



**North Carolina  
Sheriffs' Association**  
Proudly Serving the Sheriffs and Citizens of North Carolina since 1922



DATE

4/12/2021

QUOTE INFORMATION

AVTG20210004245788D

VHD64F300 Daycab

Qty: 1

PREPARED BY

YOUNGS TRUCK CENTER,  
INC.

3880 JEFF ADAMS DR

CHARLOTTE

NC 282061259

PREPARED FOR

Thank you for the opportunity to provide you this quote on your Volvo truck.

This proposal outlines the complete vehicle specification and performance details that have been customized to provide solutions that will help you meet your transportation goals and drive greater business success. The enclosed spec aligns the core values of Volvo Trucks with your business needs by helping you design a solution that drives greater fuel efficiency, driver productivity, safety and uptime.

By partnering with Volvo Trucks, you will benefit from innovative technologies that are incorporated in all we do - from our powertrain components to ensuring your drivers have the ultimate in comfort and convenience - all the while protecting your drivers with our proven safety features.

We also stand by our commitment to uptime with Volvo Remote Diagnostics as a standard on all Volvo trucks. With this fully integrated diagnostic package, no additional hardware or software purchase is required to manage your vehicles. By saving your company diagnostic time, your business will reap the benefits of more time spent on the road and less in the shop. With specialized bays for expedited service, Volvo dealerships are dedicated to taking care of your needs quickly and efficiently.

As you review this proposal, please note any questions you may have so that we may discuss them. I look forward to meeting with you soon.

Sincerely,

**BRUCE STADLER**

YOUNGS TRUCK CENTER, INC.



**North Carolina  
Sheriffs' Association**  
Proudly Serving the Sheriffs and Citizens of North Carolina since 1952

**ADVANTAGE**  
Truck Center

## TECHNICAL SPECIFICATION

### VHD64F300 Daycab

				WEIGHT (LB)		LIST PRICE
MODEL PACKAGE		DESCRIPTION		FRONT	REAR	
S	007145	MODEL	VHD64F300	7,326	4,681	0

				WEIGHT (LB)		LIST PRICE
VEHICLE ADAPTATION		DESCRIPTION		FRONT	REAR	
S	2KEZ1X	TRAILER TYPE	WITHOUT TRAILER TYPE	0	0	0

				WEIGHT (LB)		LIST PRICE
PASSIVE AND ACTIVE SAFETY		DESCRIPTION		FRONT	REAR	
	2CXD1X	CAB VERSION	DAY CAB	0	0	0
	WPXB1X	TRACTION CONTROL	6 CHANNEL TRACTION CONTROL WITH LIMITED DISABLE	0	0	121

				WEIGHT (LB)		LIST PRICE
ENGINE		DESCRIPTION		FRONT	REAR	
S	1017V0	ENGINE PACKAGE	VOLVO D11 325HP 2100RPM 1250 LBFT - EPA'17 EMISSION LEVEL	0	0	0

				WEIGHT (LB)		LIST PRICE
ENGINE EQUIPMENT		DESCRIPTION		FRONT	REAR	
S	428001	DIESEL EXHAUST FLUID TANK	18.5 GALLON LEFT HAND 26", FRAME MOUNTED (FILLED WITH 10 GALLONS OF DEF, WEIGHING 91 LBS)	159	86	0

				WEIGHT (LB)		LIST PRICE
TRANSMISSION		DESCRIPTION		FRONT	REAR	
S	270707	TRANSMISSION PACKAGE	VOLVO 12 SPEED I-SHIFT SEVERE DUTY, AT2612F DIRECT DRIVE	0	0	0

# TECHNICAL SPECIFICATION (cont.)

# VOLVO

				WEIGHT (LB)		LIST PRICE
TRANSMISSION		DESCRIPTION		FRONT	REAR	
S	THXC5X	PROPELLER SHAFT MANUFACTURER	PROP. SHAFT MANUF. BY SPICER SPL LIGHT SERIES	124	124	0

				WEIGHT (LB)		LIST PRICE
PROGRAMMABLE FEATURES		DESCRIPTION		FRONT	REAR	
S	G4ABGX	VEHICLE OVERSPEED,ALL COND,LOG	VEHICLE OVERSPEED,ALL COND, TIME LOG IF ABOVE 87MPH (140KMH)	0	0	0

				WEIGHT (LB)		LIST PRICE
FRONT AXLE		DESCRIPTION		FRONT	REAR	
S	370403	FRONT AXLE PACKAGE	VOLVO VF14 14,600 LB FRONT SPRINGS	20	0	0
S	782014	FRONT BRAKE PACKAGE	FRONT BRAKE BENDIX SPICER, NEXT GENERATION HEAVY DUTY, STANDARD LUBE	42	0	0
S	M0XB1X	STEERING SHAFT TYPE	GREASEABLE STEERING SHAFT	-2	0	0
S	371071	FRONT SUSPENSION PACKAGE	PARABOLIC LEAF FRONT SUSPENSION	78	0	0

				WEIGHT (LB)		LIST PRICE
REAR AXLE		DESCRIPTION		FRONT	REAR	
S	330684	REAR AXLE PACKAGE	MERITOR MT-40-14X4D HYPOID (HEAVY DUTY HOUSING) 40,000 LB CAPACITY	0	0	0
S	TAXCAX	REAR AXLE RATIO	2.64 REAR AXLE RATIO	0	0	0
S	350377	REAR SUSPENSION PACKAGE	40,000 LB VOLVO T-RIDE (2-LEAF FIRM RIDE) 54" SPACING	0	386	0
S	YVXA1X	REAR SHOCK ABSORBER	SHOCK ABSORBERS, DRIVE AXLES	0	102	0

				WEIGHT (LB)		LIST PRICE
CHASSIS		DESCRIPTION		FRONT	REAR	
S	400232	WHEELBASE	232" WHEELBASE	433	433	0
S	402055	OVERHANG	55" OVERHANG	0	206	0
S	8EXB1X	INTERMEDIATE X-MEMBER MATRL	STEEL CROSSMEMBER MATERIAL	20	23	0
S	X6XA1X	REAR FRAME TREATMENT	STRAIGHT CUT-OFF REAR CROSSMEMBER	0	38	0

				WEIGHT (LB)		LIST PRICE
TRANSPORT ADAPTATION		DESCRIPTION		FRONT	REAR	
S	L0XB1X	ELECTRICAL CONNECTIONS BOC	BODY BUILDER CONNECTIONS BACK OF CAB	3	0	0

				WEIGHT (LB)		LIST PRICE
CAB EXTERIOR		DESCRIPTION		FRONT	REAR	
S	2DX30X	CAB SUSPENSION REAR	AIR RIDE CAB SUSPENSION WITH LATERAL DAMPENERS	-11	-2	0
S	3GXC1X	EXTERIOR MIRROR FEATURES	HEATED, POWER AXIS MIRROR, BOTH SIDES	3	0	0

# TECHNICAL SPECIFICATION (cont.)

# VOLVO

				WEIGHT (LB)		LIST PRICE
AUDIO SYSTEM		DESCRIPTION		FRONT	REAR	
S	73AJ1X	RADIO ANTENNA	SINGLE RIGHT HAND 48 INCH MIRROR MOUNTED RADIO ANTENNA	3	0	0
S	LYXF1X	STEERING WHEEL SWITCHES	WITH STEERING WHEEL SWITCHES	3	0	0

				WEIGHT (LB)		LIST PRICE
MISC CAB EQUIPMENT		DESCRIPTION		FRONT	REAR	
S	2XX35X	WINDOW LIFT	POWER WINDOW LIFT BOTH DOORS	7	5	0

				WEIGHT (LB)		LIST PRICE
TIRES AND WHEELS FRONT		DESCRIPTION		FRONT	REAR	
S	093871	TIRE PACKAGE FRONT	315/80R22.5L BRIDGESTONE M870 (20000 LBS. GAWR) ON/OFF ROAD USAGE (Total for QTY = 2)	336	0	0
S	084562	RIM/WHEEL PACKAGE FRONT	22.5X9.00 ACCURIDE STEEL POWDER COAT WHITE 286BC 5 HAND HOLES HUB PILOTED (Total for QTY = 2)	208	0	0

				WEIGHT (LB)		LIST PRICE
TIRES AND WHEELS REAR		DESCRIPTION		FRONT	REAR	
S	094736	TIRE PACKAGE REAR	11R22.5G BRIDGESTONE R268 (23360 LBS. GAWR) REGIONAL HAUL (STEER/ALL POSITION) (Total for QTY = 8)	0	971	0
S	085069	RIM/WHEEL PACKAGE REAR	22.5X8.25 ACCURIDE STEEL POWDER COAT WHITE 286BC 5 HAND HOLES HUB PILOTED (Total for QTY = 8)	0	547	0

FRONT / REAR AXLE WEIGHTS (LB)	8744	7593
TOTAL WEIGHT (LB)	16,337	



Inputs Required	Inputs	UOM
Vehicle Type	Aero Muscle Hood - Roof Fairing (0.60)	MPH
Performance Level	>67 MPH / >108KPH	MPH
Frontal Area	110.0	FEET <sup>2</sup>
Accessory Power Loss	11.0	HP

#### VEHICLE SPECIFICATION SUMMARY

Model	VHD64F300	
Gross Combination Weight	NO GROSS COMBINATION WEIGHT PROVIDED	
Vehicle Application	ON HIGHWAY, STARTING GRADES <16%	
Body/Trailer Type	TRUCK / ASPHALT OR DUMP BODY	
Loading/Unloading Surface Type	CONCRETE LOADING AND / OR UNLOADING SURFACE	
Engine	VOLVO D11 325HP 2100RPM 1250 LBFT - EPA'17 EMISSION LEVEL	
Peak Power	HP	332.0 @ 1400 - 1900
Peak Torque	Newton Meters	1695 @ 1000
Transmission	VOLVO 12 SPEED I-SHIFT SEVERE DUTY, AT2612F DIRECT DRIVE	
Rear Axle	MERITOR MT-40-14X4D HYPOID (HEAVY DUTY HOUSING) 40,000 LB CAPACITY	
Rear Axle Ratio	2.64	
Rear Tire	11R22.5G BRIDGESTONE R268 (23360 LBS. GAWR) REGIONAL HAUL (STEER/ALL POSITION)	
Tire Revolutions per Mile		500
Total Reduction		2.64

#### CALCULATED PERFORMANCE SUMMARY

	Speed	UOM	RPM	Desired / Recommended Value	Status
Engine RPM @ 65 MPH	65.2	MPH	1435		
Engine RPM @ Desired Cruise Speed	68.4	MPH	1503	1200 - 1500 rpm	CHECK
Engine RPM @ Road Speed Limit (RSL)	68.4	MPH	1503	< 2100 rpm	OK
Sweet Spot Cruise Speed Range in Top Gear	54.6 - 68.2	MPH	1200 - 1500		
Top Gear Speed Range	45.5 - 95.5	MPH	1000 - 2100	64.6 MPH	OK
Minimum Practical Speed In Reverse	1.6	MPH	600		
Maximum Practical Speed in Reverse	5.5	MPH	2100		
Minimum Practical Speed In Lowest Forward Gear	1.8	MPH	600		
Maximum Practical Speed In Lowest Forward Gear	6.4	MPH	2100		
		Concrete / Asphalt	UOM		
Wheel HP Required at (65 MPH) Cruise Speed	241.8 / 263.3		HP		
Wheel HP Required at (75 MPH) Road Speed Limit	241.8 / 263.3		HP		
Wheel HP Required at (92 MPH) Top Speed	538.9 / 573.4		HP		

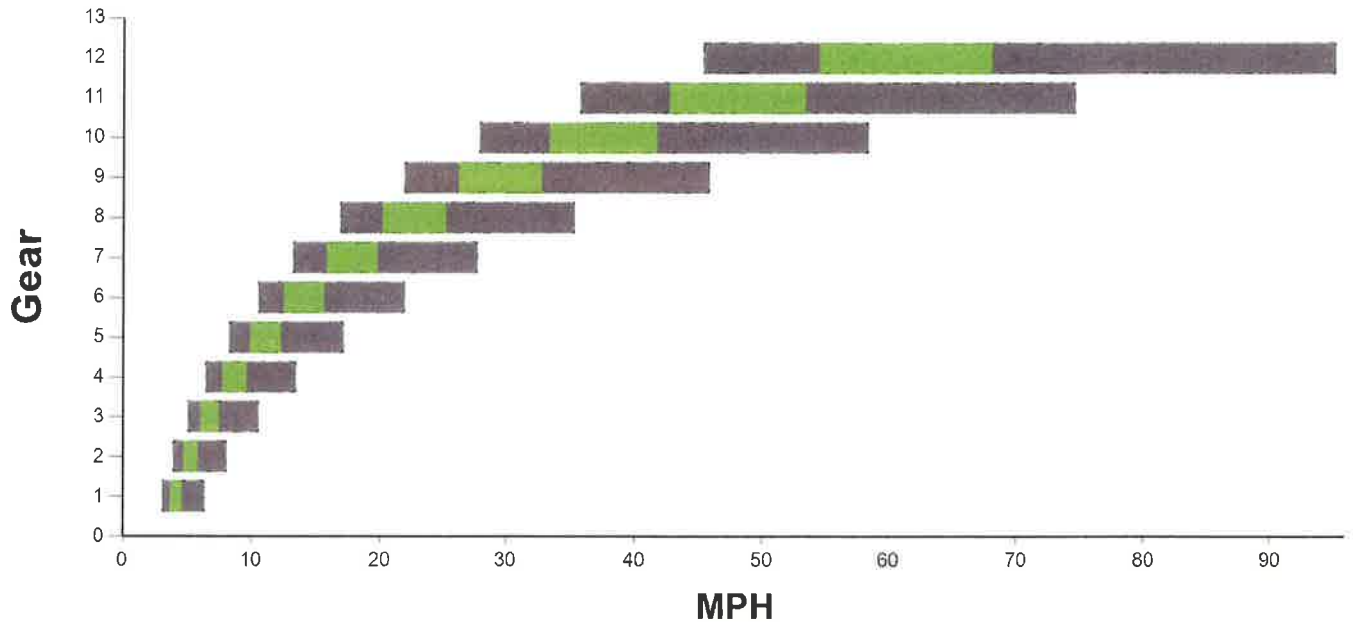


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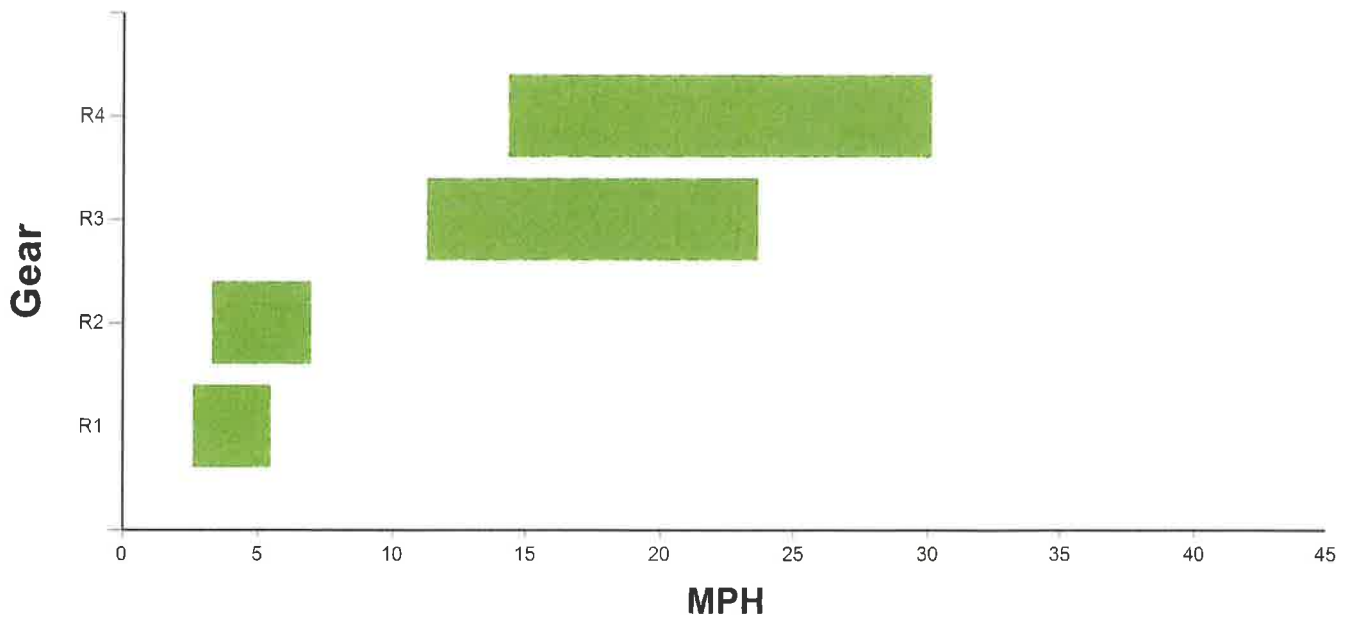
**VOLVO**

VEHICLE SPECIFICATION SUMMARY			
Gradeability		Recommended Min. Gradeability in Top Gear	
Maximum in Top Gear (Concrete)	1.6%	0.0%	OK
Maximum in Top Gear (Asphalt)	1.4%	0.0%	OK
Startability		Recommended Min. Startability	
In Lowest Gear	36.1%	16.0%	OK
Loading/Unloading Surface Type	CONCRETE LOADING AND / OR UNLOADING SURFACE		
		Recommended Speed on 1.5% Grade	
Speed on a 1.5% Grade (Concrete)	48.9 MPH	>67 MPH	CHECK!
	@1075 rpm in 12th gear	PL5	
Suggested Value for Gear Down Vehicle Speed	RSL - 10		
Driveability Rating	Status		
100% Max Power available after shift	CAUTION!		
>95% Very Good >90% Acceptable			
Performance Level	Recommended Speed on 1.5% Grade	Min. Gradeability in Top Gear	
PL5 - High Performance	>67 MPH	1.9%	
PL4 - Performance	61 - 67 MPH	1.7%	
PL3 - Economy	54 - 60 MPH	1.5%	
PL2 - Fleet / Construction	47 - 53 MPH	1.3%	
PL1 - Heavy Haul	40 - 46 MPH	1.1%	

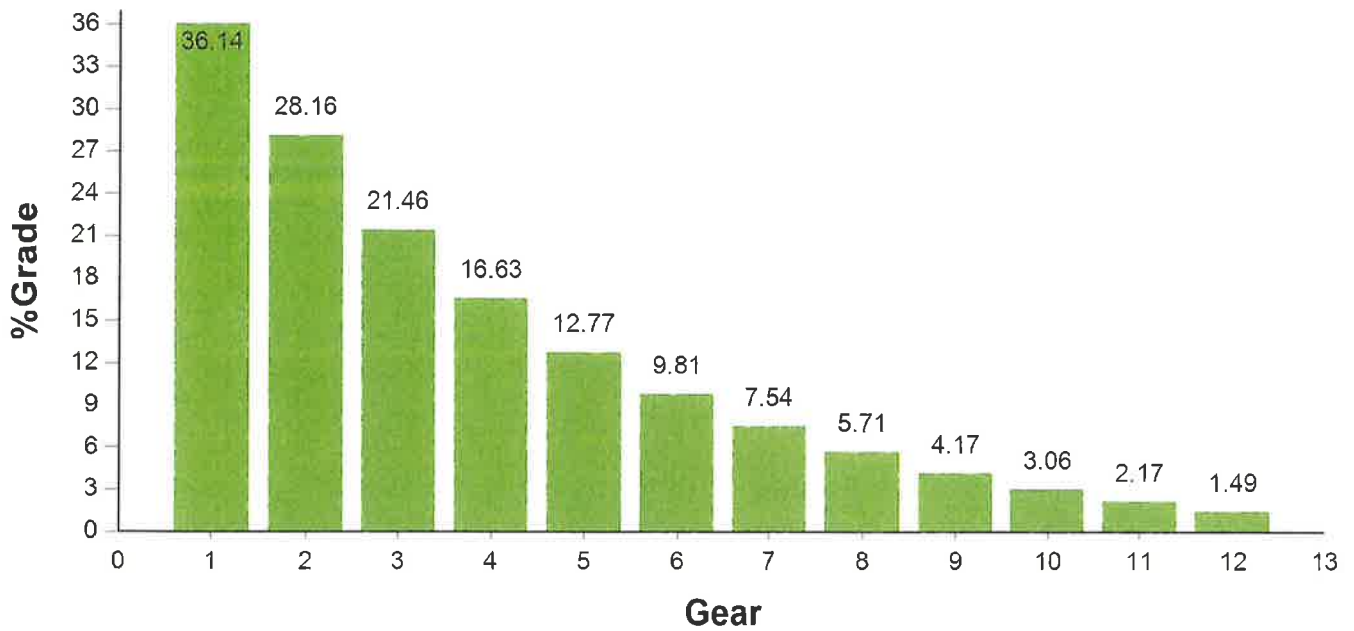
Forward Geared Speed



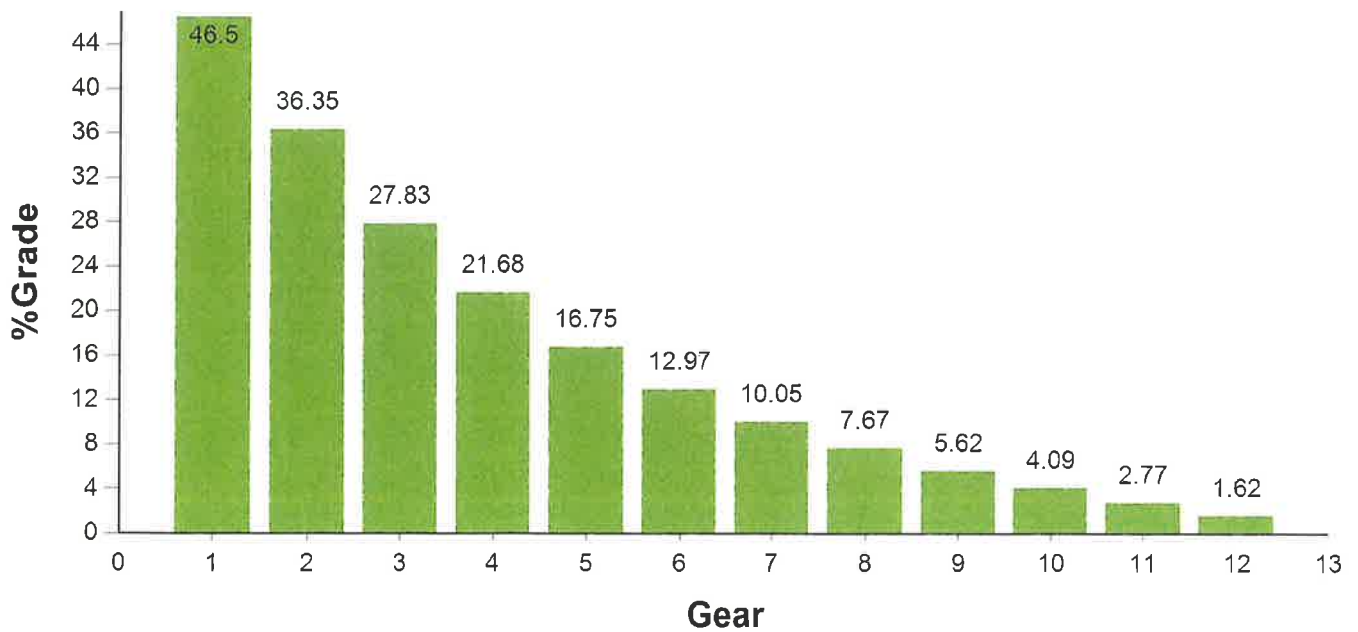
Reverse Geared Speed



## Startability

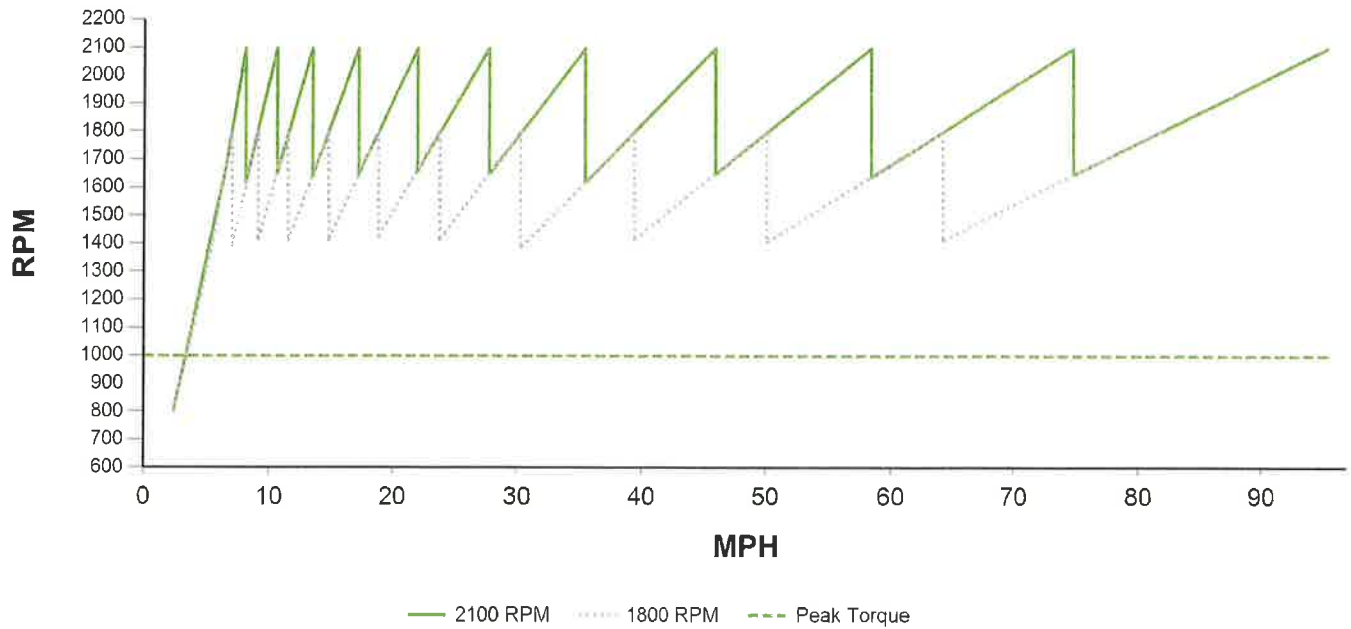


## Gradeability at Max Torque

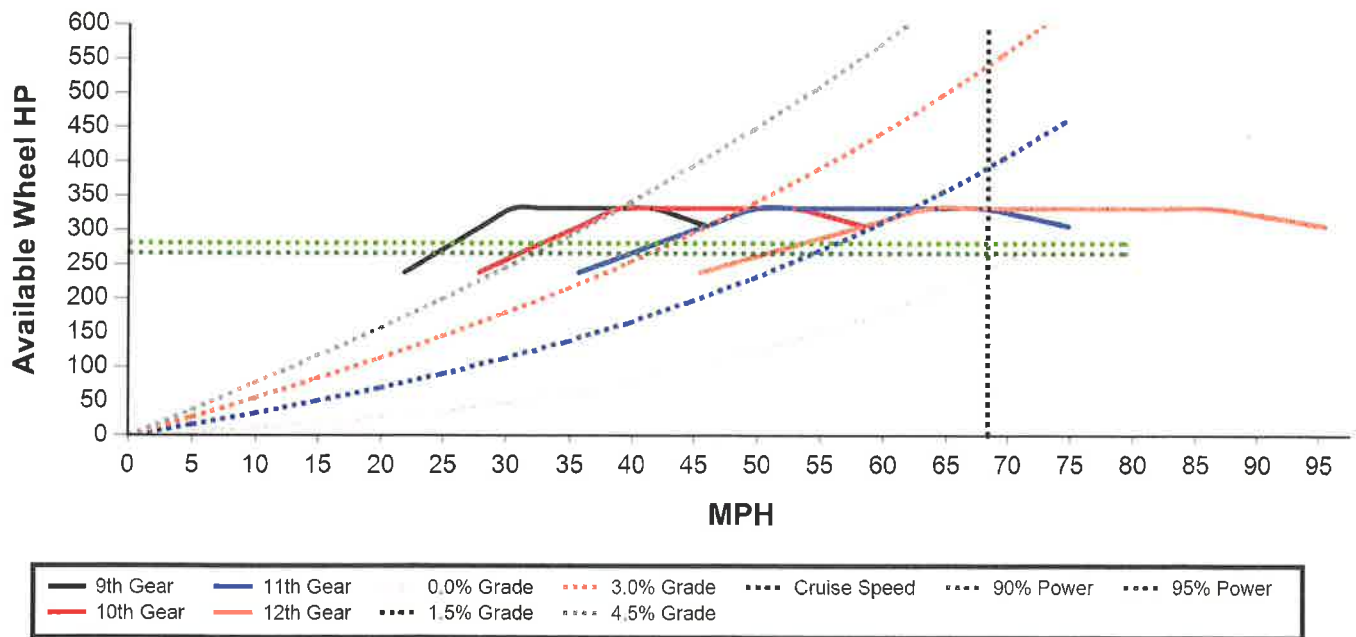




## Shift Chart



## Horsepower VS. Speed



## RPM at 65 MPH



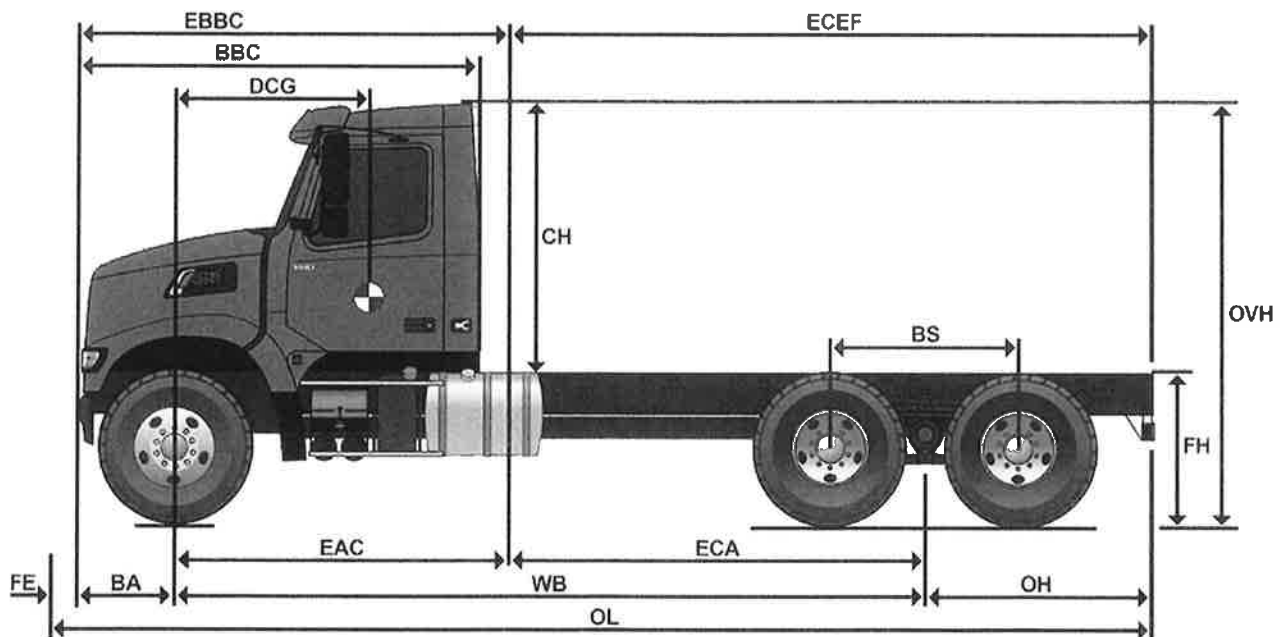
## RPM at Cruise Speed



	MPH	RPM
Minimum of Engine Range	45.5	1000.00
Minimum of Economy Range	54.6	1200.00
Cruise Speed	68.4	1503.30
Maximum of Economy Range	68.2	1500.00
Road Speed Limit	68.4	1503.30
Maximum of Engine Range	95.5	2100.00

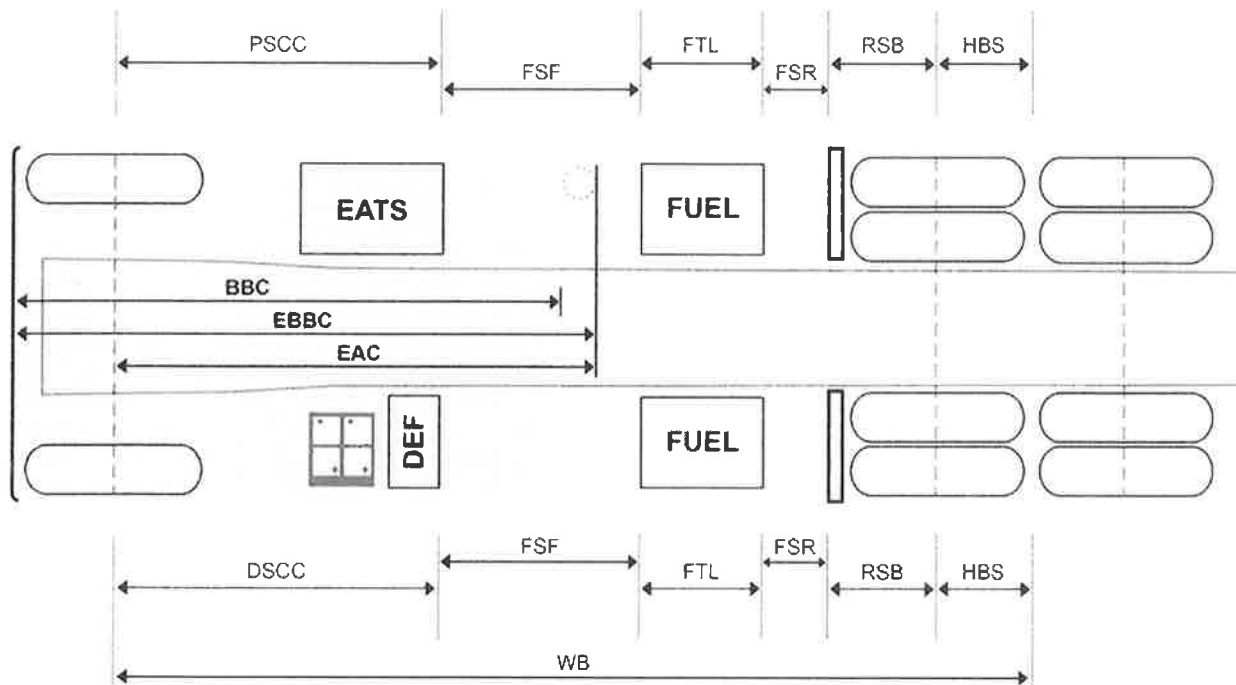
## VEHICLE SPECIFICATION/CALCULATED PERFORMANCE SUMMARY

Description	Sales Code	Dwg Ref	Length	UOM
Front Frame Extension	N/A	FE	0.0	INCHES
Bumper to Front Axle	N/A	BA	29.1	INCHES
Wheelbase	N/A	WB	232.1	INCHES
Rear Overhang	N/A	OH	55.5	INCHES
Overall Length	N/A	OL	316.7	INCHES
Bumper to Back of Cab	N/A	BBC	113.6	INCHES
Eff. Bumper to Back of Cab	N/A	EBBC	121.6	INCHES
Eff. Cab to Rear Axle	N/A	ECA	139.6	INCHES
Eff. Front Axle to Back of Cab	N/A	EAC	92.5	INCHES
Eff. Cab to End of Frame	N/A	ECEF	195.1	INCHES
Unladen 5th Wheel Height	E5BZ1X	5W	0.0	INCHES
Unladen Frame Height	N/A	FH	42.4	INCHES
Cab Height	N/A	CH	74.3	INCHES
Overall Height	N/A	OVH	149.8	INCHES
Driver CG	N/A	DCG	64.5	INCHES
Second Front Axle Spacing		SFAS	0.0	INCHES



## VEHICLE SPECIFICATION/CALCULATED PERFORMANCE SUMMARY

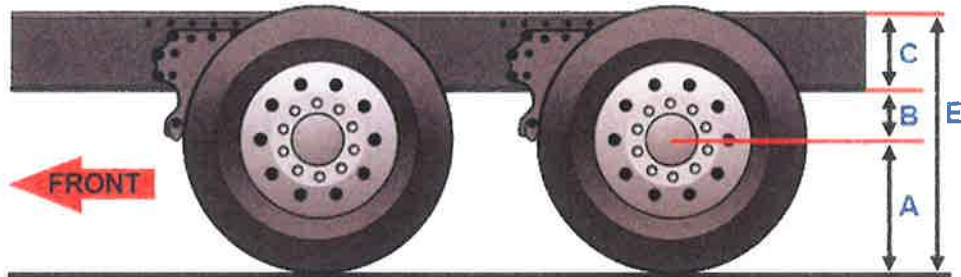
Description	Sales Code	Dwg Ref	Left Value(in)	Right Value(in)
Wheelbase	N/A	WB	232.1	232.1
Bumper to Back of Cab	N/A	BBC	113.6	113.6
Eff. Bumper to Back of Cab	N/A	EBBC	121.6	121.6
Eff. Front Axle to Back of Cab	N/A	EAC	92.5	92.5
LEFT HAND BATTERY BOX - 3 CAPACITY, DEF TANK MOUNTED BEHIND BATTERY BOX (VHDF)	3XB3AX	DSCC	75.0	N/A
INTEGRATED DPF & SCR (VHDF / VAH)	3YBADX	PSCC	N/A	85.4
Frame Space Front	N/A	FSF	1.6	0.0
75 GALLON LEFT HAND FUEL TANK / NO RIGHT HAND DIESEL TANK PROVIDED	J8XB1X / J9XK1X	FTL	36.0	0.0
Frame Space Rear	N/A	FSR	63.6	90.7
40,000 LB VOLVO T-RIDE (2-LEAF FIRM RIDE) 54" SPACING	350377	RSB	29.0	29.0
HBS	GWXDGX	HBS	27.0	27.0



Top View image is intended for illustration purposes only and is not presented to scale. Wheelbase, Axle Spacing and After frame are not shown as specified, but are a representation. Customer Adaptation (CA) options and relocated components are not represented in these images. Most CA options impact the variation of the image, thus an image may not populate. Calculations are approximate to a tolerance of  $\pm 4$  inches due to component mounting variation. Certain chassis component options are NOT represented in the Top View image, such as, but not exclusive to, Front Frame Extensions, Fuel Water Separators, Air Dryers, PTOs, Fifth Wheels, Chassis Fairings, Toolboxes, Trailer Connections. For further information on these items and their respective locations on your specification, please refer to the data sheets associated with those items in the configurator.

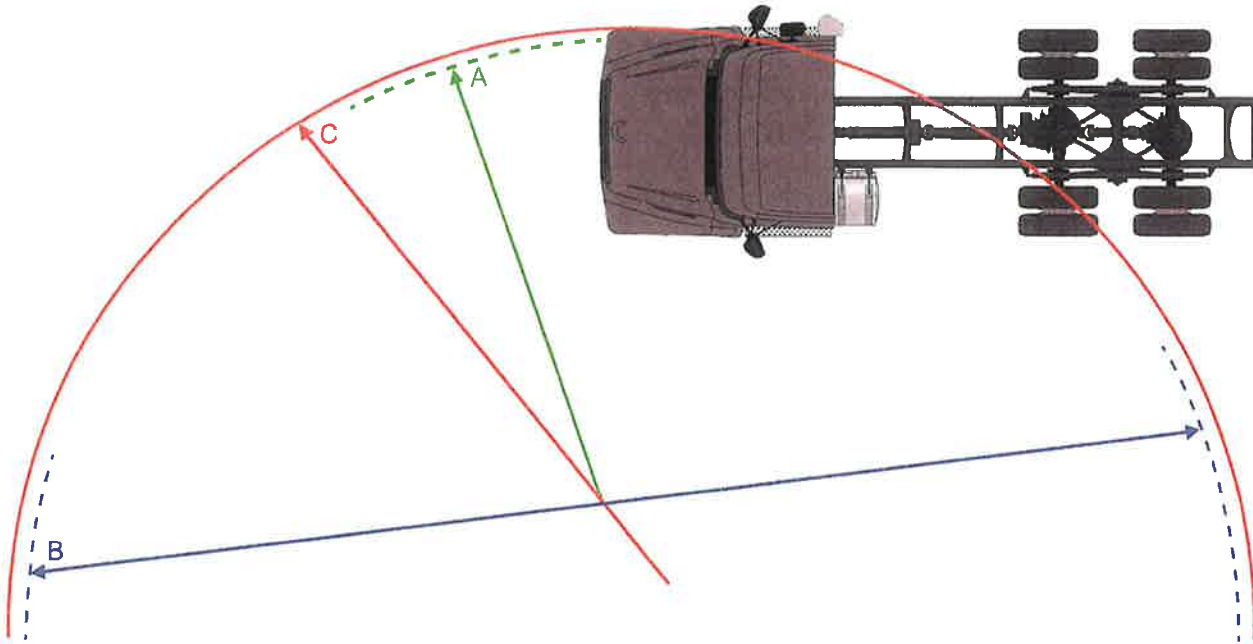
## VEHICLE SPECIFICATION/CALCULATED PERFORMANCE SUMMARY

Description	Sales Code	Dwg Ref	Rear		
			Unladen	Laden	UOM
Requested Fifth Wheel Height	E5BZ1X		0.0	0.0	INCHES
Tire Radius	094736	A	20.8	19.3	INCHES
Suspension Height	350377	B	9.8	9.4	INCHES
Frame Depth	403006	C	11.8	11.8	INCHES
Closest Available Fifth Wheel Leg Height	N/A	D	0.0	0.0	INCHES
Total Height	N/A	E	42.4	40.5	INCHES



## VEHICLE SPECIFICATION/CALCULATED PERFORMANCE SUMMARY

Description	Sales Code	Dwg Ref	Length	UOM
SAE Turning Radius	N/A	A*	41.8	FEET
Adjusted Turning Radius	N/A	A	46.4	FEET
Curb-to-Curb Diameter	N/A	B	93.9	FEET
Wall-to-Wall Diameter	N/A	C	99.6	FEET



Tests have shown that the true location of the turning center is further to the rear than midway between drive axle sets (where applicable)

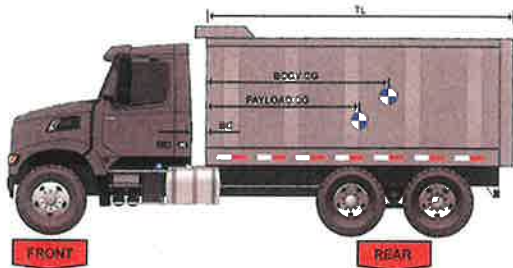
The actual location of the turning center depends on:

- Whether the drive tire equipment is single or dual.
- The overall load distribution for the vehicle (front/rear, between drive axles) in a loaded condition
- Manufacturing tolerances within the steering components



Inputs Required	Inputs	UOM
Driver Weight	201	LB
Total Body Length	16.4	FEET
Body Tare Weight	3501	LB
Front of Body to Body CG	96.0	INCHES
Additional Clearance from Back of Exhaust to Front of Body	6.0	INCHES

VEHICLE SPECIFICATION SUMMARY				
Description	Description	Dwg Ref	Length	UOM
Bumper to Front Axle	N/A	BA	29.1	INCHES
Wheelbase	N/A	WB	232.1	INCHES
Rear Overhang	N/A	OH	55.5	INCHES
Bumper to Back of Cab	N/A	BBC	113.6	INCHES
BOC Exhaust Space	230046	N/A	8.0	INCHES
Driver CG from Front Axle	N/A	DCG	64.5	INCHES
First Pusher Axle Spacing			0.0	INCHES



CALCULATED PERFORMANCE SUMMARY				
Tare Weights	Front Axle	Rear Axle (s)	Total	UOM
Chassis	8744	7593	16337	LB
Driver	145	56	201	LB
Fuel	304	209	513	LB
Body/Trailer	567	2935	3501	LB
Total Tare	9759	10792	20551	LB
Payloads				
First Body Payload	5510	28540	34050	LB
Total - Lift Axles Down	15269	39332	54600	LB
GAWR	14600	40000	54600	LB

VEHICLE SPECIFICATION/CALCULATED PERFORMANCE SUMMARY				
Sub-Category	Sales Code	Sales Code Description	Value	UOM
Front Axle	370403	VOLVO VF14 14,600 LB FRONT SPRINGS	14600	LB
Front Suspension	370403	VOLVO VF14 14,600 LB FRONT SPRINGS	14600	LB
Front Tires	093871	315/80R22.5L BRIDGESTONE M870 (20000 LBS. GAWR) ON/OFF ROAD USAGE	20000	LB
Front Wheels	084562	22.5X9.00 ACCURIDE STEEL POWDER COAT WHITE 286BC 5 HAND HOLES HUB PILOTED	20000	LB
		Front GAWR	14600	LB
Rear Axle	330684	MERITOR MT-40-14X4D HYPOID (HEAVY DUTY HOUSING) 40,000 LB CAPACITY	40000	LB
Rear Suspension	350377	40,000 LB VOLVO T-RIDE (2-LEAF FIRM RIDE) 54" SPACING	40000	LB
Rear Tires	094736	11R22.5G BRIDGESTONE R268 (23360 LBS. GAWR) REGIONAL HAUL (STEER/ALL POSITION)	46720	LB
Rear Wheels	085069	22.5X8.25 ACCURIDE STEEL POWDER COAT WHITE 286BC 5 HAND HOLES HUB PILOTED	59200	LB
		Rear GAWR	40000	LB
		Truck GVWR	54600	LB
		Gross Combination Weight Rating	0	LB
		Tax Value GVWR (USA FET Only)	54600	LB

Volvo Trucks. Driving Progress

