

# KOMATSU®

## HM400-2

**GROSS HORSEPOWER**

**338 kW 453 HP**

**NET HORSEPOWER**

**327 kW 438 HP**

**MAXIMUM GVW**

**69040 kg 152,200 lb**

**ecot3**

**HM  
400**



Photo may include optional equipment.

ARTICULATED DUMP TRUCK

Standard equipment may vary for each country, and this specification sheet may contain attachments and optional equipment that are not available in your area. Please consult your Komatsu distributor for detailed information.

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# WALK-AROUND

*The HM400-2 with new ecot3 engine, meets the EPA Tier 3 and EU Stage 3A emission regulations, offers all around maximum productivity with faster travel speed and many features that enhance efficiency, while reducing maintenance costs. From rough terrain construction sites to landfills - the HM400-2 has the competitive edge.*

### Wide, spacious cab with excellent visibility

- The wide cab offers a comfortable operator and passenger environment
- Viscous mounts support the cab while absorbing vibrations and noise
- Low-noise cab through improved sealing with integrated floor  
Interior noise level 76 dB(A)
- Additional front under view mirrors provide superior visibility
- Air suspension seat is standard
- Power window (L.H)

### High performance and environment-friendly SAA6D140E-5 ecot3 engine

- Gross horsepower **338 kW** 453 HP
- Meets North American EPA Tier 3 and EU Stage 3A emission regulations for 2006
- Engine power mode selection system realizes both greater productivity and improved fuel economy
- Higher engine output and torque improve productivity in all applications

**Tiltable cab** can be tilted rearward 32 degrees to provide easy service.



Photo may include optional equipment.

### Fully hydraulic articulated steering

- Light and easy operation
- Minimum turning radius **8.7 m** 28'7"

### Komatsu designed, electronically controlled transmission for a comfortable ride.

F6-R2 counter-shaft type transmission with K-ATOMiCS (Komatsu Advanced Transmission with Optimum Modulation Control System). Transmission shift hold button optimizes the operator control.

### Easy-to-load body

- Heaped capacity **22.3 m<sup>3</sup>** 29.2 yd<sup>3</sup>
- Low loading height **2970 mm** 9'9"
- High strength body constructed of thick wear-resistant steel having 400 Brinell hardness



### Hydro-pneumatic suspension for all terrains.

The hydro-pneumatic suspension in both front and rear suspensions assures a comfortable ride even over rough terrain.

### Interaxle & differential locks provide excellent traction in rough terrain.

The oil-cooled multiple-disc interaxle lock and differential locks can be turned on and off during travel. In addition, the differential locks can lock up all three axles' differentials for maximum traction.

### High capacity, reliable, continuously cooled, wet type multiple-disc brakes and retarder

- Fully hydraulic controlled wet multiple-disc brake
- Retarder absorbing capacity (continuous descent) **389 kW** 533 HP

**GROSS HORSEPOWER**  
338 kW 453 HP @ 2000 rpm

**NET HORSEPOWER**  
327 kW 438 HP @ 2000 rpm

**MAXIMUM GVW**  
69040 kg 152,200 lb

# PRODUCTIVITY FEATURES

*The combination of high travel speeds and an efficient engine with low emissions delivers maximum productivity at the lowest cost.*

## Komatsu technology



Komatsu develops and produces all major components, such as engines, electronics and hydraulic components, in house.

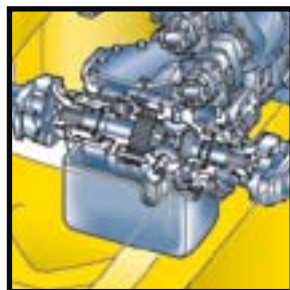
With this "Komatsu Technology," and adding customer feedback, Komatsu is achieving great advancement in technology.

To achieve both high levels of productivity and economical performance, Komatsu has developed the main components with a total control system.

The result is a new generation of high performance and environment friendly machines.

## High performance Komatsu SAA6D140E-5 engine

This engine delivers faster acceleration and higher travel speeds with high horsepower per ton in its class. Advanced technology, such as Common Rail Injection system (CRI), air to air aftercooler, and an efficient turbo-charger enables the engine to meet the North American EPA Tier 3 and EU Stage 3A emission regulations. High torque at low speed, impressive acceleration, and low fuel consumption ensure maximum productivity.



## Engine power mode selection system

The system allows selection of the appropriate mode between two modes <Power mode > or <Economy mode> according to each working condition. The mode is easily selected with a switch in the operator's cab.

### Power mode

Great productivity can be attained by taking a full advantage of high output power. It is appropriate for job sites where larger production at uphill-hauling is required.

### Economy mode

Engine speeds of the maximum output, downshift, and upshift are set to a lower level. It is appropriate for light work on the flat ground.

## Komatsu designed electronically controlled countershaft transmission

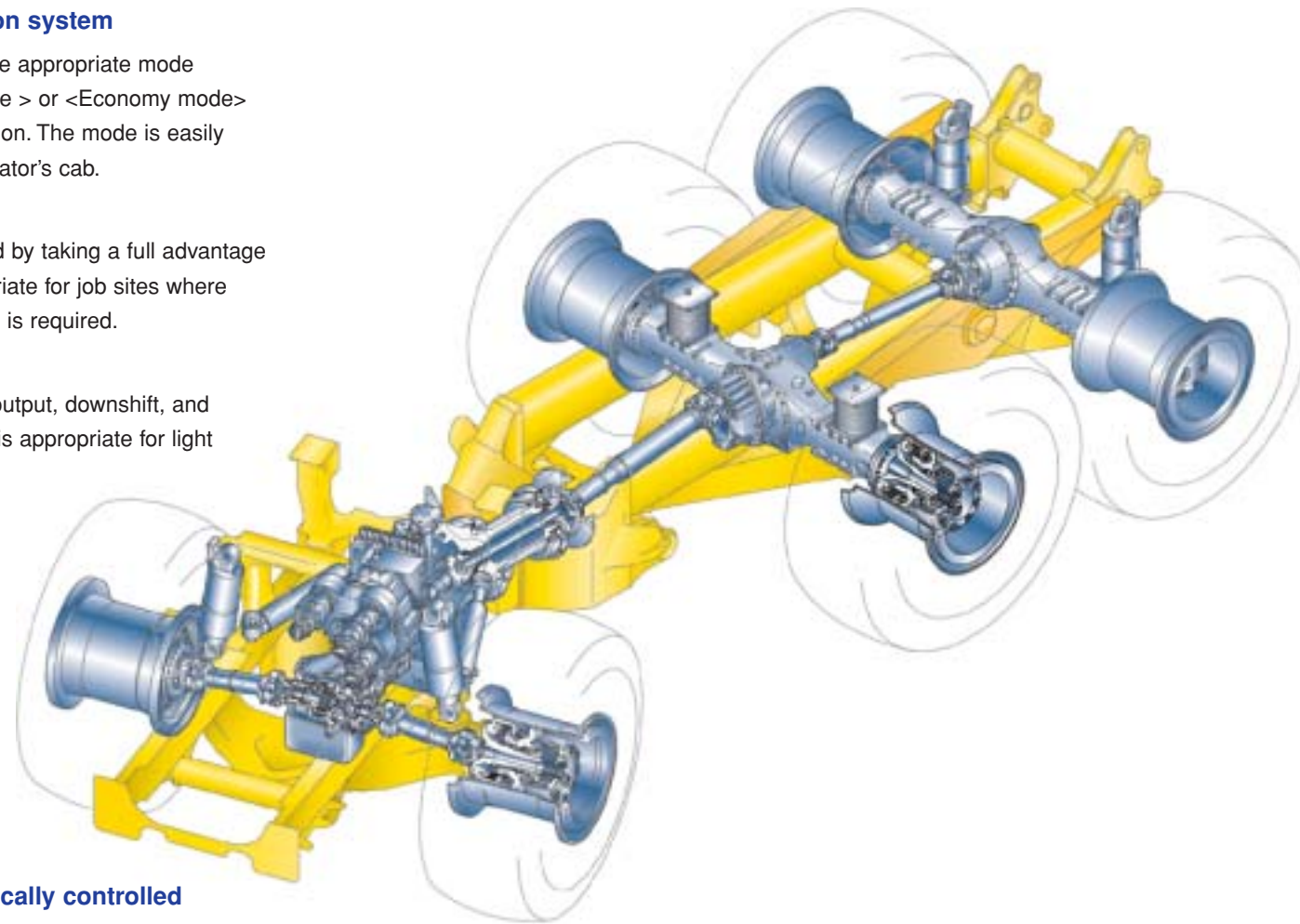
The Komatsu designed Electronically Controlled Transmission called K-ATOMiCS has been a success in Komatsu's rigid dump trucks. The electronic clutch modulation system ensures proper clutch pressure when the clutch is engaged. The total control system controls both the engine and transmission by monitoring the vehicle conditions. This high technology system assures smooth shifts without shock and maximizes power train life.

## Komatsu designed interaxle and differential locking systems

The full-time six-wheel drive system reduces slippage. A wet multiple-disk interaxle clutch also locks the three axles in unison for greater traction. The interaxle lock and differential locks can be switched on and off while the truck is travelling, thereby boosting productivity. In addition, the differential lock switch, which is a three position switch, can lock up the rear axle differentials only, or all axles for maximum performance in the worst conditions.

## Hydro-pneumatic suspension

The hydro-pneumatic suspension has been proven on Komatsu's rigid dump trucks. The front axle hydro-pneumatic suspension employs "De Dion" type design, allowing the machine to ride more smoothly over bumps. The rear-axles are mounted on a dynamic equalizer structure equipped with hydro-pneumatic suspension. The entire vehicle's suspension delivers a comfortable ride and maximizes productivity.



## Large capacity body and box section frame structure

The HM400 has the large heaped capacity of **22.3 m<sup>3</sup> 29.2yd<sup>3</sup>** body. The low loading height of **2970 mm 9'9"** enables easy loading. The body is built of high strength wear-resistant steel with a Brinell hardness of 400, and the body shape provides excellent load stability. Rugged enough for the toughest jobs, the HM400's frame is designed using a rigid box structure with connecting torque tubes made of high strength low alloy steel.

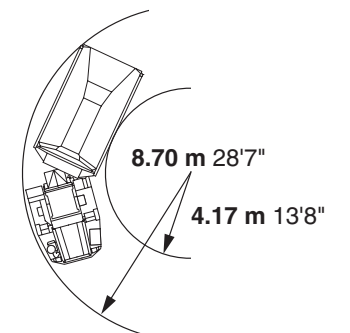
## Hydraulically controlled wet multiple-disc brakes and retarder

Wet multiple-disk brakes have been proven on Komatsu dump trucks and wheel loaders ensuring highly reliable and stable brake performance. The large-capacity, continuously cooled, wet-multiple disc brakes also function as a highly responsive retarder which gives the operator greater confidence at higher speeds when travelling downhill. Retarder Absorbing Capacity (continuous descent):

**389 kW 533 HP**

## Articulated steering

Fully hydraulic articulated steering offers low-effort operating performance and maneuverability. A minimum turning radius of only **8.7 m 28'7"** provides ability to work in tight areas.



# OPERATOR ENVIRONMENT

**Komatsu has developed a state-of-the-art, wide comfortable cab. The low level of vibration and noise ensure maximum productivity from the operator.**

## Low-noise designed cab

Integrated cab and floor provide airtight cab. Engine room is also sealed. The low noise and sound insulated muffler /exhaust pipe contribute to reducing sound levels.

All these together offer a quiet and comfortable operator environment.

## Wide, spacious cab with excellent visibility

The wide cab provides a comfortable space for the operator and a full size buddy seat. Large electrically operated window and the operator's seat positioned to the left side ensures superior visibility.

## Ergonomically designed cab

The ergonomically designed operator's compartment makes it very easy and comfortable for the operator to use all the controls. The result is more confident operation by operators and greater productivity.

The front under view mirrors are increased to two from one, and the rear view mirrors increased to four from two. Newly employed laminated glass in the windshield assures safe operation. In addition, electric heated rear window facilitates defrosting.



## Easy-to-see instrument panel

The instrument panel makes it easy to monitor critical machine functions. In addition, a caution light warns the operator of any problems that may occur. This Komatsu on-board monitoring system makes the machine very friendly and easy to service.

## Steering wheel and pedals

Low effort pedals reduce operator fatigue when working continuously for long periods. The tiltable, telescoping steering column enables operators to maintain the optimum driving position at all times.



## Built-in ROPS/FOPS cab

These structures conform to ISO 3471-1994 standard.

## Hydro-pneumatic suspension for all terrains

The hydro-pneumatic suspension assures a comfortable ride even over rough terrain and ensures maximum productivity and operator confidence.

## Viscous cab mounts

Viscous mounts reduce the noise transmitted to the cab and achieve a quiet 76 dB(A) noise level



## Air suspension seat is standard

The air suspension, fabric-covered seat which is adjustable to the operator's weight is provided as standard. The air suspension seat dampens vibrations transmitted from the machine and reduces operator fatigue as well as holding the operator securely to assure confident operation.

## Electric body dump control lever

The low effort lever makes dumping easier than ever.

## Supplementary steering and secondary brakes

Supplementary steering and secondary brakes are standard features.

Steering: ISO 5010-1992, SAE J1511

Brakes: ISO 3450-1996



# EASY MAINTENANCE

*The HM400-2 has been designed to keep service time down and productivity up by reduced number of grease points, easy access to filters, and longer intervals between oil changes.*

### Tiltable cab

The cab can be tilted rearward 32 degrees to provide easy maintenance/service for the engine and transmission.

Note: An external hydraulic pump is required to tilt the cab or a service crane can be used after easily removing only eight bolts...



### Fewer grease points

The number of grease points are minimized by using maintenance-free rubber bushings.

### Extended service intervals

In order to minimize operating costs, service intervals have been extended:

- Engine oil 500 hours
- Transmission oil 1000 hours
- Engine oil filters 500 hours
- Transmission oil filters 1000 hours

### Guards

The following guards are provided as standard:

- Protective grille for rear window
- Engine underguard
- Heavy duty transmission underguard
- Propeller shaft guards
- Exhaust thermal guard
- Fire prevention covers



# SPECIFICATIONS



### ENGINE

Model ..... Komatsu SAA6D140E-5  
 Type ..... Water-cooled, 4-cycle  
 Aspiration ..... Turbo-charged, after-cooled, cooled EGR  
 Number of cylinders ..... 6  
 Bore ..... 140 mm 5.51"  
 Stroke ..... 165 mm 6.50"  
 Piston displacement ..... 15.24 ltr. 930 in<sup>3</sup>  
 Horsepower  
 SAE J1995 ..... Gross **338 kW** 453 HP  
 ISO 9249 / SAE J1349 ..... Net **327 kW** 438 HP  
 Rated rpm ..... 2000 rpm  
 Fan drive type ..... Mechanical  
 Maximum torque ..... **213 kg·m** 1,541 lb. ft  
 Fuel system ..... Direct injection  
 Governor ..... Electronically controlled  
 Lubrication system  
 Method ..... Gear pump, force-lubrication  
 Filter ..... Full-flow type  
 Air cleaner ..... Dry type with double elements and precleaner, plus dust indicator



### TRANSMISSION

Torque converter ..... 3-elements, 1-stage, 2-phase  
 Transmission ..... Full-automatic, counter-shaft type  
 Speed range ..... 6 speeds forward and 2 reverse  
 Lockup clutch ..... Wet, single-disk clutch  
 Forward ..... Torque converter drive in 1st gear, direct drive in 1st lockup and all higher gears  
 Reverse ..... Torque converter drive and direct drive in all gear  
 Shift control ..... Electronic shift control with automatic clutch modulation in all gear  
 Maximum travel speed ..... **58.5 km/h** 36.4 mph



### AXLES

Full time all wheel drive with 100% differential lock in all axles.  
 Final drive type ..... Planetary gear  
 Ratios:  
 Differential ..... 3.417  
 Planetary ..... 4.941



### SUSPENSION SYSTEM

Front ..... Hydro-pneumatic suspension  
 Rear ..... Combined hydro-pneumatic and rubber suspension system



### STEERING SYSTEM

Type ..... Articulated type, fully hydraulic power steering with two double-acting cylinders  
 Supplementary steering ..... Automatically actuated, electrically powered  
 Minimum turning radius, wall to wall ..... **8.7 m** 28'7"  
 Articulation angle ..... 45° each direction



### BRAKES

Service brakes ..... Full-hydraulic control, oil-cooled multiple-disc type on all wheels  
 Parking brake ..... Spring applied, caliper disc type  
 Retarder ..... Front and center axle brakes act as retarder



### MAIN FRAME

Type ..... Articulated type, box-sectioned construction on front and rear  
 Connected by strong torque tubes.



### BODY

Capacity:  
 Struck ..... **16.5 m<sup>3</sup>** 21.6 yd<sup>3</sup>  
 Heaped (2:1, SAE) ..... **22.3 m<sup>3</sup>** 29.2 yd<sup>3</sup>  
 Payload ..... **36.5 metric tons** 40 U.S. tons  
 Material ..... **130 kg/mm<sup>2</sup>** 185,000 psi high tensile strength steel  
 Material thickness:  
 Bottom ..... **16 mm** 0.63"  
 Front ..... **8 mm** 0.31"  
 Sides ..... **12 mm** 0.47"  
 Target area (inside length x width) ..... **5629 mm x 3194 mm** 18'6" x 10'6"  
 Heating ..... Exhaust heating (option)



### HYDRAULIC SYSTEM

Hoist cylinder ..... Twin, 2-stage telescopic type  
 Relief pressure ..... **20.6 MPa** 210 kg/cm<sup>2</sup> 2,990 psi  
 Hoist time ..... 12 sec



### CAB

Dimensions comply with ISO 3471 ROPS (Roll-Over Protective Structure) standard



### WEIGHT (APPROXIMATE)

Empty weight ..... **32,460 kg** 71,560 lb  
 Gross vehicle weight ..... **69,040 kg** 152,200 lb  
 Weight distribution:  
 Empty: Front axle ..... 55.1%  
 Center axle ..... 22.8%  
 Rear axle ..... 22.1%  
 Loaded: Front axle ..... 29.0%  
 Center axle ..... 35.7%  
 Rear axle ..... 35.3%



### TIRES

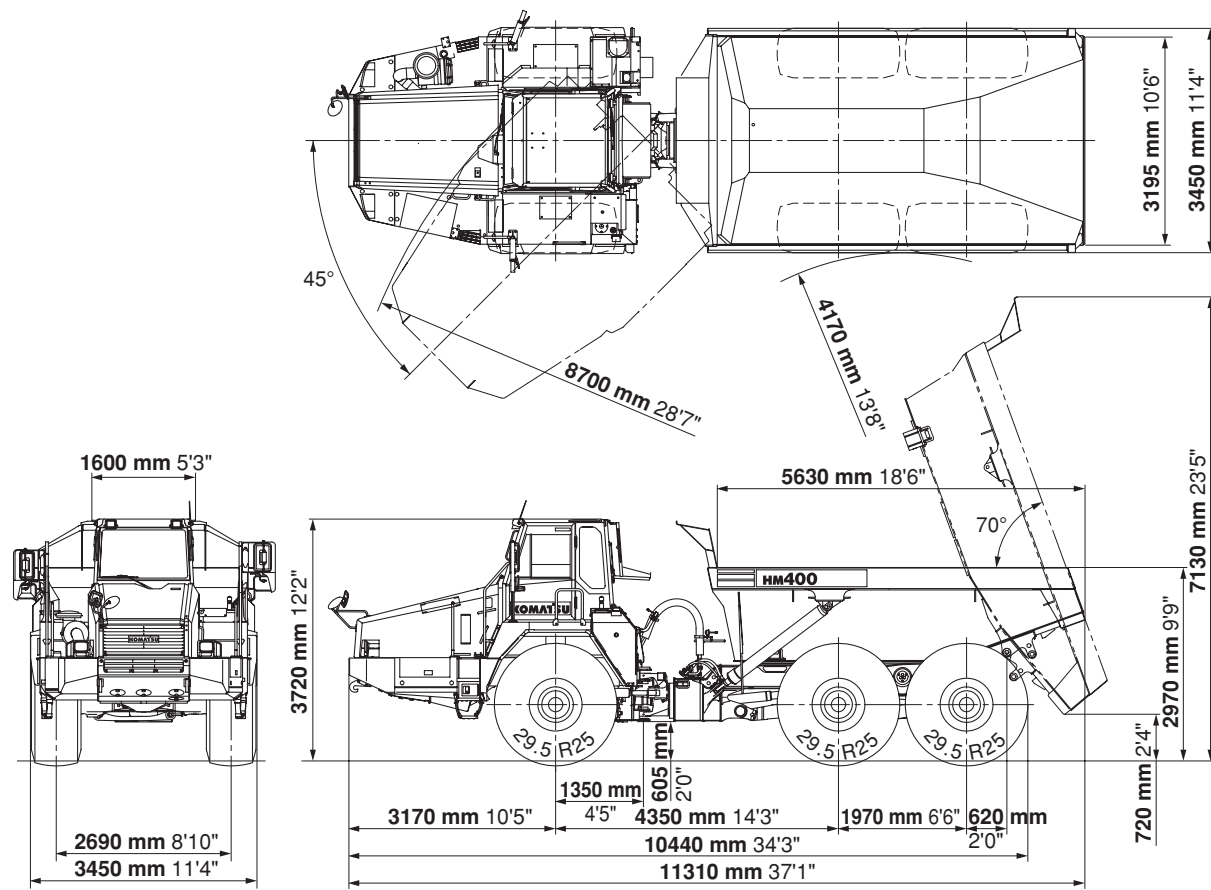
Standard tire ..... 29.5 R25



### SERVICE REFILL CAPACITIES

Fuel tank ..... **493 ltr.** 130.3 U.S. Gal  
 Engine oil ..... **50 ltr.** 13.2 U.S. Gal  
 Torque converter, transmission and retarder cooling ..... **115 ltr.** 30.4 U.S. Gal  
 Differentials (total) ..... **97 ltr.** 25.6 U.S. Gal  
 Final drives (total) ..... **32 ltr.** 8.7 U.S. Gal  
 Hydraulic system ..... **180 ltr.** 47.6 U.S. Gal  
 Suspension (total) ..... **20.4 ltr.** 5.4 U.S. Gal

## DIMENSIONS



## STANDARD EQUIPMENT FOR BASE MACHINE

### ENGINE:

- Alternator, 60A/24V
- Batteries, 2 x 12V/136Ah
- Engine, Komatsu SAA6D140E-5
- Exhaust muffler
- Starting motor, 1 x 11.0 kW

### CAB:

- Air conditioner
- Ashtray
- Cigarette lighter
- Cup holder
- Electronic maintenance display/monitoring system
- Heated rear window
- Operator seat, reclining, air suspension type with retractable 78 mm 3" width seat belt
- Passenger seat with retractable seat belt
- Power window (L.H)
- Space for lunch box
- Steering wheel, tilt and telescopic
- Sun visor, front window
- Tilttable ROPS cab with FOPS, sound suppression type
- Two doors, left and right

### LIGHTING SYSTEM:

- Back-up light
- Hazard lights
- Headlights with dimmer switch
- Indicator, stop and tail lights

### GUARD AND COVERS:

- Engine underguard
- Exhaust muffler thermal guard
- Fire prevention covers
- Propeller shaft guards, front and rear
- Transmission underguard

### SAFETY EQUIPMENT:

- Alarm, backup
- Anti-slip material on fenders
- Automatic supplementary steering
- Coolant temperature alarm and light
- Hand rails for platform
- Horn, electric
- Ladders, left and right hand side
- Protective grille for rear window
- Rearview mirrors
- Steering joint locking assembly
- Under view mirrors

### BODY:

- Electronic hoist control system

### TIRES:

- 29.5 R25

### OTHER:

- Centralized greasing
- Differential locks in all axles, clutch type
- Electric circuit breaker, 24V
- Mud guards
- Side marker

## OPTIONAL EQUIPMENT

### CAB:

- Power window (R.H)
- Radio, AM/FM
- Radio, AM/FM with cassette

### LIGHTING SYSTEM:

- Back work lights, left and right side
- Fog lights
- Yellow beacon

### OTHER:

- Alternator, 75A/24V
- Auto Retarder with Accelerator Control (ARAC)
- Fire extinguisher
- Gas charge tool
- Spare parts for first service
- Tool kit
- Vandalism protection

### BODY:

- Body exhaust heating kit
- Body liner
- Rock body
- Tail gate, wire type
- Upper side extension, 200 mm 8"

### SAFETY:

- Rear view camera and monitor

