



Terminal Tractor Specifications Form



Location	#	Basic Specifications <i>(it shall be mandatory specs for any machine)</i>	Description	Terminal Notes	Suppliers Notes	GTF/HQ Notes
Machine	1	Off-Highway Terminal Tractor	GCWV 7000 kg (80000-81000 kg) shall be able to pull bombcart with twin-20' fully loaded and can be adjusted to be applicable to road condition at max. slope 4%. 4x2 drive Expected Diesel power is 129 kW Accelerate 70% Trailload, 0.24 km/h, 0% grade, 23 sec or less			
	2	5th wheel with powered height adjustment	retracted (lowest) < 1180 mm extended (highest) > 1550 mm be able to lift fully loaded bombcart from cabin. 2'-King-pin Automatic lock Air actuated unlock from seated position in cab Manual unlock from main stair access side Heavy duty 5th wheel cylinder support with spherical bearings, top and bottom of cylinders			
	3	Ambient temperature operating range	-20°C +45°C			
	4	Travel speed with empty chassis/trailer	max 25 Km/h (however terminal may ask for lower customized speed limit during machine ordering)			
Transmission	5	Automatic transmission with directional change protection	Speed restriction shall be electronically limited so the transmission can shift to the highest sustainable gear with required torque for improved fuel economy. Push-Button Shifter for Transmission. Synthetic transmission fluid.			
Operator Cabin	6	Interior Noise Level No Higher Than 75 dB(A)	Measured with windows closed			
	7	Side windows	Functional windows on both sides of the cab. Any sliding window shall have mechanical stops to prevent hand injury buy a person holding the glass to slide it.			
	8	Heater / Defroster system				
	9	Front windshield washer & multi-speed wiper				
	10	Steering system	Power assisted steering system Common hydraulics shall include steering priority valve Emergency steering property during engine off			
	11	Signal horn	Turning radius to support maneuvering 45' trailers within a 16000mm aisle width.			
	12	Left-hand drive cabin (steering wheel on the left side)	Left-hand drive With the exception of mirrors, no point of the machine should be wider than the tires/rims Stair/Step access from both sides of the machine Orientation of driver controls consistent for terminal at day of ordering Minimum height of entry way is 1700mm. At least one window must be capable of being opened in an emergency to exit the cab with the cab in any position. Window must be labeled "Emergency Exit" in English and local language with non interference with operator's view while driving.			
	13	Emergency exit window/door	At least one window/door (different from the rear door) must be capable of being opened in an emergency to exit the cab with the cab in any position.			
	14	Laminated safety glass/plastic for all sides	FOPS tested			
	15	Cabin with air (pneumatic) suspension				
	16	Seat with air (pneumatic) suspension, without arm rests				
	17	Left and right outside mirrors				
	18	3 points seat belt in different/reflective colour to be visible from outside				
	19	Clothing/Coat Hook				
	20	Cab interior (dome) light				
	21	Rubber floor mat				
	22	Fuel level indication and low fuel warning				
	23	1 (one) Operational/drivers manual per machine in Cabin	in terminal local language as hardcopy, and English version as softcopy			
	Engine	24	Standard Diesel Engine:	- U.S. EPA/CARB Tier 4, EU Stage IV - U.S. EPA/CARB Tier 3, EU Stage IIIA		
25		Exterior Noise Level No Higher Than 80 dB(A)	OEM shall provide Lwaz & Lpaz according to EN12053 or equivalent (e.g. 2005/69/EC) LwAz = max. 110 dB(A) LpAz = max. 75 dB(A)			
26		Engine oil replacement interval to be at least 500 running hours	If applicable, OEM shall provide the list of required engine oil sampling tests to be performed along with the minimax test results in order to continue using the oil and increase the replacement intervals more than 500 running hours.			
27		Fuel/Water Separator				
28		Vertical exhaust stack exit (at least 300mm above cabin)	such vertical section shall be positioned/protected against possible impact from trailers/carried container.			
29		Anti-Restart - Prevents engaging starter to a running engine				
Hydraulic/Air	30	Air dryer with automatic non-heated air spitter for warm climates (automatic condensate purge)	Bendix / Westinghouse AD-IP or equivalent			
	31	Air reservoirs with anti-compounding bobtail proportioning and quick trailer air delivery.	Auxiliary air tank fill glad-hand. Frame mounted preferably near fuel tank. Orient so the glad-hand will point down to minimize exposure to being hit. Used to fill air tank by another UTR to enable brake release and lowering.			
	32	Dual Cast iron glad-hands (both ends of air hose)	Glad-hand connection on the truck side is ridged mounted and upright such that a pulling action of the air hose (to trailer) will cause the glad-hands to rotate/disconnect. Allowed is a C-coupling (safety device).			
	33	Glad-Hand storage system	Either: a. 6" single glad-hand receptacle bucket with softening pad and drain. Mounted to back of cab or air hose base b. Hose clips at the back of the cabin.			
	34	Hydraulic oil <u>connect/easy access</u> to collect oil sample for oil analysis	OEM shall provide the list of required hydraulic oil sampling tests to be performed along with the minimax test results in order to continue using the oil and increase the replacement intervals.			
Maintenance	35	Display for machine (engine, transmission, spreader, sensors ...) fault messages/codes for troubleshooting purpose				
	36	Hydro-electric or fully electric tilt-able cabin with mechanical hold for easy access maintenance	in addition to the conventional manual tilting mechanism as standard redundant system in case of failure of the motorized mechanism			
Lights	37	Main headlights, stop, turning, etc lights	all lights shall be LED			
	38	Two additional forward facing LED floodlights mounted on front cab roof at 45 degree angle	Turn on with dash mounted switch			
	39	One Rear facing LED floodlight mounted on/rear cab roof.	Turn on with dash mounted switch			
Safety	40	Anti-Slip protection on operator and maintenance access areas				
	41	Rotating warning light (Strobe/Beacon) - visible 360 degrees	Turn "ON" with ignition, and it shall be LED type			
	42	Reverse actuated audible alarm				
	43	Container guard frame to protects back side of cabin from hit by trailer/container	Protection against hits from behind e.g.: 1. 20' container with falling "Twin-20-Detection-System" (TDS). 2. Hits by trailers & containers after "missing the 5th wheel" or similar. Structure shall be higher than cabin (pictures as reference only)			
	44	Comply with ISO 3471 for ROPS and ISO 3449 for FOPS				
Frame/Axle	45	Daytime running lamps (DRL)	the main headlights will turn "ON" with ignition			
	46	Automatic slack adjusters, front and rear axle	OEM is to provide information of means to check lining / pads without total disassembly.			
Misc.	47	Front and rear towing points				
	48					
	49	Battery	1. Battery box easily accessible. 2. Battery cut-off switch lockable in the off position (lockout-tagout) 3. All power connections to the battery shall be shielded from accidental contact by dropped object or during maintenance			
	50	Electrical connector to the trailer	To be decided by terminal at order of machine.			

	Compliance with global standards	For US: - Compliance with Occupational Safety & Health Administration (OSHA) 29 CFR 1910.178 and American National Standards Institute (ANSI) B56.1 for US region. - Including 3 touch point access stairs/hand rails. - All normal access areas above ground level require hand-rail protection. - All signage, instruments, meters, labels, etc. in US customary units. For the rest of the world: - Compliance with Machinery Directives 2006/42/EC and CE-marking for the rest of the world. - All signage, instruments, meters, labels, etc. in SI units.			
Location	Options (supplier shall provide the following options with the machine when the terminal ask for it)	Description	Subject		
Machine	Off-Highway Terminal Tractor	GCW 85000 kg (75000-100000 kg) shall be able to pull bombcart with twin-20' fully loaded and can be adjusted to be applicable to road condition at max. slope 4% 4x2 drive Expected Diesel power is 170 kW Accelerate 85LT trail/road, 0-24 km/h, 0% grade, 23 sec or less			
	Fixed 5th wheel (to be investigated with suppliers)	When the terminal has trailers with movable legs and wants to take the hydraulic system out of the truck to reduce the maintenance cost. COO approval is required for that option.			
	Extreme cold climate option for areas where the ambient temperature is below -20C	Heated air splitter valve replaces standard valve (automatic condensate purge) OEM is to provide information about what is included, Examples: - Engine block or cooling fluid pre-heater with external connection - Oil pan heater with external connection - Hydraulic tank heater with external connection - 120-240 VAC, 50/60Hz to be known at contract date - Urea tank heater - Ambient temperature operating range: to be known at contract date - Heated Roof panel to prevent ice/snow build up over the roof stickers.			
	Extreme Hot climate option for areas where the ambient temperature is above +45C	Examples: additional cooling for hydraulic oil & wetdisk, bigger (air-)filters, "open"-radiators			
	Dusty climate option	components suitable for sand & dust			
	High lift range 5th wheel	retracted (lowest) < 1180 mm extended (highest) > 1950 mm			
	Auxiliary parking brake - self setting, Powered release	It is auto-hold when engine is stopped, for safety.			
Operator Cabin	Tinted window				
	Right-hand drive cabin	having the steering wheel on the right side			
	Cab fan	One fan mounted at/rear upper front window, opposite side from driver.			
	Air Conditioning				
	Lockable doors				
	Driver seat with arm rest				
	Preparation for radio & 2x speakers	3 wire minimum: ground, power, & switched power. 2-way Radio, Boom Microphone, Footswitch & External Speakers will be supplied by the terminal. Wiring and mounting locations to be clearly indicated			
	Optional extra side mirrors	Two 8" convex mirrors mounted on each outside mirror, one below and one above for help observing STS/RTG operation Mirrors conforming EU Directive 2003/97/EC: Vehicle category N3			
Document clip area	Secure documents to cab panel				
Sun visors - front window					
Hydraulic/Air	15 self cooling air hoses with break-away collar	Local color standards: USA: Red & Blue Europe, AME, Asia: Red & Yellow			
	15 straight rubber trailer air hoses with spring type hose tender	Local color standards: USA: Red & Blue Europe, AME, Asia: Red & Yellow			
Electrical	Dash Mounted 5 digit engine running hour meter	To provide Engine running hours without starting the machine. Such meter can be in visible place in the cabin to be seen from outside, or it can be installed outside of the cabin nearby the fuel tank			
	Battery wired to external jump start cable connector.	Connector plug compatible with (1 plug, depending on voltage): #4x: 12 VDC; Anderson Power Products Part# 4320CX1 AWG 2/0 350A or #4b: 24 VDC; Military Socket VG 96917 (TBD by terminal at order of machine).			
	Automatic Electrical System Cut-Off, 10 Minutes after low oil pressure/Engine off.	Prevent draining the batteries after engine auto-shutdown.			
	12 Volt Customer Electrical Connection Point	(Local) Standard size for 12V power/cigarette lighter			
Paint	Apply APM Unit numbers & Logos, reflective tapes	Coding & type, known at contract date			
	Optional colour	Cabin, boom, spreader in OEM-standard colours Machine in optional colour: e.g. APMT-blue or RAL			
Engine	Idle shut down, set at 5 minutes	factory default setting: 5 minutes Setpoint must have the possibility to be adjusted by maintenance (5-15 minutes)			
Frame/Axle	Beavertail				
	Extended bumper 150 mm (6") forward of cab				
	Air rear axle suspension	for terminals where the pavement is a challenge			
	Flexible rear fenders.	rear tire fenders should not be too tight to enable the installation of larger size tires			
	Mud flaps behind both axles & Mud flaps in front of drive axle				
Misc.	Lockable fuel tank cap				
	Tire Pressure Monitoring System				
	Strainer on fuel filter	The main purpose of this strainer is to avoid dropping objects accidentally in the fuel tank during fuelling. All daily maintenance checks accessible from ground or running board without raising the cab (or hood)			
	Optional request for tires, size and brand.	Terminal to advise the preferred tire brand and size in the notes Example: 11.00 R 22.5 or 280/75 R 22.5 (rim 6.25x2.00) Brands: 1. Michelin XZM 2. Michelin X Terminal-T 3. Bridgestone			
	Preparation for APMT Asset Digitization				
	Maintenance manuals in local language				

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