

## Standard configuration

### Engine

- Starter motor
- Alternator
- Air filter
- Dual-element air filter
- Cylinder-type engine oil filter
- Cylinder-type fuel oil filter
- Engine oil cooler
- Radiator with protective screening
- Radiator auxiliary water tank
- Fan aerofoil
- Fuel oil level floater

### Hydraulic system

- Fingertip-operating pilot
- Control valve with main overflow valve
- Control valve with spare oil port
- Oil suction filter
- Return oil filter
- Pilot filter
- Hydraulic oil level gauge

### Instruments of monitoring system

- Fuel tank oil level gauge
- Engine coolant temperature gauge
- Intelligent instrument of CAN line function

### Cab

- Sound-proof steel-structure cab
- Reinforced light-color glass window
- 4 silicone oil rubber damper supports
- Openable right side window
- Emergency exit on right door
- Wiper with washer
- Adjustable tilting seat with adjustable armrest
- AM-FM radio with digital clock
- Floor mat
- Loudspeaker and rearview mirror
- Seat belt and fire extinguisher
- Cup holder and compartment lamp
- Ashtray and escape hammer
- Storage box and sundries bag
- Dual-purpose air conditioner
- Sun shade

### Working device

- Flange pin
- Welded connecting rod
- Lubricating system
- All bucket pins are equipped with dustproof seal ring
- Reinforced plate-type boom
- Reinforced plate -type swing arm
- Gear-holder gear-sleeve type wear-resisting bucket tooth

### Drive system

- Intermediate support of heavy-duty drive shaft
- K/D shifting lever
- Spindle-type gearbox
- Full-hydraulic traveling brake
- Rear driving axle of swinging structure
- Electro-hydraulic shifting solenoid valve

### Alarm indication

- Engine oil pressure insufficient and engine coolant temperature too high
- Storage battery voltage insufficient
- Fuel oil volume insufficient
- Gearbox oil temperature high

### Others

- Standard storage battery
- Lockable engine hood
- Lockable fuel filler cap
- Anti-slip pedal, armrest and sidewalk
- Tool kit



# SYL956H5

## Wheeled loader

Subverting Fully BRAND NEW H5

EFFICIENT AND VALUE ADDING

Leading Innovation Splendid SANY

- Rated power  
164KW/2200rpm
- Operation weight  
17100±200kg
- Bucket capacity  
2.7~4m<sup>3</sup>
- Rated loading capacity  
5000kg



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Note

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# SYL956H5

## Efficiency Leader Value Model

New-generation heavy-duty wheeled loader



### Selling Points

SYL956H5 is a kind of long wheelbase 5T heavy-duty loader product produced by SANY Heavy Machinery. It is designed for heavy-duty working conditions and targets to improve investment return of the customer. As compared with competitor brands, it has the advantages of "high efficiency, high comfort, high economy and high reliability".



High efficiency



High comfort



High economy



High reliability

# High efficiency

## ○ Engine

### Fully upgraded Cummins engine

By working with SANY jointly, high power, large displacement, efficient QSL8.9 electronic injection high pressure common rail engine is customized according to the needs of SANY.

- Multi-point injection, high response speed of throttle at various engine speed, more efficient power output, better fuel economy and lower noise.
- With exhaust gas bypass type turbocharger, turbocharging would be smoother at low engine speed and power output would be more stable at high engine speed.
- Meet emission requirements of national III standard.



ENGINE

## ○ Gearbox

### Advanced DANA spindle-type gearbox

Heavy-duty classic DANA spindle-type gearbox is customized according to the needs of SANY and far surpasses latest high technology of planetary gearbox.

- With excellent controllability, and self-adaptive regulation function, the operating efficiency is improved greatly.
- With F/R handle operation and fingertip operation, the operations of left and right hands may be switched freely.
- With solenoid valve+ logic control, the gear shifting is smoother and the response speed is higher.



GEARBOX

## ○ Hydraulic system

### Efficient fixed/variable displacement interflow high pressure hydraulic system

With domestically leading load-sensitive fixed/variable displacement interflow high pressure hydraulic system, the speed reaches optimal match with the power, operating efficiency is improved, the speed is higher and the digging force is bigger.

- 25MPa high pressure hydraulic system matches with high-flow main valve. As compared with domestic 16-18MPa low pressure system, the pressure loss is less, and digging force and lifting force are larger.
- With efficient variable displacement piston pump, the efficiency is much higher than gear pump.
- The flows of double pumps are combined, and distributed according to needs to realize higher lifting speed

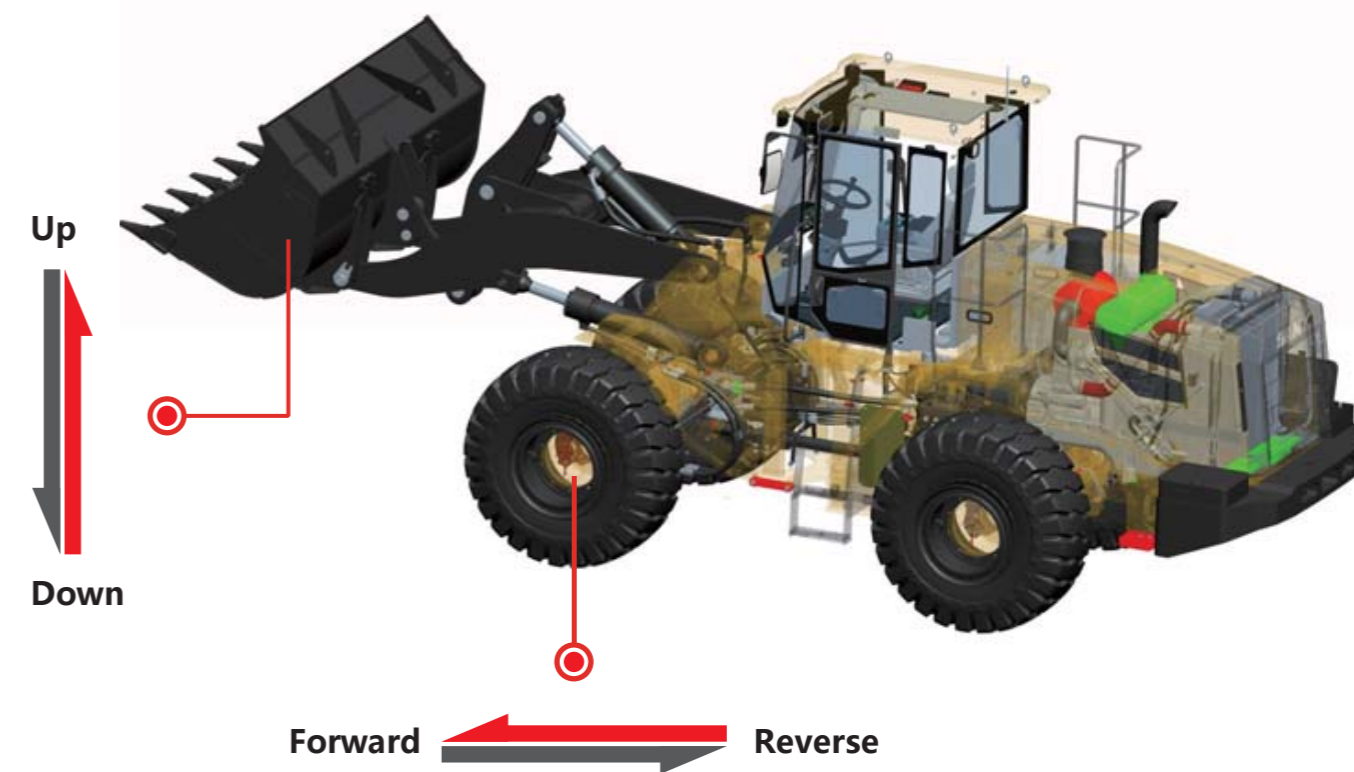


HYDRAULIC SYSTEM

## ○ Innovation and Matching

### Optimal system matching

By innovation and matching of power, drive and hydraulic systems, and with core components from world famous brands like Cummins and DANA etc., optimal speed and power matching is realized. Through comparison and testing, operating efficiency is improved by over 11%.



# High comfort

## ○ Pilot system

### Sensitive and comfortable fingertip operation pilot system

With fingertip operating system introduced for the first time in China, operating force and operating stroke are smaller, and the operation is within control. It represents excellent sensitivity and comfort.

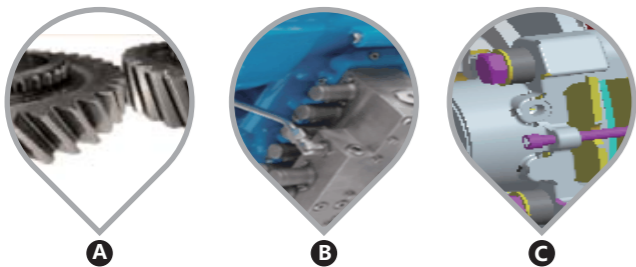
- Smaller control force and control stroke.
- With electromagnetic positioning, the efficiency is higher.
- With dustproof design, the reliability is higher.



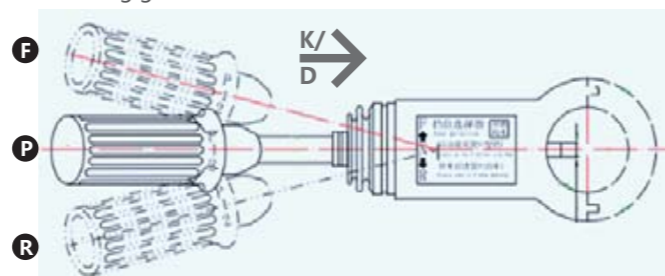
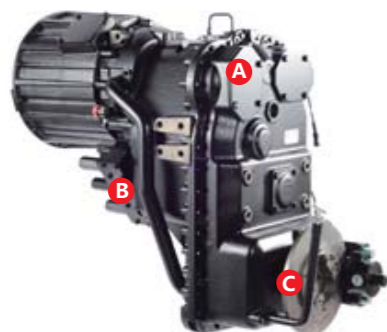
## ○ Gearbox

### Smooth shifting operation

Electronically controlled shifting gearbox matches with KD gear shifting function to realize stable shifting.



- With solenoid valve+ logic control, the gear shifting is smoother and the response speed is higher.
- KD function may realize shifting between forward gear I and reverse gear II easily, and may judge automatically according to vehicle speed to realize gear shifting, which significantly mitigates work intensity of the driver
- Electronically-controlled gear shifting make complete machine more stable and the driving more comfortable in the process of shifting gears.

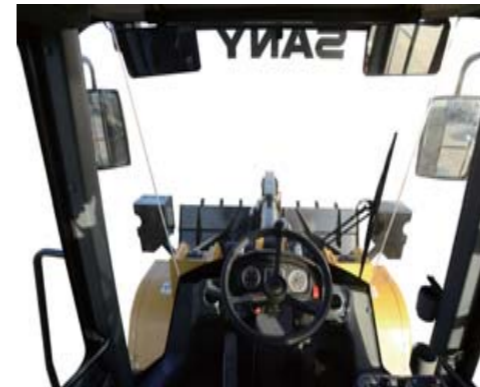


## ○ Cab

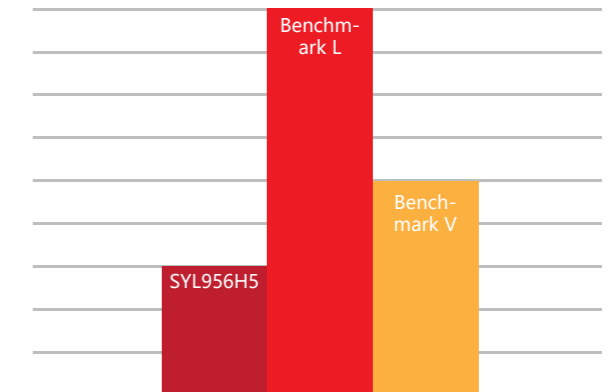
### Super large space and super low noise

With panoramic ultra-silence cab, the space is large and the view is wide.

- As compared with other domestic models, internal space of the cab is increased by over 15%.
- With excellent sealing performance, the noise is blocked, and the dust is kept away. Noise level only is 78 dB(A).



Panoramic cab



Noise in the cab

## ○ Cab

### More humanized driving experience

Panoramic cab meeting human engineering requirement makes the driving more comfortable

Large-size full-protection soft wrist rest

- With 9° adjustable suspended seat, super large forward/backward adjusting space; the backrest may be adjusted at maximum angle
- Automatic withdrawing seatbelt retractor

Clear space for leg  
Pedal arrangement with optimal operating comfort  
Steering column with adjustable angle

Super large rear storage space

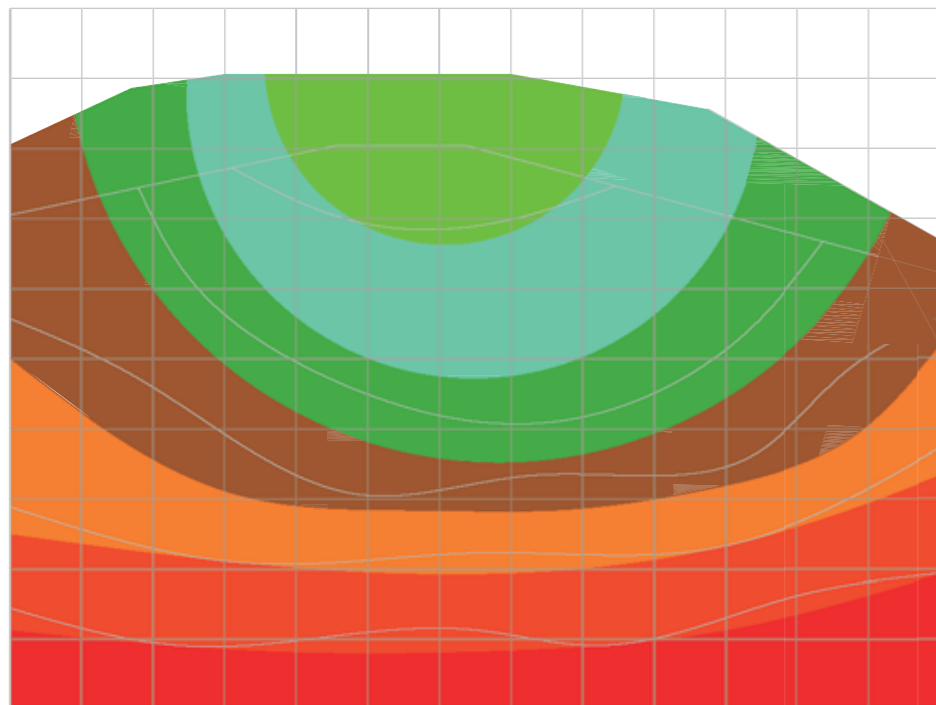
# High economy

## Engine

### Lower fuel consumption

Cummins high displacement QSL8.9 engine adopts high pressure common rail and electronic injection technology to realize lower fuel consumption.

- High pressure common rail fuel system may produce perfect fuel supply rule so that engine power performance, emission and economy will be improved obviously.
- Through tests and comparison, specific fuel consumption at various engine speeds is better than benchmarking engine.

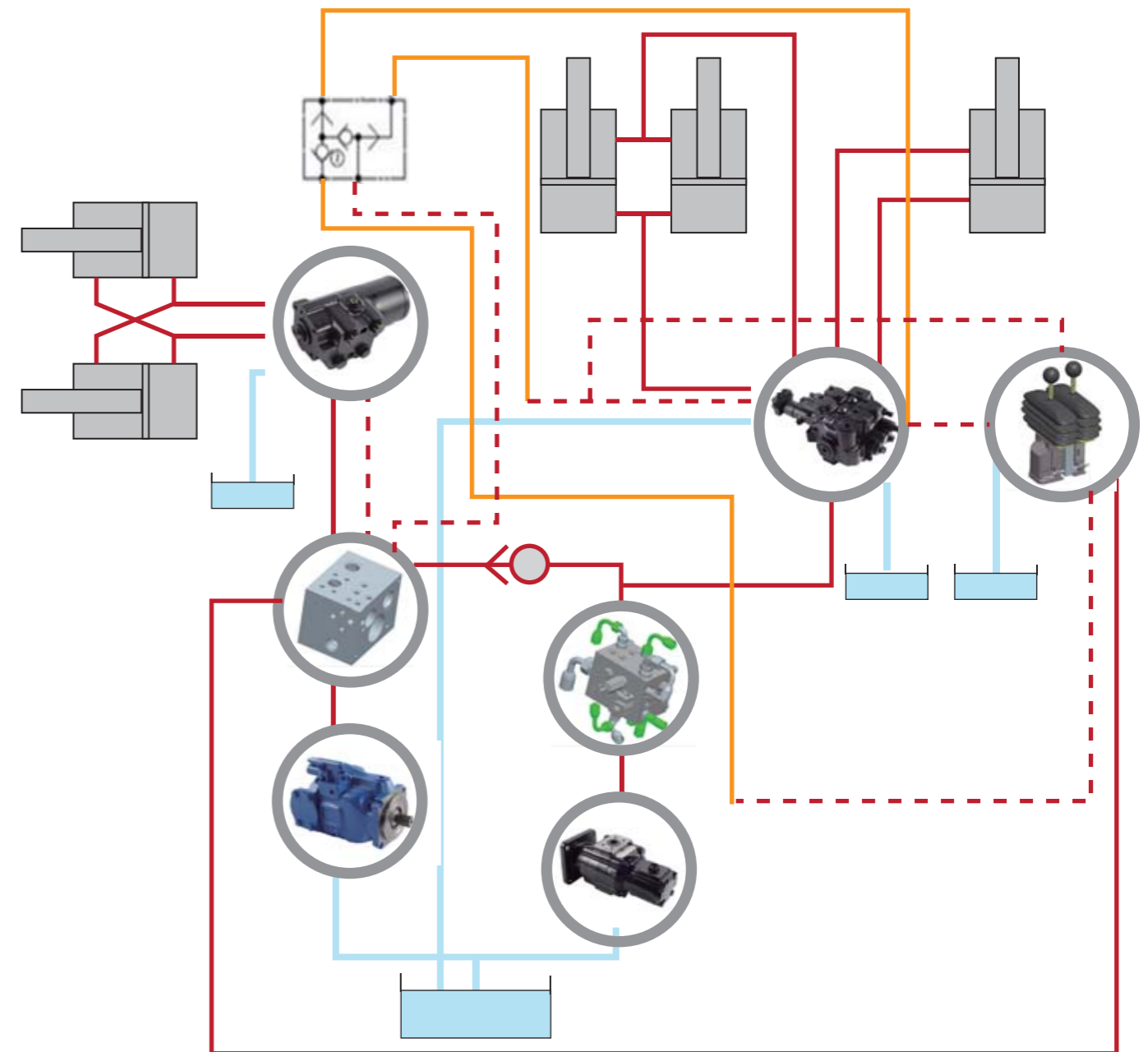


## Hydraulic system

### Energy-saving efficient variable displacement interflow high-pressure hydraulic system

High pressure load-sensitive fixed/variable displacement hydraulic system matches with hydraulic components of famous brands to realize distribution of load according to the needs, and reduce unnecessary energy loss. It saves energy by over 10%.

- It is equipped with efficient variable displacement piston pump. As compared with traditional gear pump, the volume efficiency is higher and the performance is more stable.
- Flows of double pump are combined and distributed according to needs to reduce energy loss.
- With optimized pipeline layout, energy loss arisen from pressure loss is mitigated.



# High economy

## Lower use cost

### Lower use cost

By optimizing the matching of power, steering and hydraulic systems, SYL956H5 improves the speed and power, reduces fuel consumption and realizes excellent fuel economy. Through comparison and testing under same heavy-duty working condition, the operating efficiency is improved by over 11%, and comprehensive fuel consumption is reduced by 7%.

Reduce fuel consumption



Improve power



## Higher fuel economy

Guaranteed value increase; the value will increase immediately after purchase

A warranty period of 1 year and a half (or 3,000h) is exercised initially in the industry! The appreciation in asset value of the machine is improved significantly!

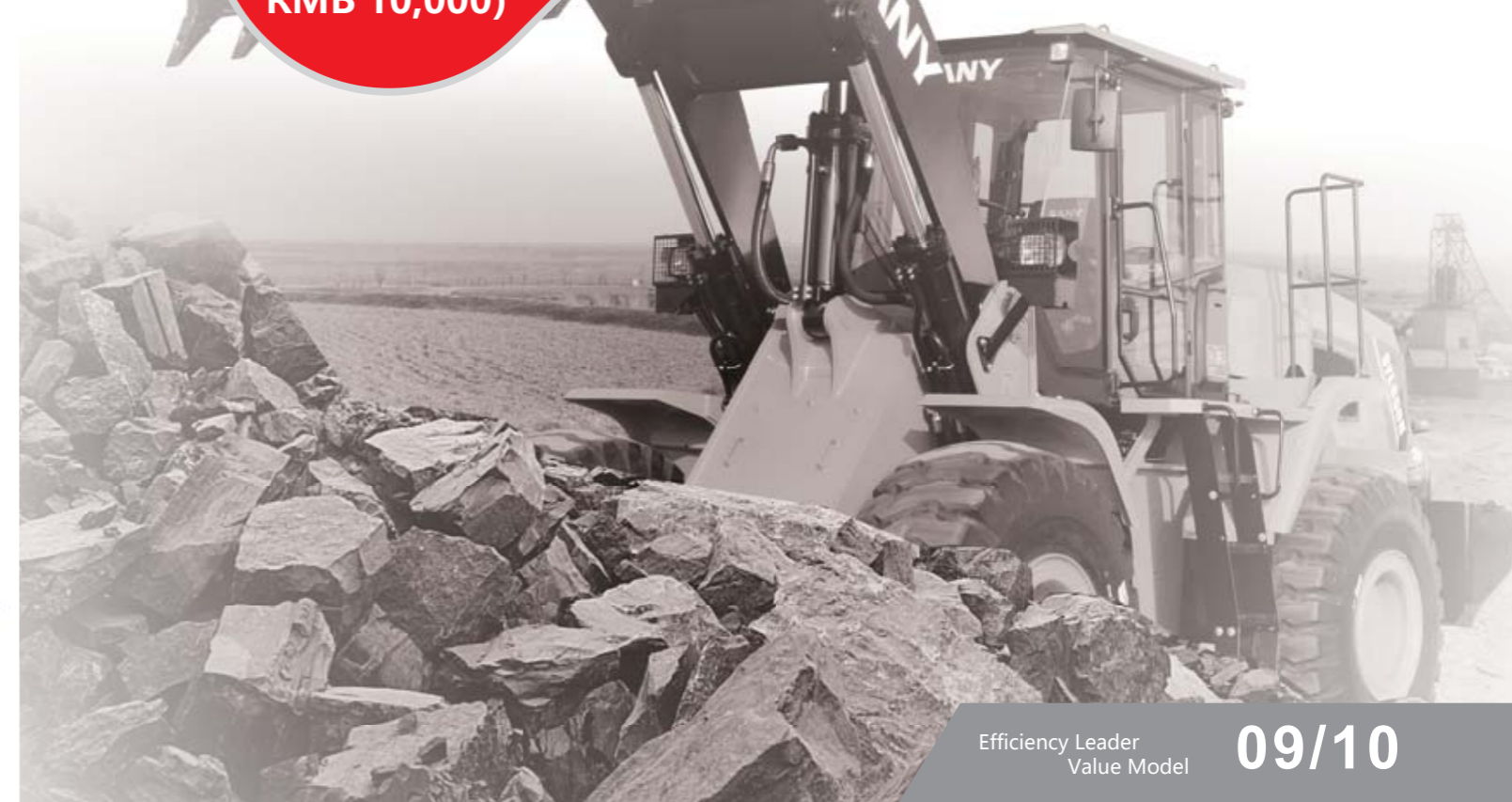
# Half a year $\geq$ RMB 10,000

## The value will increase immediately after purchase

Rely on high reliability and long life of top-end components from Cummins and DANA etc.

Powerful support for heavy-duty structural member of reinforced design of 10,000h service life

Super long three-warranty period SYL956H5 as compared with other brands in the industry  
**(Half a year  $\geq$  RMB 10,000)**



# High reliability

## ○ Engine

### Cummins electronic injection engine

High pressure common rail Cummins QSL8.9 high displacement high power electronic injection engine with more advanced technologies and more reliable performance is used.

- With world-leading in-cylinder combustion technology, the reliability and the endurance are improved greatly.
- With matured intelligent electronic control technology, overall performance of the engine is improved, and self-diagnosis and self-protection capacity are stronger.
- With three-stage fuel filter system, environmental adaptability is high, fuel adaptability is stronger and emission requirements of national III standard are met.



## ○ Gearbox

### DANA Spindle-type gearbox

DANA spindle-type gearbox meeting 10,000h service life design standard



With bevel gear set, the reliability of drive system is improved.



Lubricating and shifting oil circuits are built-in for avoiding pipeline damages and leakage.



The gear shaft is a rotating shaft without static bending deflection. The service life is longer.



With larger contact area of clutch than similar product, larger load bearing area and better stress distribution are provided, and service life is extended effectively.



## ○ Braking system

### Safe and reliable braking system

Electronically-controlled full-hydraulic parking brake and dual-pipeline full-hydraulic service brake are highly controllable and reliable concurrently to make the driving and riding safer.

- Electronically-controlled full-hydraulic parking brake adopts normally closed type clamp braking. Even if hydraulic system fails in abnormal state, it still could realize braking of complete machine.
- Independent hydraulic braking circuits of front/rear axles provide more reliable service brake.
- Hydraulic system meets 9-level precision oil quality standard and high pressure pipeline design standard so that the operation of the components of complete system is more durable and more reliable.



## ○ Structural members

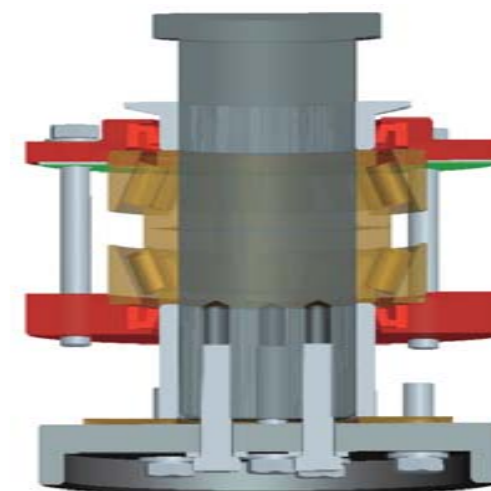
### Heavy-duty structural members with high strength and super long life

- With large-damping buffer device, the impact vibration arisen from the steering is mitigated greatly.
- Heavy-duty intermediate hinge structure- Center hinge position is equipped with large-space upper and lower hinge bearings which may assume large transverse and longitudinal load. Thus, the failure risks under severe working conditions will be reduced significantly.

Elastic buffering  
Rubber limiting



Large-damping buffer device



Heavy-duty hinge

# Product Introduction

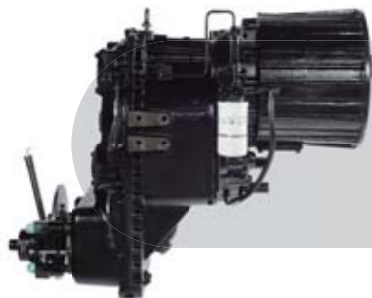
## ○ Main configuration

Core components like engine, gearbox, pumps and valves etc. are designed jointly, and manufactured by famous manufacturers to ensure excellent quality and satisfy professional demands of SANY' s customers



**QSL8.9** engine meets emission standard of national III. Its displacement and torque are higher than those of competitor brands. It outputs high power and helps the customer to solve the operating difficulties of heavy-duty working condition.

**KM300** main valve has outstanding advantages including "high reliability, low pressure loss, high flow distribution efficiency and smooth compound control action" . It could handle heavy-duty operation conditions for the customer



**TZL16RM** gearbox; customized heavy-duty DANA spindle-type gearbox for North America. As compared with traditional planetary gearbox, power absorption capacity is stronger and the life is longer.

## ○ Main configuration

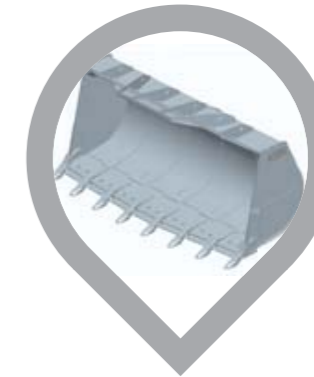
In allusion to the requirements of special working condition, appropriate configuration may be provided for realizing optimal performance and reliability



Wood grabbing fork



Enlarged bucket (4.0m<sup>3</sup>)



Bucket for stonework (2.7m<sup>3</sup>)



Grapple fork

## ○ Main parameters

Main Performance Index	SYL956H5
Forward speed at gear I (Km/h)	7.1
Maximum forward speed (Km/h)	40
Total cycling time (s)	10.5
Maximum bucket break-out force (kN)	175
Maximum traction force (kN)	167
Maximum steering angle (°)	40
Discharging height (mm) 45 °discharging angle	3118
Discharging distance (mm) 45 ° discharging angle	1140
Minimum turning radius (mm)	5850
Full steering tipping load (kg)	10700
Straight tipping load (kg)	12600



# Construction Cases

Comments of a customer from Shandong Province on SYL956H:

"This wharf needs fast operation. When the ship arrives, it should be loaded as quickly as possible. In the past, we used three loaders of other brand. Now, we only need two loaders of SANY brand. The SANY loaders are powerful!"



Worksite: A wharf in Shandong Province  
Working condition: Macadam  
Job type: Transporting and loading on the ship  
Work assumed by SYL956H: Transporting and loading on the ship

Comments of the customer from Gansu Province on SYL956H:

"The gradeability of the loader of other domestic brand is insufficient when the bucket is fully loaded. The bucket only can be loaded by half. The gradeability of SANY loader is very powerful. There is no problem when it is fully loaded."

Comments of the customer from Zhejiang Province on SYL956H:

"SANY 5T loader is more powerful and faster than a 6T loader of other domestic brands."

Worksite: A sand washing plant in Gansu Province  
Working condition: Mortar  
Job type: Transporting  
Work assumed by SYL956H: Transporting



Comments of the customer of mixing plant on SYL956H:

"The workload is not enough for two loaders of other domestic brands but is too much for one loader. Now, one SANY loader can complete the workload. The operating speed is high and I feel comfortable and is not tired when driving the loader."



Worksite: A quarry in Jiangsu Province  
Working condition: Sand and macadam  
Job type: Loading/unloading  
Work assumed by SYL956H: Loading/unloading

Worksite: mixing plant  
Working condition: Gravel and cement  
Job type: Transporting and loading/unloading  
Work assumed by SYL956H: Transporting and loading/unloading



## Technical specification

Engine		Steering system	
Cummins	QSL8.9-C220-III	Hinged frame, load sensitive, coaxial flow amplification and steering priority	
	6-cylinder, in-line, air-air-inter-cooling, 4-stroke, electronic injection diesel engine		
Rated power/speed	164 kW @ 2200 r/min	Steering pump	Variable displacement piston pump
Number of cylinders × cylinder bore × stroke	6 × 114 mm × 144.5 mm	Flow/rotation speed	163L/min @ 2200r/min
Maximum torque	1000 Nm	Steering angle	±40°

Hydraulic system		Braking system	
Variable delivery hydraulic system with double pump interflow and high pressure unloading. Internal pressure type oil tank isolate external pollution thoroughly.		Service brake	Four wheels are fitted with fully hydraulic caliper disc brake
Working pump		Emergency/ parking brake	Electronically controlled fully hydraulic caliper disc brake
Gear pump			
Flow/ rotation speed	154L/min @ 2200r/min		
Total cycling time (s)	≤10.5		

Capacity data	
Fuel tank	300 L
Cooling system	45 L
Torque converter & gearbox system	65 L
Hydraulic oil tank	220 L
Front/rear driving axle oil	26.2 L / 26.2 L

Drive system		
Torque converter & gearbox	DANA single-turbine spindle-type electronically-controlled shifting gearbox	
Traveling speed (km/h)	Gear position	Moving forward/backward
	I	7.1
	II	13
	III	25
	IV	40

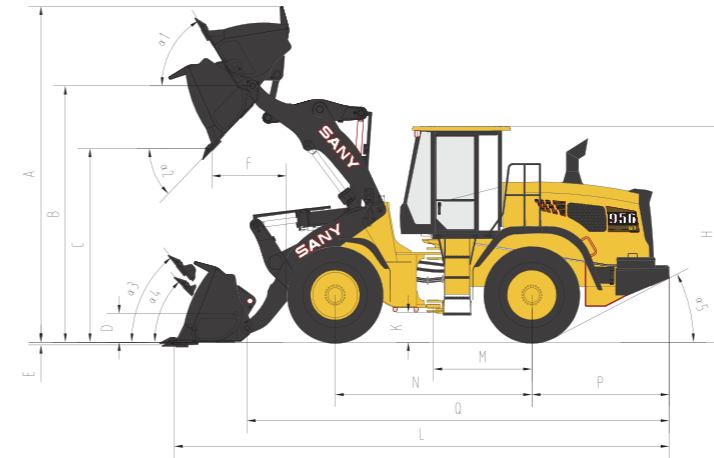
Bucket control device		
Ascending/ descending	Pilot control, manually controlled motion: Lift, maintain, lower and float.	
Withdrawing/ lowering bucket	Pilot control, manually controlled motion: Lower bucket, maintain and withdraw bucket.	

Driving axle and tire		
Type	Four-wheel driving	
Tire	23.5-25	
Ply rating	16	
Tire pressure	Front wheel	Rear wheel
	0.32Mpa	0.3Mpa

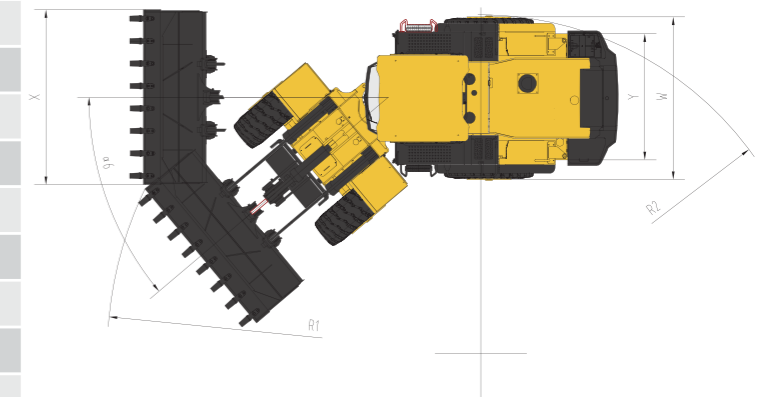
Optional equipment	
Extension boom and super long boom	
Bucket for stonework and enlarged bucket	
Wood grabbing fork and grapple fork	

## Overall dimensions



Items (mm)	SYL956H5	
A	Maximum lifting height	5410 ± 50
B	Hinged shaft height at maximum lifting position	4132 ± 50
C	Discharging height	3118 ± 50
D	Transportation height	460
E	Digging depth	30
F	Unloading distance	1140 ± 50
H	Height of complete vehicle	3501 ± 50
K	Ground clearance	432 ± 10
L	Length of complete vehicle (with bucket)	8016 ± 50
M	Distance from hinge center to rear wheel center	1600
N	Wheel base	3200
P	Rear suspension distance	2229 ± 50

Items	SYL956H5	
Q	Distance from counter weight to bucket hinge shaft (mm)	6807 ± 50
α1	Bucket withdrawing angle at highest position	56°
α2	Discharging angle	45°
α3	Bucket withdrawing angle at transportation position	50°
α4	Bucket withdrawing at ground position	45°
α5	Departure angle	28°
α6	Maximum turning angle	±40°
W	Width of complete vehicle (outside of wheel) (mm)	2825 ± 50
X	Wheel track (mm)	2200
Y	Bucket width (mm)	3000
R1	Turning radius (outside of bucket) (mm)	6450 ± 50
R2	Turning radius (outside of wheel) (mm)	5850 ± 50





**SYL956H5**

# Efficiency Leader Value Model

New-generation heavy-duty wheeled loader



Quality Changes the World