116 (156)	129 (173)	129 (173)
8th	116 (156)	129 (173)	129 (173)
Reverse			
1st	93 (125)	97 (130)	96 (129)
2nd	97 (130)	100 (135)	101 (136)
3rd-6th	101 (135)	104 (140)	107 (144)

120 Net Power – Tier 4 Final/Stage V

Gear	Non-AWD – kW (hp)	AWD Off – kW (hp)	AWD On – kW (hp)
Forward			
1st	104 (139)	108 (145)	109 (146)
2nd	107 (143)	111 (149)	114 (153)
3rd	110 (148)	114 (153)	120 (161)
4th	119 (160)	122 (164)	122 (164)
5th	123 (165)	134 (180)	141 (189)
6th	123 (165)	134 (180)	141 (189)
7th	123 (165)	134 (180)	141 (189)
8th	123 (165)	134 (180)	134 (180)
Reverse			
1st	104 (139)	108 (145)	109 (146)
2nd	107 (143)	111 (149)	114 (153)
3rd-6th	110 (148)	114 (153)	120 (161)

Power Train

Forward/Reverse Gears	8 Forward/6 Reverse
Transmission	Direct Drive Powershift Countershaft
High Idle Speed	2,000 rpm
Low Idle Speed	
Tier 3	800 rpm
Tier 4	1,030 rpm
Air Cleaner	Dry

Hydraulic System

Type	Closed – Center	
Type Circuit	Parallel	
Pump Type	Variable Displacement Piston	
System Pressure	24 129 kPa	3500 psi
System Flow	0-200 L/min	0-53 gal/min

Operating Specifications

Top speed forward	48.3 km/h	30.1 mph
Top speed reverse	38.1 km/h	23.7 mph
Turning Radius, Outside Front Tires	7.4 m	291.3 in
Steering Range	50° Left and Right	
Articulation Angle	20° Left and Right	
Front Wheel Lean	18° Left and Right	
Total Oscillation	32°	
Front Wheel Lean*	16°	
Total Oscillation*	32°	
Forward		
1st	4.1 km/h	2.6 mph
2nd	5.6 km/h	3.5 mph
3rd	8.2 km/h	5.1 mph
4th	11.3 km/h	7.0 mph
5th	17.7 km/h	11.0 mph
6th	24.1 km/h	15.0 mph
7th	33.2 km/h	20.6 mph
8th	48.3 km/h	30.1 mph
Reverse		
1st	3.3 km/h	2.0 mph
2nd	6.1 km/h	3.8 mph
3rd	8.9 km/h	5.5 mph
4th	14.0 km/h	8.7 mph
5th	26.2 km/h	16.3 mph
6th	38.1 km/h	23.7 mph

*Joystick – STD only

- Machine speed measured at 2,150 rpm with 14.00R24 radial tires, no slip.

120 Motor Grader Specifications

Base Machine Weight – Tier 3/Stage IIIA Equivalent

Lever/Steering Wheel Weight	13 527 kg	29,822 lb
Front Axle:	3458 kg	7,624 lb
Rear Axle:	10 069 kg	22,198 lb
Joystick Weight	13 810 kg	30,446 lb
Front Axle:	3682 kg	8,117 lb
Rear Axle:	10 128 kg	22,328 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight	14 282 kg	31,486 lb
Front Axle:	3866 kg	8,523 lb
Rear Axle:	10 416 kg	22,963 lb
Joystick All-Wheel Drive (AWD) Weight	14 485 kg	31,934 lb
Front Axle:	4095 kg	9,028 lb
Rear Axle:	10 390 kg	22,906 lb

Base Machine Weight – Tier 4 Final/Stage V

Lever/Steering Wheel Weight	13 892 kg	30,627 lb
Front Axle:	3502 kg	7,721 lb
Rear Axle:	10 390 kg	22,906 lb
Joystick Weight	14 024 kg	30,918 lb
Front Axle:	3688 kg	8,131 lb
Rear Axle:	10 336 kg	22,787 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight	14 647 kg	32,291 lb
Front Axle:	3,912 kg	8,624 lb
Rear Axle:	10,735 kg	23,667 lb
Joystick All-Wheel Drive (AWD) Weight	14 699 kg	32,406 lb
Front Axle:	4101 kg	9,041 lb
Rear Axle:	10 598 kg	23,365 lb

Typically Equipped Machine Weight

Lever/Steering Wheel Weight*	15 699 kg	34,610 lb
Front Axle:	4309 kg	9,550 lb
Rear Axle:	11 390 kg	24,111 lb
Joystick Weight*	15 824 kg	34,886 lb
Front Axle:	4423 kg	9,751 lb
Rear Axle:	11 401 kg	25,135 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight*	16 454 kg	36,275 lb
Front Axle:	4562 kg	10,057 lb
Rear Axle:	11 892 kg	26,217 lb
Joystick All-Wheel Drive (AWD) Weight*	16 499 kg	36,374 lb
Front Axle:	4657 kg	10,267 lb
Rear Axle:	11 842 kg	26,107 lb

Typically Equipped Machine Weight

Lever/Steering Wheel Weight*	15 906 kg	35,067 lb
Front Axle:	4342 kg	9,572 lb
Rear Axle:	11 564 kg	25,494 lb
Joystick Weight*	16 038 kg	35,358 lb
Front Axle:	4459 kg	9,830 lb
Rear Axle:	11 580 kg	25,529 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight*	16 661 kg	36,731 lb
Front Axle:	4502 kg	9,925 lb
Rear Axle:	12 159 kg	26,806 lb
Joystick All-Wheel Drive (AWD) Weight*	16 713 kg	36,846 lb
Front Axle:	4600 kg	10,141 lb
Rear Axle:	12 113 kg	26,705 lb

*Typically equipped includes 4.3 m (14') plus blade, 14.00R24 tires, push plate, ripper, bottom guard, operator, and full fluids.

Major Component Weights

Moldboard (with cutting edge)		
3658 mm × 610 mm × 22 mm (12 ft × 24 in × 7/8 in)	670 kg	1,474 lb
4267 mm × 610 mm × 22 mm (14 ft × 24 in × 7/8 in)	782 kg	1,720 lb
Guards		
Transmission	105 kg	231 lb
Front Fender	50 kg (AWD)/ 93 kg (STD)	110 lb (AWD)/ 205 lb (STD)
Blade Extension		
LH and RH – 152.4 wide, 15.9 thick cutting edge (each)	113 kg	249 lb
LH and RH – 203.2 wide, 19 thick cutting edge (each)	127 kg	280 lb
Mid-Mount Scarifier Package	834 kg	1,835 lb
Front Lift Group	680 kg	1,496 lb
Push Plate	895 kg	1,969 lb
Rear Ripper	680 kg	1,496 lb
Front Scarifier	434 kg	956 lb

Service Refill Capacities

Fuel Tank	246 L	65 gal
Circle Drive	7 L	1.8 gal
Engine Crankcase	18 L	4.8 gal
Cooling System	52.5 L	14 gal
Hydraulic System	97 L	25.6 gal
Diesel Exhaust Fluid Tank (Tier 4 only)	11 L	2.9 gal
Transmission and Differential	60 L	15.8 gal
Tandem	60 L	15.8 gal

Tandems

Oscillation Front Up	15°
Oscillation Rear Up	22°

Service Brakes

Type System	Dual Circuit Hydraulic	
Type Brake	Multiple Oil Disc	
Number of Brakes	4	
Number of Disc Assemblies (each)	6	
Size (outer diameter)	270 mm	10.6 in
Size (inner diameter)	189 mm	7.4 in
Lining Area Per Brake	3,504 cm^2	543.1 in^2

Parking Brake

Type System	Hydraulic Actuated
Type Brake	Multiple Oil Disc, Meets ISO 3450
Slope Holding Ability	30°
Secondary Brakes	Dual Circuit Control System, Applies Two Service Brakes

Moldboard

	Standard		Option 1		Option 2	
Width	3.7 m	12 ft	3.7 m	12 ft	4.3 m	14 ft
Height	610 mm	24 in	610 mm	24 in	610 mm	24 in
End Bit	152 mm	6 in	152 mm	6 in	152 mm	6 in
Cutting Edge	152 mm	6 in	203 mm	8 in	203 mm	8 in
Arc Radius	413 mm	16.3 in	413 mm	16.3 in	413 mm	16.3 in
Throat Clearance	120 mm	4.7 in	124 mm	4.9 in	89 mm	3.5 in

Drawbar Circle Moldboard

Range of Motion	Standard		Top Adjust	
Lift Cylinders	2		2	
Maximum Depth of Cut	775 mm	30.5 in	775 mm	30.5 in
Maximum Lift Above Ground	410 mm	16.1 in	410 mm	16.1 in
Throat Clearance	120 mm	4.7 in	120 mm	4.7 in
Circle Center Shift Cylinder				
Center Shift Right	656 mm	25.8 in	656 mm	25.8 in
Center Shift Left	656 mm	25.8 in	656 mm	25.8 in
Moldboard Side Shift Cylinder				
Side Shift Left	660 mm	26 in	660 mm	26 in
Side Shift Right	510 mm	20.1 in	510 mm	20.1 in
Blade Tip Cylinder				
Maximum Blade Tip Forward	40°		40°	
Maximum Blade Tip Backward	5°		5°	
Circle Drive	360° of Blade Rotation			
Link Bar	7 Positions to adjust the drawbar circle moldboard range of motion			
Drawbar Shoes	4 with replaceable wear strips			

Circle

Section	Rolled Ring Forging
Number of Teeth	64
Rotation	360°

120 Motor Grader Specifications

Blades – Tier 3/Stage IIIA Equivalent

Lever/Steering Wheel Weight		
Blade Pull Adv. Base GVW	9027 kg	19,901 lb
Blade Down Force Adv. Base GVW	6126 kg	13,505 lb
Blade Pull Adv. Typically Equipped GVW	10 222 kg	22,535 lb
Blade Down Force Adv. Typically Equipped GVW	7604 kg	16,764 lb
Blade Pull Adv. Max GVW	12 402 kg	27,341 lb
Blade Down Force Adv. Max GVW	10 895 kg	24,019 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight		
Blade Pull Adv. Base GVW	12 854 kg	28,337 lb
Blade Down Force Adv. Base GVW	6685 kg	14,738 lb
Blade Pull Adv. Typically Equipped GVW	14 809 kg	32,647 lb
Blade Down Force Adv. Typically Equipped GVW	8165 kg	18,001 lb
Blade Pull Adv. Max GVW	18 000 kg	39,683 lb
Blade Down Force Adv. Max GVW	10 831 kg	23,878 lb
Joystick Weight		
Blade Pull Adv. Base GVW	9136 kg	20,141 lb
Blade Down Force Adv. Base GVW	6409 kg	14,129 lb
Blade Pull Adv. Typically Equipped GVW	10 206 kg	22,500 lb
Blade Down Force Adv. Typically Equipped GVW	7854 kg	17,315 lb
Blade Pull Adv. Max GVW	12 402 kg	27,341 lb
Blade Down Force Adv. Max GVW	10 895 kg	24,019 lb
Joystick All-Wheel Drive (AWD) Weight		
Blade Pull Adv. Base GVW	13 037 kg	28,740 lb
Blade Down Force Adv. Base GVW	6929 kg	15,276 lb
Blade Pull Adv. Typically Equipped GVW	14 849 kg	32,736 lb
Blade Down Force Adv. Typically Equipped GVW	8373 kg	18,459 lb
Blade Pull Adv. Max GVW	18 000 kg	39,683 lb
Blade Down Force Adv. Max GVW	10 831 kg	23,878 lb

Blades – Tier 4 Final/Stage V

Lever/Steering Wheel Weight		
Blade Pull Adv. Base GVW	9351 kg	20,615 lb
Blade Down Force Adv. Base GVW	6134 kg	13,523 lb
Blade Pull Adv. Typically Equipped GVW	10 408 kg	22,945 lb
Blade Down Force Adv. Typically Equipped GVW	7606 kg	16,768 lb
Blade Pull Adv. Max GVW	12 402 kg	27,341 lb
Blade Down Force Adv. Max GVW	10 895 kg	24,019 lb
Lever/Steering Wheel All-Wheel Drive (AWD) Weight		
Blade Pull Adv. Base GVW	13 182 kg	29,062 lb
Blade Down Force Adv. Base GVW	6812 kg	15,018 lb
Blade Pull Adv. Typically Equipped GVW	14 995 kg	33,058 lb
Blade Down Force Adv. Typically Equipped GVW	7839 kg	17,282 lb
Blade Pull Adv. Max GVW	18 000 kg	39,683 lb
Blade Down Force Adv. Max GVW	10 831 kg	23,878 lb
Joystick Weight		
Blade Pull Adv. Base GVW	9302 kg	20,507 lb
Blade Down Force Adv. Base GVW	6460 kg	14,242 lb
Blade Pull Adv. Typically Equipped GVW	10 422 kg	22,976 lb
Blade Down Force Adv. Typically Equipped GVW	7810 kg	17,218 lb
Blade Pull Adv. Max GVW	12 402 kg	27,341 lb
Blade Down Force Adv. Max GVW	10 895 kg	24,019 lb
Joystick All-Wheel Drive (AWD) Weight		
Blade Pull Adv. Base GVW	13 229 kg	29,165 lb
Blade Down Force Adv. Base GVW	7141 kg	15,743 lb
Blade Pull Adv. Typically Equipped GVW	15 042 kg	33,161 lb
Blade Down Force Adv. Typically Equipped GVW	8010 kg	17,659 lb
Blade Pull Adv. Max GVW	18 000 kg	39,683 lb
Blade Down Force Adv. Max GVW	10 831 kg	23,878 lb

Maximum Shoulder Reach Outside of Tires

Blade	3.7 m (12 ft)		4.3 m (14 ft)	
Right	1905 mm	75 in	2210 mm	87 in
Left	1742 mm	68.6 in	2180 mm	85.8 in

- An additional 300 mm (11.8 in) of reach can be achieved to the right or left by changing the side shift mounting bracket on the 4.3 m (14 ft) blade.

Standards

ROPS	ISO 3471:2008
FOPS	ISO 3449:2005 Level II
Brakes	ISO 3450:2011
Steering	ISO 5010:2007

Sound Standards

Sound	ISO 6395:2008 ISO 6396:2008
Spectator Sound Level – Non-AWD	105 dB(A)
Spectator Sound Level – AWD	106 dB(A)
Operator Sound Level – Joystick	71 dB(A)
Operator Sound Level – Lever/ Steering Wheel	75 dB(A)

- The dynamic spectator sound power level measurements are performed according to the dynamic test procedures that are specified in ISO 6395:2008. The measurements were conducted at 70% of the maximum engine cooling fan speed. The machine was equipped with sound suppression system.
- The dynamic operator sound pressure level measurements are performed according to the dynamic test procedures that are specified in ISO 6396:2008. The measurements were conducted at 70% of the maximum engine cooling fan speed, with the cab doors and the cab windows closed. The cab was properly installed and maintained. The machine was equipped with sound suppression system.

Tier 3/Stage IIIA/Bharat Stage III, and Bharat Stage V, with LVR tandem for India/APD	
Sound	ISO 6395:2008 ISO 6396:2008

- The dynamic spectator sound power level is 107 dB(A). Measurements are performed according to the dynamic test procedures that are specified in ISO 6395:2008. The measurements were conducted at 70% of the maximum engine cooling fan speed. The machine was not equipped with sound suppression.
- The dynamic operator sound pressure level is 75 dB(A). Measurements are performed according to the dynamic test procedures that are specified in ISO 6396:2008. The measurements were conducted at 70% of the maximum engine cooling fan speed, with the cab doors and the cab windows closed. The cab was properly installed and maintained. The machine was not equipped with sound suppression.

Ripper

Ripping Depth Maximum	288 mm	11.2 in
Ripper Shank Holder	5	
Ripper Shank Holder Spacing	533 mm	20.8 in
Penetration Force	5119 kg	11,287 lb
Pryout Force	2029 kg	4,474 lb
Machine Length Increase, Beam Raised	900 mm	35.1 in

Mid Mount Scarifier

Front, V-Type: Working Width	1205 mm	47.4 in
Number of Shanks	11	
Shank Spacing	116 mm	4.5 in
Scarifying Width	1031 mm	40.2 in

Electrical

Starting System Type	Direct Electric
Heavy Duty Battery	
CCA at –18°	1,125 amp
Volts	12V
Quantity	2
Extreme Duty Battery	
CCA at –18°	1,400 amp
Volts	12V
Quantity	2
Standard Alternator	145 amps at 24V
Heavy Duty Alternator	150 amps at 24V

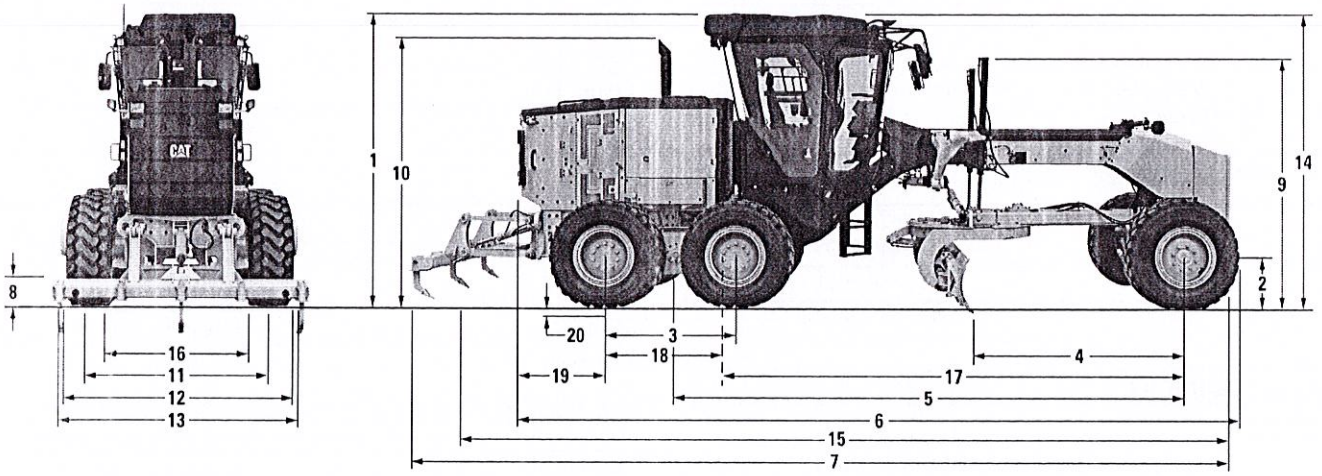
Electrical – Tier 3/Stage IIIA Equivalent Lever

Starting System Type	Direct Electric
Standard Duty Battery	Only offered on Levers
CCA at –18°	900 amp
Volts	12v
Quantity	2
Heavy Duty Battery	
CCA at –18°	1,125 amp
Volts	12V
Quantity	2
Extreme Duty Battery	
CCA at –18°	1,400 amp
Volts	12V
Quantity	2
Standard Alternator – Levers	115 amps at 24V
Standard Alternator – Joystick	145 amps at 24V
Heavy Duty Alternator	150 amps at 24V

120 Motor Grader Specifications

Dimensions

All dimensions are approximate.



1	Height – Top of Cab	3465 mm	136.4 in
2	Height		
	Front Axle Center (Non AWD)	590 mm	23.2 in
	Front Axle Center (AWD)	596 mm	23.5 in
3	Length – Between Tandem Axles	1510 mm	59.5 in
4	Length		
	Front Axle to Moldboard (Non AWD)	2551 mm	100.4 in
	Length – Front Axle to Moldboard (AWD)	2516 mm	99 in
5	Length		
	Front Axle to Mid Tandem (Non AWD)	5945 mm	234 in
	Front Awd Axle to Mid Tandem (AWD)	5910 mm	232.7 in
6	Length		
	Front Tire to Rear of Machine (Non AWD)	8534 mm	336 in
	Front Tire to Rear of Machine (AWD)	8499 mm	334.6 in
7	Length – Push Plate to Ripper	9838 mm	387 in
8	Ground Clearance at Rear Axle	349 mm	13.7 in
9	Height to Top of Cylinders	2895 mm	114 in
10	Height to Exhaust Stack	3185 mm	125.4 in
	Height to Exhaust Stack (Tier 3)	2924 mm	115 in
11	Width – Tire Center Lines	2070 mm	81.5 in
12	Width – Outside Rear Tires	2491 mm	98 in
13	Width		
	Outside Front Tires (Non AWD)	2495 mm	98.2 in
	Outside Front Tires (AWD)	2638 mm	103.9 in
14	Maximum Height – with Attachments	3440 mm	135.4 in
15	Length – Push Plate to Raised Ripper	9583 mm	377 in
16	Width – Inside Rear Tires	1649 mm	64.9 in
17	Length		
	Front Axle to Articulation Hitch (Non AWD)	5284 mm	208 in
	Front Axle to Articulation Hitch (AWD)	5249 mm	206.7 in
18	Length – Rear Axle to Articulation Hitch	660 mm	26 in
19	Length – Rear Axle to Rear of Frame	1726 mm	68 in
20	Height – Tire Deflection at Performance Weight	45 mm	1.8 in

Optional Tire Arrangements

Rim Size	Wheel Group	Tires
9 x 24	Single-Piece	13.00-24
9 x 24	Single-Piece	14.00-24
10 x 24	Multi-Piece	13.00-24
10 x 24	Multi-Piece	14.00-24
10 x 24	Multi-Piece	14.00-24
13 x 25	Single-Piece	17.5R25
14 x 25	Multi-Piece	14.00R24
14 x 25	Multi-Piece	17.5R25
14 x 25	Multi-Piece	17.5-25

Note: Consult your dealer for individual tire width, size and brand.

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
POWER TRAIN		
Cat C7.1 engine	✓	
ECO mode	✓	
Extreme duty starter		✓
50° C (122° F) ambient capacity	✓	
43° C (109° F) ambient capacity – all wheel drive	✓	
All-Wheel Drive (AWD)		✓
Differential lock/unlock	✓	
Engine idle shutdown timer	✓	
Hydraulic demand fan	✓	
Reversing fan		✓
Biodiesel capability up to B30	✓	
Transmission, autoshift*	✓	
*Optional on lever machines.		
MOLDBOARD		
Standard drawbar circle moldboard	✓	
Circle drive slip clutch	✓	
Top adjust drawbar circle moldboard		✓
Circle saver		✓
ELECTRICAL		
Sealed alternator	✓	
Reversing lights	✓	
Breaker panel	✓	
900 CCA standard duty batteries*	✓	
1,125 CCA heavy duty batteries	✓	
1,400 CCA extreme duty batteries		✓
Electric starter	✓	
*Available on T3 Lever machines only (1,125 and 1,400 CCA are optional).		

(continued on next page)

120 Standard and Optional Equipment

Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Lever/Steering Wheel		Joystick	
	Standard	Optional	Standard	Optional
CAB				
Vinyl seat	✓		N/A	N/A
ROPS/FOPS	✓		✓	
Air suspension adjustable seat		✓	✓	
Leather heated/cooled seat		✓		✓
Seat belt, retractable	✓		✓	
Seat belt, indication		✓	✓	
203 mm (8 in) touchscreen monitor		✓	✓	
254 mm (10 in) hybrid information display	✓		N/A	N/A
Canopy cab (T3 lever only)		✓	N/A	N/A
Heating, ventilation, and air conditioning (HVAC) system		✓	✓	
Defrost fans		✓	✓	
Halogen lighting		✓		✓
Cup and bottle holders	✓		✓	
Implement lockout		✓	✓	
Adjustable control console	✓		✓	
Interior lights (dome lamp)	✓		✓	
LED lighting		✓		✓
Entertainment Radio Ready		✓	✓	
Coat hook	✓		✓	
USB/Auxiliary Radio		✓		✓
Joystick controls		N/A	✓	
Communication radio mounting		✓		✓
Steering wheel and lever controls	✓		N/A	
Heated mirrors		✓		✓
Electric throttle control	✓		✓	
Front windshield wiper	✓		✓	
Front windshield wiper (lower)		✓	N/A	N/A
Rear wiper		✓		✓
Rear window screen		✓		✓
Cab storage	✓		✓	
Side window wipers	N/A	N/A		✓
Slider side window		✓		✓

(continued on next page)

Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
SAFETY AND SECURITY		
Parking brake	✓	
Back up alarm	✓	
Ground level fuel fill*		✓
Signaling/warning horn	✓	
Warning beacon		✓
Rearview mirror	✓	
Rearview camera		✓
Hydraulic brakes	✓	
Secondary steering system	✓	
Side view mirrors	✓	
Strategically placed walkways and grab rails	✓	
*Standard for North America and Europe.		
SERVICE AND MAINTENANCE		
Ground level DEF fill – Tier 4 Final/Stage V	✓	
Grouped location for engine oil and fuel filters	✓	
Extended Life Coolant	✓	
CAT TECHNOLOGY		
Cat GRADE with Digital Blade Slope Meter		✓
Cat GRADE with Cross Slope Indicate		✓
Cat GRADE with Cross Slope		✓
Cat GRADE Attachment Ready Option (ARO)		✓
Stable blade		✓
Product Link™*	✓	
Remote services		✓
*Optional on Lever models.		
GUARDS		
Front fenders*		✓
Rear fenders		✓
Front axle guard for all-wheel drive		✓
Transmission		✓
Cover, under cab platform		✓
*Not available for lever and steering wheel tandem machines.		
ATTACHMENTS		
Push block		✓
Ripper		✓
Scarifier		✓
Mid mount scarifier		✓
Front lift group		✓
Front blade		✓

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

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

AEXQ2482-01 (7-2020)
Build Number: 14A
(Afr-ME, Aus-NZ, Jpn, CIS,
Eur, S Am, N Am, Turkey)

CAT®

	MOTOR GRADERS
	BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
Compliant?	
	BASIC SPECIFICATIONS
Y____ N____	Machine shall be designed and built by the manufacturer.
Y____ N____	Base Machine Weight shall not be less than 30,624 lbs (13,892 kg). Weight shall include: standard machine configuration, lubricants, coolants, full fuel tank and operator of 200 lbs (91 kg).
Y____ N____	Machine height to top of the cab shall not exceed 137.4 in (3,465 mm).
Y____ N____	**Machine length from the front outside edge tire to end of tow hitch shall not be more than 340 in (8,629mm).**
Y____ N____	**Machine Wheel Base (distance from front axle to mid tandem) shall not be more than 232.7 in (5,910mm).**
Y____ N____	**The rear frame shall have two box section channels with an integrated bumper as standard.**
Y____ N____	A toolbox shall be provided.
	BASIC SPECIFICATIONS-OPTIONAL ATTACHMENTS
Y____ N____	Machine shall have vandal protection standard including locks for cab doors, engine side shields (4), top tank radiator access door, engine coolant surge tank, hydraulic reservoir cap, fuel tank cap and tool box.
Y____ N____	An optional rear hitch shall be provided
Y____ N____	**Machine length from counterweight to ripper shall not exceed 387 in (9,838 mm).**
	ENGINE
Y____ N____	Engine shall be designed and built by the manufacturer.
Y____ N____	Engine shall be a turbo-charged, direct injection, four stroke, 6-cylinder diesel engine.
Y____ N____	Engine shall be certified EPA Tier 4 Final and European Union Stage IV
Y____ N____	Engine shall be electronically controlled for more efficient fuel injection and fuel burn.
Y____ N____	Engine shall achieve rated power requirement with engine displacement not less than 7.1L (428 in3) for better fuel economy.
Y____ N____	Engine shall develop a rated net flywheel of at least 139 HP (104 kW) in 1st gear, 143 HP (107 kW) in 2nd gear, 148 HP (110 kW) in 3rd gear, 160 HP (119 kW) in 4th gear, and 165 HP (123 kW) in gears 5 through 8.
Y____ N____	Engine will increase its low idle speed to 1,000 rpm when the battery voltage is below 24.5 volts for more than 5 minutes to ensure adequate system voltage and battery reliability.
Y____ N____	Altitude deration will not occur at altitudes less than 10,000 ft (3048 m). The deration rate above 10,000 ft (3048 m) shall be 1.5% per 1000 ft (305 m).
Y____ N____	Peak engine power shall not be achieved at an engine speed greater than 1800 rpm.
Y____ N____	Rated engine power shall not be achieved at an engine speed greater than 2000 rpm.
Y____ N____	Engine will have an minimum torque rise of 42% from 2000 rpm to peak torque following SAE J1349 (net power with max fan).
Y____ N____	Engine enclosure and daily service points shall be accessible from ground level and grouped on the left side of the machine.
Y____ N____	Engine fan shall automatically adjust fan speed via an electronically controlled pressure relief valve to meet engine cooling requirements thus reducing noise and heat
Y____ N____	**Engine shall allow for at least 1000 hours of operation between oil changes.**
Y____ N____	Engine shall be isolation/resilient mounted to minimize sound and vibration.
Y____ N____	Engine compartment doors shall be lockable without the use of external locks.
Y____ N____	Engine shall automatically lower engine torque and alert the operator if critical conditions are detected.
Y____ N____	Engine shall have an air-to-air after cooler for superior engine performance.
Y____ N____	Engine oil cooler shall be a water to oil shell and tube cooler system.
Y____ N____	Machine shall have a 12000 hour coolant interval from factory.
Y____ N____	The charged air cooler (ATAAC) shall have 6.35 fins per inch.

		MOTOR GRADERS
		BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
		ENGINE-OPTIONAL ATTACHMENTS
	Y____ N____	An engine coolant heater shall be available to assist in cold weather starting.
	Y____ N____	Ether starting aid shall be available and must automatically meter ether injection to prevent engine damage.
		POWERTRAIN/TRANSMISSION
	Y____ N____	Transmission shall be designed and built by the machine manufacturer.
	Y____ N____	Transmission shall be a direct drive, power shift, countershaft type.
	Y____ N____	**Transmission shall be equipped with built-in self-diagnostic capability.**
	Y____ N____	Transmission shall have no less than 8 forward speeds and 6 reverse speeds(for added safety).
	Y____ N____	Transmission shall have 5 working gears between 0-11.0 mph (0-17.7 km/h), for dirt applications.
	Y____ N____	Transmission shall be isolated/resilient mounted to reduce sound and vibration.
	Y____ N____	**A controlled throttle shifting system shall be standard to smooth directional gear changes without use of the inching pedal.**
	Y____ N____	**Electronic Throttle Control (cruise control) shall be standard and shall be controlled by a push button, located on a 3-axis joystick as standard on the right joystick control for resuming and decreasing throttle set.**
	Y____ N____	Electronic Throttle Control modes, set and accelerate functions, shall be located on the right control column for easy access.
	Y____ N____	A load compensating system for the transmission shall be standard to ensure consistent shift quality in all applications.
	Y____ N____	Automatic Differential Lock/Unlock feature shall be standard and shall not have speed, shuttle shifting or tandem spinning restrictions for engaging/disengaging. System must be load-sensing for optimal performance. .
	Y____ N____	Automatic mode shall not be overriden via manual intervention for optimal performance and to prevent unintended differential engagement
	Y____ N____	Differential Lock/Unlock shall be electro-hydraulically controlled, as a standard feature.
	Y____ N____	**Differential Lock/Unlock shall be a multi-disc design.**
	Y____ N____	**Final drive shall be a planetary design.**
	Y____ N____	The total surface area of all the transmission clutch packs shall not be less than 2,031 in² (13,102 cm²).
	Y____ N____	Diameter at the output end of the transmission shaft shall be no less than 2.29 in (58.1 mm).
	Y____ N____	**Machine shall be equipped with an electronic inching pedal for improved modulation and machine control.**
	Y____ N____	Machine shall be equipped with electronic over-speed protection to prevent the engine and transmission from over speeding, as a standard feature.
		POWERTRAIN/TRANSMISSION-OPTIONAL ATTACHMENTS
	Y____ N____	An autoshift transmission option shall be available on all forward and reverse gears.
		STEERING & IMPLEMENT CONTROLS
	Y____ N____	Steering wheel shall not be required to operate machine.
	Y____ N____	Joystick steering capabilities shall be ISO 5010.
	Y____ N____	**Machine shall employ a friction pack style steering mechanism, utilizing the follow steer concept.**
	Y____ N____	**The left 3-axis joystick shall control wheel lean with individual left and right wheel lean buttons as standard.**
	Y____ N____	**Primary steering shall be achieved via a left hand, multifunction, 3- axis, joystick as standard, using an intuitive steering control system that automatically adjusts steering sensitivity as machine ground speed increases.**
	Y____ N____	**Articulation to the right or left shall be achieved by a multifunction, 3-axis left joystick with the twist of such to the right or left by the left-hand, multifunction, 3-axis joystick.**

		MOTOR GRADERS
		BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
	Y____ N____	**An articulation return-to-center button on the left multifunction, 3- axis, joystick, shall return the machine to a straight frame position from any articulation angle with the touch of a single button.**
	Y____ N____	**The right 3 axis joystick shall primarily control the Drawbar, Circle, and Moldboard.**
	Y____ N____	**Machine, Drawbar, Circle, and Moldboard shall be control shall be achieved via a right hand multifunction, 3-axis, joystick, including moldboard slide and tip, drabar center shift through a 4 way hat switch and circle turn by a left or right twist intuitively.**
	Y____ N____	**Blade lift cylinders shall be individually controlled by the multifunction, 3 axis joysticks; Lift and drop of cylinders shall be achieved by the forward and back motion of the respective joystick. Forward(left joystick) lowers left lift cylinder, back(left joystick)raises the left lift cylinder, forward(right joystick) lowers the right right lift cylinder, back(right joystick) raises the right lift cylinder.**
	Y____ N____	**Joystick controls shall be mounted to adjustable pedestals, hard mounted to the cab floor, independent of the operator seat.**
	Y____ N____	**Secondary steering shall have a primary and secondary power supply in the event the primary source is lost.**
	Y____ N____	**Transmission direction control shall be a 3-position rocker switch for selecting forward, neutral, and reverse incorporated into a single, 3-axis, multi-function, left-hand joystick control.**
	Y____ N____	**Transmission gear selection shall be controlled by dual push buttons for up shifting and downshifting and shall be incorporated into a single, 3-axis, multi-function, left-hand joystick control.**
	Y____ N____	**Manual Differential Lock/Unlock shall be operator controlled, via a push-button, located on a single, 3-axis, multi-function, right-hand joystick control.**
	Y____ N____	The machine shall have two redundant articulation sensors.
	Y____ N____	Two redundant sensors shall be standard in the steering cylinders (one in each).
	Y____ N____	Three redundant sensors shall be provided in the steering joystick for additional safety.
		STEERING & IMPLEMENTS-OPTIONAL ATTACHMENTS
	Y____ N____	Optional up to 4 Auxiliary hydraulic circuits available: Ripper, Mid Mount Scarifier, Front Lift and Dozer Angle shall be available
		BRAKES
	Y____ N____	Machine shall have primary and secondary service brakes.
	Y____ N____	Entire braking system shall meet all requirements of ISO 3450: 2001.
	Y____ N____	Two separate left and right hydraulic brake accumulators shall be standard for safety.
	Y____ N____	Parking brake shall be multi-disc, oil-cooled, spring-applied, hydraulically released, sealed, adjustment-free, and integrated into the transmission. Park brake shall not be externally located.
	Y____ N____	Parking brake shall be serviceable without removing the transmission.
	Y____ N____	**Service brakes shall be multi-disc, oil-cooled and sealed; they will also provide access to check and determine brake wear without removing or disassembling the brake assembly.**
	Y____ N____	Service brake disc surfaces shall be grooved and carry oil between discs and plates with brakes fully applied.
	Y____ N____	Service brakes shall be hydraulically actuated, utilizing dual independent brake circuits.
	Y____ N____	Brakes shall be continuously pressurized, filtered, oil cooled.
	Y____ N____	**Machine shall have individual brake pods for each rear wheel, located at each rear wheel inside the tandem box, independent of tandem chains.**
	Y____ N____	Compensation components shall be required at all four tandem brake pods in addition to the brake wear indicator.
	Y____ N____	Brake line protection, including tandem walkways and hydraulic brake line guarding, shall be required to prevent line damage.
	Y____ N____	Service brakes shall provide a minimum of 2,172 in² (14,013 cm²) of total friction material surface area used at each of the four tandem wheels to eliminate braking loads on the power train.

	MOTOR GRADERS
	BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
	HYDRAULIC SYSTEM
Y____ N____	**A standard triple redundant hydraulic relief system shall protect machine hydraulic components.**
Y____ N____	Hydraulic implement pump shall produce between 0 and 53 gal/min (201 L/min) of oil flow at high idle.
Y____ N____	**Hydraulic system shall be a closed center, load sensing type, with a variable displacement, axial piston-type pump.**
Y____ N____	Hydraulic system shall be fully sealed, using Duo-cone and O-ring face seals to prevent leaks,contamination, and spillage.
Y____ N____	The hydraulic tank shall have a baffling system to reduce potential pump cavitations.
Y____ N____	The maximum hydraulic system pressure shall be no more than 3,500 psi (24,150 kPa).
Y____ N____	**Implement valves shall be mechanical, designed and built by the machine manufacturer.**
Y____ N____	Implement valves shall be proportional priority pressure compensating for consistent response, when multi-functioning any combination of implement controls and independent of engine speed.
Y____ N____	Steering and implement pump shall be solely dedicated to steering and implement controls and not shared with any other components.
Y____ N____	**Lock valves shall be integrated into the main implement valve to prevent cylinder drift.**
Y____ N____	The hydraulic stand-by pressure shall be no Less than 943 psi (6,500 kPa).
Y____ N____	There shall be a provision to install up to twelve modulating hydraulic valves, controlled by two, three-axis, multi-functioning, joystick controls and auxiliary controls inside the cab.
Y____ N____	Left and right blade lift cylinders shall have independent float capability, actuated by two multifunction, 3-axis joystick controls inside the cab, as a standard feature.
Y____ N____	A sight gauge will be provided for checking hydraulic reservoir fluid.
Y____ N____	Hydraulic oil change service interval shall be no less than 6000 hours with oil sampling
Y____ N____	Hydraulic system shall have a separate oil tank solely dedicated to the implement pump.
	FRONT AXLE AND TANDEMS
Y____ N____	Front axle oscillation shall be no less than 32 degrees total, per side 16 degrees up, 16 degrees down.
Y____ N____	Front axle shall be an arched design for maximum ground clearance.
Y____ N____	**Wheel spindle shall be a "live" spindle design and rotate inside a sealed compartment with lightweight oil for lubrication of the bearings.**
Y____ N____	**Front spindle shall be heat induction hardened.**
Y____ N____	**Front wheel spindle bearings shall be a double tapered design with the larger diameter bearing mounted closest to the centerline of the front tire.**
Y____ N____	**Front wheel spindle maintenance intervals shall be no less than 2000 hrs.**
Y____ N____	**Front wheel steering angle shall be a maximum of 50 degrees left or right.**
Y____ N____	Maximum front wheel lean shall be no less than 18 degrees left or right.
Y____ N____	Machine turning radius shall not exceed 24 ft. 3 in. (7.4 m) using front steering, full articulation and unlocked differential.
Y____ N____	Distance between center of tandem wheels shall be no less than 59.5 in (1510 mm).
Y____ N____	Tandem chain pitch shall not be less than 1.75 in (44.45 mm).
Y____ N____	**Tandems shall be capable of oscillating 15 degrees front tandem up and 25 degrees front tandem down, with full machine articulation and having no interference between tandem wheel and machine structure.**
Y____ N____	Mechanical steering stops located at each wheel and steering cylinder relief valves shall be present to prevent steering system damage during normal operation.
Y____ N____	Steering tie rod ends shall be heat induction hardened.
Y____ N____	Machine shall provide 2 steering cylinders for maximum steering force.
Y____ N____	When equipped with a ripper, the machine shall have a minimum ramp angle of 15 degrees.
	TIRES AND RIMS
Y____ N____	**A 10 in (25.4 cm) by 24 in (60.96 cm) size 3-piece tire rim shall be available to provide mounting for 14.00R24 conventional tires**

	MOTOR GRADERS
	BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
	TIRES AND RIMS-OPTIONAL ATTACHMENTS
Y____ N____	A 9 in (22.86 cm) by 24 in (60.96 cm) size single-piece tire rim shall be available to provide mounting for 13.0-24 and 14.00R24 conventional tires
Y____ N____	A 13 in (33.0 cm) by 25 in (63.5 cm) size single-piece tire rim shall be available to provide mounting for 17.5-25 tires.
Y____ N____	A 14 in (35.6 cm) by 25 in (63.5 cm) size 3-piece tire rim shall be available to provide mounting for 17.5-R25 tires.
	OPERATORS STATION
Y____ N____	A **42,075 BTU/h (12.3 kW)** heater shall have an integral pressurizer and four-speed fan along with A/C.
Y____ N____	Seat shall be a cloth-covered suspension seat with, 3-inch (76 mm) retractable seat belts, with adjustments for fore-aft position, seat height, seat back angle, thigh support, and lumbar support.
Y____ N____	An enclosed cab with ROPS (Rollover Protective Structure) according to ISO 3471shall be provided.
Y____ N____	Cab door shall have a hold-open clasp with a ground-level release and in addition to, a release in the cab.
Y____ N____	Cab shall be isolation-mounted to the front frame section of the machine.
Y____ N____	Cab shall have fixed front window of laminated glass with intermittent wiper.
Y____ N____	FOPS (Falling Object Protective Structure) shall be provided according to ISO 3499.
Y____ N____	Machine shall have no less than 16 adjustable vents standard positioned to direct air to front windows and operator.
Y____ N____	Radio ready arrangement will include 24V to 12V converter, two speakers, antenna and wiring.
Y____ N____	**An instrument cluster shall be integrated into main tablet style display and include a speedometer, tachometer, coolant temperature, fuel and articulation angle gauge.**
Y____ N____	**Tablet style touchscreen display shall be high definition, anti-glare and scratch resistant.**
Y____ N____	Operator cab fresh air-filter shall be accessible for clean out and replacement, from outside of the cab.
Y____ N____	**Machine shall have the Optional Cat Grade with Cross Slope system fully integrated into the machine design with integral hydraulic and electrical components.**
Y____ N____	A real-time information system shall monitor all system data and alert the operator of any faults through a digital text display. This information system shall be programmable for multiple languages.
Y____ N____	Left and right side cab doors shall be provided.
Y____ N____	Wipers shall be provided on side and rear windows.
Y____ N____	Digital machine hour meter shall be provided.
Y____ N____	An electronic message system shall provide real-time machine performance and diagnostic data.
Y____ N____	The forward visibility shall unobstructed visibility of the blade, heel and toe, back of the cutting edge, and front tires.
Y____ N____	Access to cab shall be three anti-skid steps.
Y____ N____	Cab shall have cup holder, personal cooler holder/storage compartment for operator's manual, with a molded floor mat.
Y____ N____	**Window washer fluid bottle refill spout shall be located external of the cab.**
Y____ N____	**Cab shall have "Split C post" pillars located behind the operator.**
Y____ N____	**Cab shall have Heating, ventilation and air conditioning vents/ducts in the cab ceiling/headliner.**
Y____ N____	**Cab shall have door release lever activated from groundllevel or with the operator's heel without stretching or obstruction to the release.**
	OPERATORS STATION-OPTIONAL ATTACHMENTS
Y____ N____	Automatic climate control shall be available.
Y____ N____	**Manufacturer must provide Stable Grade sensor and software to automatically reduce engine speed in various applications to reduce machine bounce and scalloping of surface**
Y____ N____	**Digital Blade Slope Meter shall be available from the factory in order ensure proper calibration and installation for improved accuracy and performance.**
Y____ N____	**Cat Grade with Cross Slope Indicate shall be available from the factory in order to ensure proper calibration and installation for improved accuracy and performance.**

		MOTOR GRADERS
		BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
	Y____ N____	**Cat Grade with Cross Slope System shall be available from the factory in order to ensure proper calibration and installation for improved accuracy and performance.**
	Y____ N____	**Integrated display and wiring for a rear vision camera shall be available with capability to view at all times without interfering with the gauge and diagnostic display.**
	Y____ N____	An auxiliary control pod, with implement float control capability, shall be available.
	Y____ N____	Auxiliary controls shall be available for control of attachment implements and/or work tools, and shall be programmable via computer software.
	Y____ N____	Auxiliary controls shall be a fingertip control type and located beside the right-hand joystick control.
	Y____ N____	A rear sun shade shall be available.
	Y____ N____	A rear defroster fan shall be available.
	Y____ N____	Attachment Ready Option (ARO) shall be available from the factory. This option shall Include additional mounting brackets and electrical harnesses for easy installation of the electronics kit.
	Y____ N____	An air suspension seat shall be available.
	Y____ N____	Heated and ventilated air suspension seat shall be available.
	Y____ N____	Cab shall have sliding side windows available.
	Y____ N____	**Cab shall have "B" pillar mirrors increasing visibility to the rear of the machine and ripper.**
	Y____ N____	**Cab shall have optional auxillary heater available with additonal 4 vents under the seat.**
		DRAWBAR, CIRCLE & MOLDBOARD, also known as DCM
	Y____ N____	**Optional Top Adjust Drawbar, Circle and Moldboard wear strips shall be replaceable drop-in inserts made from nylon composite material, replaceable and adjustable from the top of the drawbar plate via removable cover plates.**
	Y____ N____	**The drawbar shall feature welded protective wear plates to prevent lift group contact with the primary drawbar structure.**
	Y____ N____	The standard moldboard shall be at least 12 ft (3.7 m) long, 24 in (610 mm) high and no less than 7/8 in (22 mm) thick. Cutting edge 8" x 3/4" (203 x 11 mm) curved cutting edge
	Y____ N____	Moldboard shall have a bank slope angle capability of at least 90 degrees to both sides.
	Y____ N____	Moldboard shall have no less than 16.3 in (413 mm) arc radius (blade curvature) for optimum productivity.
	Y____ N____	**Optional top adjust DCM moldboard retention system shall have no more than two retention points located on the left and right side of the moldboard. The surface area shall not be less than 55,332 mm² (85.76 in²).**
	Y____ N____	Moldboard shall have a hydraulic tip control through a range of 40 degrees fore and 5 degrees aft.
	Y____ N____	**Optional Top Adjust Moldboard wear strips shall be adjusted with lock screws, providing shim-less adjustment capability both vertical & horizontal.**
	Y____ N____	The moldboard shall be pre-stressed during manufacturing for superior strength and durability.
	Y____ N____	Moldboard slide rails shall be constructed of a heat-treated, high carbon steel and have replaceable bronze alloy wear inserts on top and bottom.
	Y____ N____	Circle shall be a single piece, rolled-ring forging, with raised wear surfaces on the top and bottom.
	Y____ N____	Circle shall be rotated by a hydraulically driven motor with a minimum circle pinion torque capability of 12,538.56 ft-lb (17,000 N-m).
	Y____ N____	Circle teeth contact surfaces shall be induction-hardened on the front 240 degrees of the circle.
	Y____ N____	**Blade lift and center shift cylinders shall have replaceable bronze coated steel wear inserts in the ball sockets with removable shims to insure the ability to remove free play throughout the useful wear insert life.**
	Y____ N____	The standard mounting hardware for cutting edges and end bits shall be 3/4 in (16 mm)
	Y____ N____	Link bar shall have large diameter 7 positions for increased versatility, the center most of which bear replaceable bushings.
	Y____ N____	Linkbar pin shall be separate from pin pulling mechanism for easier service and lower O&O costs.
	Y____ N____	The lift cylinder casting shall be welded to the front frame for added strength and structural integrity.
	Y____ N____	The draft frame pivot connection shall have a single ball stud with grease zerk. Ball stud shall be bolt-on, shimable and adjustable to allow for quick and easy field serviceable design.
	Y____ N____	**There shall be 2 sideshift anchor positions shall be provided for extended reach capability as standard.**
	Y____ N____	**Pinion Gear shall be separate from the Pinion Shaft to allow for a quick and easy serviceable design.**

	MOTOR GRADERS
	BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
Y____ N____	Circle outside diameter shall be no less than 60.2 in (1530 mm).
Y____ N____	Throat clearance with standard moldboard shall be at least 410 mm.
Y____ N____	A greaseable moldboard pivot pin shall be available as standard equipment.
Y____ N____	**There will be no more than 6 replaceable wear inserts between the circle and drawbar providing at least 120 in² (770 cm²) of wear surface area and 6 additonal wearstrips on circle shoes totaling 19 in² (122 cm²).**
	CIRCLE & MOLDBOARD-OPTIONAL ATTACHMENTS
Y____ N____	A 12 ft (4267 mm) long, 24 in (610 mm) high and no less than 7/8 in (22 mm) thick moldboard shall be available. Cutting edge 8"x 3/4" (203 x 19mm) curved cutting edge, Reversible end bits overlay with curved edges.
Y____ N____	A 14 ft (4267 mm) long, 27 in (686 mm) high and no less than 7/8 in (22 mm) thick moldboard shall be available.Cutting edge 8"x 3/4" (203 x 19mm) curved cutting edge, Reversible end bits overlay with curved edges.
Y____ N____	**Blade lift accumulators shall be provided, protecting cutting edge and other components from damage from shock loads as an option.**
Y____ N____	**There shall be 3 sideshift anchor positions shall be provided for extended reach capability on optional 14 foot moldboard.**
	ELECTRICAL
Y____ N____	Machine shall have a 145 amp-hour, 1125 CCA heavy-duty battery.
Y____ N____	Machine shall have a minimum 150-amp alternator at 24 volts provided which is brushless for increased life and durability.
Y____ N____	A 24 V to 12 V converter with 15-amp capacity shall be provided.
Y____ N____	Starting system shall be a 24V direct electric type.
Y____ N____	Incandescent white reversing lamps and LED stop lamps shall be provided.
Y____ N____	Electrical system shall have a master disconnect switch with a removable key (in addition to the ignition switch), accessible from the ground level.
Y____ N____	All core machine systems shall be electronically connected, optimizing performance and preventing machine damage.
Y____ N____	All wiring shall be arranged and located so as to facilitate regular visual inspections, not be in contact with hot surfaces and not routed with other services lines (e.g. fuel, oil, etc.).
Y____ N____	All harnesses / cabling are secured with clipping clamps providing a gap between the conduit/harness and the mounting surface preventing material build-up.
	ELECTRICAL-OPTIONAL ATTACHMENTS
Y____ N____	Machine shall have 200 amp-hour, 1400 CCA extreme duty batteries available.
Y✓ N____	Machine shall have a 150-amp alternator at 24 volts available which is brushless for increased life and durability.
Y____ N____	There will be 6 (3 x 3 in) (76 x 76 mm) halogen mounted on the cab, 4 forward facing and 2 rear facing shall be available.
Y____ N____	There will be 6 (3 x 3 in) (76 x 76 mm) LED mounted on the cab, 4 forward facing and 2 rear facing shall be available.
Y____ N____	There will be 2 (3 x 3 in)(76 x 76 mm) halogen heel work lamps mounted underneath the cab shall be available as an option.
Y____ N____	There will be 2 (3 x 3 in) (76 x 76 mm) halogen mid-frame toe lamps shall be available to illuminate moldboard and surrounding area as an option.
Y____ N____	There will be 2 (3 x 3 in) (76 x 76 mm) halogen ripper work lamps shall be available as an option.
Y____ N____	There will be 2 (3 x 3 in)(76 x 76 mm) LED heel work lamps mounted underneath the cab shall be available as an option.
Y____ N____	There will be 2 (3 x 3 in) (76 x 76 mm) LED mid-frame toe lamps shall be available to illuminate moldboard and surrounding area as an option.
Y____ N____	There will be 2 (3 x 3 in) (76 x 76 mm) LED ripper work lamps shall be available as an option.
Y____ N____	High and low bar headlights with front turn signals shall be available.

	MOTOR GRADERS
	BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
Y____ N____	One or two amber LED high-speed strobe beacon shall be available.
Y____ N____	A 24V to 12V converter with 25 amp capacity shall be available.
	SERVICEABILITY
Y____ N____	The dip stick for checking transmission fluid shall be at ground level.
Y____ N____	Hydraulic tank site gauge shall be readable from the ground.
Y____ N____	**Hydraulic tank filter shall be a cartridge style filter located inside the hydraulic oil tank.**
Y____ N____	Sampling ports shall be accessible from the tandem level and provide access to the engine, hydraulic, coolant, and fuel ports.
Y____ N____	A two-way communication tool shall give service technicians easy access to stored diagnostic data and allow configuration of machine parameters.
Y____ N____	Machine shall provide 3 points of contact on all areas of the machine, for mounting and dismounting.
Y____ N____	**The articulation joint shall have mechanical locking device to prevent frame articulation while servicing or transporting machine.**
Y____ N____	Left and right side tandem case assemblies shall be covered with punched steel plate to provide an adequate platform for standing and walking.
Y____ N____	Sampling ports shall be accessible from the tandem level and provide access to the engine, hydraulic, coolant, and fuel ports.
Y____ N____	**Engine primary and final fuel filters shall have 500 hour service replacement interval.**
Y____ N____	Engine shall have primary fuel filter with fuel water separator and electronic sensor, quick release dual stage filter and primer pump.
Y____ N____	The centralized lube bank shall be at the articulation joint to give access to difficult zerks.
Y____ N____	Transmission filter restriction indicator shall be displayed in the cab.
Y____ N____	Lock out Tag out capabilities shall be provided standard and increase the safety levels during down time. This ensures that an energy isolating device and the machine which are being worked on and cannot be operated
	SERVICEABILITY-OPTIONAL ATTACHMENTS
Y____ N____	High-speed oil drain system shall be available with ground level quick connect access.
Y____ N____	A guard shall be available to protect the machine's transmission from debris.
Y____ N____	A guard shall be available to suppress sound from the engine.
Y____ N____	An internal service lights shall be available to illuminate engine compartment.
Y____ N____	**A circle pinion grease bucket, known as circle saver, with remote grease line shall be available.**
	MINIMUM SERVICE FILL CAPACITIES
Y____ N____	Standard fuel tank capacity shall not be more than 65 gallons (246 L).
Y____ N____	Standard cooling system capacity shall not be less than 13.9 gallons (52.5 L).
Y____ N____	Standard hydraulic tank capacity shall not be less than 19.8 gallons (75 L).
Y____ N____	Standard engine oil capacity shall not be less than 4.8 gallons (18 L).
Y____ N____	Standard tandem housing capacity shall not be less than 15.8 gallons (59 L) each.
Y____ N____	Standard front wheel spindle bearing housing capacity shall not be less than 0.1 gallons (0.5 L).
Y____ N____	Standard circle drive housing capacity shall not be less than 1.8 gallons (7 L).
	SAFETY AND ENVIRONMENTAL
Y____ N____	**A standard circle drive slip clutch shall be provided to reduce horizontal moldboard impact damage.**
Y____ N____	Black glare-reducing paint shall be used on the front frame and engine enclosure to decrease glare from other equipment lights and reflection from the sun and snow.
Y____ N____	An external emergency kill switch shall be available for ground level engine shut down.
Y____ N____	Machine shall have laminated glass for the front windows and doors, to protect the operator from shattered glass.
Y____ N____	Machine shall provide dual exits allowing for emergency egress should one side become obstructed.

		MOTOR GRADERS
		BID SPECIFICATION FOR 120 JOYSTICK OR EQUIVALENT
	Y____ N____	Electrical system shall have a master disconnect switch with a removable key and lock for added safety.(in addition to the ignition switch).
	Y____ N____	Machine shall have back-up lights and sounding alarm when reverse gears are selected.
	Y____ N____	Environmentally friendly drain valves shall be provided for the hydraulic oil, engine oil, engine coolant, transmission, differential and fuel tank.
	Y____ N____	Cooling fan shall have both a shroud and rear grill for protection during service.
	Y____ N____	Machine shall allow cab interior and exterior lights to remain on separate from ignition switch, for safe exit of the machine during night operation.
	Y____ N____	Engine and transmission shall be rubber isolation mounted to reduce noise and vibration.
		SAFETY AND ENVIRONMENTAL-OPTIONAL ATTACHMENTS
	Y____ N____	A guard shall be available to protect the machine's transmission from debris.
	Y____ N____	Rear vision camera with integrated display and wiring shall be available.
	Y____ N____	Blade lift accumulators shall be available as an option, to reduce vertical impact damage.
	Y____ N____	Drop down rear lights (stop/turn signal lights) shall be available to span the profile of the machine, for increased safety
	Y____ N____	Outside mounted mirrors (optional heated) shall be available.
		ADDITIONAL FEATURES
	Y____ N____	Rear ripper shall have 5 ripper shank holders.
	Y____ N____	Rear ripper shall have a working penetration of maximum 11.3 in (286 mm) and a penetration force of at least 11,268 lb (5,122 kg).
	Y____ N____	Rear fenders shall meet ISO-3457 requirements and shall not interfere with the ability to fully open any cab or engine enclosure, or service access doors.
	Y____ N____	All core machine systems shall be electronically connected optimizing performance and preventing machine damage.
		OPTIONAL ATTACHMENTS
	Y____ N____	An integrated communication tool providing flow of vital machine data and location shall be available. This system shall give automatic updates on machine parameters such as machine hours, machine condition, location, fault codes and alarms.
	Y____ N____	Remote machine diagonistics shall be available.
	Y____ N____	Remote software flash shall be available.
	Y____ N____	Machine shall have a engine coolant circulating heater available.
	Y____ N____	Machine shall have a transmission solenoid valve guard available.
	Y____ N____	A mid-mount scarifier shall be available.
	Y____ N____	A dedicated front blade shall be available
	Y____ N____	A front mount scarifier shall be available from Caterpillar work tools.
	Y____ N____	A front lift group shall be available.
	Y____ N____	A pushblock/counterweight shall be available.
	Y____ N____	A rear ripper shall be available.
		Bid specs are intended for use by North American buyers only and are subject to change. Model configuration may change depending on country of use. Please contact your local Caterpillar dealer for the most up-to-date specifications for your area.

Effective with sales to the first user on or after June 1, 2015

CATERPILLAR LIMITED WARRANTY

For Selected Machine Models Designated by Caterpillar with 12 Month/Unlimited Hour Warranty

Worldwide

Caterpillar Inc. or any of its subsidiaries ("Caterpillar") warrants the following products sold by it to be free from defects in material and workmanship:

- New earthmoving, construction, material handling, forestry product, paving product, compact wheel loader, mini hydraulic excavator, skid steer loader, multi terrain loader, and compact track loader machines designated by Caterpillar as having 12 -months/unlimited hour warranty. See your Cat® dealer for a complete listing of covered models.
- Attachments/work tools installed on such machines prior to delivery (unless covered by the Cat Work Tool warranty statement or another manufacturer's warranty). Hammer tool points and compacting plates used on hydraulic hammers are not warranted.

An additional warranty against breakage is applicable to certain Cat ground engaging tools. An additional warranty against wear is applicable to all landfill compactor tips when used in residential waste landfills. Refer to the applicable warranty statements for coverage detail.

This warranty does not apply to:

- Cat Batteries
- Mobil-trac belts, rubber tracks used on multi terrain loaders, compact track loaders, and mini hydraulic excavators
- Cat Work Tools
- Select models designated by Caterpillar that are sold in India and China

These products are covered by other Caterpillar warranties.

This warranty is subject to the following:

Warranty Period

For new machines and work tools/attachments the warranty period is 12-months/unlimited hours, starting from date of delivery to the first user.

Note:

- For hydraulic line's quick connect/disconnect components sold on compact wheel loaders, mini hydraulic excavators, skid steer loaders, multi terrain loaders, and compact track loader machines, the warranty period is 50 hours starting from the date of delivery to the first user.
- For Draglines, Electric Rope Shovels, Hard Rock Movers, Hard Rock Feeders; the warranty period is not to exceed 24 months from shipment of the last major component from the Caterpillar place of manufacture.

Caterpillar Responsibilities

If a defect in material or workmanship is found during the warranty period, Caterpillar will, during normal working hours and at a place of business of a Cat dealer or other source approved by Caterpillar:

- Provide (at Caterpillar's choice) new, remanufactured, or Caterpillar approved repaired parts or assembled components needed to correct the defect.

  Note: New, remanufactured, or Caterpillar approved replacement parts provided under the terms of this warranty are warranted for the remainder of the warranty period applicable to the product in which installed as if such parts were original components of that product. Items replaced under this warranty become the property of Caterpillar.
- Replace lubricating oil, filters, antifreeze, and other service items made unusable by the defect.
- Provide reasonable and customary labor needed to correct the defect.

User Responsibilities

The user is responsible for:

- Providing proof of delivery date to the first user.
- Labor costs, except as stated under "Caterpillar Responsibilities."
- Transportation costs, except as stated under "Caterpillar Responsibilities."
- Premium or overtime labor costs.
- Parts shipping charges in excess of those that are considered usual and customary.
- Local taxes, if applicable.
- Costs to investigate complaints, unless the problem is caused by a defect in Caterpillar material or workmanship.
- Giving timely notice of a warrantable failure and promptly making the product available for repair.
- Performance of the required maintenance (including use of proper fuel, oil, lubricants, and coolant) and items replaced due to normal wear and tear.
- Allowing Caterpillar access to all electronically stored data.

Limitations

Caterpillar is not responsible for:

- Failures resulting from any use or installation that Caterpillar judges improper.
- Failures resulting from attachments, accessory items, and parts not sold or approved by Caterpillar.
- Failures resulting from abuse, neglect, and/or improper storage or repair.
- Failures resulting from user's delay in making the product available after being notified of a potential product problem.
- Failures resulting from unauthorized repair or adjustments, and unauthorized fuel setting changes.

(Continued on the reverse side....)

This warranty covers every major component of the products. Claims under this warranty should be submitted to a place of business of a Cat dealer or other source approved by Caterpillar. For further information concerning either the location to submit claims or Caterpillar as the issuer of this warranty, write Caterpillar Inc., 100 N. E. Adams St., Peoria, IL USA 61629.

Caterpillar's obligations under this Limited Warranty are subject to, and shall not apply in contravention of, the laws, rules, regulations, directives, ordinances, orders, or statutes of the United States, or of any other applicable jurisdiction, without recourse or liability with respect to Caterpillar.

A) For products operating outside of Australia, Fiji, Nauru, New Caledonia, New Zealand, Papua New Guinea, the Solomon Islands, and Tahiti, the following is applicable:

NEITHER THE FOREGOING EXPRESS WARRANTY NOR ANY OTHER WARRANTY BY CATERPILLAR, EXPRESS OR IMPLIED, IS APPLICABLE TO ANY ITEM CATERPILLAR SELLS THAT IS WARRANTED DIRECTLY TO THE USER BY ITS MANUFACTURER.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT CATERPILLAR EMISSION-RELATED COMPONENTS WARRANTY FOR NEW ENGINES, WHERE APPLICABLE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISION OF MATERIAL AND SERVICES, AS SPECIFIED HEREIN.

CATERPILLAR IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

CATERPILLAR EXCLUDES ALL LIABILITY FOR OR ARISING FROM ANY NEGLIGENCE ON ITS PART OR ON THE PART OF ANY OF ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN RESPECT OF THE MANUFACTURE OR SUPPLY OF GOODS OR THE PROVISION OF SERVICES RELATING TO THE GOODS.

IF OTHERWISE APPLICABLE, THE VIENNA CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS IS EXCLUDED IN ITS ENTIRETY.

B) For products operating in Australia, Fiji, Nauru, New Caledonia, New Zealand, Papua New Guinea, the Solomon Islands, and Tahiti, the following is applicable:

THIS WARRANTY IS IN ADDITION TO WARRANTIES AND CONDITIONS IMPLIED BY STATUTE AND OTHER STATUTORY RIGHTS AND OBLIGATIONS THAT BY ANY APPLICABLE LAW CANNOT BE EXCLUDED, RESTRICTED OR MODIFIED ("MANDATORY RIGHTS"). ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED (BY STATUTE OR OTHERWISE), ARE EXCLUDED. WITHOUT LIMITING THE FOREGOING PROVISIONS OF THIS PARAGRAPH, WHERE A PRODUCT IS SUPPLIED FOR BUSINESS PURPOSES, THE CONSUMER GUARANTEES UNDER THE CONSUMER GUARANTEES ACT 1993 (NZ) WILL NOT APPLY.

NEITHER THIS WARRANTY NOR ANY OTHER CONDITION OR WARRANTY BY CATERPILLAR, EXPRESS OR IMPLIED (SUBJECT ONLY TO THE MANDATORY RIGHTS), IS APPLICABLE TO ANY ITEM CATERPILLAR SELLS THAT IS WARRANTED DIRECTLY TO THE USER BY ITS MANUFACTURER.

IF THE MANDATORY RIGHTS MAKE CATERPILLAR LIABLE IN CONNECTION WITH SERVICES OR GOODS, THEN TO THE EXTENT PERMITTED UNDER THE MANDATORY RIGHTS, THAT LIABILITY SHALL BE LIMITED AT CATERPILLAR'S OPTION TO (a) IN THE CASE OF SERVICES, THE SUPPLY OF THE SERVICES AGAIN OR THE PAYMENT OF THE COST OF HAVING THE SERVICES SUPPLIED AGAIN AND (b) IN THE CASE OF GOODS, THE REPAIR OR REPLACEMENT OF THE GOODS, THE SUPPLY OF EQUIVALENT GOODS, THE PAYMENT OF THE COST OF SUCH REPAIR OR REPLACEMENT OR THE ACQUISITION OF EQUIVALENT GOODS.

CATERPILLAR EXCLUDES ALL LIABILITY FOR OR ARISING FROM ANY NEGLIGENCE ON ITS PART OR ON THE PART OF ANY OF ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN RESPECT OF THE MANUFACTURE OR SUPPLY OF GOODS OR THE PROVISION OF SERVICES RELATING TO THE GOODS.

CATERPILLAR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES UNLESS IMPOSED UNDER MANDATORY RIGHTS. IF OTHERWISE APPLICABLE, THE VIENNA CONVENTION (CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS) IS EXCLUDED IN ITS ENTIRETY.

C) For products supplied in Australia:

IF THE PRODUCTS TO WHICH THIS WARRANTY APPLIES ARE:

I. PRODUCTS OF A KIND ORDINARILY ACQUIRED FOR PERSONAL, DOMESTIC OR HOUSEHOLD USE OR CONSUMPTION; OR

II. PRODUCTS THAT COST AUD 40,000 OR LESS,

WHERE THOSE PRODUCTS WERE NOT ACQUIRED FOR THE PURPOSE OF RE-SUPPLY OR FOR THE PURPOSE OF USING THEM UP OR TRANSFORMING THEM IN THE COURSE OF PRODUCTION OR MANUFACTURE OR IN THE COURSE OF REPAIRING OTHER GOODS OR FIXTURES, THEN THIS SECTION C APPLIES.

THE FOLLOWING MANDATORY TEXT IS INCLUDED PURSUANT TO THE AUSTRALIAN CONSUMER LAW AND INCLUDES REFERENCES TO RIGHTS THE USER MAY HAVE AGAINST THE DIRECT SUPPLIER OF THE PRODUCTS: OUR GOODS COME WITH GUARANTEES THAT CANNOT BE EXCLUDED UNDER THE AUSTRALIAN CONSUMER LAW. YOU ARE ENTITLED TO A REPLACEMENT OR REFUND FOR A MAJOR FAILURE AND COMPENSATION FOR ANY OTHER REASONABLY FORESEEABLE LOSS OR DAMAGE. YOU ARE ALSO ENTITLED TO HAVE THE GOODS REPAIRED OR REPLACED IF THE GOODS FAIL TO BE OF ACCEPTABLE QUALITY AND THE FAILURE DOES NOT AMOUNT TO A MAJOR FAILURE. THE INCLUSION OF THIS TEXT DOES NOT CONSTITUTE ANY REPRESENTATION OR ACCEPTANCE BY CATERPILLAR OF LIABILITY TO THE USER OR ANY OTHER PERSON IN ADDITION TO THAT WHICH CATERPILLAR MAY HAVE UNDER THE AUSTRALIAN CONSUMER LAW.

TO THE EXTENT THE PRODUCTS FALL WITHIN THIS SECTION C BUT ARE NOT OF A KIND ORDINARILY ACQUIRED FOR PERSONAL, DOMESTIC OR HOUSEHOLD USE OR CONSUMPTION, CATERPILLAR LIMITS ITS LIABILITY TO THE EXTENT IT IS PERMITTED TO DO SO UNDER THE AUSTRALIAN CONSUMER LAW TO, AT ITS OPTION, THE REPAIR OR REPLACEMENT OF THE PRODUCTS, THE SUPPLY OF EQUIVALENT PRODUCTS, OR THE PAYMENT OF THE COST OF SUCH REPAIR OR REPLACEMENT OR THE ACQUISITION OF EQUIVALENT PRODUCTS.

THE WARRANTY SET OUT IN THIS DOCUMENT IS GIVEN BY CATERPILLAR INC. OR ANY OF ITS SUBSIDIARIES, 100 N. E. ADAMS ST, PEORIA, IL USA 61629, TELEPHONE 1 309 675 1000,THE USER IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH MAKING A CLAIM UNDER THE WARRANTY SET OUT IN THIS DOCUMENT, EXCEPT AS EXPRESSLY STATED OTHERWISE IN THIS DOCUMENT, AND THE USER IS REFERRED TO THE BALANCE OF THE DOCUMENT TERMS CONCERNING CLAIM PROCEDURES, CATERPILLAR RESPONSIBILITIES AND USER RESPONSIBILITIES.

TO THE EXTENT PERMISSIBLE BY LAW, THE TERMS SET OUT IN THE REMAINDER OF THIS WARRANTY DOCUMENT (INCLUDING SECTION B) CONTINUE TO APPLY TO PRODUCTS TO WHICH THIS SECTION C APPLIES.

CONTROL YOUR COSTS MINIMIZE YOUR RISKS

This plan safeguards your investments in new, used and rebuilt machines beyond the standard warranty period. It includes all parts and labor to protect you against failures caused by defects in materials and workmanship. With the Powertrain Equipment Protection Plan, you can increase the predictability of service and maintenance costs—and reduce unplanned downtime.

WHAT WE DO

- Perform necessary inspections to confirm eligibility
- Install parts approved by Caterpillar on covered repairs
- Validate your enrollment in the program

WHAT YOU DO

- Operate equipment according to the Cat Operation & Maintenance Manual (OMM)
- Have recommended preventive maintenance performed at intervals specified in the OMM
- Upon request, provide proof of preventive maintenance compliance (receipts, copies of work orders, invoices)
- Promptly provide the machine for repair in the event of a covered failure

COVERED COMPONENTS

Engine & Accessories

Engine - Internal Components
Oil Cooler
Manifolds
Fan Motor
Water Pump
Fuel Injection Pumps
Injectors
Lift / Transfer Pump
Senders / Solenoids / Sensors
Thermostat
Flywheel & Torque Converter
Engine Oil Filter Mount
Turbocharger
AC Compressor / Condenser
Electronic Control Modules
Oil Hoses / Lines (non-hydrostatic)
Cylinder Block
Piston
Piston Rings
Piston & Connecting Rod
Crankshaft, Main Bearings & Rod Bearings
Camshaft & Camshaft Bearings
Timing / Accessory Gears
Timing Chain / Belt
Inlet / Exhaust Valve
Valve Cover & Base
Valve Spring & Guide
Rocker Arm
Rocker Shaft Assembly
Push Rod
Balancer
Fuel Pump / Governor Drive
Oil Pump
Oil Pan Group
Fan & Fan Drive

Transmission

Transmissions
Hydraulic Controls
Transmission Oil Filter Base
Transmission Gears
Final Drives/Planetary
Drive Shafts
Transfer Case
Hydrostatic Pumps & Drive Motors
Linkage / lines Connected to Hystat Pump
Drive (pilot / eh) Control Valves
Bevel and Transfer Case

Drive Line/Drive Axle

Axles
Axle Seals
Final Drive & Wheel
Final Drive Case / Bore
Final Drive Chain
Final Drive Gears
Axle Shaft
Drive Axle Oil Pump

Steering

Steering Clutch
Steering Clutch & Brake Control Valve

Hydraulic Systems

Hydraulic Oil Coolers

EXCLUSIONS

If a component is not listed, it may not be included in the plan. Other exclusions include:

> Improper or abusive use of the machine

> Lubricating oil, antifreeze, filters, consumables and other maintenance items replaced during the covered component repair, unless such items are rendered unusable by a covered component failure

> Failures caused by normal wear-out

> Freight charges for parts shipments

> Travel time and mileage involved in getting to a job site

> Hauling costs and / or retrieval costs

> Overtime labor costs

> Repair costs resulting from the failure of any non-covered components

> Downtime loss

> Equipment rental charges

> Any incidental / consequential damages or costs incurred as a result of a covered component failure.

> Modifications unless approved by Caterpillar

Examples of covered and excluded components or items are listed here. The actual dealer contract will govern. For a complete list of included components and more information on Cat Equipment Protection Plans, contact your local Cat dealer.

Click any ? for help
Home
My Cases
New Case
View Cases
Search Cases
My Profile
Edit Profile
Change Password
Change Security Questions
My Company
Edit Company Profile
Add New User
View Existing Users
Close Company Account
My Reports
View Reports
My Resources
View Essential Resources
Take Tutorial
View User Manual
Contact Us

Company Information

Company Name: Thompson Tractor Co., Inc. [View / Edit]

Company ID Number: 47130
Doing Business As (DBA) Name:
DUNS Number:

Physical Location:

Address 1: 2401 Pinson Highway
Address 2:
City: Birmingham
State: AL
Zip Code: 35217
County: JEFFERSON

Mailing Address:

Address 1: P O. Box 10367
Address 2:
City: Birmingham
State: AL
Zip Code: 35202-0367

Additional Information:

Employer Identification Number: 630377478
Total Number of Employees: 1,000 to 2,499
Parent Organization:
Administrator:

Organization Designation:

Employer Category:

NAICS Code: 423 - MERCHANT WHOLESALERS, DURABLE GOODS [View / Edit]

Total Hiring Sites: 40 [View / Edit]

Total Points of Contact: 3 [View / Edit]

[View / Edit]

Form **W-9**
(Rev. October 2007)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give form to the requester. Do not send to the IRS.

Print or type See Specific Instructions on page 2.

Name (as shown on your income tax return)
Thompson Tractor Co., Inc. DBA Thompson Power Systems, Thompson Lift Truck Co.

Business name, if different from above
and The Cat Rent Store

Check appropriate box: ☐ Individual/Sole proprietor ☒ Corporation ☐ Partnership
☐ Limited liability company. Enter the tax classification (D=disregarded entity, C=corporation, P=partnership) ➤ .....
☐ Other (see instructions) ➤

☒ Exempt payee

Address (number, street, and apt. or suite no.)
P O Box 10367 2401 Pinson Hwy. Tarrant, AL 35217

Requester's name and address (optional)

City, state, and ZIP code
Birmingham, AL 35202-0367

List account number(s) here (optional)
Lockbox Remit To: P O Box 934065, Atlanta, GA 31193-4005

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number
: :

or

Employer identification number
63 : 0377478

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here — Signature of U.S. person ➤ Lynda L. Duncan, Controller — Date ➤

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,

the Employer issues a tentative nonconfirmation based upon a photo non-match. The Employer will determine whether the employee contests the tentative nonconfirmation as soon as possible after the Employer receives it.

4. If the employee contests a tentative nonconfirmation issued by DHS, the Employer will provide the employee with a referral letter and instruct the employee to contact the Department through its toll-free hotline within 8 Federal Government work days.

5. If the employee contests a tentative nonconfirmation based upon a photo non-match, the Employer will provide the employee with a referral letter to DHS. DHS will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.

6. The Employer agrees that if an employee contests a tentative nonconfirmation based upon a photo non-match, the Employer will send a copy of the employee's Form I-551 or Form I-766 to DHS for review by:

- Scanning and uploading the document, or
- Sending a photocopy of the document by an express mail account (furnished and paid for by DHS).

7. The Employer understands that if it cannot determine whether there is a photo match/non-match, the Employer is required to forward the employee's documentation to DHS by scanning and uploading, or by sending the document as described in the preceding paragraph, and resolving the case as specified by the Immigration Services Verifier at DHS who will determine the photo match or non-match.

ARTICLE IV

SERVICE PROVISIONS

The SSA and DHS will not charge the Employer for verification services performed under this MOU. The Employer is responsible for providing equipment needed to make inquiries. To access the E-Verify System, an Employer will need a personal computer with Internet access.

ARTICLE V

PARTIES

This MOU is effective upon the signature of all parties, and shall continue in effect for as long as the SSA and DHS conduct the E-Verify program unless modified in writing by the mutual consent of all parties, or terminated by any party upon 30 days prior written notice to the others. Any and all system enhancements to the E-Verify program by DHS or SSA, including but not limited to the E-Verify checking against additional data sources and instituting new verification procedures, will be covered under this MOU and will not cause the need for a supplemental MOU that outlines these changes. DHS agrees to train employers on all changes made to E-Verify through the use of mandatory refresher tutorials and updates to the E-Verify manual. Even

without changes to E-Verify, the Department reserves the right to require employers to take mandatory refresher tutorials.

Termination by any party shall terminate the MOU as to all parties. The SSA or DHS may terminate this MOU without prior notice if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Employer, or a failure on the part of the Employer to comply with established procedures or legal requirements. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as they may determine.

Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Employer, its agents, officers, or employees.

Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Employer.

The employer understands that the fact of its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to, Congressional oversight, E-Verify publicity and media inquiries, and responses to inquiries under the Freedom of Information Act (FOIA).

The foregoing constitutes the full agreement on this subject between the SSA, DHS, and the Employer.

The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Employer and DHS respectively.

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify Operations at 888-464-4218.

Employer Thompson Tractor Co., Inc.

Frank M Wright	
Name (Please type or print)	Title
Electronically Signed	**07/11/2007**
Signature	Date

Department of Homeland Security – Verification Division

Company ID Number: 47130

INFORMATION REQUIRED
FOR THE E-VERIFY PROGRAM

Information relating to your Company:

Company Name:	Thompson Tractor Co., Inc.
Company Facility Address:	2401 Pinson Highway Birmingham, AL 35217
Company Alternate Address:	P.O. Box 10367 Birmingham, AL 35202-0367
County or Parish:	JEFFERSON
Employer Identification Number:	630377478
North American Industry Classification Systems Code:	423
Parent Company:	
Number of Employees:	1,000 to 2,499
Number of Sites Verified for:	5

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State.

- GEORGIA 5 site(s)

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name:	Kimberly A Stark		
Telephone Number:	(205) 849 - 4279	Fax Number:	(205) 849 - 4565
E-mail Address:	kimberlystark@thompsontractor.com		
Name:	Frank M Wright		
Telephone Number:	(205) 849 - 4267	Fax Number:	(205) 849 - 4854
E-mail Address:	frankwright@thompsontractor.com		

Company ID Number: 47130

USCIS Verification Division	
Name (Please type or print)	Title
Electronically Signed	**07/11/2007**
Signature	Date