

# EARTHMOVING REPLICAS

**PART THREE**

Steven Downes takes a look at the recent model releases of equipment suited to loading and hauling material.



**Above:**  
Caterpillar 631E scraper.

**Right:**  
Caterpillar 637E twin engine push-pull scraper.



**W**hen it comes to moving material, there are a number of alternative methods utilising different types of equipment depending on the requirements of the job. In this issue, I take a look at some of the recent model releases which are suited to loading and hauling material from A to B.

Depending on the conditions, one of the most cost effective ways of moving large amounts of earth is to use motor scrapers and this was certainly a popular method for many large scale earthwork projects, especially in road building. Released in the 1980's the Caterpillar 631E single engine and 637E twin engine scrapers are typical work horses when it comes to moving dirt, operated by a single driver and capable of self loading, transporting and dumping the load quickly and efficiently. Classic Construction Models have released authentic 1/48 scale die-cast replicas of these machines as part of their Historic Caterpillar Collection.

**Cat D9L / Cat 631E / Cat 637E**

The Caterpillar 631E single engine scraper features plenty of fine detailing and functionality throughout, from the rear chassis with a working ejector plate, lowering bowl

and adjustable apron allowing all the loading and emptying stages to be demonstrated to the finely modelled cabin interior, viewed through the opening door and highlighting the simplistic controls within. The engine compartment features an intricately patterned photo-etch front grille with an opening side panel providing access to the inner workings of the engine bay, populated with an authentic mock-up of the 450hp rated Cat 3408 diesel engine.

**Below:**  
Caterpillar D9L dozer + ripper.



When the going gets tough, one option is to use a tracked machine to provide more pushing power to load the scraper and CCM have produced the D9L with pusher blade for just this purpose. The D9L is the first of the 9 series to feature the elevated drive sprocket

and this has been accurately replicated on the model with individually linked tracks and a tensioned idler wheel assembly. The open ROPS cabin allows all the authentic controls, dials and switches to be seen while the open sided engine compartment is filled with the diesel engine block, cooling radiator and exhaust piping. The front blade is mounted to the chassis with height adjustment and a re-enforced central section on the blade where it would connect with the rear end of the scraper.

The Caterpillar 637E motor scraper features two engines; the main one at the front is a four-stroke 3408 turbocharged V-8 providing 450hp while the rear 6-cylinder 3306 gives an additional 250hp. This configuration is typically fitted with a mechanism allowing several scrapers to be connected together to utilise the full power of two or more machines to load the scraper bowls. This linking mechanism has been added to the 637E model with a sturdy rear frame assembly with a solid raised hook point and a front mounted hydraulically powered tow bar and strike plate allowing quick coupling and un-coupling of the scrapers by the driver. The model features the same bowl, apron and ejector features as the 631E and has the same interior engine and cabin detailing with a fully working cushion hitch.

The 1/48 scale D9L in a more usual configuration has also been released by CCM and features a front mounted blade offering both height and angular adjustment while the rear of the tractor is fitted with an impact ripper attachment which has been very convincingly modelled and includes a sprung tip allowing the ripper tooth to move, mimicking the operation of the full sized ripper. Adjustment for the height and angle of entry of the tip is possible with excellent fine detailing of the hydraulic hoses. The fully enclosed cabin has opening doors on each side allowing more of the replicated interior to be seen and the open engine compartment houses the powerful diesel engine, capable of generating 460hp making the D9L the most powerful of the 9 series dozers.

If the conditions don't allow the use of motor scrapers, a common method is to utilise a fleet of articulated dump trucks, loading them with either a wheel loader or more typically, a tracked excavator. Many of the big names in the construction equipment manufacturing industry provide their own ideally suited pairing, the biggest of which is Caterpillar and they have released several new models in 2013 including articulated dump trucks, wheeled loaders and excavators which I now take a closer look at.



**Above:**  
Cat 980K & 740B EJ.

**Right:**  
Caterpillar 740B Ejector articulated dump truck.

**Caterpillar 980K wheel loader.**



**Caterpillar 336E Hybrid, 980K, 740B & 740B EJ**

The 336E Hybrid excavator from Caterpillar is the first to feature hybrid technology, storing and then using the stored energy to reduce fuel consumption over a standard machine to offer lower operating costs. The 1/50 scale model from Norscot has accurately captured the contours of the large rear engine compartment with authentic scaled safety railings, detailed cabin interior and smoothly rolling linked metal tracks with tensioned idler wheels. The digging equipment has a full range of movement with a long stick and coupler allowing the digging bucket to be detached. The updated corporate decoration has been applied with a quality paint finish.

Wheel loaders are a popular way of loading material for transport and the 980K wheel loader from Norscot has been produced in two slightly

different versions. For quarrying work, it is fitted with a rock bucket and large treaded tyres while for material handling duties, it has a straight edged bucket and fine treaded tyres. Both versions have an authentically modelled cabin interior, articulated steering and fully functional loader arms allowing the model to be posed loading articulated dump trucks. The rear body styling has captured the new sleek lines of the original with thin safety railings and access ladders fitted to both sides of the chassis



**Above:**  
Caterpillar 336E Hybrid tracked excavator.

**Left:**  
Cat CT660 & 336E.



The top of the range articulated hauler from Caterpillar is available in two different versions, offering different advantages depending on the job requirements. The ejector version features a hydraulically extending ejector plate which pushes the material out of the body and offers the advantage of discharging the material while on the move, removing the need to spread out the material later. Not having to raise the body offers increased safety and also allows the truck to operate in areas with low headroom. Norscot has produced 1/50 scale models of both versions with the front section and chassis effectively the same castings with the only difference being the type of body fitted. The rear axles have limited oscillation with a functional articulated chassis and modelled cabin interior which is finished in a light grey colour. The safety railings and extending rear view mirrors are accurately scaled and look good while the small steps leading up to the cab are finely detailed. The ejector body has captured the operation of the full sized truck very well with the multi-stage hydraulic allowing the plate to slide along the full length of the bed while the rear tailgate can be folded down. The standard tip version of the model has a single piece body with hydraulic cylinders used to raise the bed to discharge the load and this achieves a realistic dump height. Other detailing includes flexible rubber mud flaps fitted to the underside of the body.

**Volvo EC480D & A40F**

Volvo introduced their first articulated dump truck, the DR 631 back in 1966 and the new and unique machine concept quickly revolutionised earth moving, gaining over 50% market share within only a few years. Development of the hauler continued and today, the A40F is the latest variant of the company's flagship truck, capable of transporting around 40 ton of earth. The A40F is the fourth version of the model that Motorart have produced and features some nice touches, like the fold down front panel and opening bonnet of the engine compartment which reveals a fully decorated engine block with all the associated components fitted. The interior of the cabin has been accurately modelled and fragile safety rails and access steps are fitted to both sides of the front assembly. The rear axles are rigid which is somewhat of a surprise considering the excellent engineering of the previous A40D which had fully oscillating rear suspension. Another anomaly on the model is that the tipping angle of the body is very limited and does not achieve full height when compared to the original machine.

Volvo first introduced their range of hydraulic tracked excavators in 1997 at the Intermat trade fair. Building on years of experience

from the Akerman engineers, the excavator range quickly expanded and today, the largest in the range weighs in over 70 ton. The latest excavator in the 50 ton range is the EC480D, featuring the latest Tier 4i D13H 6-cylinder diesel engine generating 292hp. The 1/50 scale model of the EC480D from Motorart has captured the new looks of the body styling with accurate movement of the boom, stick and bucket linkage, coupled with a nicely finished cabin interior and linked metal tracks fitted to the undercarriage. The opening engine cover hides a single colour plastic moulding and the hydraulic cylinder rams are made from chromed plastic, so while they look fine, they do tend to flex which is a little disappointing from Motorart. The paint finish is even throughout with authentically placed Volvo markings that are crisply applied.

**John Deere 470G & 460E**

In the United States, the John Deere brand is very strong so it is no surprise that they would produce a range of earthmoving equipment to compete with the likes of Caterpillar. Ertl have produced a number of 1/50 scale Deere models over the years and their latest releases are updates to some favourite replicas of typical earthmoving machinery. The 460E articulated dump truck is rather interesting, with a large



**Above and left:** John Deere 460E articulated dump truck & 470G excavator.

**Below:** Doosan DA40 articulated dump truck & DX700 Excavator.



**Left and below:** Volvo A40F articulated dump truck.



opening bonnet and opening side doors revealing the moulded engine and cooling components within. The cabin interior has been replicated with plastic safety rails and rear access steps leading up to the cab. The chassis has articulated steering with a tipping body, oscillating rear axles and authentic treaded tyres.

The 45 ton range tracked excavator has been a popular item to replicate in model form and the 470G is the third version to be released by Ertl. The 1/50 scale release has a replicated cabin interior with side service platform, access ladder to the upper engine compartment and linked metal tracks which rotate freely. The digging equipment captures the range of movement fairly well and the paint finish is of a good quality with authentic placement of the Deere markings and machine designation.

**Doosan DX700 & DA40**

The Doosan DX700 tracked excavator tops the scales at 73.5 ton with a 6 cylinder common rail Isuzu diesel engine delivering over 460hp with EPOS (Electronic Power Optimising System) hydraulics with auto-idle and four selectable operating modes for excellent fuel efficiency. With a bucket capacity from 2.5 to 4.5 cubic metres, the DX700 is capable of loading the DA40 articulated dump truck in four to six passes. Clover World has produced a fine 1/50 scale die-cast replica of the DX700

with individually linked track segments fitted to the track frame, accurately scaled safety railings and a modelled cabin interior highlighting the driver's controls. The boom, stick and bucket movement are accurate to the full sized version with flexible hydraulic hoses adding to the realism. The upper engine cover is hinged and can be opened to reveal a rather plain looking engine block while service platforms with a dimpled surface run along both sides of the upper carriage with grab rails fitted above



**Above and far right:** Volvo EC480D tracked excavator.

**Below:**  
Komatsu HM400-3 articulated dump truck  
& Komatsu PC360 tracked excavator.



the door panels on the body sides.

The Doosan DA40 articulated dump truck is the largest in the range with an 18 cubic metre HB400 tipping body and permanent six-wheel drive which ensures stability for the most demanding job sites. Powered by a Scania DC13 six-cylinder diesel engine offering a power output of 500hp, the sloping rear frame gives better weight distribution with semi-independent hydro-pneumatic front suspension for exceptional traction. As with the DX700, the DA40 is an accurate 1/50 scale replica from Clover World featuring a very convincingly modelled rear axle configuration allowing the suspension to be demonstrated. To aid with this, a plastic display plate is included with a raised rocky surface, ideal to show the excellent mobility of the model. The dump body tips to a realistic height with a functional chain controlled rear tailgate. The underside of the chassis is rather plain but there is a drive-shaft to the rear drive housing and hydraulics are fitted between the front and rear chassis offering a fairly good range of steering movement while also allowing rotational movement of the joint. The connection is nice and tight so there is no wobble and the front suspension frame

**Below:**  
Terex TA400 articulated dump truck.



has also been modelled. The cabin has been modelled well with flush fitting windows and painted simulated window seals giving the model a more realistic appearance. The interior has been replicated with the driving seat, steering wheel and contoured dashboard all visible within.

### Komatsu HM400-3

Komatsu is another producer of construction equipment and offers a full and diverse range of products including excavators, wheel loaders and dump trucks. First Gear has recently launched the latest model in their Komatsu range, the HM400-3 articulated dump truck which shows some very good engineering and functionality. The front body shaping is quite different from the previous version with an offset shaped bonnet on the right hand side. Access to the cabin is by a small ladder and steps integrated into the front of the wheel arch on the left hand side of the machine, while steps are also added to the rear wheel arch on the opposite side, allowing service and maintenance access. All safety and grab rails are made of metal which is good to see and the articulating chassis achieves a reasonable degree of movement, coupled with

oscillating rear axles simulating the suspension system. The body tips realistically, the tyres have an accurate tread pattern and the paint finish is very good throughout, topped with crisp Komatsu decoration.

### Terex TA400

The Terex TA400 is the latest update to the company's flagship articulated hauler. With a loaded capacity of 40 ton, the truck is efficient at moving dirt around the job site no matter what the underfoot conditions. NZG released a model of the TA400 several years ago and the latest design is now modelled in a highly detailed 1/50 scale replica. The updated front body is more curved with good surface detailing integrated into the castings. Metal safety railings are added to both sides of the body with an authentically replicated cabin interior visible through the clearly glazed windows. Behind the cabin, a crisply moulded safety mesh screen has been fitted with flexible hoses fitted across the articulating joint. The rear axles have a degree of oscillation with a tipping body that achieves a very realistic dump height. The paint finish is of a very high standard with crisply applied tampon printed Terex graphics. **DC**

