

H9D

E3/5





TO BE OPERATED **WITH PROFIT, MINES, QUARRIES AND CHALLENGING JOB SITES** (SUCH AS DAMS OR OIL & GAS PIPELINES) REQUIRE THE MOST ROBUST AND PERFORMING MACHINES ON EARTH. **ASTRA IS THE ONE-STOP SHOP FOR ALL THESE.**



MINING



HEAVY CONSTRUCTION



OIL & GAS



HEAVY HAULAGE



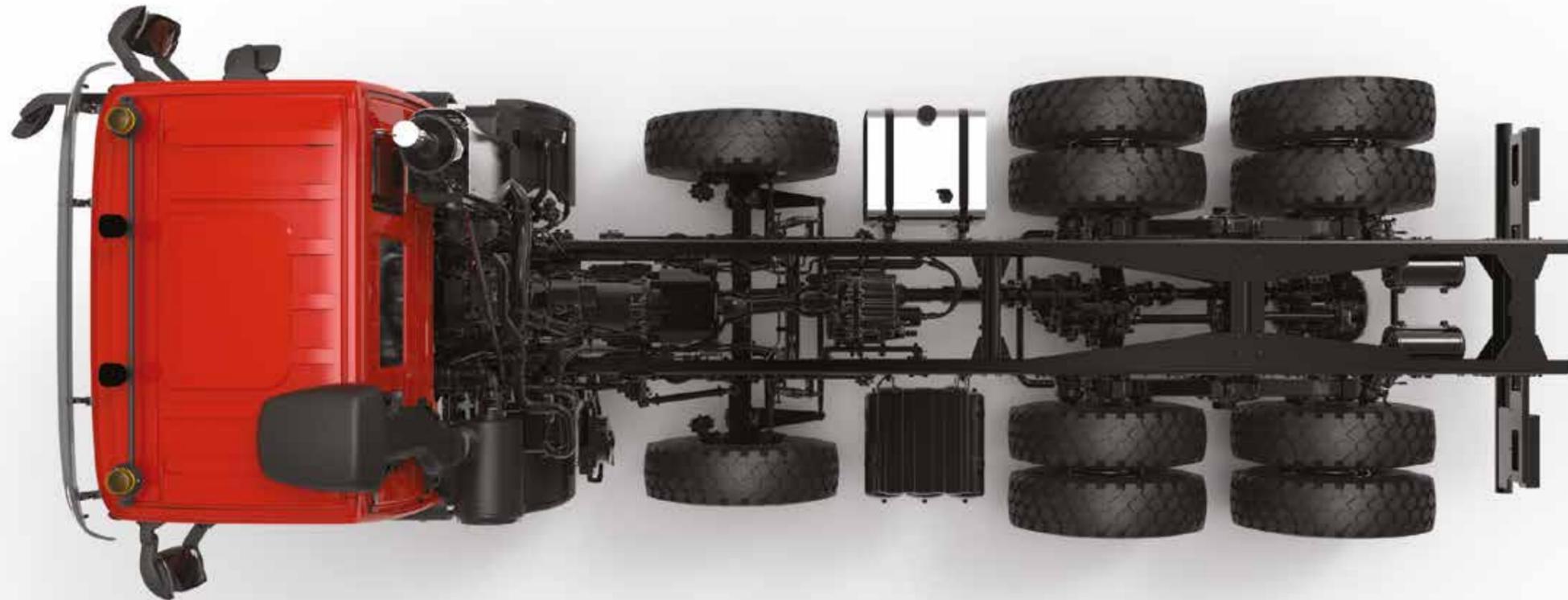
LINE UP

Model	Axle Configuration	Front axle load (kg)	Rear tandem max load (kg)	GVW* (kg)	CAB	Wheelbase (mm)	Engine type	Engine Power (HP)	Torque (Nm)	Gearbox
	4x2 Artic/Rigid	Up to 9.000	Up to 16.000	Up to 21.000	Day, Sleeper	3.800 ▼ 5.100	CI3	380-410	1.800-1.900	Manual Manual+ Torque Converter Automated Automatic
	4x4 Artic/Rigid	Up to 9.000	Up to 16.000	Up to 21.000	Day	3.800 ▼ 5.100		420-440	1.900-2.200	
	6x4 Artic/Rigid	Up to 9.000	Up to 32.000	Up to 40.000	Day, Sleeper	3.200 ▼ 4.750	CI3	440-480	2.200-2.300	
	6x6 Artic/Rigid	Up to 10.000	Up to 40.000	Up to 50.000	Day, Sleeper	3.200 ▼ 4.750		480-520	2.300-2.400	
	8x4 Rigid	Up to 9.000	Up to 40.000	Up to 60.000	Day	4.250 ▼ 6.960	CI3	540-560	2.350-2.500	
	8x6 Rigid	Up to 10.000	Up to 40.000	Up to 60.000	Day	4.250 ▼ 6.960		380-410	1.800-1.900	
	8x8 Rigid	Up to 8.000	Up to 32.000	Up to 50.000	Day	4.750 ▼ 5.860	CI3	420-440	1.900-2.200	
	8x8 Rigid	Up to 8.000	Up to 32.000	Up to 50.000	Day	4.750 ▼ 5.860		440-480	2.200-2.300	
	8x8 Rigid	Up to 8.000	Up to 32.000	Up to 50.000	Day	4.750 ▼ 5.860	CI3	480-520	2.300-2.400	
	8x8 Rigid	Up to 8.000	Up to 32.000	Up to 50.000	Day	4.750 ▼ 5.860		540-560	2.350-2.500	

* Including HHD version for 6x6 and 8x6. Gross Vehicle Weight depending on vehicle configuration and speed. Specific configuration subject to the available Product Offering



WORK HARD, EVERYWHERE



ASTRA VALUE PROPOSITION

Extra strong machines, ready for extreme conditions and environments. Easy to set-up, repair and maintain through the entire life-cycle. Robustness, versatility, mobility, mission dedication and loading capabilities are the key values of the HD9 range, designed for heavy-duty applications in mining, quarrying, construction, oil & gas, and heavy haulage.

Special heavy-duty chassis, state-of-the-art driveline, simple electric and electronic architectures: everything has been designed to face the most demanding situations for climate, terrain and loading capabilities. This makes the Astra HD9 the ideal partner on those missions where working hard is the rule.

Seventy years of constant dedication and experience, coupled with innovative technologies, allow the Astra HD9 to match the most professional requirements and ensure efficient and productive solutions worldwide.

EXTRA STRONG COMPONENTS

The HD9 range features heavy-duty components designed to provide robustness and reliability for the most demanding off-road use, allowing for a total **GVW up to 60.000 kg and over:**

A unique heavy-duty chassis:

820mm wide, made of sturdy high-tensile steel side members (590Mpa) with large section dimensions (320x90x10mm) to ensure a high torsional stiffness, high stability and vehicle dynamic performance. The side members have constant and parallel section for the entire length of the frame to simplify body and components mounting operations. The extra heavy-duty variant of the frame includes two inner C reinforcements of 6mm thickness each for a GVW up to 60.000 kg according to vehicle configuration and with adequate speed.

An exclusive “power-ring” rear tandem solution:

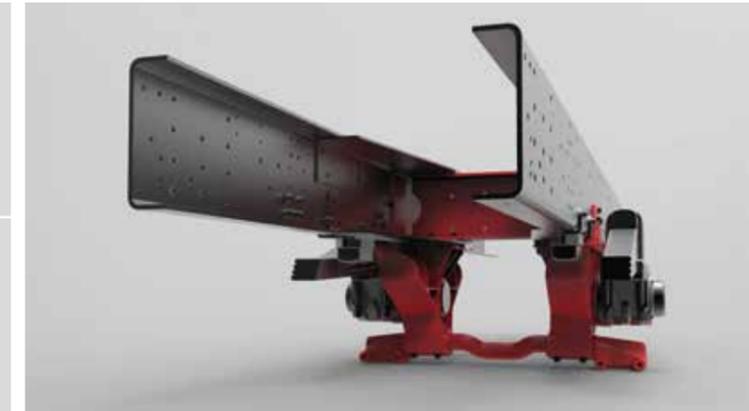
designed with the highest safety standards for a limit of 40.000 kg to increase the strength and the rigidity of the entire chassis structure.

A specific steering system design:

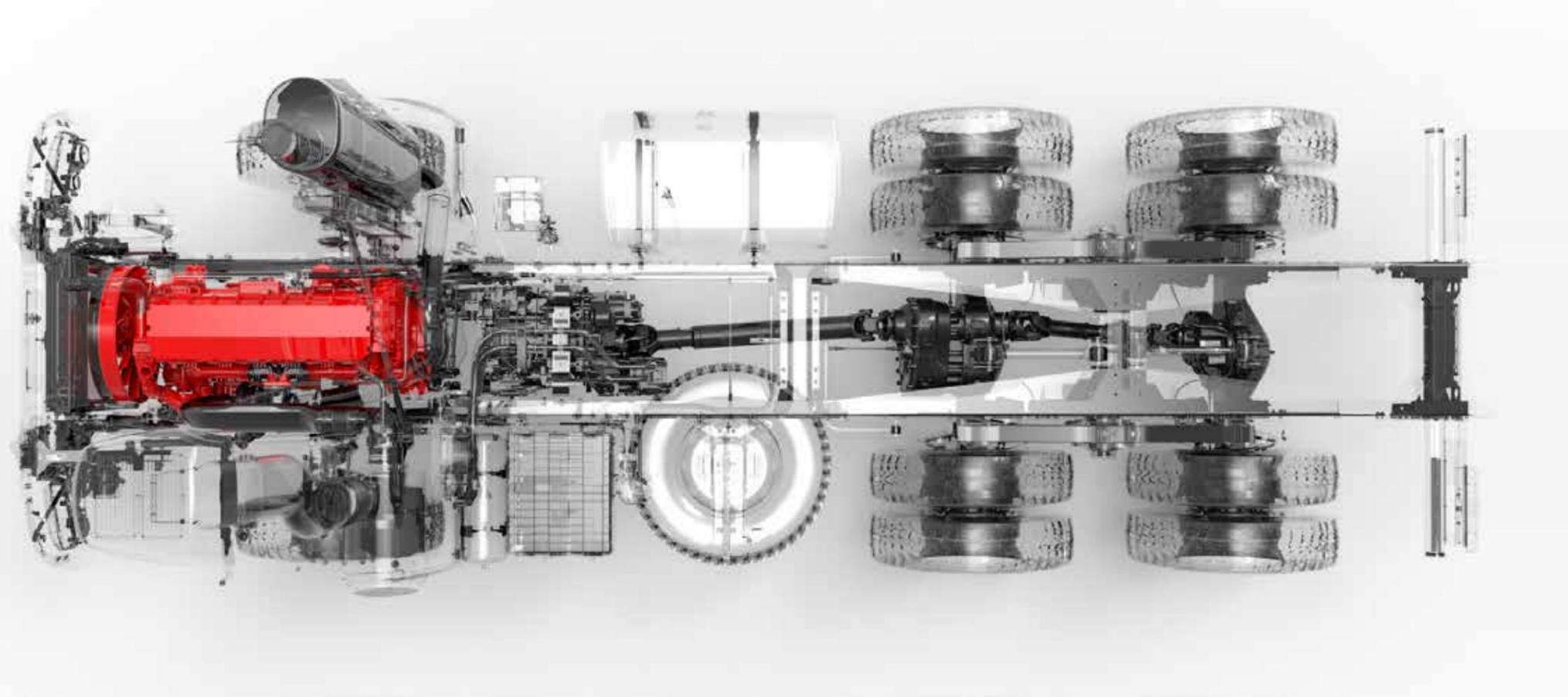
oversize steering rods to increase mobility capabilities and driving comfort in difficult terrain or extra load conditions.

A long-lasting suspension system:

front and rear mechanical parabolic leaf springs in standard or reinforced version or, alternatively for very heavy conditions of use, semi-elliptical leaf springs.



HIGH PERFORMANCE DRIVELINE



ENGINE

The Astra HD9 is powered by the in-line six-cylinder FPT I3 liter Cursor engine with power ratings from 380 HP to 540 HP in Euro3 version and from 410 HP to 560 HP in Euro5 version.

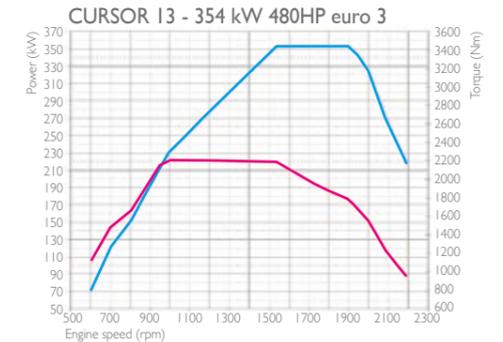
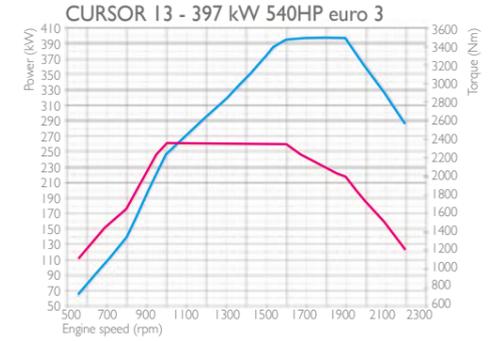
Euro5 emission standard is met through SCR technology (Selective Catalytic Reduction), which reduces the level of toxic gases emitted from the engine.

The degree of technological evolution reached allows an improvement in the combustion process and an increase of the engine efficiency in terms of power output (up to 560HP) torque rising while reducing noise and minimizing fuel consumption.

Moreover, it permits an exceptionally fast and accurate diagnosis in the event of anomalies arising in connection with any of the principal components of the engine.

Cursor Engines also feature the following performing solutions:

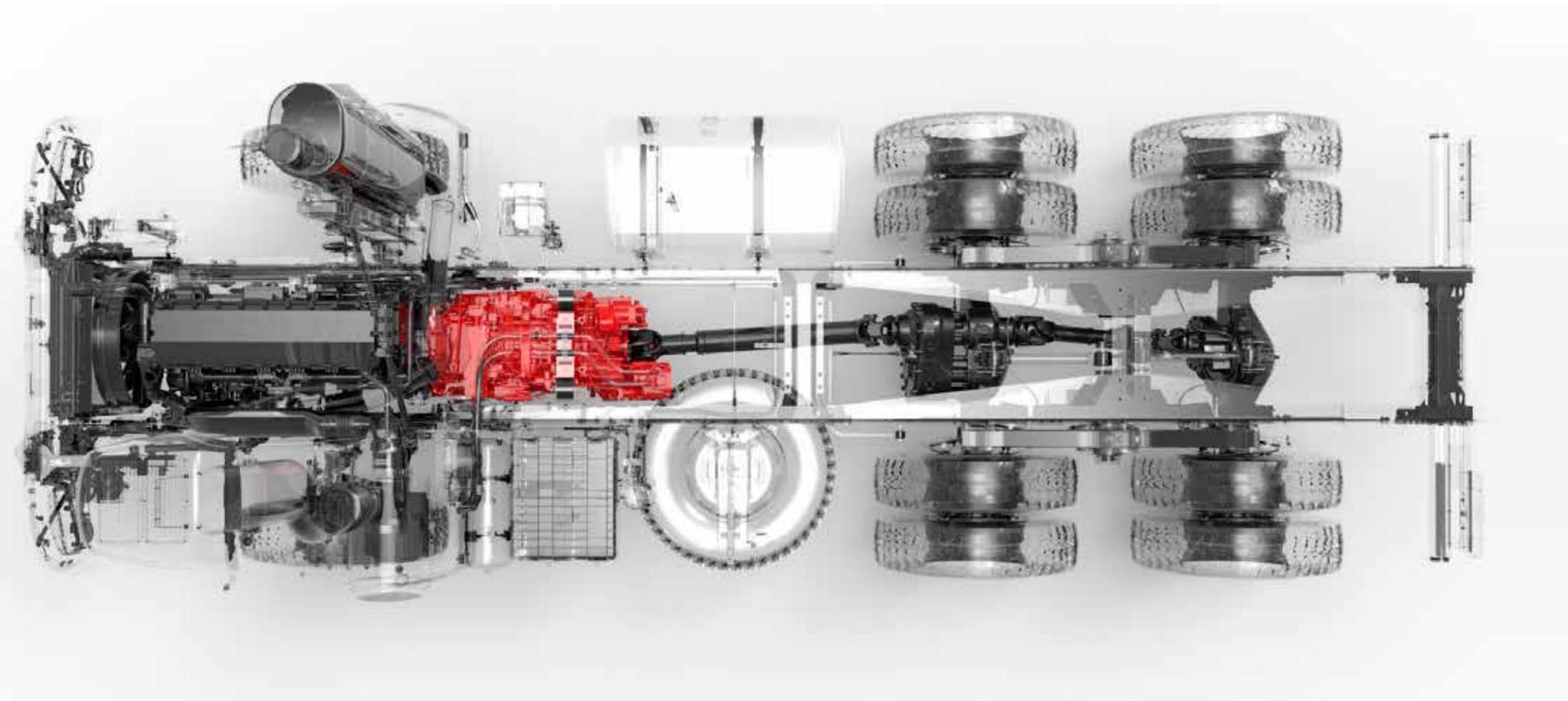
- **The VGT (Variable Geometry Turbine)** delivers excellent performances in terms of vehicle dynamics and optimal transient response. High torque (up to 2.500 Nm) at low engine speed (1.000 rpm) ensures excellent driving elasticity in any condition, no matter the slopes and loads.
- **The Iveco Engine Brake**, a decompression engine braking system which, by means of a butterfly valve on the exhaust manifold, generates sufficient exhaust gas counter pressure to slow the rotation of the engine and increase the braking force with less recourse to the service brake and hence less demand on the wear parts.



	ENGINE	ENGINE SIZE	TURBINE	HP	Rpm	Nm	Rpm	
EURO 5	Cursor I3	I2880	WG	410	1900	1900	1000	
				440		2100		
			VGT	480		2200		
				520		2300		
				560		2500		
EURO 3	Cursor I3	I2880	WG	380	1900	1800	1000-1440	
				420		1900		
			VGT	440		2100		
				480		2200		
				540		2350		
						2350		1000-1690



HIGH PERFORMANCE DRIVELINE



GEARBOX

The driveline of the HD9 has been designed for the most demanding and arduous tasks. Astra is always your 'working hard' Partner featuring the following wide range of transmission solutions in order to satisfy every requirement with the most adequate product:

- The strong and reliable **Manual gearbox**, with its 16 synchronized gears, is the perfect ally to face even the heaviest off road missions. With the pneumatic shifting assistance, the driver can select the optimal gear quickly and with low expenditure of energy. The light weight of the gearbox allows higher payload capacity and the integrated retarder (optional) improves the deceleration, preserves the brakes and increases safety.

- The **Automated gearbox**, with its 16 fine-tuned gears, is the perfect choice when reduced cost of exercise and high driving comfort are needed. The electronic control unit ensures an optimal communication among the engine, clutch and gearbox, preserving the entire driveline, extending the

life of the components and reducing the fuel consumption. The additional integrated retarder (optional) is also available to assist the driver in the hardest off road missions.

- The **Automatic gearbox**, with 7 forward gears is ideal when top performance is required for heavy haulage and extreme off-road conditions. The hydraulic converter allows flexible engine/transmission connection for an uninterrupted engine power to the wheels, which means superior acceleration and smooth drive, effortless shifting and precise traction control, even in harsh or rugged conditions.

- The **Manual gearbox with torque converter (only Euro3)**, is suitable for particularly heavy tasks, such as large cranes or heavy haulage tractors with extreme total combinations or whenever there is difficult terrain that demands everything from the driver and the vehicle. Launching and maneuvering are performed in a wear-free manner by the torque converter.



Manual Gearbox
image rendering



Automated Gearbox
image rendering

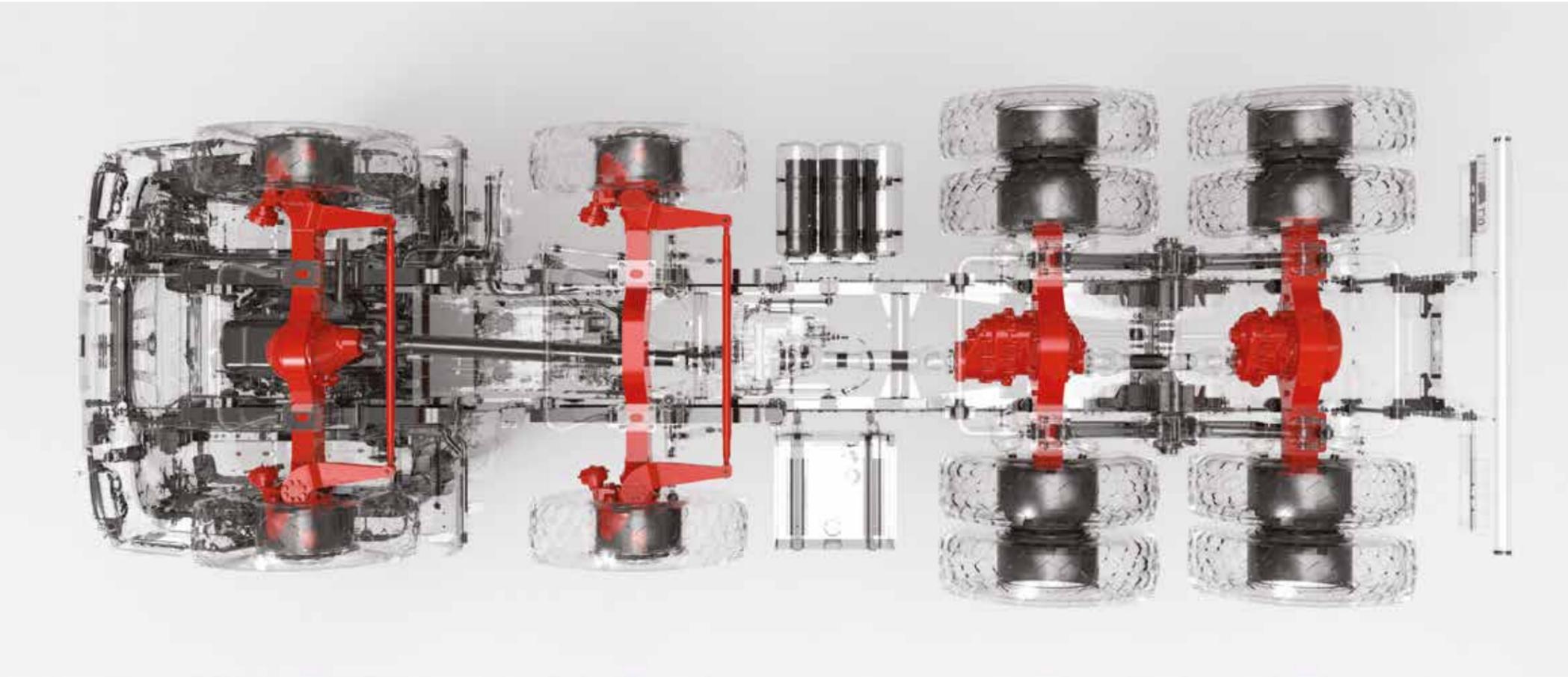


Manual Gearbox with torque converter
image rendering



Automatic Gearbox
image rendering

HIGH PERFORMANCE DRIVELINE



AXLES

Astra **HD9** range offers a great variety of front and rear axle configurations, in order to grant the maximum in terms of robustness and productivity in off-road conditions. Loads up to 9.000 kg on front standard axles and up to 10.000 kg on reinforced version for all wheel

drive (AWD). Loads up to 40.000 kg on rear axles to allow a GVW up to 60.000 Kg with adequate tyres, axle ratio and speed.

HHD9 version features wide heavy duty reinforced rear tandem (2915mm) for extra stability in pure off-road conditions.

	Axle type	Axle Load (kg)	4x2	4x4	6x4	6x6	8x4	8x6	8x8
	Front steered std	8.000 9.000							
	Front driven std	8.000 9.000							
	Front driven reinforced	9.000 10.000							
	Rear axle	16.000							
	Rear tandem standard	32.000							
	Rear tandem reinforced 2500/2915mm width	40.000							

Including HHD version for 6x6 and 8x6. Specific configuration subject to available Product Offering



TRANSFER BOX

Availability of powerful transfer boxes for the maximum robustness in difficult conditions when all wheel drive mode is needed. In case this is not necessary, the option of the engageable transfer box ensures the efficiency of a rear wheels drive while granting the extreme mobility of an all wheels traction whenever is needed.

FUNCTIONAL COMFORT



The new HD9 workplace is specifically designed and optimized to match the excellent ergonomics and relaxing internal comfort with the highest functionality, in order to easily allow to face the hardest and most challenging off road missions... in perfect Astra style.

Storage-Ability

The new workplace is designed to maximize the space available for the driver comfort, in order to ensure the most functional storage capability. Practically, there are many and easily accessible supports, pads and drawers useful to hold and store documents, keys, bottles and many other accessories, located on the front dashboard, as well as on the upper shelf and side doors.



Ergonomic Workplace

The new and wide HD9 dashboard re-defines the internal space of the cab in a very functional and comfortable way. The instrument panel surrounds the driver and makes easy and safe the handling of all the controls, even in the most challenging working conditions. Safety is also magnified by the essential and helpful additional low windows on the doors, necessary to ensure full visibility for driving throughout the obstacles and on the roughest terrains. The workplace is always comfortable thanks to the adjustable driving seat and steering column, as well as thanks to the new optimized lighting provided by n°4 spotlights on the upper shelf and the hi-fidelity sound played by the Bluetooth radio CD MP3 with steering wheel controls (optional).



SPECIAL TRUCKS FOR EXTREME JOBS



