



GP-VX

VERACITOR® PNEUMATIC TIRE TRUCKS

17,000 · 17,500 · 19,000 lbs

Yale® Veracitor® GP-VX Series

The Veracitor® GP170-190VX truck is designed to meet and exceed your materials handling application requirements with excellent performance and low hourly cost of operation.

Engine

The Kubota 3.8L EPA Certified Tier 4 interim Turbodiesel Engine utilizes a two piece cylinder block for outstanding durability while reducing engine noise. Cylinders are cast into the block for optimum durability and cooling efficiency. Cylinder heads feature a helical, 4-valve "Crossflow" design within each cylinder to create additional airflow into the cylinder for added power. The turbocharger is of a simple design, but uses a variable wastegate to ensure the proper amount of boost at all engine speeds. The engine is certified to EPA Tier 4 interim emissions standards.

Fuel System

The Kubota diesel fuel system utilizes an electronically controlled, high-pressure common-rail fuel system that sends five separate fuel deliveries per fuel injection power stroke for maximum power and efficiency while reducing noise levels. A cooled Exhaust Gas Recirculating (EGR) system recycles a portion of the exhaust to be re-burned and reduce emissions. A Diesel Particulate Filter (DPF) captures particulates or 'soot' and oxidizes the material to eliminate smoke from the exhaust. A separate display module is furnished to monitor and control the emissions system.

Transmissions

The standard Techtronix 332 transmission features three speeds forward and two speeds in reverse for excellent gradeability and drawbar pull while allowing top travel speeds for maximum productivity. Auto Deceleration feature is accomplished through the controlled application of the clutch packs. Controlled power reversals are managed by precisely regulating engine speed to reduce driveline stress during directional changes. Inching is controlled electronically. This transmission also features electronic shift control, smooth electronic inching, neutral start switch, and anti-restart protection. A single pedal controls both inching and braking. Optional dual inch/brake pedals are available for operators who prefer this design. A 100 mesh suction and 10 micron return line filtration protect the transmission from abrasive contaminants.

Cooling System

The cooling system employs a modular radiator system, with sections for engine coolant, transmission oil, and engine intake (charge) air. An 18" diameter blade pusher-type fan provides cooling air flow. A permanently lubricated water pump and a high capacity, cross-flow radiator ensure rapid heat dissipation. The sealed cooling system operates at a pressure of 15 psi and includes a coolant recovery tank for visual inspection of coolant level. The radiator is soft-mounted for excellent durability.

Drive Axle

The drive axles are designed to withstand heavy loads and absorb shocks. The wheel hubs rotate on large tapered roller bearings. The drive shaft transmits rotational torque to the drive axle from the engine and transmission. Transmission torque is distributed through planetary gear reduction and an industrial hypoid ring gear and pinion assembly.

The drive axle is a "self contained" assembly that is isolated from the transmission by the drive shaft and heavy duty rubber isolators. The axle shafts utilize a "rolled fillet" root spline design for increased resistance to torsion stress. A magnetic sump plug is used to collect any metal particles that are circulating in the axle oil, preventing component wear.

Oil-cooled wet disc brakes are standard and internal to the axle for better protection against the elements. These low pedal effort brakes require no adjustments and very little maintenance, yet provide an extremely long service life.

Metered hydraulic oil pressure is used to actuate the wet disc brakes via a brake-pedal actuated modulating valve. This system yields consistent pedal travel for optimum control. Independent, hand adjustable parking brake with pushbutton release has an audible alarm to indicate when the operator has left the truck without applying the parking brake.

Hydraulic Power Steering

Hydraulic Power Steering (hydrostatic steering) provides responsive control and eliminates mechanical linkages for reduced surface shock and simplified maintenance. The steering wheel is 12 inches in diameter with a textured surface grip and

Diesel Engine Specifications (High Output)

Engine	Kubota 3.8L EPA Certified Tier 4 interim Turbodiesel Engine
Cylinders	I-4
Displacement	230 cu.in./3.8 liter
Torque	275 lb.ft. @ 1600 RPM
Horsepower	110 hp @ 2400 RPM
Air Filtration	Two Stage, Dry Type
Emission Control	ECM Control

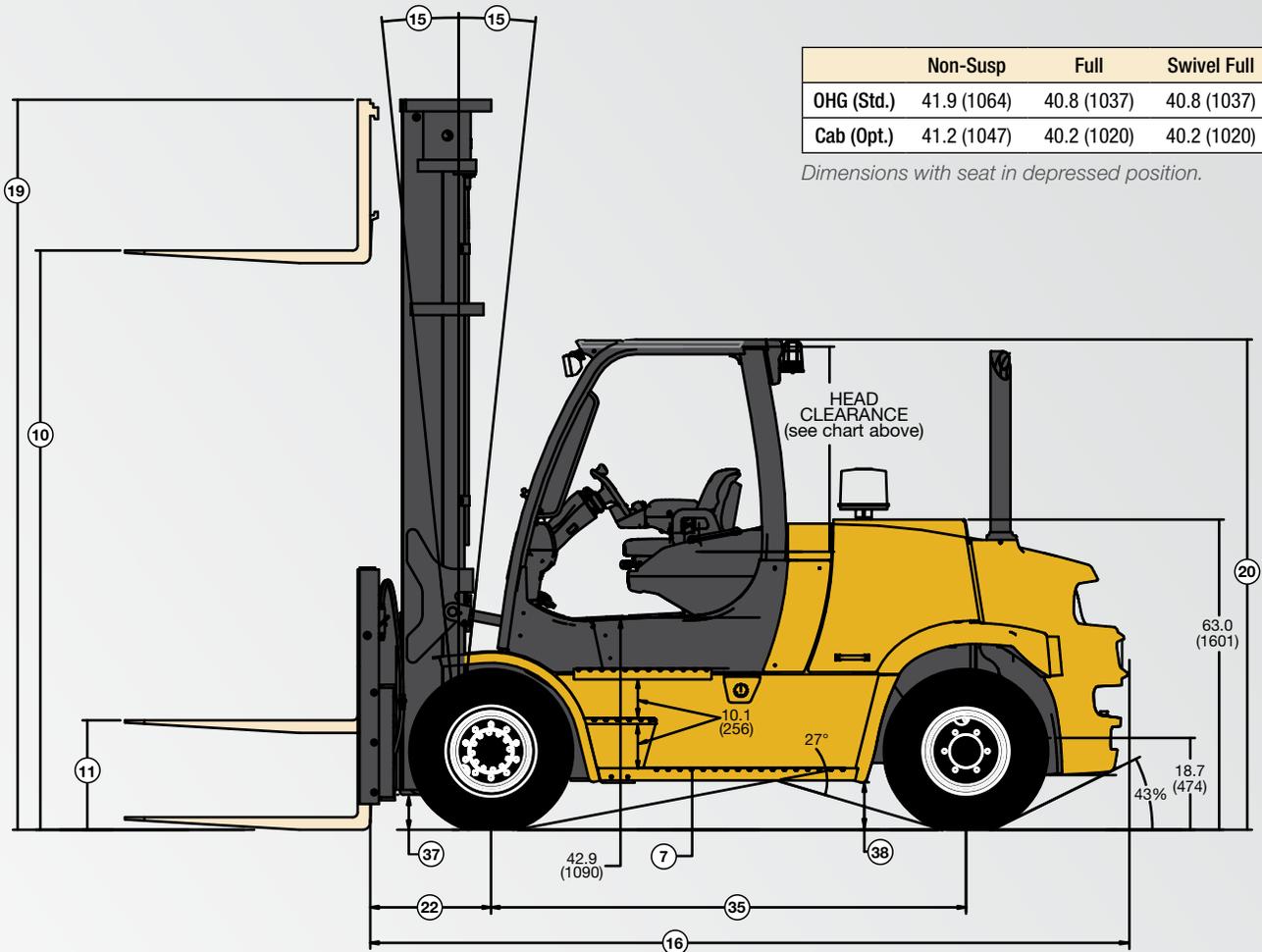
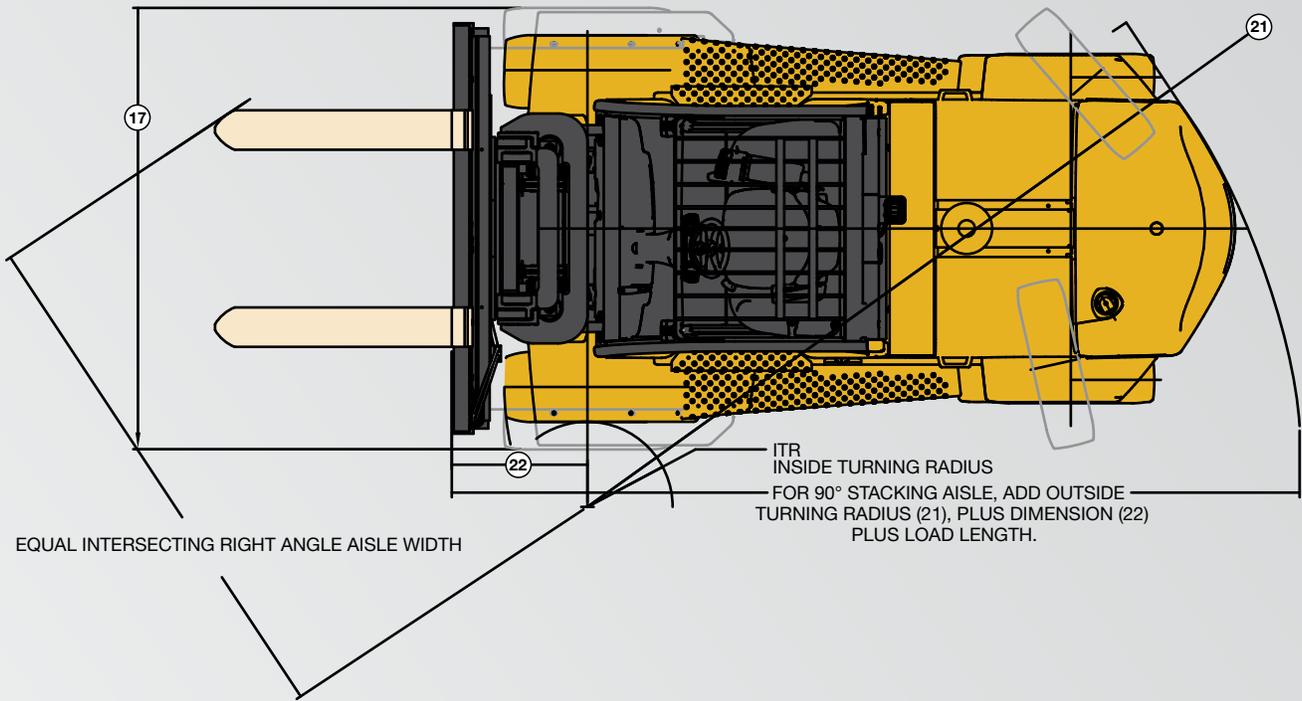
spinner knob, and requires only four turns lock-to-lock. The center mounted steer cylinder is located within the confines of the steer axle for protection.

Steer Axle is constructed of cast ductile iron and is mounted on phenolic bushings, allowing excellent stability and axle articulation. The steer axle system features tapered spindle bearings and non-adjustable tie rod ends for durability.

Chassis designed by state-of-the-art finite element methods features inch-thick frame members and contains a rugged, unitized frame structure with a low step for simple entrance to the operator's compartment. Ergonomically designed overhead guard is bar type for excellent visibility and reduced noise. Gull wing doors on both the right and left sides provide excellent service access.

(continued on back)





	Non-Susp	Full	Swivel Full
OHG (Std.)	41.9 (1064)	40.8 (1037)	40.8 (1037)
Cab (Opt.)	41.2 (1047)	40.2 (1020)	40.2 (1020)

Dimensions with seat in depressed position.

		Yale®				
		GP170VX	GP175VX	GP190VX		
GENERAL	1	Manufacturer	Yale®			
	2	Model Designation	GP170VX	GP175VX	GP190VX	
	2a	Power Train – Engine Transmission	Kubota 3.8L Techtronix 332			
	3	Load capacity	lbs (kg)	17,000 (8,000)	17,500 (8,000)	19,000 (9,000)
	4	Load center	in (mm)	24 (600)	36 (900)	24 (600)
	5	Drive Power Type: Gas, Diesel, LPG	Diesel			
	6	Operation	Seated Rider			
	7	Step Height (from ground to running board)	in (mm)	12.6 (321)		
	7a	Step Height (between intermediate steps between running board and floor)	in (mm)	10.1 (256)		
DIMENSIONS	8	Tires	Pneumatic			
	9	Number of wheels, front/rear (X = driven)	4X/2 ¹			
	10	Lift height, w/LBR (TOF) (Rounded Down)	in (mm)	219 (5565)		
	11	Standard Free lift height (Rounded Down)	in (mm)	4 (105)		
	12	Fork carriage width – Standard Carriage	in (mm)	80 ³ (2030 ³)		
	12b	Fork Spacing – Std Carriage – Min. inside to inside edge	in (mm)	2.6 (65)		
	13	Fork dimensions	in (mm)	7.9 X 2.5 X 47.2 (200 X 65 X 1200)		
	13a	Fork carriage to DIN 15173. Class, A/B	class	IV A		
	14	Fork Spacing – Std Carriage – Max. outside to outside edge	in (mm)	78.3 (1990)		
	15	Mast tilt, forward / back	degrees	5F/9B ²		
	16	Overall length (length to face of forks)	in (mm)	153 (3883)	158 (4024)	155 (3944)
	17	Overall width	in (mm)	88 (2239)		
	18	Height of Standard mast, lowered (Rounded Up)	in (mm)	117 (2962)		
	19	Height of mast, extended w/o load backrest (Rounded Up)	in (mm)	186 (4725)		
	19a	Height of mast, extended w/load backrest (Rounded Up)	in (mm)	191 (4850)		
	20	Height to top of Std. overhead guard (Rounded Up)	in (mm)	100 (2531)		
	20a	Height to top of Cab (Rounded Up)	in (mm)	101 (2549)		
	20b	Towing coupling height	in (mm)	18.7 (476)		
	21	Outer turning radius	in (mm)	145 (3673)	149 (3794)	147 (3723)
	21a	Inner turning radius	in (mm)	14.3 (362)		
	22	Load distance (load face-center of wheel to face of forks – front overhang) 2 stage	in (mm)	23.6 (599.5)		
	22a	Load distance (load face-center of wheel to face of forks – front overhang) 3 stage	in (mm)	25.6 (650.5)		
	22b	Right angle stack (add length of load)	in (mm)	168 (4273)	173 (4394)	170 (4323)
	23	Right angle stack with pallets 42in wide x 48in long	in (mm)	216 (5492)	221 (5613)	218 (5542)
	24	90° intersecting aisle (with pallet W=42in, L=48in)	in (mm)	120 (3056)	123 (3126)	121 (3085)
PERFORMANCE	25	Travel speed RL/NL	mph (km/hr)	14.4/14.8 (23.2/23.8)		
	26	Lifting speed (2FL) RL/NL	ft/min (m/sec)	85/89 (0.43/0.45)	83/89 (0.42/0.45)	
	26a	Lifting speed (3FFL) RL/NL	ft/min (m/sec)	75/89 (0.38/0.45)		73/89 (0.37/0.45)
	27	Lowering speed (2FL) RL/NL	ft/min (m/sec)	81/73 (0.41/0.37)		
	27a	Lowering speed (3FFL) RL/NL	ft/min (m/sec)	77/65 (0.39/0.33)		
	28	Maximum drawbar pull RL/NL	lbs (kg)	12000/7239 (5443/3284)	12000/12000 (5443/5443)	12000/12000 (5443/5443)
	28a	Drawbar pull @ 1.0 mph or 1.6 km/h RL/NL	lbs (kg)	12000/7239 (5443/3284)		
	28b	Drawbar pull @ 3.0 mph or 4.8 km/h RL/NL	lbs (kg)	8319/7239 (3773/3284)	8272/7239 (3752/3284)	8252/7239 (3743/3284)
	29	Gradeability, max RL/NL	%	30/30	28/27	27/28
	29a	Gradeability @ 1.0 mph or 1.6 km/h RL/NL	%	30/30	28/27	27/28
29b	Gradeability @ 3.0 mph or 4.8 km/h RL/NL	%	20/30	19/27	28/28	
WT.	31	Weight, NL (w/std equipment: mast, carriage, forks, etc.)	lbs (kg)	23336 (10585)	25940 (11766)	24357 (11048)
	32a	Axle loading RL (w/std option configuration) front/rear	lbs (kg)	36921/4052 (16747/1838)	38815/4762 (17606/2160)	39890/4306 (18094/1953)
	32b	Axle loading NL (w/standard option configuration) front/rear	lbs (kg)	10549/12787 (4785/5800)	10282/15657 (4664/7102)	10223/14134 (4637/6411)
WHEELS & TIRES	33	Tire size – front	8.25 X 15 -14PR ¹			
	34	Tire size – rear	8.25 X 15 -14PR ¹			
	35	Wheelbase	in (mm)	96.5 (2450)		
	37	Ground clearance under mast, laden	in (mm)	6.8 (173)		
	38	Ground clearance at center of wheelbase	in (mm)	10.0 (253)		
	39	Brakes Service – Method of Control/Operation	Hydraulic/Foot			
TRANS. & POWER UNIT	40	Brakes Park – Method of Control/Operation	Mechanical/Hand			
	41	Battery Type	Maintenance Free			
	42	Battery Volts/Cold Cranking Amps	12V / 1010 X 2			
	43	Engine manufacturer/type	Kubota 3.8L Diesel			
	44	Engine output, in accordance with ISO1585	hp (KW)	110 (82) @ 2400		
	45	Torque	ft-lb (N-m)	275 (373) @ 1600 rpm		
	46	Number of cylinders/displacement	No./cc (ci)	I-4/3769 (230)		
	47	Gear change type	Electronically Controlled Powershift			
	47a	Transmission: Number of speeds forward/reverse	3F / 2R			
	48	Fuel Tank – Capacity	gal (liters)	19.8 (74.8)		
49	Working pressure for attachments	psi (bar)	2250 (155)			
50	Oil flow for attachments	gal/min (l/min)	24 (93)			
51	Towing coupling type	Pin				
52	Hydraulic Tank – capacity (drain & refill)	gal (liters)	18.7 (70.9)			

¹ Other tire options are available.

² Backtilt limited to 6 degrees with some mast options.

³ Carriage is 80" wide, load backrest is 82" wide.

GP170-190VX MAST DIMENSIONS

Maximum Fork Height (TOF)	Overall Lowered Height	Overall Extended Height		Free-Lift (TOF)		Approx. Total Wt. of Std. Equipped Truck		
		w/ Load Backrest	w/o Load Backrest	w/ Load Backrest	w/o Load Backrest	GP170VX with NL	GP175VX with NL	GP190VX with NL
in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	lbs (kg)	lbs (kg)	lbs (kg)
2-Stage Limited Free-Lift (LFL) Mast								
140 (3565)	117 (2962)	191 (4850)	186 (4725)	4 (105)	4 (105)	23361 (11050)	26592 (12062)	25395 (11519)
179 (4565)	137 (3462)	231 (5850)	226 (5725)	4 (105)	4 (105)	24590 (11154)	26821 (12166)	25624 (11623)
219 (5565)	156 (3962)	270 (6850)	265 (6725)	4 (105)	4 (105)	24822 (11259)	27053 (12271)	25856 (11728)
2-Stage Full Free-Lift (FFL) Mast								
181 (4615)	107 (2702)	240 (6077)	235 (5952)	56 (1440)	61 (1565)	25216 (11438)	27447 (12450)	26250 (11907)
234 (5965)	125 (3152)	293 (7427)	288 (7302)	74 (1890)	79 (2015)	25527 (11579)	27758 (12591)	26561 (12048)
Heavy Duty 2-Stage Limited Free-Lift (LFL) Mast								
179 (4565)	137 (3462)	231 (5850)	226 (5725)	4 (105)	4 (105)	24943 (11314)	27174 (12326)	25977 (11783)
219 (5565)	156 (3962)	270 (6850)	265(6725)	4 (105)	4 (105)	25344 (11496)	27575 (12508)	26378 (11965)
Heavy Duty 2-Stage Full Free-Lift (FFL) Mast								
258 (6565)	133 (3362)	317 (8037)	312 (7912)	82 (2090)	87 (2215)	26052 (11817)	33711 (15291)	27086 (12286)

RL = Rated Load NL = No Load

Note: GP170-190VX use standard 8.25 x 15 x 14 PR pneumatic drive tires @ 82.0 inch (2082 mm) overall width.

(continued from cover)

Operator's Compartment features Accutouch minilever, electro-hydraulic controls integrated into the operator's right-side armrest allowing superior ergonomic actuation. Automotive-style pedal arrangement with a large, single inch/brake pedal is standard. Rubber floor mat reduces noise and vibration. The floorplate can be removed without tools for excellent service access. Low step height and a convenient hand grip provide easy entry and exit to and from the truck.

Intellix VSM acts as a master truck controller, providing extensive monitoring and control of truck functions and systems. CANbus technology reduces wiring complexity and enables comprehensive communications between truck systems. The ergonomically positioned dash display transmits continual feedback to the operator and allows for communication of service codes. Comprehensive on-board diagnostics enable quick and easy troubleshooting. The electrical system features sealed connectors and Hall Effect sensors for superior dependability.

Hydraulic System incorporates a gear type pump with a cast iron body for quiet efficiency. The system is protected from overloads by a main relief valve for the lift circuit and a secondary relief valve for tilt and auxiliary functions. Oil is double filtered through a 100 mesh suction line strainer and 10 micron return line filter. The hydraulic tank is integrated into the frame. An emergency lowering valve is provided to allow the load to be lowered in the event of power loss. O-ring face seal fittings are used in all high pressure hydraulic connections.

Yale® Masts are available in Simplex LFL (Limited Free Lift) and Triplex FFL (Full Free Lift) models. The mast features pre-lubed and sealed full-radius load rollers that resist the forward, rearward and lateral forces. Side-thrust wear pads allow for periodic adjustments for lateral clearances. The rolled mast channels are made of high-strength steel to provide resistance to flaring of the channel flanges. 80" wide hook-type carriages are standard equipment, providing great visibility and handles a wide variety of forks and attachments.

The optional heavy duty mast provides a solution for users in extreme applications that require heavy attachment use or frequently moved maximum rated loads.

Options

- Powertrain protection system with engine shutdown
- Premium monitoring package
- Integral sideshifter, and integral sideshifting fork positioner
- Accumulator
- Keyless start (with auxiliary key switch)
- LED brake and back-up lights
- Headlights and rear drive lights with halogen bulbs
- Headlights and rear drive lights with LED bulbs
- Traction speed limiter
- Return-to-set tilt
- Integral operator's cab
- Rear drive handle with horn button
- Swivel full-suspension vinyl and cloth seats
- High-visibility non-cinch seat belt with or without interlock
- Foot Directional Control pedal
- Impact monitor
- Operator password
- Alarm-reverse actuated 82-102 Db(A)
 - self-adjusting
- LED amber strobe light - keyswitch activated
- Solid and radial tires
- 4 function (2 aux) hydraulic control valve
- 5° forward/6° backward tilt
- UL type DS
- Fire extinguisher
- Lifting eyes



YALE MATERIALS HANDLING CORPORATION

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Manufactured in our own ISO 9001 and 14001 Registered Facilities

2276-1C 1/2014 All trucks shown with optional equipment.

Truck performance may be affected by the condition of the vehicle, how it is equipped and the application. Consult your Yale® Industrial Truck Dealer if any of the information shown is critical to your application. Specifications are subject to change without notice.

This truck meets all applicable mandatory requirements of ANSI B56.1 Safety Standard for Powered Industrial Trucks at the time of manufacture. Classified by Underwriters' Laboratories, Inc., as to fire and electric shock hazard only for Type E industrial trucks.

The Yale® products included in this document may be covered by US patent 6,684,148 and other patents pending.