



4000-6500 lbs
H3C Series Internal Combustion
Counterbalanced Cushion Tire Forklift Truck



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HIGH QUALITY PRODUCT

HELI proudly launches H3C Series adhering to the principle of repaying society with high quality products and the vision of being a century-old enterprise. To Heli, the H3C Series achieves a milestone that is the culmination of decades of work in pursuit of mastery in the development and manufacturing of forklifts.

The elaborately built H3C series will provide you with new experience in terms of ergonomics, operator comfort and visibility, productivity, performance, serviceability and safety.





- A. Ergonomics/Low Noise and Vibration
- B. Operator Comfort
- C. Optimal Productivity
- D. Excellent Overall Performance
- E. Simple Serviceability
- F. Safety

NOTE: Some parts of the vehicle shown in the picture are optional.
For detailed standard and optional parts list, please consult HELI supplier.

A. Ergonomics / Low Noise and Vibration

Operator comfort is critical for success in any design, so ergonomic factors have been given paramount focus in the design of the H3C series.

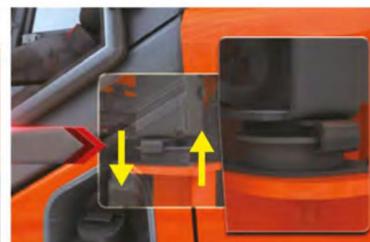


A.1 Suspension cab

Vibration isolators separate the operator compartment from the main frame and the engine/transmission which absorb the truck's vibration for increased operator comfort.



■ Suspension cab



■ Damping support of the suspension cab



■ Kubota WG2503 engine

A.2 Superior performance engine and hydraulic pump

Engine performance and repositioned hydraulic pump offer quiet and smooth operation with less noise.

A.3 Mast lowering buffering device

Reduces shock and vibration to the mast and eliminates the sound of lowered forks hitting the floor.



■ lowering buffering device



B. Operator Comfort

B.1 Enlarged operating space

Operator compartment has been enhanced by creating more foot and leg room with plenty of head room under the overhead guard.

Visibility has been improved with narrower mast channels and more open overhead guard.

Low, wide step and large grab handle make for easy entry to operator's compartment.



■ hidden tilting cylinder



■ comfortable space

B.2 Deluxe full suspension adjustable seat as option

Deluxe full suspension adjustable seat with armrest provide operators with relaxed and physical comfort.

B.3 High qualiy and easy-to-use LED display and park brake

Higher contrast LED display makes it easier to see in all lighting conditions.

Controls and park brake are within easy reach to reduce operator strain.

Neutral indicator

Seat belt alarm

Left turn indicator

Fuel level gauge

Seat switch

Hour meter

Low fuel level
alarm indicator

Hand brake indicator

Eng'ne fault 'nd'cator

Low pressure alarm indicator

LPG low fuel indicator

Right turn indicator

Water temperature meter

Maintainance alarm

Clogged airfilter indicator

No charging alarm indicator

*Torque converter oil
temperature alarm indicator

(Items with*are optional)



■ Heli's display is conveniently placed on the dash so operator can monitor truck's working condition, fault codes and other vital information

■ Ratchet parking brake



C. Optimal Productivity

Efficient systems and convenient operation enhance operator productivity which adds value for the owner.

C.1 Easier steering operation

Smaller turning radius and hydraulic power steering makes tighter turns and easier steering operation.

C.2 Efficiency systems

Reliable powershift transmission relieves operator from constantly shifting transmission.

H3C series hydraulic performance has been enhanced for maximum productivity.

C.3 Ergonomically Designed

Ergonomically designed operator's compartment enhances operator productivity, as well as providing safety and comfort.



D. Excellent Overall Performance

The heavy duty powertrain provides exceptional performance within intense applications while better cooling and smoother lift hydraulics provide better operating comfort and less work fatigue while achieving more efficient lifting productivity.

D.1 Heavy Duty Powertrain

Heavy duty powertrain offers exceptional performance in all applications.

D.2 Cooling System

All aluminum radiator increases air flow and dissipates heat more efficiently.

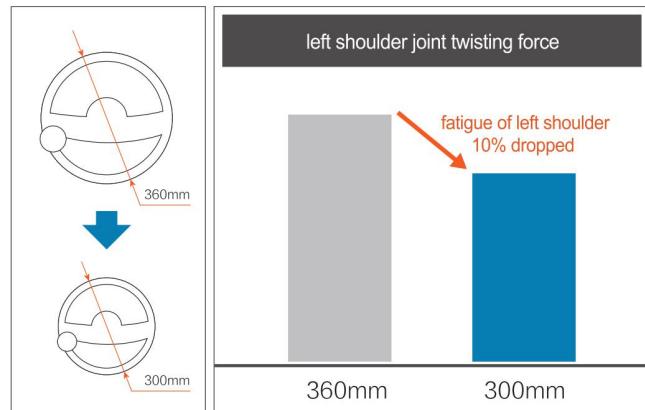
D.3 Operator-Friendly Steering Wheel

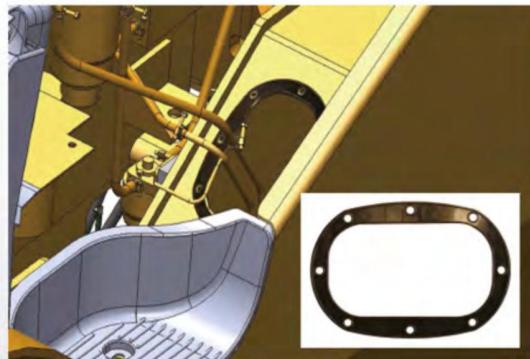
Smaller steering wheel means less operator arm movement which reduces operator fatigue.

D.4 Efficient Hydraulic System

35% faster lifting speeds over previous generations.

Lifting cylinders are damped to reduce noise and provide smoother operation.





■ Double-lip elastic sealing gasket

D.5 Double-lip elastic sealing gasket

The innovative design significantly improve the sealing of hydraulic cylinders.

D.6 High installed rear combined LED lights

LED lights save energy and look cosmetically striking. They have significantly improved lifespan with no lampshade melt phenomenon.

E. Simple Serviceability

The truck features a reliable design that requires less frequent maintenance. The lubrication chart is conveniently located so the operator always has easy access to maintenance requirements. An enlarged maintenance compartment simplifies maintenance operations.

E.1 Large engine hood opening angle

Hood opens to an 80 degree angle and floor board is removable for easier access to all important chassis components.

E.2 Lubrication chart

All grease points are accessible, including cast steel axle.

Lubrication chart is located on front of operator compartment to highlight essential lubrication requirements.



E.3

Compositional radiator heat flow baffle

It is connected with bolts and can be easily disassembled without disassembling counter weight.



■ compositional radiator heat flow baffle

E.4

Brake liquid reservoir

Simply remove the upper cover of the instrument panel to observe the brake liquid level and add if necessary.



■ brake liquid reservoir

E.5

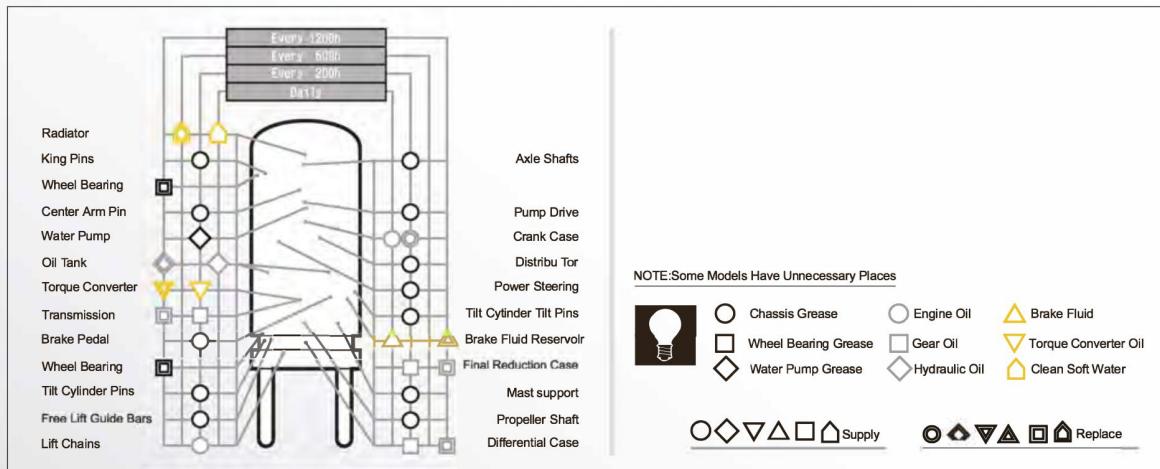
Suitable hoses and wiring arrangement

Electrical system, wiring, and hydraulic hoses are convenient and logically laid out with access from above and below.

E.6

Drive axle

By using a cast drive axle, the rotatory parts are waterproof and dustproof, therefore extend its maintenance interval and enhance the bear's load-bearing capacity. The truck structure is simple and reliable, therefore the truck's service life is prolonged.



■ Lubrication chart

F. Safety

The optimal design of key parts improve the safety and reliability of the vehicle to ensure safety of the operator and those around him. The vehicle complies with ANSI B56.1 and CE certification standards.

F.1 Key parts

The optimal design of key parts like frame, mast and overhead guard improve the whole truck's safety and reliability.

F.2 Ratchet type parking brake

Different braking force can be achieved on slope and flat ground. The brake is safe and reliable.

F.3 Meets Safety Standards

All Heli forklifts for North America meet ANSI B56.1 Safety.

Standard for Powered Industrial Trucks as well as meeting requirements for CE approval.

All Heli forklifts come standard with Operator Presence System.



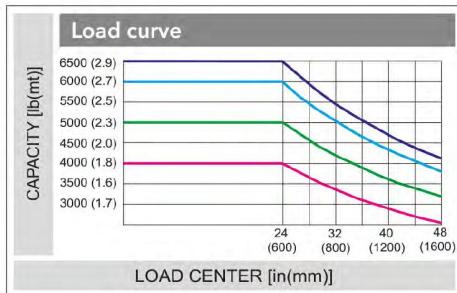
F.4 Safety Parts

Rear grab handle and horn button allows operator to safely drive in reverse.

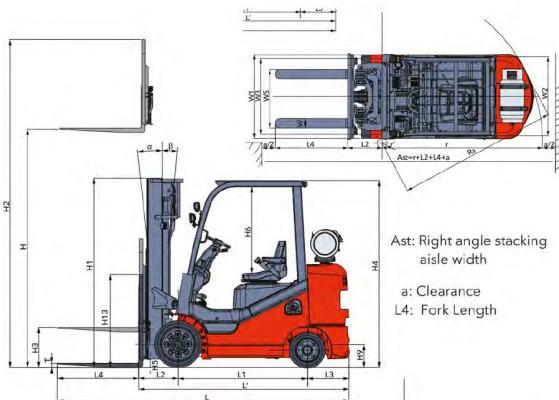
Max. Travelling Speed Control / limiter : it can be set up as customer's required.

Led Rotating / Flashing Light, Blue Lights and Alarms are all available.





Note: The vertical axis stands for load capacity and the horizontal axis stands for load center which is calculated from the front of the fork. The base point of the standard load refers to the center position of the cube with 39.37 in length of side. When mast is tilted forward, nonstandard fork usage or load with over wide goods, load capacity will be reduced. Different load capacity in different load center can be known in time through load chart.



Manufacturers Data and Design Characteristics

Character				HELICONTROL										
1.01	Manufacturer			CPYD20C				CPYD25C						
1.02	Model			lb	kg	4000	1815	5000	2267	6000	2720			
1.03	Power unit			in	mm	24	610	24	610	24	610			
1.04	Rated capacity													
1.05	Load center													
1.06	Operation mode			type	type	Seated		Seated		Seated				
Size														
2.01	Max.lifting height			H	in	mm	185	4700	185	4700	185	4700		
2.02	Mast overall height (fork to the ground and mast be vertical)			H1	in	mm	85	2160	85	2160	88	2230		
2.03	Max.fork lifting height (with backrest)			H2	in	mm	224	5700	224	5700	232	5900		
2.04	Free lift height			H3	in	mm	44	1120	44	1120	39	990		
2.05	Overall height (overhead guard)			H4	in	mm	83.0	2120	83.0	2120	83.0	2120		
2.06	Min.ground clearance (at the mast)			H5	in	mm	3.5	90	3.5	90	3.5	90		
2.07	Distance from the surface of the seat to the overhead guard			H6	in	mm	41.0	1030	41.0	1030	41.0	1030		
2.08	Traction pin height			H9	in	mm	10.0	250	10.0	250	10.0	250		
2.09	Backrest height (calculated from the surface of the fork)			H13	in	mm	40.0	1009	40.0	1009	48.0	1227		
2.10	Overall length (with fork/without fork)			(L/L')	in	mm	128.7/92.5	3270/2350	136.8/94.5	3475/2405	140/97.8	3555/2485		
2.11	Wheel base			L1	in	mm	58.0	1465	58.0	1465	58.0	1465		
2.12	Front overhang			L2	in	mm	17.5	445	17.5	445	18.1	460		
2.13	Rear overhang			L3	in	mm	16.7	425	19.1	485	21.7	550		
2.14	Overall width			W1	in	mm	42.0	1070	42.0	1070	44.0	1120		
2.15	Tread (front tread/rear tread)			(W3/W2)	in	mm	35.1/36.2	892/920	35.1/36.2	892/920	36.1/36.2	917/920		
2.16	Fork adjustable range (the external of the fork)(Max/Min.)			W5	in	mm	40.3/7.85	1024/200	40.3/7.85	1024/200	40.3/7.85	1024/200		
2.17	Min.turning radius (exterior)			r	in	mm	76	1930	78.7	2000	80.7	2050		
2.18	Min.turning radius (interior)			r'	in	mm	256	65	256	65	256	65		
2.19	Min.right angle stacking aisle width			Ra	in	mm	92.5	2350	94.9	2410	97.2	2470		
2.20	Mast tilting angle			α / β			$6^\circ/5^\circ$		$6^\circ/5^\circ$		$6^\circ/5^\circ$	$6^\circ/5^\circ$		
2.21	Fork size			L4×WxT	in	mm	36×4.8×1.57	920×122×40	42×4.8×1.57	1070×122×40	42×4.9×1.77	1070×125×45	42×4.9×2.0	1070×125×50
Performance														
3.01	Max.traveling speed (Loaded/Unloaded)			mph	Km/h		10.8/10.8	17/17	10.8/10.8	17/17	10.8/10.8	17/17		
3.02	Lifting Speed (Loaded/Unloaded)			fpm	mm/s		103/118	525/600	103/118	525/600	96/106	490/540		
3.03	Lowering Speed (Loaded/Unloaded)			fpm	mm/s		88/98	450/500	88/98	450/500	88/98	450/500		
3.04	Max.crawbar pull (Loaded/Unloaded)			KN	KN		20/12		20/12		20/12			
3.05	Max.Gradeability (Loaded/Unloaded)			%	%		35/20		32/20		25/20			
Weight														
4.01	Total weight			lb	kg		8466	3840	9480	4300	10725	4865		
4.02	Weight distribution loaded (front/rear)			lb	kg		10965/1500	4975/680	12785/1742	5800/790	14495/2225	6575/1010		
4.03	Weight distribution unloaded (front/rear)			lb	kg		4080/4286	1850/1990	4010/5470	1820/2480	4155/6570	1885/2980		
Wheel and tire														
5.01	Wheel number x = drive wheel (front/rear)						2X/2		2X/2		2X/2			
5.02	Tire type (front/rear)			type	type		Cushion tire		Cushion tire		Cushion tire			
5.03	Tire size (front/rear)			in	in		21×7-15/16×6-10.5		21×7-15/16×6-10.5		21×8-15/16×6-10.5			
5.04	Service brake			type	type				Hydraulic-Foot Pedal					
5.05	Parking brake			type	type				Mechanical-Hand Lever					

Engine Model and Specification

Engine type		LPG					
Battery(Voltage/Capacity)	V/Ah	V/kWh	12/60	12/0.72	12/60	12/0.72	
Engine mode			Mitsubishi 4G64 (PSI)		Kubota WG2503		
Engine rated power	HP/rpm	kW/rpm	LPG 64/2700	LPG 48/2700	LPG 57.9/2500	LPG 43.2/2500	
Engine rated torque	(ft*lb)/rpm	Nm/rpm	LPG 130.5/1600	LPG 177/1600	LPG 128.2/1400	LPG 173.7/1400	
Engine cylinder number bore x stroke	4-3.41×3.94		4-86.5×100		4-3.46×4.031		4-88.0×102.4
Piston displacement	cu in	L	143.47	2.351	152	2.491	
Emission standards			Non Certified		EPA Carb		
Engine fuel tank capacity	gal	L	13	50	13	50	
Transmission body shifting gears front/rear/hand	type	type	1-1Power Shift T/M				



4000-6500lb WIDE VIEW MAST

Mast model	Max. lifting height in/mm	Loading capacity-loading center 24				Mast Overall Height fork to the ground		Freelift (With Backrest)	
		CPYD20C lbs/Kg	CPYD25C lbs/Kg	CPYD30C lbs/Kg	CPYD32C lbs/Kg	CPYD20~25C in/mm	CPYD30~32C in/mm	CPYD20~25C in/mm	CPYD30~32C in/mm
M200	79/2000	4000/1800	5000/2250	6000/2750	6500/2950	59/1495	65/1640	5.7/145	5.7/145
M250	98/2500	4000/1800	5000/2250	6000/2750	6500/2950	69/1745	74/1890	5.7/145	5.7/145
M270	106/2700	4000/1800	5000/2250	6000/2750	6500/2950	73/1845	78/1990	5.7/145	5.7/145
M300	118/3000	4000/1800	5000/2250	6000/2750	6500/2950	79/1995	84/2140	5.7/145	5.7/145
M330	130/3300	4000/1800	5000/2250	6000/2750	6500/2950	84/2145	90/2290	5.7/145	5.7/145
M350	138/3500	4000/1800	5000/2250	6000/2750	6500/2950	88/2245	94/2390	5.7/145	5.7/145
M370	146/3700	4000/1800	5000/2250	6000/2750	6500/2950	92/2345	98/2490	5.7/145	5.7/145
M400	157/4000	4000/1800	5000/2250	6000/2750	6500/2950	100/2545	106/2690	5.7/145	5.7/145
M425	167/4250	4000/1800	5000/2250	6000/2750	6500/2950	105/2670	111/2815	5.7/145	5.7/145
M450	177/4500	4000/1800	5000/2250	6000/2750	6500/2950	110/2795	116/2940	5.7/145	5.7/145

4000-6500lb WIDE VIEW FULL FREE 2-STAGE MAST

Mast model	Max. lifting height in/mm	Loading capacity-loading center 24				Mast Overall Height fork to the ground		Freelift (With Backrest)	
		CPYD20C lbs/Kg	CPYD25C lbs/Kg	CPYD30C lbs/Kg	CPYD32C lbs/Kg	CPYD20~25C in/mm	CPYD30~32C in/mm	CPYD20~25C in/mm	CPYD30~32C in/mm
ZM200	79/2000	4000/1800	5000/2250	6000/2750	6500/2950	59/1495	65/1640	19/484	19/484
ZM250	98/2500	4000/1800	5000/2250	6000/2750	6500/2950	69/1745	74/1890	29/734	29/734
ZM270	106/2700	4000/1800	5000/2250	6000/2750	6500/2950	73/1845	78/1990	33/834	33/834
ZM300	118/3000	4000/1800	5000/2250	6000/2750	6500/2950	79/1995	84/2140	39/984	39/984
ZM330	130/3300	4000/1800	5000/2250	6000/2750	6500/2950	84/2145	90/2290	45/1134	45/1134
ZM350	138/3500	4000/1800	5000/2250	6000/2750	6500/2950	88/2245	94/2390	49/1234	49/1234
ZM370	146/3700	4000/1800	5000/2250	6000/2750	6500/2950	92/2345	98/2490	53/1334	53/1334
ZM400	157/4000	4000/1800	5000/2250	6000/2750	6500/2950	100/2545	106/2690	60/1534	60/1534

Note: 4000-5000lb free lift height(without backrest)+14.3in;

6000-6500lb free lift height(without backrest)+18.8in;

4000-6500lb WIDE VIEW FULL FREE 3-STAGE MAST

Mast model	Max. lifting height in/mm	Loading capacity-loading center 24				Mast Overall Height fork to the ground		Freelift (With Backrest)	
		CPYD20C lbs/Kg	CPYD25C lbs/Kg	CPYD30C lbs/Kg	CPYD32C lbs/Kg	CPYD20~25C in/mm	CPYD30~32C in/mm	CPYD20~25C in/mm	CPYD30~32C in/mm
ZSM360	142/3600	4000/1800	5000/2250	6000/2750	6500/2950	70/1780	74/1880	30/759	25/622
ZSM400	157/4000	4000/1800	5000/2250	6000/2750	6500/2950	75/1905	79/2015	35/884	30/757
ZM435	171/4350	4000/1800	5000/2250	6000/2750	6500/2950	80/2030	84/2130	40/1008	34/871
ZM450	177/4500	4000/1800	5000/2250	6000/2750	6500/2950	83/2095	86/2180	42/1074	36/922
ZM470	185/4700	4000/1800	5000/2250	6000/2750	6500/2950	84/2145	88/2230	44/1123	38/73
ZSM480	189/4800	3950/1780	4740/2150	5840/2650	6280/2850	86/2180	90/2280	46/1158	40/1024
ZSM500	197/5000	3635/1650	4520/2050	5730/2600	6170/2800	90/2280	92/2340	50/1260	43/1082
ZM540	213/5400	3525/1600	4400/2000	5500/2500	5950/2700	95/2405	98/2490	55/1384	49/1232
ZSM600	236/6000	3350/1500	3500/1580	4000/1820	4630/2100	104/2630	107/2705	63/1608	57/1448
ZSM650	256/6500	2500/1100	2860/1300	2970/1350	2750/1250	111/2820	114/2890	71/1798	64/1633
ZSM700	276/7000	1600/720	1780/810	1750/800	1600/720	122/3090	124/3140	81/2068	74/1882

Note: 4000-5000lb free lift height(without backrest)+14.2in;

6000-6500lb free lift height(without backrest)+19.

4000-6500lb WIDE VIEW FULL FREE 4-STAGE MAST

Mast model	Max. lifting height in/mm	Loading capacity-loading center 24				Mast Overall Height fork to the ground		Freelift (With Backrest)	
		CPYD20C lbs/Kg	CPYD25C lbs/Kg	CPYD30C lbs/Kg	CPYD32C lbs/Kg	CPYD20~25C in/mm	CPYD30~32C in/mm	CPYD20~25C in/mm	CPYD30~32C in/mm
ZFM490	193/4900	3740/1700	4630/2100	4980/2250	5300/2400	73/1845	73/1845	35/895	26/650
ZFM560	220/5600	3520/1600	4180/1900	4540/2150	4800/2170	80/2030	80/2030	43/1080	33/835
ZFM611	240/6110	2970/1350	3750/1700	3900/1770	3800/1720	84/2145	84/2145	47/1195	37/950
ZFM650	256/6500	2310/1050	2750/1250	2700/1220	2550/1150	88/2245	88/2245	51/1295	41/1050
ZFM702	276/7020	1430/650	1980/900	1800/810	1600/720	95/2401	95/2401	57/1451	47/1206
ZFM750	295/7500	990/450	1100/500	1200/540	1100/500	100/2550	100/2550	63/1600	53/1355

Note: 4000-5000lb free lift height(without backrest)+12in;

6000-6500lb free lift height(without backrest)+21.6in;

4000-6500lb WIDE VIEW MAST

Mast model	Service Weight								Mast tilt angle (Fwd/Bwd) deg	
	CPYD20C		CPYD25C		CPYD30C		CPYD32C			
	lbs	kg	lbs	kg	lbs	kg	lbs	kg		
M200	7511	3410	8524	3870	9846	4470	10187	4625	618	
M250	7610	3455	8623	3915	9945	4515	10286	4670	618	
M270	7654	3475	8667	3935	9978	4530	10330	4690	618	
M300	7709	3500	8722	3960	10022	4550	10374	4710	618	
M330	7797	3540	8811	4000	10099	4585	10452	4745	618	
M350	7830	3555	8844	4015	10132	4600	10485	4760	618	
M370	7874	3575	8888	4035	10176	4620	10529	4780	618	
M400	7808	3545	9053	4110	10330	4690	10683	4850	615	
M425	8084	3670	9097	4130	10385	4715	10727	4870	615	
M450	8150	3700	9163	4160	10441	4740	10782	4895	615	

4000-6500lb WIDE VIEW FULL FREE 2-STAGE MAST

Mast model	Service Weight								Mast tilt angle (Fwd/Bwd) deg	
	CPYD20C		CPYD25C		CPYD30C		CPYD32C			
	lbs	kg	lbs	kg	lbs	kg	lbs	kg		
ZM200	7566	3435	8568	3890	9890	4490	10231	4645	618	
ZM250	7687	3490	8700	3950	10022	4550	10363	4705	618	
ZM270	7687	3490	8711	3955	10022	4550	10385	4715	618	
ZM300	7753	3520	8764	3979	10066	4570	10407	4725	618	
ZM330	7830	3555	8844	4015	10143	4605	10485	4760	618	
ZM350	7874	3575	8888	4035	10187	4625	10529	4780	618	
ZM370	7919	3595	9031	4100	10352	4700	10562	4795	618	
ZM400	8084	3670	9152	4155	10430	4735	10727	4870	615	

Note: 4000-5000lb free lift height(without backrest)+14.3in;

6000-6500lb free lift height(without backrest)+18.8in;

4000-6500lb WIDE VIEW FULL FREE 3-STAGE MAST

Mast model	Service Weight								Mast tilt angle (Fwd/Bwd) deg	
	CPYD20C		CPYD25C		CPYD30C		CPYD32C			
	lbs	kg	lbs	kg	lbs	kg	lbs	kg		
ZSM360	8216	3730	9229	4190	10485	4760	10826	4915	615	
ZSM400	8315	3775	9328	4235	10584	4805	10925	4960	615	
ZM435	8392	3810	9405	4270	10650	4835	10991	4990	615	
ZM450	8425	3825	9438	4285	10672	4845	11013	5000	615	
ZM470	8458	3840	9471	4300	10716	4865	11057	5020	615	
ZSM480	8480	3850	9493	4310	10749	4880	11090	5035	615	
ZSM500	8546	3880	9559	4340	10793	4900	11134	5055	615	
ZM540	8623	3915	9637	4375	10881	4940	11222	5095	315	
ZSM600	8844	4015	9857	4475	11101	5040	11443	5195	315	
ZSM650	8965	4070	9978	4530	11211	5090	11553	5245	313	
ZSM700	9119	4140	10132	4600	11366	5160	11707	5315	313	

Note: 4000-5000lb free lift height(without backrest)+14.2in;

6000-6500lb free lift height(without backrest)+19.

4000-6500lb WIDE VIEW FULL FREE 4-STAGE MAST

Mast model	Service Weight								Mast tilt angle (Fwd/Bwd) deg	
	CPYD20C		CPYD25C		CPYD30C		CPYD32C			
	lbs	kg	lbs	kg	lbs	kg	lbs	kg		
ZFM490	8546	3880	9559	4340	10661	4840	11002	4995	615	
ZFM560	8689	3945	9703	4405	10815	4910	11145	5060	615	
ZFM611	8778	3985	9791	4445	10903	4950	11233	5100	315	
ZFM650	8855	4020	9868	4480	10969	4980	11322	5140	315	
ZFM702	8976	4075	9989	4535	11101	5040	11454	5200	313	
ZFM750	9075	4120	10088	4580	11189	5080	11542	5240	313	

Note: 4000-5000lb free lift height(without backrest)+12in;

6000-6500lb free lift height(without backrest)+21.6in;



Standard configuration

Horn	Backup alarm
Three-spool control valve	Standard forks
3-stage full free lift mast	Integrated electric box
Power steering	Speed-limiting valve
Full suspension seat with adjustment armrest	Lifting and tilting and one aux. operation lever
Load backrest	Tow pin
Rear grab handle with horn button	Overhead guard
LED Front combo lights	Combined display
LED Rotating Light	LPG Low Fuel Indicator
LED Rear work light	Parking brake alarm
Max. speed control system	Panoramic rear view mirror
Lifting driving OPS control system	

Optional

Hydraulic Fork Positioner	Rotating seat for LPG
Torque converter oil temperature meter	Swing Out/Drop-Down LPG Bracket
Dual Air Filter	

Optional attachments (call your dealer for all various attachments list)

Sidemount fork positioner



Optional 4 stages damp

Carton clamp



Revolving bale damp





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