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List View

- General Information**
- Contact
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Procurement Folder: 1297303  
 Procurement Type: Central Master Agreement  
 Vendor ID: 000000218366   
 Legal Name: RUDD EQUIPMENT COMPANY INC  
 Alias/DBA:  
 Total Bid: \$4,609,600.00  
 Response Date: 11/28/2023   
 Response Time: 10:17  
 Responded By User ID: Ruddequip   
 First Name: Leigh  
 Last Name: Tetrick  
 Email: ltetrick@ruddequipment.com  
 Phone: 304-755-7788

SO Doc Code: CRFQ  
 SO Dept: 0803  
 SO Doc ID: DOT2400000039  
 Published Date: 11/17/23  
 Close Date: 11/28/23  
 Close Time: 13:30  
 Status: Closed  
 Solicitation Description: ADDENDUM NO\_2 Rubber Tired Wheel Loader 4 wh. drive  
 Total of Header Attachments: 4  
 Total of All Attachments: 4



Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Rubber Tired Wheel Loader 4 wh. drive	25.00000	EA	184384.000000	4609600.00

Comm Code	Manufacturer	Specification	Model #
22101501			

**Commodity Line Comments:**

**Extended Description:**

Rubber Tired Wheel Loader 4 wh. drive



# VOLVO

## Volvo Construction Equipment North America

### Warranty – Disclaimers – Limitations

#### Limited Warranty for Governmental / Municipalities

Volvo Construction Equipment North America ("Volvo CE") hereby extends to its authorized dealers ("Dealer") and the Dealer's Governmental / Municipalities customers ("Customer", and both Dealer and Customer are referred to herein as a "Buyer"), who purchase a new Volvo construction equipment machine ("Machine") or new Volvo part ("Part", both of which are referred to herein as a "Product") from Volvo the following limited warranty:

Subject to the exceptions and limitations set forth below, Volvo CE or Dealer will repair or replace any part of a new Machine or new Part which proves to be defective in material or workmanship during the following periods (the "Warranty Period"):

#### **Volvo Wheel Loaders**

- 12 months/2500 hours

#### **Volvo Articulated Haulers**

- 12 months/2500 hours

#### **Volvo Hydraulic Excavators**

- 12 months/2500 hours

#### **Volvo Pavers (ABG)**

- 12 months/2500 hours

#### **Volvo Compact Hydraulic Excavators (less than 11 metric tons)**

- 12 months/unlimited hours

#### **Volvo Compact Wheel Loaders (up to 100 net hp.)**

- 12 months/unlimited hours

#### **Volvo Skid Steer Loaders**

- 12 months/unlimited hours
- Lifetime arm (original owner only)

#### **Volvo Compactors**

- 24 month unlimited hours

#### **Volvo Pavers (Blaw-Knox)**

- 24 month unlimited hours

#### **Volvo Attachments**

- 12 months

#### **Volvo Parts**

- 6 months/1500 hours from original purchase date for "over the counter" purchased parts or
- 12 months/2500 hours from the install date for parts purchased from and installed by an authorized Volvo CE Dealer

#### **Volvo Remanufactured Components**

- 12 months/2500 hours from purchase date or install date if a VCE dealer completed the install.

**The Warranty Period commences immediately following the delivery of said Product to the Buyer who first puts said Product into use.** The foregoing limited warranty shall include the labor cost to accomplish the repair or replacement of the defective part provided that the repair or replacement was performed by a Dealer.

The foregoing warranty does not cover: (i) any Product found to have been damaged by abuse, accident, other casualty or a failure to maintain or use the warranted Product in accordance with the applicable manuals or instructions (**Buyer is required to use only original equipment manufacturer filters during the Warranty Period**); (ii) the labor costs to repair or replace defective Parts after the expiration of the Warranty Period of the Machine in which such Part is located; (iii) overtime labor premiums; (iv) costs and expenses associated with the transportation of Dealer's service personnel to and from the location of the warranted Product; (v) any parts, components, attachments or accessories for which Buyer receives a separate warranty by the manufacturer or producer thereof (in specified cases said warranty may be administered by Volvo CE); (vi) maintenance items or ground engaging parts that have achieved their normal service life.



## **DISCLAIMER OF IMPLIED WARRANTIES AND LIMITATION OF REMEDIES**

THE FOREGOING WARRANTY TO BUYER IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND THERE IS NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

REMEDIES AVAILABLE TO BUYER ARE LIMITED TO MAKING A CLAIM UNDER THE FOREGOING WARRANTY AND ARE EXCLUSIVE AND EXPRESSLY LIMITED TO OBTAINING THE PARTS AND LABOR IN ACCORDANCE WITH THE TERMS OF SAID WARRANTY.

## **Warranty – Disclaimers – Limitations**

### **LIMITATIONS OF LIABILITY AND DAMAGES**

Regardless of whether a claim against Volvo CE or Dealer is based on the foregoing warranty or is an action in contract, tort (negligence or strict liability) or otherwise, their respective liability for losses, damages or expenses of any kind arising from the design, manufacture, repair or sale of the Products is limited, unless otherwise prohibited by law, to an amount not exceeding the cost performing the obligations contained in the foregoing warranty, and in no event shall their respective or joint liability exceed the value of the Product or part thereof giving rise to such liability.

### **CONSEQUENTIAL AND SIMILAR DAMAGES NOT RECOVERABLE**

Except for performing the obligations of the foregoing warranty in accordance with its terms, Volvo CE and Dealer shall have no liability for loss, damage, or expense, directly or indirectly, attributable to a loss of use of a Product, loss or damage to property other than the Product, loss or damage to the Product or any part thereof or any other economic or commercial loss, including, without limitation, lost profits or special or consequential damages (except liability for any type of consequential damages which by law may not be disclaimed). The parties intend that this prohibition against consequential and similar damages will survive and be effective even if the limitation of remedies in the foregoing sections is found to fail of its essential purpose under section 2-719 of the Uniform Commercial Code.

### **ALLOCATION OF RISK**

The foregoing warranty disclaimers, limitations of liability and limitation of remedies are bargained allocations of risks among (i) the Customer who purchased the Product; (ii) the Dealer who sold the Product, and (iii) Volvo CE, which is a third party beneficiary of the contract of sale between the Customer and the Dealer. The Buyer of the Product accepts the foregoing warranty and the other bargained for allocations of risk as part of the agreed price for the purchase of the Product to which the foregoing warranty applies. Volvo CE is prepared to offer different warranties and other allocations of risk for other prices. However, any such change in the warranty or the allocation of risks must be confirmed in writing by Volvo CE.

### **STATUTE OF LIMITATIONS**

Any action by a Buyer of a Product for breach of contract, for breach of warranty arising under, or for a cause of action arising out of the sale of a Product, whether based on contract, tort (negligence or strict liability) or otherwise, shall be commenced within one (1) year after the cause of action has accrued. Any such cause of action shall be deemed to have accrued at the earlier of (i) the discovery of the defect or breach, or (ii) the expiration of the applicable Warranty Period.



V O L V O



Volvo Wheel Loaders 12.0 t / 26,620 lb 164 hp

# L60H

Volvo Construction Equipment

# L60H

Leave the heavy-duty work for the L60H, designed to do more, be more comfortable and help you increase your productivity.



# Designed to do more

Hard work has never felt so easy. H-Series wheel loaders are built with an industry-leading, strong frame, which, combined with the ideally-matched genuine Volvo drivetrain, achieves long-lasting performance. And with the help of a range of smart apps you can boost the efficiency of your operation from the comfort of the cab.



## Loaded with versatility

- Torque Parallel linkage
- Volvo attachment bracket
- Range of purpose-built attachments
- Rehandling bucket
- 3rd and 4th hydraulic functions



## Keep it moving

- Quick hydraulic oil fill thanks to new mounted nipple
- Improved cooling capacity
- Strong frame and central hinge
- Standard delayed engine shutdown
- Optional Load Assist Tire Pressure monitoring



## Safety as standard

- Anti-slip steps and strategically placed handrails
- Orange three-point seatbelt
- Redesigned side mirrors
- Rear-view camera



## Strong and stable

- Optimized loading unit weight, heavyduty counterweight for greater stability
- Standard electro-servo controls
- Auto Bucket leveling function
- Lifetime Frame warranty



## Increased productivity

- Optional lock-up converter
- Rimpull control
- Smart Control
- Smooth Control
- Eco pedal
- Load Assist On-Board Weighing hardware- Standard
- Load Assist Operator Coaching - Standard



## Greater access

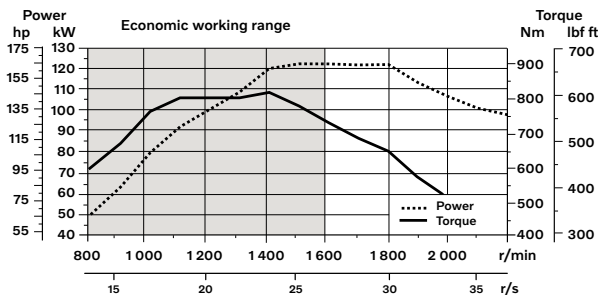
- Cooler installation slides out for easier cleaning
- Repositioned fill spouts for transmission and engine oil
- Ground-level access to service points
- Electronically-operated engine hood

# Volvo L60H in detail

## Engine

6-cylinder, 6 liters inline turbocharged diesel engine with an advanced fuel injection system with the common rail. Fuel is distributed under high pressure from a high-pressure accumulator, the rail. One belt driven high pressure pump deliver the fuel to the rail and then further on via high-pressure pipes to the electronically operated fuel injectors. Engine meets Tier 4f / EU Stage V emission legislation.

Engine	Volvo	D6J
Max. power at	r/min (r/s)	1 500 - 1 800 (25 - 30)
ISO 14396 gross	kW (hp)	122 (164)
ISO 9249, SAE J1349 net	kW (hp)	122 (164)
Max. torque at	r/min (r/s)	1,400 (25)
ISO 14396 gross	Nm (ft lbf)	820 (605)
ISO 9249, SAE J1349 net	Nm (ft lbf)	820 (605)
Economic working range	r/min (r/s)	800 - 1 600 (13.3 - 26.7)
Displacement	l (in <sup>3</sup> )	57 (348)



## Electrical System

Contronic electrical system with central warning light and buzzer for following functions: - Serious engine fault, Low steering system pressure, Over speed warning engine, Interruption in communication (computer fault), Central warning light and buzzer with the gear engaged for the following functions: Low engine oil pressure, High engine oil temperature, High charge air temperature, Low coolant level, High coolant temperature, High crank case pressure, Low transmission oil pressure, High transmission oil temperature, Low brake pressure, Engaged parking brake, Fault on brake charging, Low hydraulic oil level, High hydraulic oil temperature, Overspeeding in engaged gear, High brake cooling oil temperature front and rear axles, etc.

Batteries	V	2 x 12
Battery capacity	Ah	2 x 110
Cold cranking capacity, approx	A	1,000
Alternator rating	W/A	3 135/80
Starter motor output	kW	55

## Brake system

**Service brake:** Volvo dual-circuit system with outboard mounted, hydraulically operated, fully sealed and circulating oil cooled wet disc brakes. Four operator selectable transmission disengagement settings while braking.

**Parking brake:** Dry disc brake mounted on the transmission output shaft. Applied by spring force, electro-hydraulically released with a switch on the instrument panel.

**Secondary brake:** Dual brake circuits with rechargeable accumulators.

**Standard:** The brake system complies with the requirements of ISO 3450, 71/320/EEC

Number of brake discs per wheel		1
Accumulators	l (gal)	3 x 0.5 (3 x 0.13)
Accumulators for parking brake	l (gal)	1 x 0.5 (1 x 0.13)

## Lift Arm System

Torque parallel linkage (TP-linkage) with high breakout torque and parallel lift-arm action.

Lift cylinders		2
Cylinder bore	mm (in)	110 (43)
Piston rod diameter	mm (in)	70 (28)
Stroke	mm (in)	665 (262)
Tilt cylinder		1
Cylinder bore	mm (in)	150 (59)
Piston rod diameter	mm (in)	80 (31)
Stroke	mm (in)	444 (175)

## Steering System

**System supply:** The steering system has priority feed from a load-sensing axial piston pump with variable displacement.

**Steering cylinders:** Two double-acting cylinders.

Steering cylinders		2
Cylinder bore	mm (in)	70 (28)
Rod diameter	mm (in)	45 (18)
Stroke	mm (in)	386 (152)
Working pressure	MPa (bar)	21 (210)
Maximum flow	l/min (gal/min)	60 (159)
Maximum articulation	± °	40

## Cab

**Instrumentation:** All important information is centrally located in the operator's field of vision. Display for Contronic monitoring system. Heater and defroster: Heater coil with filtered fresh air and fan with auto and 11 manual speed settings. Defroster vents for all window areas.

**Operator's seat:** Operator's seat with adjustable air suspension and retractable seatbelt. The seat is mounted on a bracket on the rear cab wall and floor. The forces from the retractable seatbelt are absorbed by the seat rails.

**Standards:** The cab is tested and approved according to ROPS (ISO 3471), FOPS (ISO 3449). The cab meets with requirements according to ISO 6055 (Operator overhead protection - Industrial trucks) and SAE J386 (Operator Restraint System).

**Emergency exit:** Use emergency hammer to break window

Ventilation	m <sup>3</sup> /min (yd <sup>3</sup> /min)	9 (118)
Heating capacity	kW	16
Air conditioning (optional)	kW	75

## Sound Level

Sound pressure level in cab according to ISO 6396		
L <sub>pA</sub>	dB	68
External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC		
L <sub>WA</sub>	dB	104

## Service Refill

**Service accessibility:** Large, electrically operated easy-to-open hood covering whole engine compartment. Fluid filters and component breather air filters are located from ground level access and promote long service intervals. Machine contronics have possibility to monitor, log and analyze data to facilitate troubleshooting. A quick-fit adapter on the hydraulic tank provides faster hydraulic oil fill.

Fuel tank	l (gal)	222 (58.6)
DEF/AdBlue® tank	l (gal)	20 (5.3)
Engine coolant	l (gal)	30 (7.9)
Hydraulic oil tank	l (gal)	90 (23.8)
Transmission oil (non lock-up)	l (gal)	21 (5.5)
Transmission oil (lock-up)	l (gal)	22 (5.8)
Engine oil	l (gal)	20 (5.2)
Axle oil front	l (gal)	25 (6.6)
Axle oil rear	l (gal)	25 (6.6)

## Hydraulic system

Closed center load sensing hydraulic system with non pressurised hydraulic tank and pilot operated control valves.

**System supply:** Variable displacement axial piston pump supply the hydraulic system.

**Valves:** The central valve distributes pressure and flow out to the cooling fan, steering, brake, pilot and hydraulic system. Steering system gets priority over others.

**Lift function:** The valve has four positions; raise, hold, lower and float position. Automatic boom kickout position can be set to any position between maximum reach and full lifting height.

**Tilt function:** The valve has three functions; rollback, hold and dump. Automatic tilt out/tilt in can be adjusted to the desired bucket angle.

**Cylinders:** Double-acting cylinders for all functions.

**Filter:** Full flow filtration through 10 micron (absolute) filter cartridge.

Working pressure maximum, pump 2 for steering-, brake-, pilot- and working hydraulic system	MPa (bar)	26 (260)
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Flow	l/min (gal/min)	145 (383)
at	MPa (bar)	10 (100)
engine speed	r/min (r/s)	1,900 (317)

Working pressure maximum, pump 3 for brake- and cooling fan system	MPa (bar)	21 (210)
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Flow	l/min (gal/min)	33 (87)
at	MPa (bar)	10 (100)
engine speed	r/min (r/s)	1,900 (317)

Pilot system, working pressure	MPa (bar)	3.5 (35)
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Cycle times		
Lift	s	54
Tilt	s	19
Lower, empty	s	27
Total cycle time	s	10

## Drivetrain

**Torque converter:** Single-stage

**Transmission:** Volvo countershaft transmission with single lever control. Fast and smooth shifting of gears with Pulse Width Modulation (PWM) valve.

**Transmission:** Volvo Automatic Power Shift (APS) gear shifting system with fully automatic shifting 1-4 and mode selector with 4 different gear shifting programs, including AUTO mode. Also equipped with Rimpull control to avoid wheel spin and optimize bucket filling.

**Axles:** Volvo fully floating axle shafts with planetary hub reductions and cast steel axle housing. Fixed front axle and oscillating rear axle. 100% differential lock on the front axle.

Transmission	Volvo:	HTE 125C Non Lock-up/ HTE 125 Lock-up
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Torque multiplication, stall ratio		2.5:1 Non Lock-up/ 2.59:1 Lock-up
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### Maximum speed

1st gear	km/h (mi/h)	Converter 7.5 / Lock-up 7.5 (Converter 4.6 / Lock-up 4.6)
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2nd gear	km/h (mi/h)	Converter 15 / Lock-up 15 (Converter 9.3 / Lock-up 9.3)
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3rd gear	km/h (mi/h)	Converter 28 / Lock-up 29 (Converter 17.4 / Lock-up 18.0)
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4th gear	km/h (mi/h)	Converter 46 / Lock-up 50 (Converter 28.5 / Lock-up 31.1)
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4th gear: Shown in speedometer and limited by ECU

Measured with tires	20.5R25
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Front axle/rear axle	AWB 15/AWB 15
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Rear axle oscillation	± °	13
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Ground clearance	mm (in)	470 (185)
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at oscillation	°	13
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# Specifications

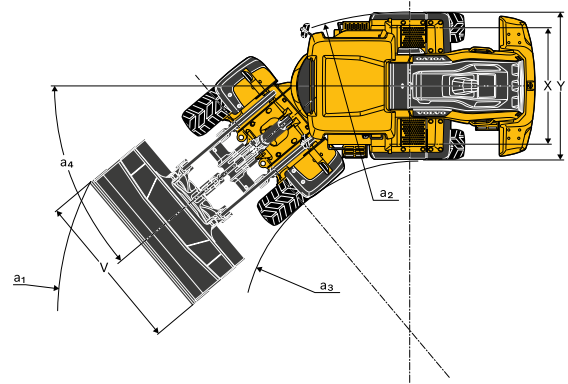
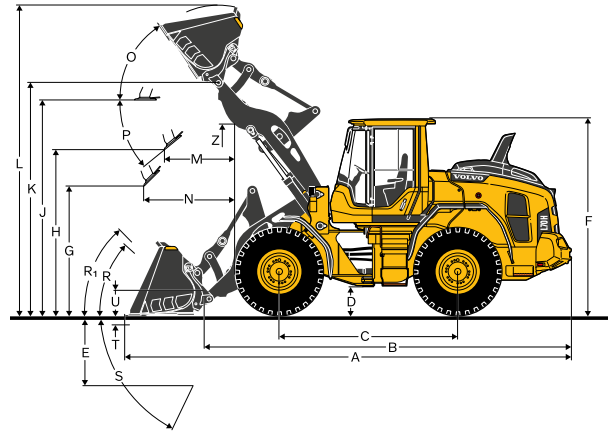
## Tires 20.5 R25 L3

		L60H			
		Standard boom		Long boom	
B	mm ft in	6,010	19'9"	6,520	21'5"
C	mm ft in	3,000	9'10"	3,000	9'10"
D	mm ft in	440	1'5"	430	1'5"
F	mm ft in	3,270	10'9"	3,260	10'8"
G	mm ft in	2,133	7'0"	2,134	7'0"
J	mm ft in	3,550	11'8"	4,080	13'5"
K	mm ft in	3,870	12'8"	4,380	14'4"
O	°	56		56	
P <sub>max</sub>	°	45		42	
R	°	43		45	
R <sub>1</sub> *	°	46		50	
S	°	79		79	
T	mm ft in	123	0'5"	150	0'6"
U	mm ft in	410	1'4"	590	1'11"
X	mm ft in	1,900	6'3"	1,900	6'3"
Y	mm ft in	2,430	7'12"	2,430	7'12"
Z	mm ft in	3,210	10'6"	3,590	11'9"
a <sub>2</sub>	mm ft in	5,340	17'6"	5,340	17'6"
a <sub>3</sub>	mm ft in	2,900	9'6"	2,900	9'6"
a <sub>4</sub>	±°	40		40	

\* Carry position SAE

Calculated with additional protective guarding

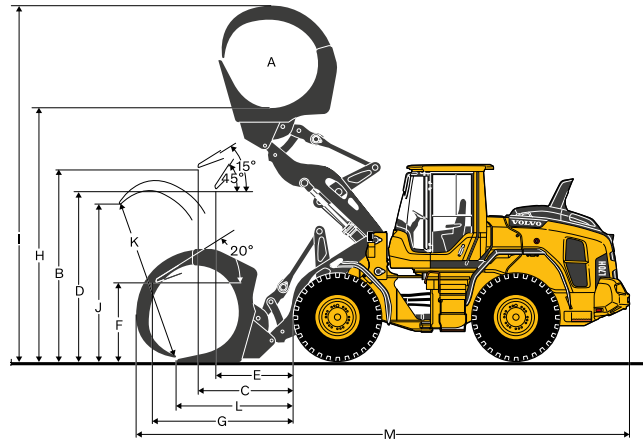
Where applicable, specifications and dimensions are according to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818



## Tires: 20.5R25 L3

		L60H	
		kg	lb
SAE-Load	kg lb	3,450	7,606
Operating weight without load*	kg lb	12,883	28,402
Grapple sales code		WLA82194	
A	m <sup>2</sup> yd <sup>2</sup>	1.3	1.6
B	mm ft in	3,412	11'2"
C	mm ft in	1,483	4'10"
D	mm ft in	2,929	9'7"
E	mm ft in	1,175	3'10"
F	mm ft in	1,532	5'0"
G	mm ft in	2,350	7'9"
H	mm ft in	4,333	14'3"
I	mm ft in	5,878	19'3"
J	mm ft in	1,997	6'7"
K	mm ft in	2,080	6'10"
L	mm ft in	1,709	5'7"
M	mm ft in	7,861	25'9"

\* Calculated with additional protective guarding





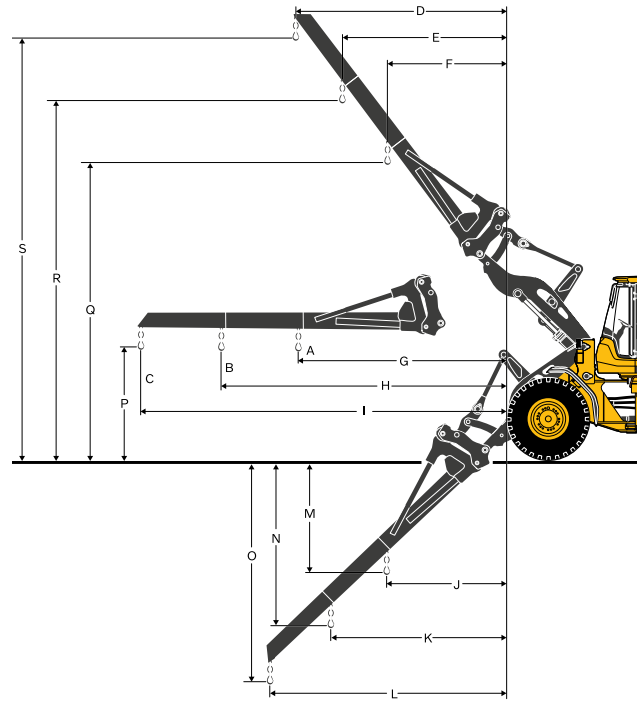
**Tires: 20.5R25 L3**

		<b>L60H</b>	
Material handling arm sales code		92007	
A*	kg lb	1,800 3,968	
B*	kg lb	1,400 3,086	
C*	kg lb	1,150 2,535	
Static tipping load, straight	kg lb	3,238 7,139	
35deg. Turn	kg lb	2,910 6,415	
at full turn	kg lb	2,814 6,204	
D	mm ft in	2,592 8'6"	
E	mm ft in	2,002 6'7"	
F	mm ft in	1,465 4'10"	
G	mm ft in	3,270 10'9"	
H	mm ft in	4,305 14'1"	
I	mm ft in	5,439 17'10"	
J	mm ft in	905 2'12"	
K	mm ft in	1,227 4'0"	
L	mm ft in	1,580 5'2"	
M	mm ft in	2,258 7'5"	
N	mm ft in	3,241 10'8"	
O	mm ft in	4,319 14'2"	
P	mm ft in	1,512 5'0"	
Q	mm ft in	5,286 17'4"	
R	mm ft in	6,171 20'3"	
S	mm ft in	7,139 23'5"	
Operating weight without load	kg lb	11,885 26,202	

\* Op. load at full turn + tipping position

Tipping loads calculated for max. arm length

\*\*Calculated with additional protective guarding

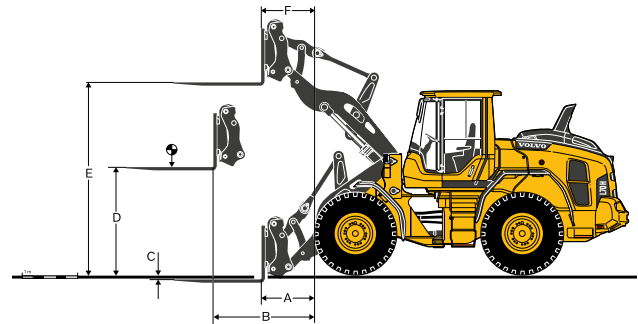


**Tires: 20.5R25 L3**

		<b>L60H</b>	
Fork frame sales code		83768	
Fork tines sales code (R/L)		80042/80043	
Static tipping load, straight	kg lb	6,930 15,278	
35deg. Turn	kg lb	6,230 13,735	
at full turn	kg lb	6,024 13,281	
at load center distance*	mm ft in	600 2'0"	
A	mm ft in	798 2'7"	
B	mm ft in	1,567 5'2"	
C	mm ft in	-38 -1'11"	
D	mm ft in	1,831 6'0"	
E	mm ft in	3,713 12'2"	
F	mm ft in	700 2'4"	
Operating weight without load	kg lb	11,965 26,378	

\* Firm and level ground

\*\*Calculated with additional protective guarding



# Specifications

L60H* MICH 20.5R25 XHA2 L3	GENERAL PURPOSE										GRADING		LIGHT MATERIAL		LONG BOOM*								
	WLA86398	WLA86423	WLA86401	WLA86405	WLA86410	WLA86411	WLA92476	WLA92564	WLA92565	WLA86410	1.9 m <sup>3</sup> (2.5 yd <sup>3</sup> ) HD STE H BOE	2.0 m <sup>3</sup> (2.6 yd <sup>3</sup> ) STE H T	2.1 m <sup>3</sup> (2.7 yd <sup>3</sup> ) HD STE H BOE	2.3 m <sup>3</sup> (3.0 yd <sup>3</sup> ) HD STE H BOE	2.1 m <sup>3</sup> (2.7 yd <sup>3</sup> ) HD STE P BOE	2.3 m <sup>3</sup> (3.0 yd <sup>3</sup> ) HD STE P BOE	1.7 m <sup>3</sup> (2.2 yd <sup>3</sup> ) GRB H BOE	3.1 m <sup>3</sup> (4.1 yd <sup>3</sup> ) LM H BOE	5 m <sup>3</sup> (6.5 yd <sup>3</sup> ) LM H BOE	2.1 m <sup>3</sup> (2.7 yd <sup>3</sup> ) HD STE P BOE			
Volume, heaped ISO/SAE	m <sup>3</sup>	1.9	2.0	2.1	2.3	2.3	1.7	3.1	5.0	2.1	2.5	2.7	3.0	2.7	3.0	2.2	2.2	4.1	6.5	2.7	2.7		
Volume at 110% fill factor	m <sup>3</sup>	2.0	2.2	2.3	2.5	2.5	1.9	3.4	5.5	2.3	2.9	3.0	3.3	3.0	3.3	2.4	2.4	4.5	7.2	2.3	3.0		
Static tipping load, straight	kg	8,940	9,028	9,831	10,770	11,330	7,740	18,450	28,630	8,450	19,710	19,470	21,260	20,520	20,340	17,060	17,060	26,630	45,180	18,640	-1,640	-3,600	
at 35° turn	kg	7,996	8,079	8,887	9,830	10,390	7,830	18,230	28,450	8,450	17,810	17,390	19,780	18,400	18,230	15,260	15,260	26,630	45,180	16,570	-1,500	-3,320	
at full turn	kg	7,718	7,800	8,609	9,550	10,110	7,550	18,060	28,230	8,230	17,020	16,780	19,770	18,400	18,230	14,730	14,730	26,400	45,180	15,960	-1,470	-3,230	
Breakout force	kN	81.8	82.8	80.4	84.8	84.8	60.1	135.0	230.0	135.0	184.0	186.0	209.0	190.0	189.0	135.0	135.0	230.0	430.0	120.0	+8.8	+1,980	
A	mm	7,316	7,520	7,338	7,430	7,270	7,650	7,680	7,900	+520	24'	24'8"	24'1"	24'5"	23'10"	24'1"	25'1"	25'2"	25'11"	+520	+1'9"		
E	mm	1,116	1,302	1,136	1,220	1,070	1,400	1,470	1,700	+40	3'8"	4'3"	3'9"	4'	3'6"	3'8"	4'7"	4'10"	5'7"	+40	+2"		
H	mm	2,836	2,705	2,811	2,760	2,850	2,810	2,520	2,580	+530	9'4"	8'10"	9'3"	9'1"	9'4"	9'3"	8'3"	8'6"	8'0"	+530	+1'9"		
L	mm	5,032	5,084	5,069	5,180	5,060	5,120	4,530	5,290	+510	16'6"	16'8"	16'8"	17'0"	16'7"	16'10"	14'10"	17'4"	18'0"	+510	+1'8"		
M	mm	1,054	1,192	1,056	1,130	1,000	1,040	1,130	1,320	+10	3'5"	3'11"	3'6"	3'9"	3'3"	3'5"	3'8"	4'4"	4'11"	+10	0'		
N	mm	1,578	1,632	1,584	1,610	1,560	1,580	1,490	1,630	+450	5'2"	5'4"	5'2"	5'3"	5'2"	5'2"	4'11"	5'4"	5'6"	+450	+1'5"		
V	mm	2,500	2,500	2,650	2,500	2,500	2,500	2,500	2,550	0	98"	98"	104"	98"	98"	98"	98"	100"	104"	0	0'		
a <sub>1</sub> clearance circle	mm	11,569	11,665	11,719	11,620	11,580	11,600	11,970	11,840	+430	37'11"	38'3"	38'5"	38'2"	38'	38'1"	39'3"	38'10"	39'7"	+430	+1'5"		
Operating weight	kg	12,299	12,270	12,388	12,400	12,070	12,250	12,440	12,420	+340	27,120	27,060	27,320	27,350	26,620	26,700	27,000	27,420	28,060	+340	+750		

\*Calculated with additional protective guarding. (WL86009,WL86010)

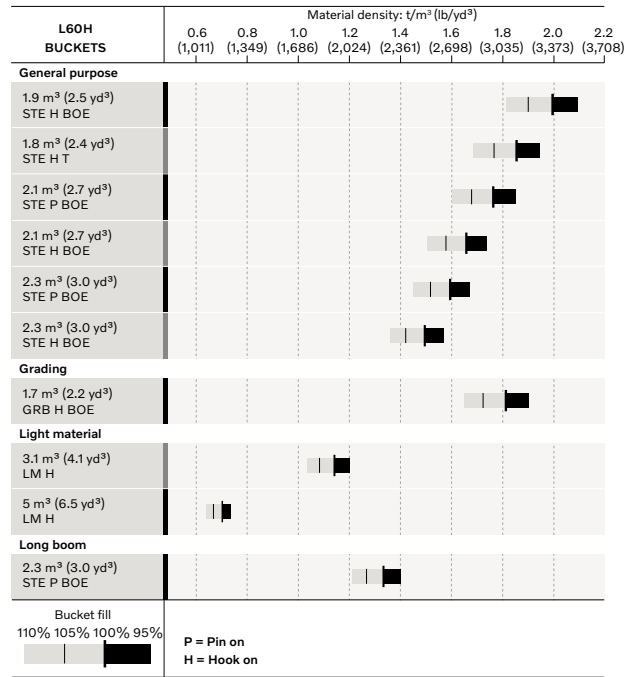
\*\*Calculated with logging counterweight.

Note: This only applies to genuine Volvo attachments.

## Bucket Selection Chart

The chosen bucket is determined by the density of the material and the expected bucket fill factor. The actual bucket volume is often larger than the rated capacity, due to the features of the TP linkage, including an open bucket design, good rollback angles in all positions and good bucket filling performance. The example represents a standard boom configuration.  
Example: Sand and gravel. Fill factor ~ 105%. Density 1.5 t/m<sup>3</sup> (2,530 lb/yd<sup>3</sup>). Result: The 2.1 m<sup>3</sup> (2.8 yd<sup>3</sup>) bucket carries 2.2 m<sup>3</sup> (2.9 yd<sup>3</sup>). For optimum stability always consult the bucket selection chart.

Material	Bucket fill, %	Material density		ISO/SAE bucket volume		Actual volume	
		t/m <sup>3</sup>	lb/yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>
Earth/ Clay	~ 110	~ 1.55	~ 2,610	1.9	2.5	2.1	2.8
		~ 1.40	~ 2,360	2.1	2.8	2.3	3.0
		~ 1.30	~ 2,190	2.3	3.0	2.5	3.3
Sand/ Gravel	~ 105	~ 1.65	~ 2,780	1.9	2.5	2.0	2.6
		~ 1.50	~ 2,530	2.1	2.8	2.2	2.9
		~ 1.35	~ 2,280	2.3	3.0	2.1	2.8
Aggregate	~ 100	~ 1.75	~ 2,950	1.9	2.5	1.9	2.5
		~ 1.55	~ 2,610	2.1	2.8	2.1	2.8
		~ 1.55	~ 2,610	2.3	3.0	2.3	3.0
Rock	≤ 100	~ 1.70	~ 2,870	1.7	2.2	1.7	2.2



How to read bucket fill factor

## Supplemental Operating Data

Tires 20.5 R25 L3				20.5 R25 L2				600/65 R25 L3		Long boom	
				20.5 R25 L2		600/65 R25 L3		600/65 R25 L3			
Width over tires		mm	in	+8	+0.3	+96	+3.8	+96	+3.8		
Ground clearance		mm	in	-10	-0.4	-30	-1.2	-22	-0.9		
Tipping load, full turn		kg	lb	-166	-366	-72	-159	0	0		
Operating weight		kg	lb	-112	-247	+8	+18	+3	+7		

Calculated with 2.3 m<sup>3</sup> (3.0 yd<sup>3</sup>) STE P BOE, additional protective guarding

# Equipment

## STANDARD EQUIPMENT

### Engine

Exhaust after-treatment system  
 3-stage air cleaner, pre-cleaner, primary and secondary filter  
 Indicator glass for coolant level  
 Preheating of induction air  
 Fuel pre-filter with water trap  
 Fuel filter  
 Crank case breather oil trap  
 Exhaust heat ventilation

### Tires

20.5R25  
 600/65R25

### Drivetrain

Automatic Power Shift  
 Fully automatic gear shifting, 1-4  
 PWM-controlled gear shifting  
 Forward and reverse switch by hydraulic lever console  
 Rimpull control  
 Indicator glass for transmission oil level  
 Differentials: Front, 100% hydraulic diff lock. Rear, conventional

### Electrical System

24 V, pre-wired for optional accessories  
 Alternator 80A/3135W  
 Battery disconnect switch  
 Maintenance-free batteries  
 Battery box, steel  
 Fuel gauge  
 Electric horn  
 Instrument cluster:  
 Fuel level  
 Diesel Exhaust Fluid/AdBlue level  
 Transmission temperature  
 Coolant temperature  
 Instrument lighting  
 Lighting:  
 Twin halogen front headlights with high and low beams  
 Parking lights  
 Double brake and tail lights  
 Turn signals with flashing hazard light function  
 Halogen work lights (2 front and 2 rear)

## STANDARD EQUIPMENT

### Contronic monitoring system

Contronic display  
 Fuel consumption  
 Diesel Exhaust Fluid/AdBlue consumption  
 Ambient temperature  
 Clock  
 Test function for warning and indicator lights  
 Brake test  
 Warning and indicator lights:  
 Battery charging  
 Parking brake  
 Warning and display message:  
 Regeneration  
 Engine coolant temperature  
 Charge air temperature  
 Engine oil temperature  
 Engine oil pressure  
 Transmission oil temperature  
 Transmission oil pressure  
 Hydraulic oil temperature  
 Brake pressure  
 Parking brake applied  
 Brake charging  
 Overspeed at direction change  
 Axle oil temperature  
 Steering pressure  
 Crank case pressure  
 Attachment lock open  
 Level warnings:  
 Fuel level  
 Diesel Exhaust Fluid/AdBlue level  
 Engine coolant level  
 Transmission oil level  
 Hydraulic oil level  
 Washer fluid level  
 Engine torque reduction in case of malfunction indication:  
 High engine coolant temperature  
 High engine oil temperature  
 Low engine oil pressure  
 High crank case pressure  
 High charge air temperature  
 Engine shutdown to idle in case of malfunction indication:  
 High transmission oil temperature  
 Slip in transmission clutches  
 Key pad, background lit  
 Start interlock when gear is engaged

### Hydraulic system

Main valve, double acting 2-spool with hydraulic pilots  
 Variable displacement axial piston pumps (2) for:  
 Working hydraulics, pilot hydraulics, steering system, brakes  
 Cooling fan, brakes  
 Hydraulic control levers  
 Mechanical hydraulic lever lock  
 Automatic boom kick-out  
 Automatic bucket positioner  
 Double acting hydraulic cylinders  
 Indicator glass for hydraulic oil level  
 Hydraulic oil cooler  
 Brake system  
 Dual brake circuits  
 Dual brake pedals  
 Secondary brake system  
 Parking brake, electrical-hydraulic  
 Brake wear indicators  
 Outboard mounted circulating oil cooled wet disc brakes on all four wheels

# Equipment

## STANDARD EQUIPMENT

### Cab

Volvo Copilot with Rearview camera standard
ROPS (ISO 3471), FOPS (ISO 3449)
Single key kit door/start
Acoustic inner lining
Cigarette lighter, 24 V power outlet
Lockable door
Cab heating with fresh air inlet and defroster
Fresh air inlet with two filters
Automatic heat control
Floor mat
Dual interior lights
Interior rearview mirrors
Dual exterior rearview mirrors
Sliding window, right side
Tinted safety glass
Retractable seatbelt (SAE J386)
Adjustable steering wheel
Storage compartment
Document pocket
Sun visor
Beverage holder
Windshield washer front and rear
Windshield wipers front and rear
Interval function for front and rear wipers
Foot step, left side (toolbox lockable included)
ACC control panel, with Fahrenheit scale
Anchorage for Operator's manual
<b>Service and maintenance</b>
Engine oil remote drain and fill
Transmission oil remote drain and fill
Sliding hydraulic oil cooler and AC-condenser
Lubrication manifolds, ground accessible
Pressure test ports: transmission and hydraulic, quick connects
Service platforms with anti-slip surfaces
Quick-fit hydraulic oil fill
CareTrack
Telematics, 6 -year subscription
Toolbox, lockable
<b>External equipment</b>
Basic fenders, front and rear
Viscous cab mounts
Rubber engine and transmission mounts
Engine hood, electronically openable
Frame, joint lock
Vandalism lock for engine compartment
Lifting eyes
Tie down eyes
Tow hitch
Counterweight, pre-drilled for optional guards

## OPTIONAL EQUIPMENT

### Engine

Air pre-cleaner, cyclone type
Air pre-cleaner, oil-bath type
Air pre-cleaner, turbo type
Engine auto shut down
Engine block heater, 120V / 230V
Fuel heater
Fuel fill strainer
Hand throttle control
Max. fan speed, hot climate
Reversible cooling fan
<b>Drivetrain</b>
Lock-up torque converter
Rear axle with limited slip
Speed limiter, 20 km/h
Speed limiter, 30 km/h
Speed limiter, 40 km/h

## OPTIONAL EQUIPMENT

### Hydraulic system

Arctic kit: Attachment locking, pilot hoses and hydraulic oil
Attachment bracket, cast, visibility-optimized
Attachment bracket, side-tilting
Separate attachment locking, long boom
Separate attachment locking, standard boom
Single acting lifting function
Boom suspension system
Hydraulic fluid, biodegradable, Volvo
Hydraulic fluid, fire resistant
Hydraulic fluid, for hot climate
Hydraulic, 2 functions Electro-servo, std/long boom
Hydraulic, 3 functions Electro-servo, std/long boom
Hydraulic, 4 functions Electro-servo, std/long boom
Single lever control, 2 funct Electro-servo, std/long boom
Single lever control, 3 funct Electro-servo, std/long boom
Single lever control, 4 funct Electro-servo, std/long boom

### Brake system

<b>Parking brake alarm, audible</b>
<b>Cab</b>
Asbestos dust protection filter
Automatic Climate Control, ACC
Automatic Climate Control, ACC, corrosion protection condenser
Cab air pre-cleaner, cyclone type
Carbon filter - cab
Remote door opener
Lunch box holder
Operator's seat, Volvo air-suspended, heavy-duty, high back, heated
Operator's seat, Volvo air-susp, 3-point seatbelt
Operator's seat, Premium Comfort ISRI
Operator's seat, Premium Comfort ISRI 3-point seat belt
Armrest, operator's seat, ISRI, left only
Armrest, operator's seat, Volvo, left
Safety belt, 3" (75mm) width
Safety belt warning
Radio installation kit including 12 volt outlet, left-side
Radio installation kit including 12 volt outlet, right-side
Radio installation kit, 12V, for USA
Radio with AUX, Bluetooth and USB connection
DAB Radio
Subwoofer
Forward view mirror
Rear view mirrors, el.adjusted and heated
Rear view mirrors, long arm right
Rear view mirrors, el.adjusted and heated, long arm right
Steering wheel knob
Sun blinds, rear windows
Sun blinds, side windows
Timer cab heating
Universal door/ignition key
Window, sliding, door
Cab, Hot applications. Roof, steel
Fire extinguisher cab
Outside steel protection cab
Rear view mirrors long arm, cab
Reinforced windshield, flat
<b>Service and maintenance</b>
Automatic lubrication system
Automatic lubrication system for long boom
Oil sampling valve
Refill pump for automatic lubrication system
Tool kit
Wheel nut wrench kit

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**OPTIONAL EQUIPMENT**

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**Electrical**

Battery disconnect switch, additional in cab  
Anti-theft device  
Headlights, assym. left  
Headlights, assym. right LED  
Headlights, assym. left LED  
Emergency stop  
License plate holder, lighting  
Reduced function working lights when reverse gear activated  
Side marker lamps  
Forward camera, colour  
Rear view mirrors, long arm, right side  
Rearview mirrors, adjustable, el. heated  
Reverse alarm  
Reverse lights  
Reversing warning light  
Reverse warning light, strobe lightning  
Warning beacon (flasher), LED automatic  
Warning beacon (flasher), LED  
Seatbelt indicator, external  
Working lights, attachments, 1 LED  
Warning beacon LED  
Warning beacon LED automatic  
LED Head Light  
LED tail light  
LED working lights, attachments  
LED working lights on cab, front and rear  
LED working lights on cab, front, 2 alt. 4 LED lamps  
LED working lights on cab, rear, 2 alt. 4 LED lamps  
LED working lights, rear in grille, 2 LED lamps  
LED working lights, front above head lamps, 2 LED lamps  
LED work lights, side on cab, 4 LED lamps  
LED light packages  
Working lights halogen, attachments  
Working lights on cab halogen, front and rear  
Working lights on cab halogen, rear  
Co Pilot available  
Rearview camera in Co pilot  
Max Boom height  
Can Bus Interface  
Delayed Engine Shutdown

**Protective equipment**

Anti-theft device  
Bellyguard front  
Bellyguard rear  
Boom cylinder hose and tube guards  
Cab roof, heavy duty  
Center hinge and rear frame guard  
Corrosion protection, painting of machine  
Cover plate front frame, heavy-duty  
Cover plate, under cab  
Cover plates rear frame  
Guards for front headlights  
Guards for radiator grill  
Guards for tail lights, heavy-duty  
Wheel/axle seal guards  
Window guards, side and rear  
Windshield guard

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**OPTIONAL EQUIPMENT**

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**External equipment**

Deleted front mudguards  
Fire extinguisher  
Bracket for fire extinguisher  
Fire suppression system  
Mudguards, full cover, rear for 80-series tires  
Mudflap kit for mudguards, full cover for 80-series tires  
Mudguards, full cover, rear and front/rear for 65-series tires  
Mudflap kit for mudguards, full cover for 65-series tires  
Footsteps front frame  
Footsteps, right-hand side  
Flexible rear step  
Cab ladder, rubber suspended

**Other equipment**

CareTrack, GSM/Satellite  
CE-marking  
Comfort Drive Control (CDC) Electro-servo  
Secondary steering  
Counterweight, logging  
Counterweight, signal painted, chevrons  
Option for machines without dinitrol  
Noise reduction kit, EU excluding decal  
Sign, 50 km/h  
Sign, slow moving vehicle

**Tires and Rims**


20.5R25  
600/65R25  
620/75R26 Agriculture application only  
750/65R26 Agriculture application only

**Attachments**

Buckets:  
Straight  
Spade nose  
High tipping  
Light material  
Grading  
Wear parts:  
Bolt-on edge  
Bolt-on or weld-on bucket teeth  
Segments  
Log grapples  
Fork equipment  
Material handling arm  
Snow blade  
Broom  
Sand spreading bucket

**V O L V O**

**VENDOR:** \_\_\_\_\_

Item No.	Description:	Model & Part Number Being Bid	Estimated Unit Quantity	Unit Price	Item Total Cost
1	Liugong 835Hv 4 Wh. Drive Rubber Tired Wheel Loader or equal		25		\$0.00
<b>Total Bid Cost</b>					<b>\$0.00</b>
<b>Bid Will Be Awarded To The Lowest Overall Bid Total For All Items</b>					
<b>Vendor Information</b>					
<b>Company Name:</b>					
<b>Contact Manager:</b>					
<b>Address:</b>					
<b>Phone:</b>					
<b>Fax:</b>					
<b>E-mail:</b>					
<b>Signature:</b>					





Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Quote  
 Equipment

Proc Folder: 1297303			Reason for Modification: ADDENDUM NO_2 Vendor Questions and Responses
Doc Description: ADDENDUM NO_2 Rubber Tired Wheel Loader 4 wh. drive			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2023-11-17	2023-11-28 13:30	CRFQ 0803 DOT2400000039	3

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Customer Code: 218366  
 Vendor Name: Rudd Equipment Company  
 Address: PO Box 610  
 Street: 500 River Rd.  
 City: Nitro  
 State: WV Country: USA Zip: 25143  
 Principal Contact: Ron Jacobs  
 Vendor Contact Phone: 304-755-7788 Extension:

**FOR INFORMATION CONTACT THE BUYER**  
 John W Estep  
 304-558-2566  
 john.w.estep@wv.gov

Vendor  
 Signature X *Ron Jacobs* FEIN# 61-0445955 DATE 11/28/23

All offers subject to all terms and conditions contained in this solicitation







**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: CRFO DOT2400000039**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Rudd Equipment Company  
Company

Ron Jacobs  
Authorized Signature

11-28-23  
Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.