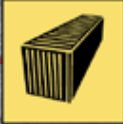
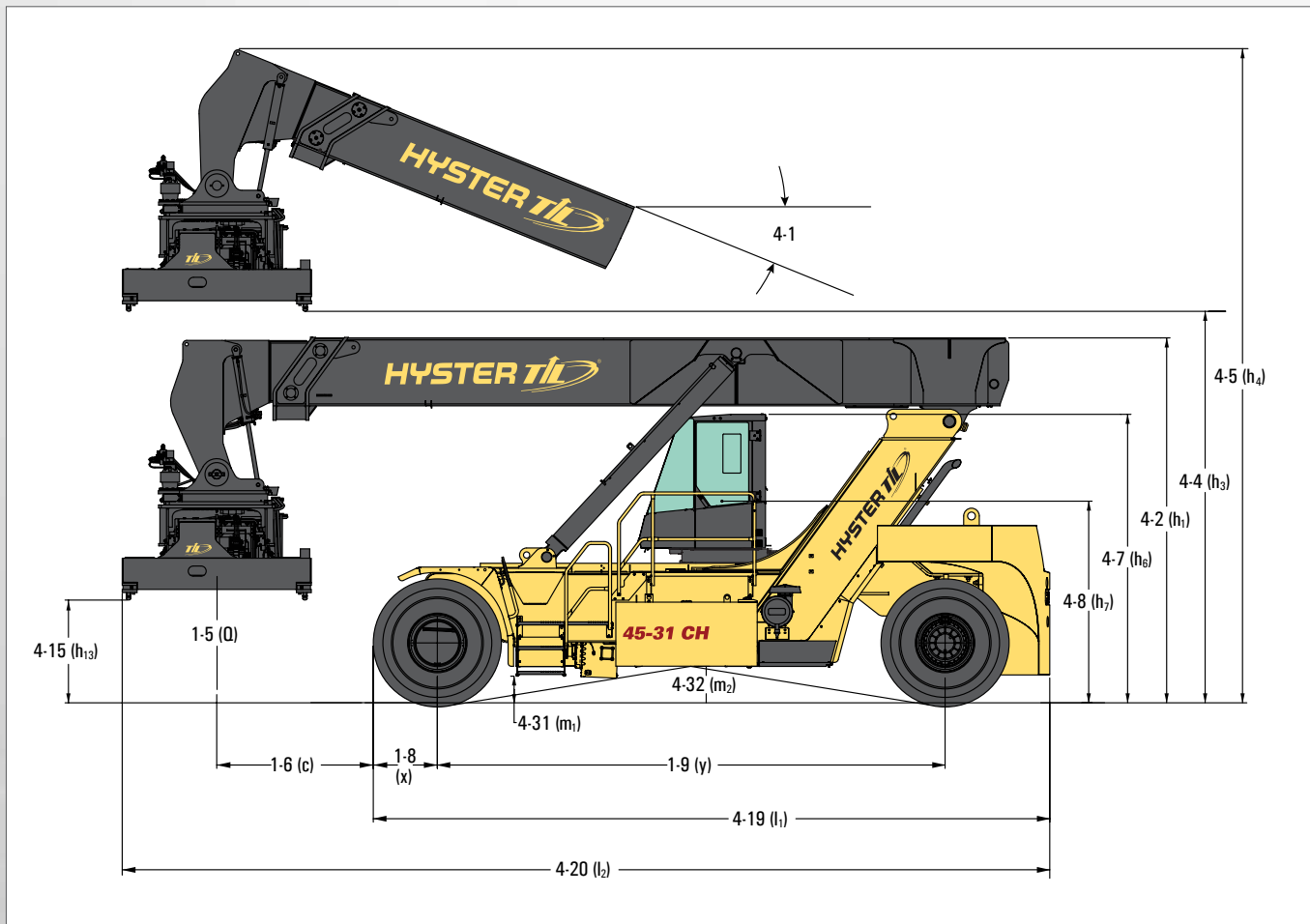




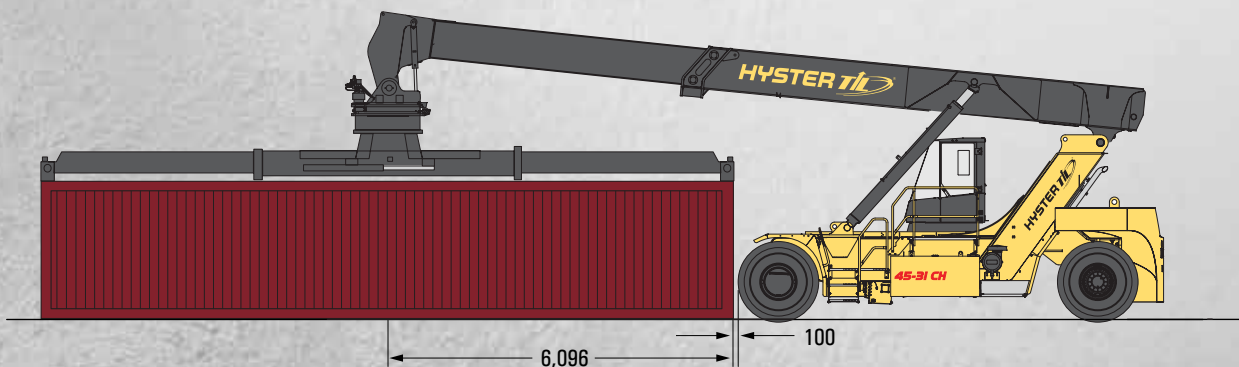
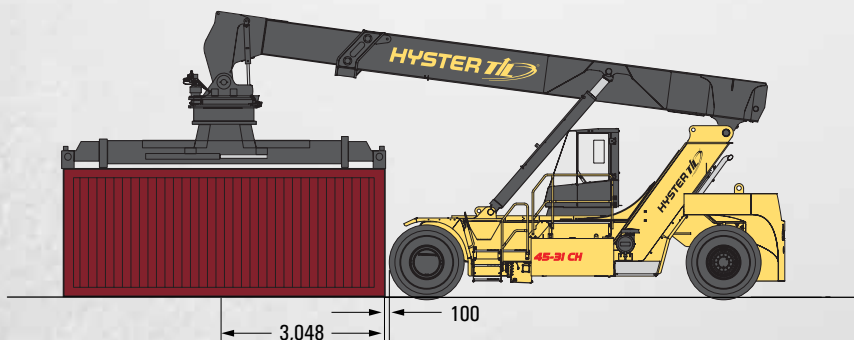
RS45 SERIES TECHNICAL GUIDE

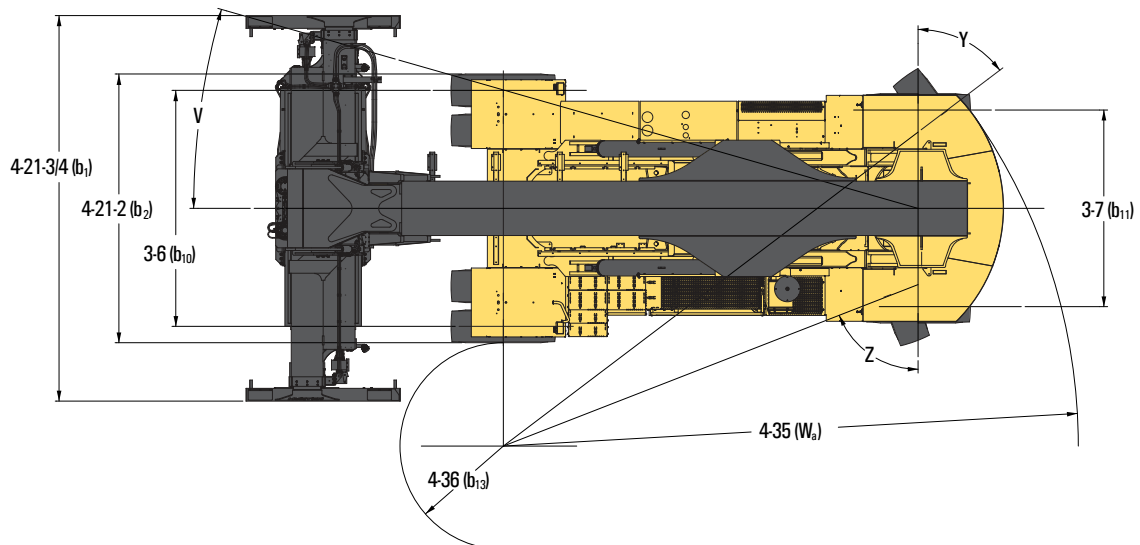
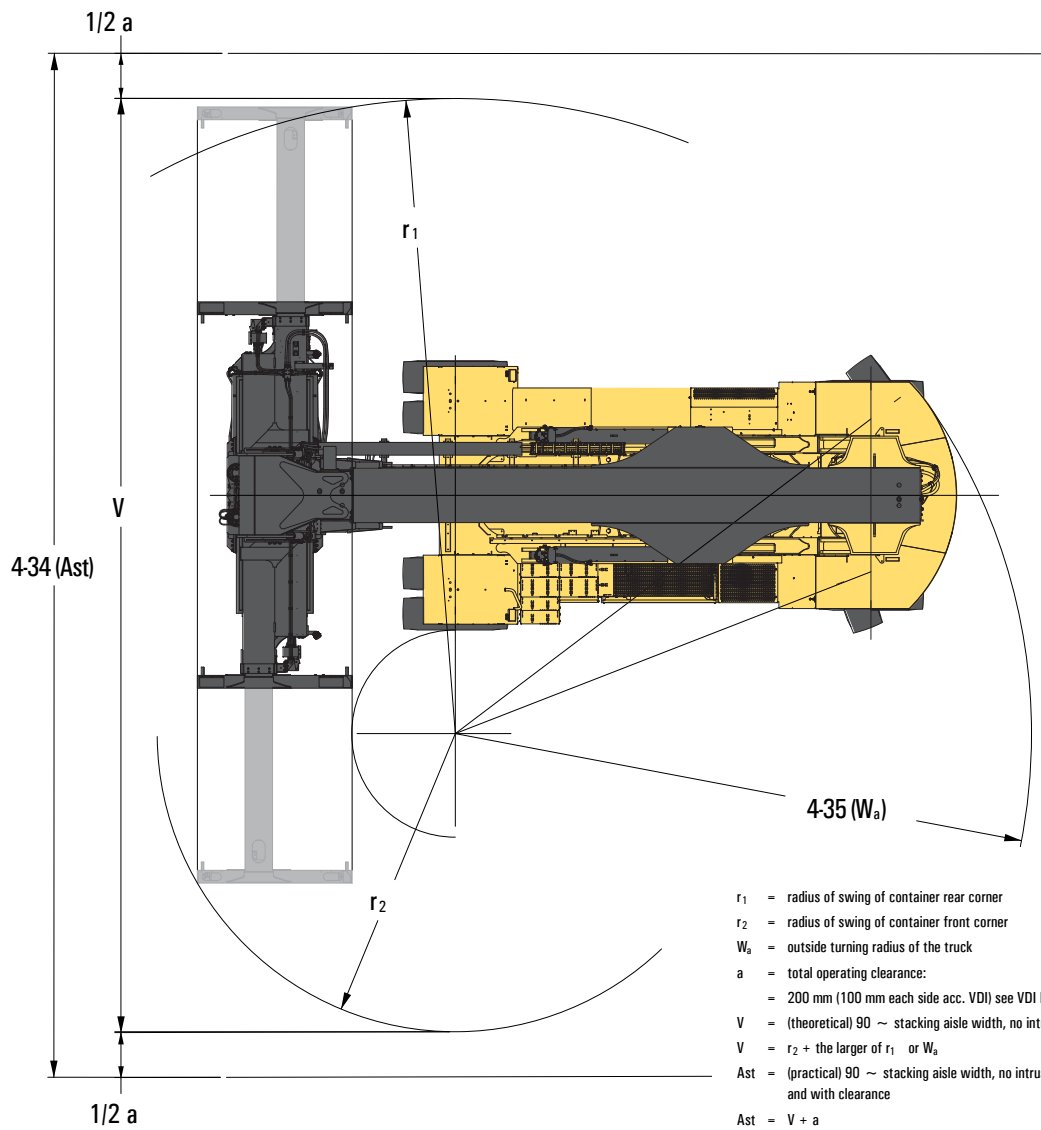


> TRUCK DIMENSIONS



MAXIMUM CAPACITY CONTAINER PICKING END TO END		
MODEL	20'	40'
	kg	kg
RS45-27	31,000	12,300
RS45-31	34,000	15,000





> RS 45-27, RS 45-31 CONTAINER HANDLERS

				RS 45-27CH		RS 45-31CH		
GENERAL	1-1	Manufacturer			HYSTER-TIL		HYSTER-TIL	
	1-2	Model designation			RS45-27CH		RS45-31CH	
	1-3	Powertrain / drivetrain			Diesel		Diesel	
	1-4	Operator type			Seated		Seated	
	1-5-1	Load capacity at load center distance c ₁	Q ₁	kg	45,000		45,000	
	1-5-2	Load capacity at load center distance c ₂	Q ₂	kg	27,000		31,000	
	1-5-3	Load capacity at load center distance c ₃	Q ₃	kg	12,300		15,000	
	1-6-1	Load center distance c ₁ (1)	c ₁	mm	1,565		1,565	
	1-6-2	Load center distance c ₂ (1)	c ₂	mm	3,815		3,815	
	1-6-3	Load center distance c ₃ (1)	c ₃	mm	6,315		6,315	
1-8	Load distance	x	mm	835		835		
1-9	Wheelbase	y	mm	6,500		6,500		
1-10	Stacking height at first row (number x container height)		#	5 x 9' 6"		5 x 9' 6"		
WEIGHT	2-1	Service weight		kg	65,870		68,870	
	2-2-1	Axle loading with load, front / rear at c ₁		kg	98,527	12,343	98,335	15,535
	2-3-1	Axle loading without load, front / rear at c ₁		kg	36,877	28,993	36,680	32,190
WHEELS	3-1	Tire type			Pneumatic		Pneumatic	
	3-2	Tire size, front			18.00-25 40PR		18.00-25 40PR	
	3-3	Tire size, rear			18.00-25 40PR		18.00-25 40PR	
	3-5	Number of wheels, front / rear (x = driven wheels)			x4 / 2		x4 / 2	
	3-6	Tread, front	b ₁₀	mm	3,703		3,703	
	3-7	Tread, rear	b ₁₁	mm	3,060		3,060	
DIMENSIONS	4-1	Boom angle minimum / maximum		degrees	0 / 59		0 / 59	
	4-2	Height of boom lowered	h ₁	mm	4,700		4,700	
	4-4-1	Lift height at load center c ₁ (2)	h _{3,1}	mm	15,150		15,150	
	4-4-2	Lift height at load center c ₂ (2)	h _{3,2}	mm	13,540		13,540	
	4-4-3	Lift height at load center c ₃ (2)	h _{3,3}	mm	10,390		10,390	
	4-5	Height, boom extended	h ₄	mm	18,110		18,110	
	4-7	Height of overhead guard (cabin)	h ₆	mm	3,720		3,720	
	4-8	Seat height to SIP(3)	h ₇	mm	2,555		2,555	
	4-15	Height under twistlock - lowered(2)	h ₁₃	mm	1,345		1,345	
	4-19	Overall length	l ₁	mm	8,660		8,660	
	4-20	Overall length including boom retracted	l ₂	mm	11,875		11,875	
	4-21-2	Overall width across all of truck	b ₂	mm	4,200		4,200	
	4-21-3	Overall width across spreader 20'	b _{1,20}	mm	6,100		6,100	
	4-21-4	Overall width across spreader 40'	b _{1,40}	mm	12,200		12,200	
	4-31	Ground clearance, lowest point	m ₁	mm	285		285	
	4-32	Ground clearance, center or wheelbase	m ₂	mm	437		437	
4-34-3	Aisle width: 20' container	Ast ₂₀	mm	12,520		12,520		
4-34-4	Aisle width: 40' container	Ast ₄₀	mm	14,040		14,040		
4-35	Outside turning radius	W _a	mm	8,990		8,990		
4-36	Internal turning radius	b ₁₃	mm	1,620		1,620		
PERFORMANCE	5-1	Travel speed with / without load		km/h	20	23	20	23
	5-2	Lifting speed with / without load		m/s	0.24	0.41	0.24	0.41
	5-3	Lowering speed with / without load		m/s	0.45	0.45	0.45	0.45
	5-4-1	Telescoping speed 20' - 40', max		sec	20		20	
	5-5	Drawbar pull - 1 mph (1.6 km/h) with / without load		kN	312	320	309	317
	5-7	Gradeability - 1 mph (1.6 km/h) with / without load(5)		%	27	31	27	29



GENERAL	1-1	Manufacturer			HYSTER-TIL
	1-2	Model designation			RS45-27/31CH
	1-3	Powertrain / drivetrain			Diesel
ENGINE	7-1	Engine manufacturer / model			Cummins / QSL9 227
	7-1a	EPA / CE Tier compliance			Tier 3 / Stage IIIA
	7-2	Engine power output according to ISO 1585		kW	227
	7-2-1	Engine power output - peak		kW	247
	7-3	Rated speed		rpm	2,000
	7-3-1	Engine torque @rpm (1/min)		N-m	1,424 @ 1500
	7-4	Number of cylinders / displacement		# / cm ³	6 / 8900
		Turbocharger			Wastegate, air cooled
	7-8	Alternator output		Amps	120
	7-10	Battery voltage, rated capacity		V / Ah	24 / 180
DRIVE	8-1	Drive control / transmission		Type / #	Hydrodynamic Transmission
	8-2	Transmission manufacturer / type		Type / #	Spicer Off-Highway / TE-27
	8-4	Transmission speeds forward / backward		#	4 / 4
	8-5	Coupling		Type	Torque Converter
	8-6	Wheel drive / drive axle manufacturer / type		Type / #	AxleTech / PRC7545
	8-11	Service brake		Type	Oil immersed (wet) disc
	8-12	Parking brake		Type	Spring applied, dry disc on drive axle
SPREADER	9-1	Spreader manufacturer / type		Type / #	TIL / Elme opt.
	9-3	Size of containers		ft	ISO 20' - 40'
	9-4	Side shift	b ₈	mm	+ 800 / -800
	9-6-2	Rotation angle, with override		degrees	+ 185 / -95
MISC	10-3	Hydraulic tank capacity		l	625
	10-4	Fuel tank capacity		l	830
	10-5	Steering design			Hydrostatic
	10-7	Sound pressure level at driver's seat	Lpaz	dB(A)	78
	10-7-1	Sound power level during the work cycle	Lwaz	dB(A)	109

NOTES:

Specifications are affected by the condition of the vehicle and how it is equipped, as well as the nature and condition of the operating area. Inform your dealer of the nature and condition of the intended operating area when purchasing your Hyster TIL® truck.

- (1) From face of front tires
- (2) With Mechanical Pile Slope (MPS). For optional Powered Pile Slope (PPS) function: deduct 310 mm
- (3) Full suspension seat in depressed position
- (4) Spreader at 8.0 m high, central above front axle; container 0mm in front of tires; includes 2 x 100 mm clearance
- (5) Gradeability figures are provided for comparison of tractive performance, but are not intended to endorse the operation of vehicle on the stated inclines

NOTICE:

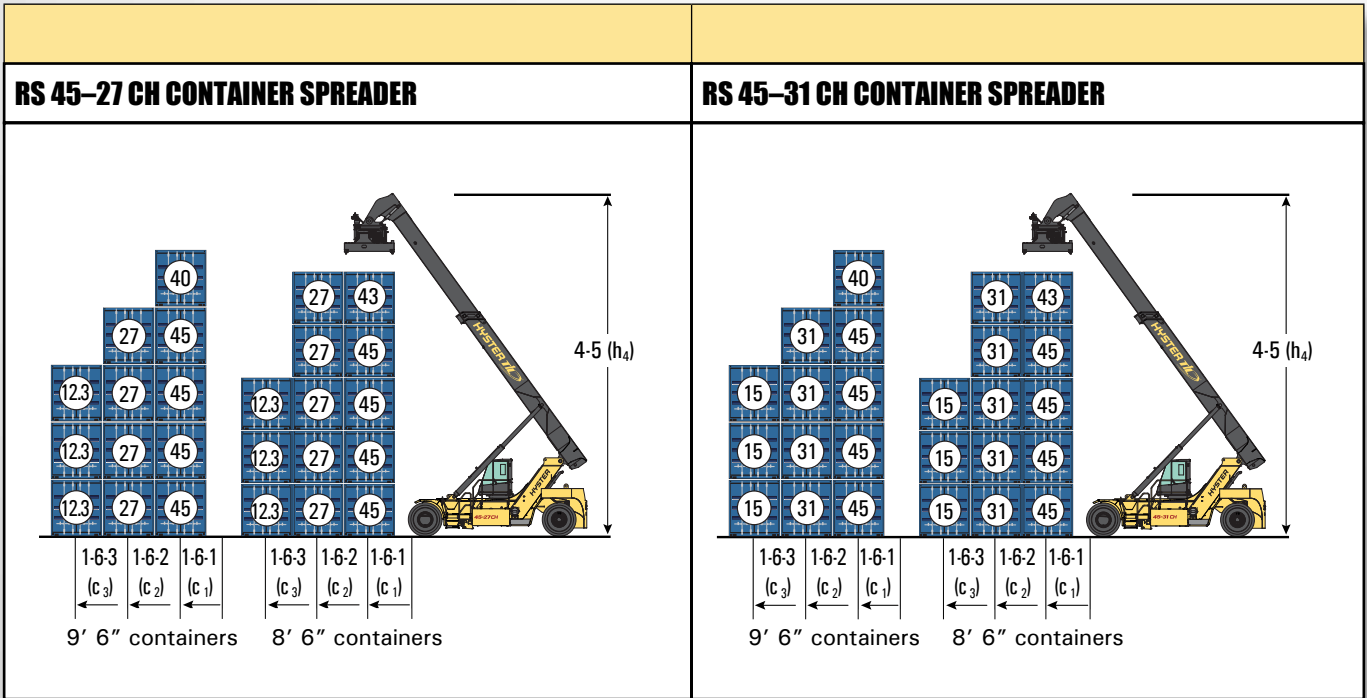
Care must be exercised when handling elevated loads. Operators must be trained and must read, understand and follow the instructions contained in the Operating Manual.

All values are nominal values and they are subject to tolerances. For further information, please contact the manufacturer.

Hyster TIL® products are subject to change without notice.

Lift trucks illustrated may feature optional equipment. Values may vary with alternative configurations.

> RATED CAPACITIES AND STACKING HEIGHTS – CONTAINER HANDLERS



STANDARD AND OPTIONAL EQUIPMENT



PERFORMANCE	STD	OPT
Cummins QSL 9 turbo diesel engine delivering 227 kW (rated) / 247 kW (max)	X	
Tier 3 / Stage IIIA compliant	X	
Wastegate turbocharger	X	
Hibernate Idle	X	
Hydraulically driven on-demand cooling fan	X	
120 amp alternator	X	
Powertrain protection system	X	
Spicer Off-Highway TE-27 4-speed auto-shifting transmission	X	
Axletech PRC 7545 drive axle with wet disc brakes	X	
LIFT	STD	OPT
On-demand load sensing hydraulic system	X	
Automatic throttle-up when lifting (in neutral or inching)	X	
2-stage boom for 5-high 1st row stacking	X	
3BG load moment indicator (integrated in digital operator display)	X	
High speed hoist system - when empty	X	
High speed hoist system - below 10 tons		X
Hydraulic system temperature protection		X
Container weighing system SOLAS compliant		X
HANDLING	STD	OPT
CANBus spreader TIL & ELME model 817 with rotation (opt.)	X	
Mechanical Pile Slope	X	
Powered Dampening (Elme Spreader)		X
4 lifting eyes located on end beam corners	X	
4 lifting eyes located under center beam of spreader		X
Container guides - located outside near twistlocks		X
Container guides - 500mm inset, heavy duty		X
VISIBILITY	STD	OPT
External wide angle mirrors mounted on rear of front fenders	X	
External wide angle mirrors mounted on top of front fenders	X	
Rear view camera system		X
Halogen work lights	X	
LED work lights		X
High performance LED work lights		X
LED twistlock indicator lights		X
LED stop/tail/brake lights		X
APPEARANCE	STD	OPT
Hyster yellow paint base truck	X	
Special paint base truck		X

ERGONOMICS	STD	OPT
Powered sliding cabin (1200 mm), including additional mirrors on top of fenders	X	
Isolated mounting for low noise and vibration	X	
Coat hook	X	
Cabin emergency exit - rear hinged window	X	
Front, top and rear wipers	X	
Front and rear window defrosters	X	
Left side handrails, stairway and cabin door	X	
Right side handrails, stairway and cabin door		X
Stair lights		X
7" digital operator display	X	
Seat-side joystick hydraulic control	X	
Steering wheel spinner knob	X	
Directional control lever	X	
Interior wide angle mirrors	X	
Heater with 3-speed fan	X	
Telescoping & tilting steering column	X	
Recirculation fan	X	
DC/DC converter 24 volt/12 volt with socket		X
Air conditioning	X	
Sun shades on top and rear	X	
Radio preparation set-up (wiring, two speakers and antenna)		X
Reading light		X
Operator presence system		X
Mechanical suspension seat		X
Cloth seat cover	X	
2-point high visibility seatbelt	X	
3-point high visibility seatbelt		X
OPERATION	STD	OPT
Electric air horn 112 dB	X	
Visible alarm - amber strobe light, key switch activated		X
Visible alarm - amber strobe light, switch and key switch activated		X
Audible alarm - reverse direction activated 82-102 dB(A), self-adjusting	X	
Forward motion alarm		X
Seatbelt interlock for engine start		X
Seatbelt indicator light on top of cab		X
Tire pressure monitoring system		X
Lockable battery disconnect switch	X	
Adjustable automatic "empty seat" engine shutdown		X
Trainer seat	X	
Non-locking fuel cap		X
Lockable fuel cap	X	
Hyster Tracker wireless asset management - monitoring		X
Hyster Tracker wireless asset management - access / verification		X
24 volt electrical system	X	
Steer wheel lug nut protection	X	
Engine compartment light		X
SUPPLEMENTAL	STD	OPT
Literature package	X	
Operator's manual	X	

STRONG PARTNERS. TOUGH TRUCKS™

FOR DEMANDING OPERATIONS, EVERYWHERE.

About Hyster

Hyster® supplies a complete range of warehousing equipment, IC and electric counterbalanced trucks, container handlers and reach stackers. Their network of highly trained dealers provides expert, responsive local support by way of cost-effective finance packages and effectively managed maintenance programs to ensure that the customer gets the best possible value for money. Their aim is to offer a complete partnership capable of responding to the full spectrum of material handling needs – whether professional consultancy on fleet management, fully qualified service support, or reliable parts supply.

About TIL

TIL Limited – a leading provider of infrastructure equipment in India since 1944 – has an exclusive partnership with Hyster-Yale Group, Inc. for marketing a comprehensive range of high capacity forklift trucks, empty & laden container handlers and reach stackers to customers in India, Nepal and Bhutan, duly supported by an integrated after-sales support. The partnership between Hyster® and TIL represents the synergy between two leading companies with complementary strategic visions and product technologies, reinforced by a shared commitment to enhance customer profitability.



Cutting Edge Technology

TIL's state-of-the-art manufacturing facilities located in Kamarhatty and Kharagpur, West Bengal, include fully equipped machine shops, fabrication and assembly shops, finishing bays and test beds. The research & development center has the latest CAD / CAM facilities and engineering software. The modern structural fabrication shop is equipped with automatic machines and the processes conform to ISO 3834, AWS D14.3 & others. At TIL, quality is engineered to predetermined process parameters. TIL is committed to setting higher & higher benchmarks in product quality. This commitment is reflected in the ISO 9001 Certification from Bureau Veritas Quality International.

24X7 Service. Anytime, Anywhere.

The 24X7 product support service offered by TIL – right from the installation and commissioning of equipment to the maintenance, repair works and training of operators for the efficient functioning of equipment – helps the customer to reduce equipment downtime and enhance productivity.

The HYSTER TIL® ReachStacker has become a preferred choice of customers by virtue of its exemplary uptime, superior handling speed, outstanding maneuverability and unrestricted stacking capabilities.

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