A range of articulated, four-wheel drive dumpers are the first new products to emerge from Johnson Construction Machinery Ltd since its take-over by J F Nash Securities Ltd. They represent the first stages of the company's plan to re-establish itself as a leading name in the construction industry. Ian Marshall reports.

Superdumper puts Johnson back on the map

JOHNSON Construction Machinery Ltd is intending going into the market with a totally re-designed product range with capacities that the market-place wants, according to John Toolan, the company's marketing director. He made this comment at the launch of the JCM Superdumper series — its first new products since being taken over by J F Nash Securities Ltd just over two years ago.

The series comprises three, four-wheel drive articulated dumpers. Designated the 200X, 250X and 300X, the models have capacities of 2,040kg, 2,500kg and 3,000kg respectively.

The new models are the result of 19 months development work in which the emphasis has been placed on designing a range of machines that are safe and simple to operate, have clean lines and good access for servicing.

To these ends the three units incorporate a number of common features. Complete re-styling has accounted for a tidier, more compact line than the Power Dump range they replace, and allows for easier access for maintenance. Proven components are used in the construction to achieve a high degree of reliability and there is a standardisation of parts throughout the range wherever possible.

All the models feature a central driving position to give maximum all-round visibility, and enclosed, hydraulically-actuated disc brakes in the front and rear wheels. This type of brake was chosen as they are considered to be harder wearing and are not as susceptible to clogging as drum brakes.

In the interests of safety, brakes on both axles have a separate circuit for the front and rear. The parking brake is of the manually applied drum type and operates on the gearbox output shaft.

Another common feature is the skip shape. This has a wedge-shaped profile as it was considered to be the pattern which would give the required capacity with a reasonable loading height, good ground clearance when tipped and also give a good clean discharge height.

To obtain the high degree of interchangeability of parts across the range that the designers wanted totally enclosed, oil-immersed axles are used throughout with a smaller version of the axle and gearbox used in the two larger units being fitted to the 200X. This gearbox is of a constant mesh type giving three forward/one reverse gears and a top speed of 17.7kmphr.

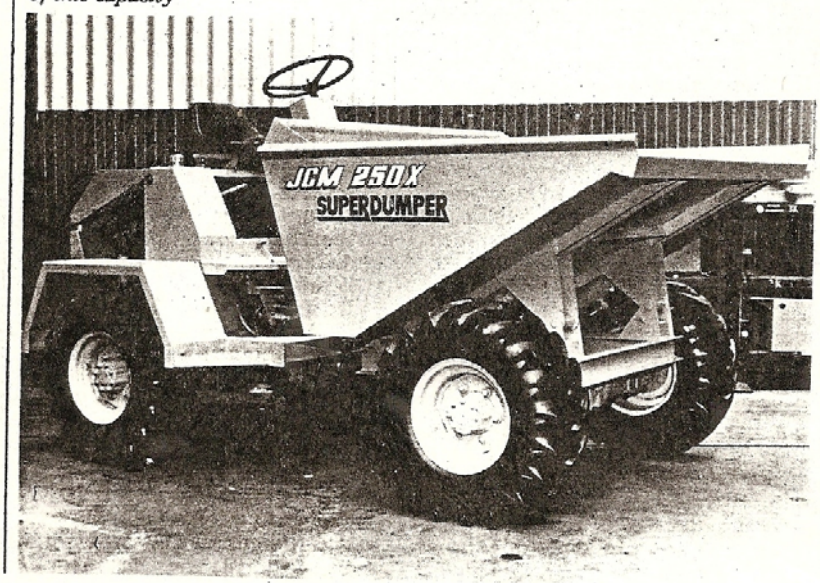
Power for the smallest model in the range, the 200X, is from a twin-cylinder Petter PH.2 diesel engine delivering 14.9kW at 2,200rpm and giving 7.9kg m of torque.

It runs on 10/75 by 15, 8-ply tyres and fully hydrostatic steering is by a centre pivoted chassis which allows a turning circle of 4.2m. Hydraulic power is supplied by an engine-mounted, gear-driven pump delivering 27 litres/min at 1,500rpm.

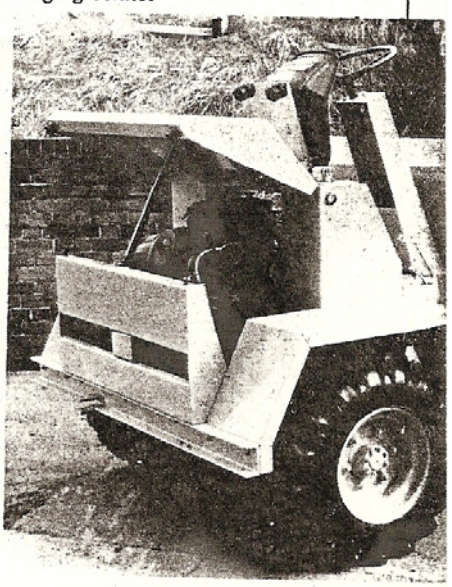
Over-all dimensions are: length 3.2m, width 1.8m and height 1.6m.

The 250X uses a Petter PJ2 engine delivering 18.4kW at 2,000rpm and 9.7kg m of torque. A feature of this model, claims the company, is that although it has a smaller power unit

The JCM 250X has a capacity of 2,500kg and is the middle version of a range of three. It uses an 18.4kW Petter PJ.2 engine, a feature which is said to be unique for a dumper of this capacity



Access to the engine compartment throughout the range is by an upward hinging bonnet



than that fitted to the 300X model it develops the same amount of torque.

It is identical in style and mechanical specification to its smaller stable companion other than the fact that it runs on 11.5 by 15, 8-ply tyres and has a turning radius of 4.5m, and that its over-all dimensions are: length 3.1m, width 1.8m and height 1.9m.

The largest unit in the range is the 300X. This unit is powered by a Lister ST3 three-cylinder, air-cooled engine developing 23kW at 2,400rpm with the same torque characteristics as the 200X. Over-all dimensions are length 3.4m, width 2m and height 2m and this model runs on 12 by 18, 12-ply tyres and has a turning radius of 4.5m.

It is similar in specification to the other two models in the range other than the fact that the hydraulic pump only delivers 20 litres/min and that it uses a larger gearbox and axles.

The action of the tipping rams also differs. On the two smaller versions the two double-acting rams push forward but on the 300X the rams push under the bar of the skip. This design feature has been used so that 31mm diameter by 400mm stroke tipping rams could be used while getting the skip capacity and keeping the centre of gravity of the machine as low as possible. Rod diameter and stroke of the rams used on the two smaller models are 68mm and 350mm.

For ease of maintenance emphasis has been placed on simplicity. Universal-joint propeller shafts are now used and they are fitted with sliding joints to eliminate the need for shimming the engine and gearbox to get the correct alignment.

Other features are that power units are all under hinged bonnets which allow easy access to the injectors and to the oil filler cap and dipstick. Also, the hydraulic brakes have been so constructed that the pedal and valve system is completely, self-enclosed and separate, and can be removed independently.

Driver comfort is supplied by an upholstered, weatherproof pan seat fitted with shock absorbing mountings. There is also an acoustic-type silencer fitted to the engine and the gear stick position gives a flat-floor to give as much operating area as possible.

JOHNSON SUPERDUMPER

Model	200X	250X	300X
Loading height (mm)	1,275	1,327	1,425
Ground clearance (mm)	265	289	330
Skip clearance tipped (mm)	335	300	460
Unladen weight (kg)	1,740	2,030	2,330
Skip capacity (litres)			
Struck level	1,100	1,300	1,500
Heaped level	1,500	1,770	2,000

The BSP-Advance ATT4 vibratory tandem roller is the 6t version of a range of six models which are rated from 6t to 15t

BSP International Foundations Ltd whose entry into the compaction field was marked by its acquisition of Wallis and Steevens Ltd last year is now offering vibrating rollers to complement its existing deadweight range.

BSP piles on the pressure

"BSP International Foundations Ltd wants to continue to widen the base on which it operates in the construction industry and is very serious in its desire to establish its name in the compaction field," stated the company's managing director Terry Croxall at the launch of its range of vibratory rollers.

The company feels that this type of roller is now enjoying greater popularity in the UK and has come to agreements with two European manufacturers to market their ranges of vibratory rollers in Britain. These agreements mean that the Compaction Division of BSP now sells a range of vibratory rollers rated from 2t to 15t, as well as its own line of deadweight units.

At the heavier end of the scale is the Italian Simesa range which will be marketed as the BSP-Advance line. It comprises tandem-type units and pneumatic-tyred combination rollers which are designated the ATT and ACT models respectively. Initially six models will be available ranging from 6t to 15t with total applied forces from 9,300kg to 32,000kg. The agreement also allows BSP to manufacture this range in the UK should demand warrant it.

Designed for asphalt surfacing, base courses and fill, the whole range features hydrostatic transmission, air-cooled engines and full-power articulated steering. The vibration mechanism is driven by hydrostatic motors powering an eccentric shaft in the rolls and vibratory pneumatic-tyred sections. The tandem types are also available with individual vibration and variable amplitude to both drums.

The agreement with Rammax of Western Germany is said to meet the requirements of the lighter end of vibratory compaction. The range, known as the BSP-Rammax line initally, will consist of three machines.

It includes two foot-pad rollers, the BSP-Rammax RW1402 and RW2400, which weigh 1,400kg and 2,400kg respectively. The units are designed specifically for the compaction of clay and heavy soils and exert a total applied force of 7,500kg and 11,000kg with rolling widths from 850mm to 1,200mm.

The third unit in the range is a 3,000kg self-propelled vibratory roller, the BSP-Rammax RW3000. Intended for site compaction, this model has roll dimensions of 1,000mm by 1,300mm and applies a total force of 10,500kg.

Both ranges will be available from BSP's works at Claydon in Suffolk but the company is in the process of setting up a dealer network in the UK to handle the BSP-Rammax range.