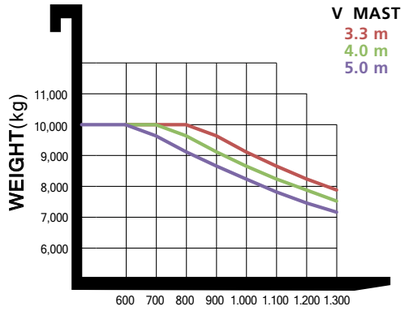
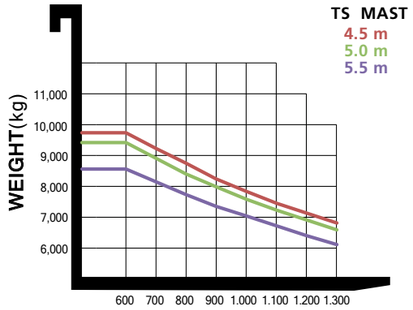
100D-9V

Mast Type		Maximum Fork Height	Overall Height (Lowered)	Free Lift Height	Mast Tilt		Load capacity	Truck Weight (Unloaded)
					Fwd	Bwd	600mm LC	
		mm	mm	mm	deg	deg	kg	kg
2 Stage Limited Free Lift	V300	3,025	2,850	150	15	10	10,000	13,074
	V350	3,525	3,100	150	15	10	10,000	13,135
	V400	4,025	3,400	150	15	10	10,000	13,208
	V450	4,525	3,650	150	15	10	10,000	13,385
	V500	5,025	3,900	150	15	10	10,000	13,446
	V550	5,525	4,200	150	15	10	9,000	13,520
	V600	6,025	4,450	150	15	10	8,000	13,666
3 Stage Full Free Lift	TS450	4,535	2,995	1,665	15	10	9,700	13,948
	TS500	5,035	3,195	1,865	15	10	9,400	14,078
	TS550	5,535	3,395	2,065	15	10	8,600	14,191
	TS600	6,035	3,595	2,265	15	10	7,800	14,400
	TS750	7,535	4,195	2,865	15	6	7,000	14,720





HD HYUNDAI XITESOLUTION

www.hd-xitesolution.com

2023. MAY

HD HYUNDAI XITESOLUTION

100D-9V

Internal Combustion Diesel Engine Forklift Truck



100D-9V series that satisfies both eco-friendliness and cost-effectiveness!

100D-9V is an innovative product that satisfies EU Stage 5 Regulations and boasts of optimum fuel efficiency, compact frames, and excellent work performance. It satisfies both eco-friendliness and low TCO (Total Cost of Ownership).

PRODUCT FEATURES
OVERVIEW

VALUE UP

As times change, the standard for high performance should also change

■ Optimized hydraulic system and EGR removed

4.2%

Higher fuel efficiency than 80D-9

■ RPM reduction of cooling fan and optimized cabin structure

2.5dB

Lower noise level inside than 80D-9

Environment-Friendly

- Satisfies EU stage 5 regulations on gas and achieves both eco-friendliness and operating expenses reduction with improved fuel efficiency
  - Cummins F3.8 engines

Innovative cost-effectiveness and reliable durability

- Significant TCO reduction - 4.2% higher fuel efficiency than 80D-9
  - EGR removed, hydraulic system(Tier 4 Final) optimized, engine fuel efficiency downsizing
- Newly applied ZF T/M equipped with the upgraded TCU
  - Improved responsiveness and optimized shift timing
  - Moisture-resistant non-contact shift lever applied.
- Selection of engine working mode according to working conditions
  - “PWR/STD mode” “idle RPM up/down”



Differentiated safety specifications

- Auto-parking brake
  - Automatically started when the engine is stopped or OPSS is running
- OPSS - Restricted driving, lift and tilt operation
- Seat belt interlock **Option**
  - The forklift cannot be operated when the seat belt is not worn
- Road slope warning
  - Alarm warning when the road slope exceeds the standard
- Password-start limit
  - Prevents theft by prohibiting forklift operation by an unauthorized operator

Prominent driving comfort specifications

- Applied the new cabin with improved work convenience and serviceability
  - Eliminated visual distortion at the edge of the windshield
  - Increased the side view by applying glass-type side doors
  - Improved accessibility by repositioning the console switches and light buttons
  - Reduced cabin noise while driving (4.9 to 5.9dB)
- Full Hydraulic Brake & Electronic type inching system
- Air suspension / swivel seat **Option**

Easy and convenient follow-up management

- Auto-tilting cabin that opens up to 52 degrees
  - Restricting cabin tilting when opening the passenger door to prevent cabin damage accidents
- Automatic DPF & SCR regeneration of the post-processing device by engine load
  - No need for DPF cleaning (when using CK-4 specified oil)

100D-9V

Eco-friendly Cummins F series engine

Cummins F series engines are widely used throughout the world, and they satisfy European emission regulations.
In addition, the EGR system was done away with to improve energy efficiency and reliability of the exhaust gas reduction system to a large extent. DPF is newly added in addition to the existing DOC and SCR.



	100D-9V
Model/cc	F3.8/3,726cc
Rated Power(Ps/rpm)	122.4/2,200
Max. torque(kg-m/rpm)	51/1,500

Innovative reduction of operating expenses

Fuel efficiency is dramatically improved compared with 80D-9 by using an optimized engine, removing the EGR system, and applying a load sensing system.

* Urea consumption increases as the EGR has been removed.

4.2%

Higher fuel efficiency than 80D-9(Tier 4 Final)

• Fuel economy is based on our internal tests (VDI 2198) and may be different from actual operation.



ENVIRONMENT FRIENDLY
GREAT PRODUCTIVITY, DURABILITY

PERFORMANCE UP

An eco-friendly engine ensures both cost-effectiveness and work efficiency!

Check out the flawless performance of 100D-9V only.

Upgraded ZF transmission (3WG94)

Responsiveness and shift timing are optimized, and SIL 2 European safety function regulation is satisfied. In addition, the shifting system boasts of increased reliability with the application of moisture-resistant and non-contact shifting lever.



Engine output selection button

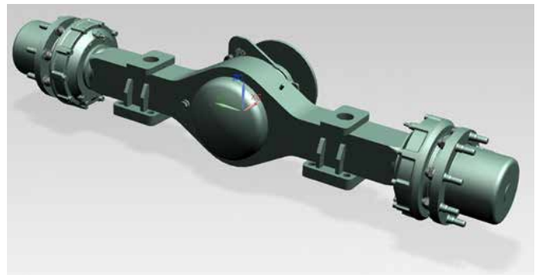
① PWR/STD button - STD mode is set to 80% output of PWR mode and can be selected according to the work conditions.

② Idle RPM Up/Down button - When slowly lifting cargo without stepping on the accelerator pedal, the engine output can be supplemented. (Adjustable by increments of 25 RPM)



Kessler Drive axle (D41)

The D41 drive axle of a German heavy equipment company Kessler is mounted. This drive axle contains semi-permanent wet disc brake and SAHR caliper-type auto-parking brake.



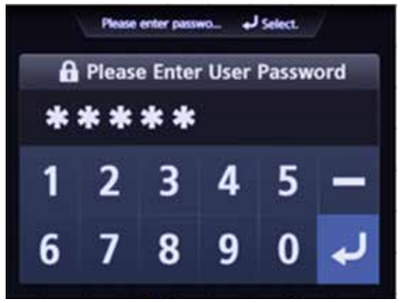
Wide work sight of the 3-stage mast–TS mast Option

Generally, the 3-stage mast causes inconvenience in securing a clear front view due to the primary cylinder in the center. The 3-stage TS mast provides wider work sight by placing the primary cylinder on the left and right sides.



Password Setting

A password can be set to prevent unauthorized driving by an outsider and theft of the forklift. If the password is set, the engine cannot be started without the password.



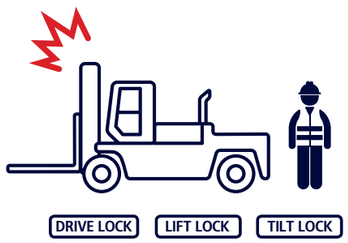
Auto-parking brake

When the engine stops or OPSS starts, the parking brake is automatically activated to prevent human errors. If the driver needs to use the parking brake while the engine is running, driver can apply/release the brake using a dedicated button.



OPSS system

The OPSS restricts driving, lifting, and tilting when the operator leaves the driver's seat in order to prevent accidents.



Additional options for safety

- Auto-tilting – Automatically maintaining the level of the fork and the ground
- Seatbelt interlock – Forcing the wearing of seat belt to preventsecondary accidents



SAFETY UP

**Safety at the logistics site is most important,
safety is supported by complete reliability**

Speed limit

The maximum driving speed can be set to prevent accidents caused by exceeding the speed limit. Even though the maximum driving speed is set, hill-climbing ability and mast working performance are maintained at the highest level.



Large side mirror with hot wires Option

A large side mirror is installed on the front wheel fender to secure a wider rear view. In addition, heat wires were inserted into the side mirror to cope with rain or snow.



Displaying the road slope (STD) and overload alarm Option

The road slope is sensed and displayed in real time. When the set value is exceeded, the symbol turns red, and a warning buzzer goes off. In addition, the optional cargo weighing device issues an alarm for safety in case of overload.



100D-9V

Deluxe next-generation cabin

• With driving experience improved through the voices of our customers, the next-generation cabin provides consistent convenience in any condition.

Noise in the driver's seat

Reduced noise dramatically by optimizing engine capacity, reducing cooling fan RPM, and complementing the cabin structure.

• Reduction by 2.5dB compared with 80D-9B (77.3dB)



Air suspension / swivel seat Option

"Air suspension" that provides optimal riding comfort and the "swivel seat" which will improve reverse driving and convenience of getting on/off as the seat can be rotated 20 degrees to the right and 10 degrees to the left are provided as an option.

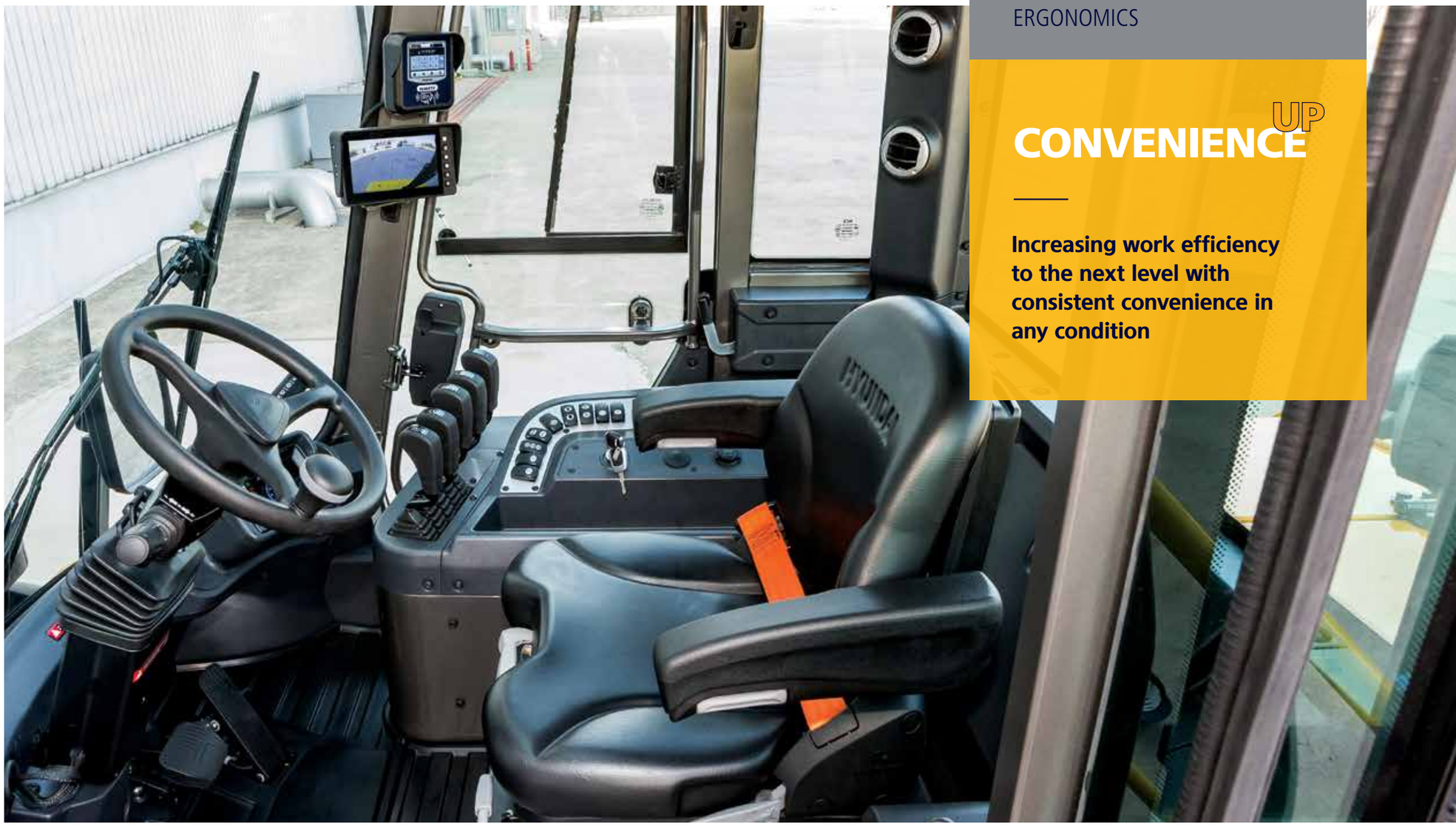
* Basic specification: Full-suspension Grammer seat



Multi-functional digital display

A new cluster is applied for improved visibility of the main information needed for equipment operation. The cluster has integrated MCU for various settings and control for efficient operation and safety of the equipment on the LCD.





CONVENIENCE UP

Increasing work efficiency to the next level with consistent convenience in any condition

Easy-to-use steering handle

The problem of heavy handle when handling abruptly is improved, as now the handle can be adjusted up and down by 85mm and front and back by 36 degrees. In addition, the work convenience of the driver is improved with the handle diameter being reduced down to 35mm.



High operability fingertip system Option

The fine controllability of the new fingertip system is improved by changing MCV control to dither control. The system provides fast response within 0.1 seconds as well as the same controllability regardless of ambient temperature.



Inching and brake pedal that are easy to operate and efficiently placed air vent

Fatigue accumulated in the legs is reduced by changing the brake pedal and inching pedal to a hanging type.
The air conditioning effect is improved by installing two air vents above the pedal.



Highlights of the next-generation cabin

Front sight

- Applied single curved glass, removing distortion of vision in corners
- Double-arm large wiper – Removing water from a wider area
- 7-inch monitor for the rear camera only



Rear sight and air vents

- Applied flat glass without distortion of view
- Applied single-arm wiper as a standard
- Air vent (left and right symmetrical) that controls the air volume in four directions



Upper window / sun visor

- Applied single-arm wiper as a standard
- Ceiling interior materials with high insulation effect
- A sun visor that can control the position in three phases and which is made of materials that reflect the direct rays of the sun





Protecting the glass and field of view on the left / right

- Minimizing blind spots in the field of view
  - Whole glass structure that has no filler in the middle of the door / Increased glass area
- Preventing direct collision with glass when moving objects in the cabin



Optimal air conditioning – multiple air vents

- Upper side of the cabin : 2 left and right C pillars each (4 in all)
- Dashboard : 2ea on the top of the pedal
- Removing windshield moisture : 2 ea on the front of the dashboard



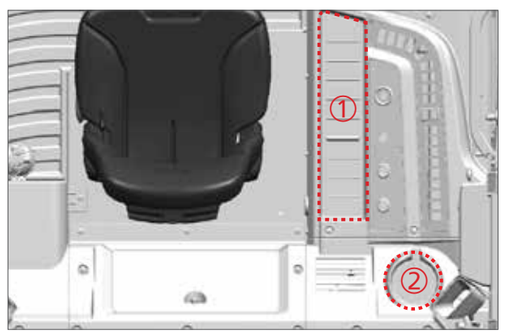
Console – improved accessibility

- Placed switches in one row (in order of use frequency)
- Applied the 12V power port (2ea)
- Placed the air conditioning control dial near the headliner



2 storage spaces separated by use

① Mobile device ② Beverage bottle / can



Wide maintenance space

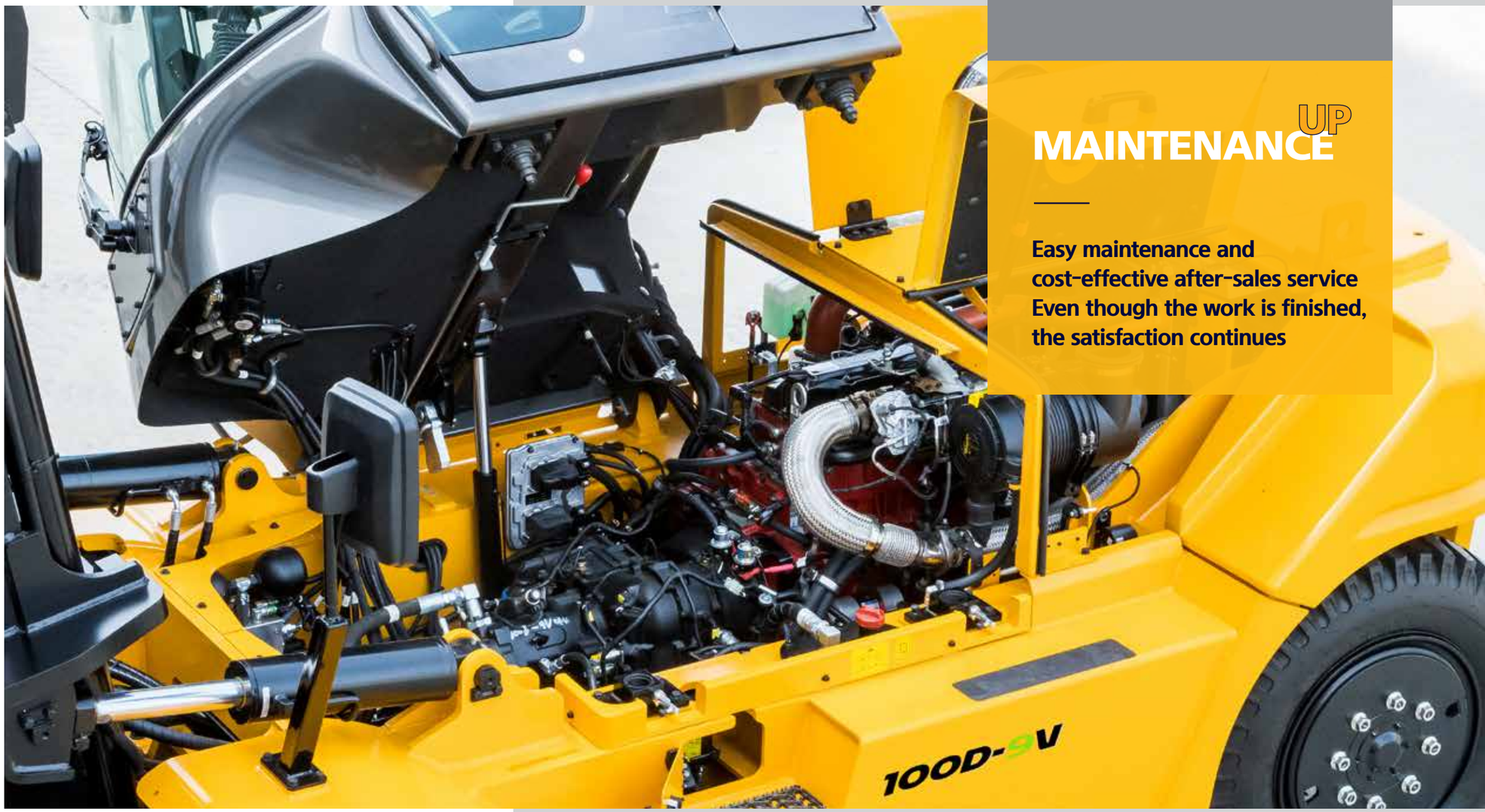
The cabin can be tilted up to 52 degrees, enabling easy access to the powertrain, hydraulic, and electrical system of the forklift. The cooling system and engine consumables can be easily managed by opening the cover of the wing-type engine room.

Self-diagnosis of engine and consumables management

The failure details and history can be checked on the cluster screen. In addition, when the replacement cycle of any consumables is entered into the cluster, parts In need of replacement are displayed on the monitor.





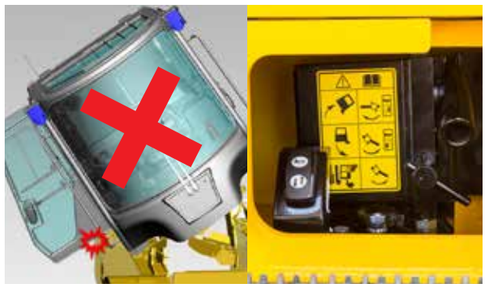


MAINTENANCE UP

Easy maintenance and cost-effective after-sales service Even though the work is finished, the satisfaction continues

No tilting when the door is opened & cabin tilting switch

If the right door is open, damage to the door is prevented by prohibiting cabin tilting. The cabin can be opened and closed both automatically or manually.



Fuse and Relay box

Fuses and relays, which are most frequently checked and replaced among electrical apparatuses, are arranged in a separate airtight space outside of the cabin to guarantee system credibility and save post-management time.



Management of exhaust gas after-treatment device

DPF and SCR are automatically regenerated by engine load.
DPF can be easily removed by disassembling the band only.

* When CK-4 grade engine oil is applied, DPF cleaning at an interval of 5,000 hours is not required.



Hi-MATE Option

Forklift operation and status, safety, and human resources can be remotely managed using the on-site management solution Hi-MATE. The accumulated data can be used for devising a forklift operation plan.



HiMATE

Hi-MATE, a solution for field control based on data

Data collected at the sensors and modules mounted on equipment during the operation of forklift truck at the operation control system of Hyundai Industrial Vehicle is provided to the mobile device or computer of the customer in real time through the server of Hyundai Construction Equipment. Such visual data can be used for establishing a control plan for safety control in fields, productivity improvement, and cost saving.

Equipment operation management

* Real-time monitoring and follow-up management of individual vehicles, drivers, equipment on-site, and operation information

- Key-on time, travel hours, work hours, and traveling position

Equipment status management

* Supplying information of the forklift truck linked with operation hours, establishing a follow-up management plan

- Indicating fuel remainder, failure information
- Indicating consumable exchange timing, service timing

Safe traveling control

* Checking and follow-up management of safety accident caused by collision between the field system and forklift truck during operation

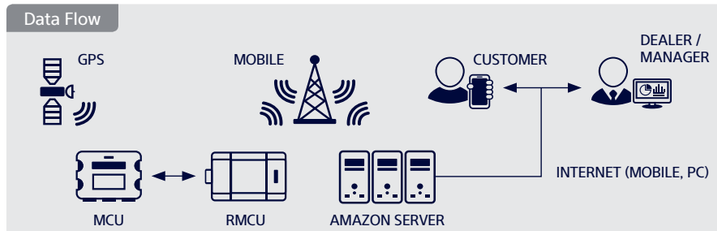
- Count of collision, size of impact

Human resource management

* Checking and follow-up management such as matching between self-diagnosis and equipment conditions before operation

- Driver authorization, self-diagnosis of equipment conditions

Data Flow



Standard & Option

		Description	100D-9V
OPERATION ROOM	Cabin	New Cabin	●
		Wiper for Top window	○
	A/C	A/C+Heater	●
	Seat	Grammer seat + Orange belt + Arm rest	●
		Seat Options - Air suspension seat, Grammer Swivel seat	○
		Seat Accessories - Buckle switch, Seat switch, Backrest, Heated seat	○
	Lever	Manual Lever	●
		Finger Tip	○
	etc.	Radio & USB	●
		Bluetooth Radio	○
		Extinguisher	○
MAST & ATTACHMENT	Mast	Standard Mast	V300
		2 stage Mast	○
		3 stage Mast	○
	Fork	Standard Fork	1,200mm
		Fork Options - 1,350mm~2,400mm Fork	○
	Carriage	Intergral Shaft Type Carriage	●
		Carriage Options - Shaft type	○
	Attachment	Fork Positioner – Independent, Synchronized	○
		Intergral Side Shift	○
		Side Shift & Positioner – Independent, Synchronized	○

		Description	100D-9V
HYDARULIC	MCV & Hoses	4 Spool MCV + attached piping for V300 Mast	●
		MCV Options - 5 Spool	○
		Attached Piping for All MCVs & Masts	○
TIRE	Tires	Pneumatic Tires	●
		Solid Tires	○
VISIBILITY	Lamp	Working Lamp - Front & Rear LED	●
	Mirror	L/H & R/H Back Mirror & Panorama Mirror	●
		Heated L/H & R/H Back Mirror & Panorama Mirror	○
	Camera	Rear Camera	●
CONVENIENCE	-	Load Sensor	○
		Accumulator	○
SAFETY	-	OPSS - Travel & Mast	●
		OPSS - Travel only	○
		Seat Belt interlock	○
		Master Switch	○
		Hazard Switch	○
		LED Beacon Lamp	○
OTHERS	-	Oil - VG46	●
		Oil Options - VG32 for Tropical, VG15 for Cold Area	○
		Hi-MATE (General)	○
		Hi-MATE (Premium)	○

● STD / ○ OPT

Specification

Identification			
	Manufacturer (abbreviation)		Hyundai
	Manufacturer's type designation		100D-9V
1.1	Drive : electric (battery or mains), diesel, petrol, fuel gas		DIESEL
1.2	Type of operation: hand, pedestrian, standing, seated, order-picker		Seated
1.3	Load capacity / rated load	kg	10,000
1.4	Load center distance	mm	600
1.5	Load distance, center of drive axle to fork	mm	690
1.6	Wheelbase	mm	2,750
Weights			
2.1	Service Weight	Kg	13,074
2.2	Axle Loading, Loaded Front/Rear	Kg	20,437/2,637
2.3	Axle Loading, Unloaded Front/Rear	kg	5,637/7,437
Wheels, Chassis			
3.1	Tires : solid rubber, superelastic, pneumatic, polyurethane		P
3.2	Tire size, front		9.00-20-14PR
3.3	Tire size, rear		9.00-20-14PR
3.5	Wheels, number front / rear (x = driven wheels)		4x2
3.6	Tread, front	mm	1,693
3.7	Tread, rear	mm	1,700
Basic Dimensions			
4.1	Tilt of mast/fork carriage forward/backrward	degrees	15/10
4.2	Height, mast lowered	h1 (mm)	2,850
4.3	Free lift	h2 (mm)	150
4.4	Lift height	h3 (mm)	3,025
4.5	Height, mast extended	h4 (mm)	4,360
4.7	Height of overhead guard (cabin)	h5 (mm)	2,680
4.8	Seat height / stand height rel. To sip	h7 (mm)	1,650
4.12	Coupling height	h10 (mm)	602
4.19	Overall length	l1 (mm)	5,445
4.20	Length to face of forks	l2 (mm)	4,245
4.21	Overall width	b1 (mm)	2,265
4.22	Fork dimensions	l x e x s (mm)	75x180x1200
4.24	Fork-carriage width	b3 (mm)	2,265
4.31	Ground clearance, below mast, loaded	m1 (mm)	250
4.32	Ground clearance, center of wheelbase	m2 (mm)	306
4.34.1	Aisle width for pallets 1000 x 1200 crossways	Ast (mm)	5,590
4.34.2	Aisle width for pallets 800 x 1200 lengthways	Ast (mm)	5,790
4.35	Turning radius	Wa (mm)	3,965
4.36	Smallest pivot point distance	mm	1,354
Performance Data			
5.1	Travel speed, loaded / unloaded	km/h	28.4/32.7
5.2	Lift speed, loaded / unloaded	mm/s	440/500
5.3	Lowering speed, loaded / unloaded	mm/s	500 / 500
5.6	Max. Drawbar pull, loaded / unloaded	kg.f	79355/
5.8	Max. Gradeability, loaded / unloaded	%	31.5/
5.10	Service brake		Hydraulic
Combustion-Engine			
7.1	Engine manufacturer / type		CMS F3.8
7.2	Engine power acc. To iso 1585	kW/rpm	90/2200
7.3	Maximum torque	kgf.m/rpm	51/1,500
7.4	No. Of cylinders / displacement	eA/cc	4/3,726
7.5	Fuel consumption acc. To vdi cycle	l/h	4.8
Addition Data			
8.1	Type of drive control		Full auto
8.2	Operating pressure, system / attachments	bar	230/145
8.3	Oil volume for attachments	LPM	110
8.5	Trailer coupling, type din		Pin

