PERHAM

'Hush-Packer'

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SPECIFICATION (British Patent No. 1165090)

BODY. The robust body construction is of high tensile rust resistant steel plate mounted on a framework of hollow section, square and rectangular tubing (some of which are used to convey hydraulic fluid). The body floor is radiused to facilitate full volume discharge. A side loading door (for bulky refuse) is built into the front nearside of the body. The nominal capacity of the standard body is 19 cubic yards. A built-in hinged body prop is included in the standard production.

REAR DOOR. The rear door is hung and hinged from its uppermost horizontal edge, at the top rear of the body frame. The door is of heavy robust construction and is sloped forward over the rear axle of the chassis to give advantageous weight distribution. The rear door contains the compacting mechanism which is completely enclosed and absolutely sealed against foreign matter.

COMPRESSION UNIT. The compacting mechanism is completely enclosed, and comprises two single acting pull type rams, with a specially designed linkage which motivates the compression paddle, which oscillates through 180°. The compression mechanism, although completely enclosed, is automatically lubricated and housed in such a manner that it is completely protected from dust or refuse. Hydraulic pressure is controlled at 1750 psi and the maximum pressure at the end of the paddle stroke is approximately 15 tons. This makes possible a pay-load of un-compressed refuse of 50/60 cubic yards.

DISCHARGE. Full volume discharge of refuse is made possible by tipping. The body interior, being absolutely smooth and clear of obstruction, together with the radiused floor, facilitates discharge at tipping angles of less than 40°. The maximum angle of tip is approximately 40°.

HYDRAULIC SYSTEM. Oil is drawn from a high level reservoir tank situated between the cab and body. The tank is fitted with a level indicator and filler cap containing a filter. A hydraulic pump is driven from the vehicle engine via a power-take-off selected from the vehicle cab. The pump delivers fluid to a control valve, which is manually selected to operate three separate circuits — body tipping ram (1 single acting), door opening cylinders (2 single acting), compacting mechanism (2 single acting pull-type rams). The pull-type rams are alternately served via a rotary valve which is mechanically operated by two push rods which in turn are operated by a cam mounted in the compression paddle shaft. The maximum hydraulic pressure with any operation is only 1750 psi. A pressure relief valve is incorporated in the control valve to prevent excess pressure. A hydraulic pressure check point is incorporated in the rear door opening circuit for easy checking of pressure and a gauge is available with each vehicle. Oil returning to the tank passes through a full flow by-pass filter. An emergency stop valve is fitted at the rear, adjacent to the loading hopper.

CHASSIS — CHASSIS/CAB. The complete body and equipment can be supplied on any make of Chassis of suitable Gross Vehicle Weight with either standard or crew cab. The ideal Chassis GVW for the 'Hush-Packer' body varies between 12 and 15 ton according to refuse density. The standard 'Hush-Packer' equipment includes a modified exhaust to discharge upwards, operators' communication buzzer, rear marker plates, top mounted rear number plate and warning lights. The whole vehicle finish painted to requirements and mounted to any suitable make of chassis including Bedford, BLMC, Ford, Commer, Dodge and Seddon.

The 'Hush-Packer' Refuse Collection Vehicle has been in use now for several years and has a proven low-cost maintenance record.

HOW IT WORKS!

The 'Hush-Packer' loading hopper is situated at the rear of the vehicle and is of semi-circular shape.

The compression paddle is attached to a vertical shaft at the forward centre of the hopper. The paddle rotates through 180°, sweeping the hopper clear of refuse every 4 seconds.

The hydraulic system is explained in the Specification and the operation and its effect upon refuse is amplified in the explanatory sketches below.

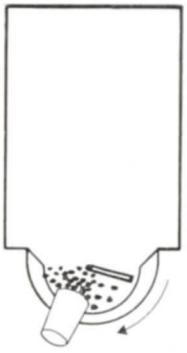
The loading height is at no time higher than the body floor level, and 'off the ground' loading is therefore practicable at all times. Detachable plates are fitted at the wearing areas of the hopper. These can be rapidly and easily replaced when necessary — and no dismantling is involved. Present experience of five years reveals little wear however and no replacements have been necessary.

The rapid clearance of the hopper allows refuse to be loaded at any time, and each successive sweep of the compression paddle, with its 15 ton crushing capability at the end of its stroke over a comparatively small area, crushes and forces refuse, boxes, cartons, tins, etc., into the body. There is no 'fall back' of refuse and successive loading displaces existing refuse upwards until 'full to roof height' is reached early in the collecting round. Thereafter the refuse in the body is subjected to great pressure from the crushing power of the paddle forcing further refuse into it. The paddle area is only 27″ long by 15″ deep, hence intense pressure each side of its central shaft — as the paddle forces alternate hopper loads into the body.

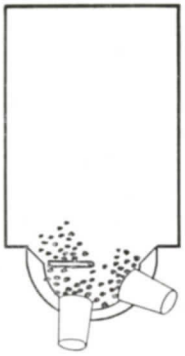
The operators are able, at any time, to hold the paddle at 180° so that the complete hopper can be made available for abnormally large objects and cartons, etc. An emergency stop valve is within easy reach.

Ingenious use of hydraulic back-pressure together with the employment of pull-type rams promotes almost

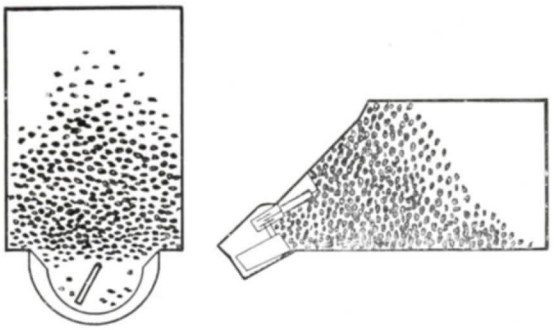
NOISELESS OPERATION



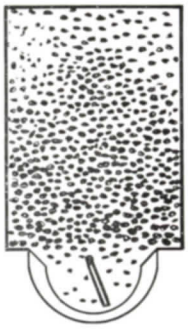
First hopper load uncompacted



First hopper load displaced forward; second hopper load uncompacted



Compressed refuse reaches 'roof height' without 'fall-back' in the early part of collecting round



Final load densely compacted in centre

APPROXIMATE METRIC EQUIVALENTS

7 tons = 7·1 tonnes
9 tons = 9·15 tonnes
12 tons = 12·2 tonnes
15 tons = 15·25 tonnes
1750 psi = 123 kg/cm^2
19 cu yds = 14·5 m^3
50 cu yds = 38 m^3
60 cu yds = 46 m^3
27″ × 15″ = 69 × 38 cm

SOME MERITS OF THE 'Hush-Packer'

LOW CAPITAL OUTLAY

Although of robust construction the advantageous weight distribution of the 'Hush-Packer' body and compression gear permits the use of chassis with a 9-ton rear axle or less — thus reducing overall costs without impairing efficiency.

EASY LOW COST MAINTENANCE

The 'Hush-Packer' was designed by engineering experts who actually operated a fleet of refuse vehicles. Detailed attention was therefore given to ease and low cost maintenance. The body of high tensile rust resistant steel with a radiused floor — resists build up of refuse in corners, etc., giving long life. The compression mechanism is self-lubricating and completely enclosed and protected — promoting extended ram and seal life. Routine maintenance tasks are reduced to a minimum — simplicity being the main consideration in design. Present experience (after many years of intensive use) persuades us that the 'Hush-Packer' is the easiest and the least expensive of all compression Refuse Collection Vehicles to maintain.

HIGH PAYLOAD

Low density refuse is converted to really high density loads. Payloads of up to and over 6 tons are possible without overloading chassis with rear axles of 9 tons and less. Compression ratios of up to 4-1 are genuine, but discerning users will know that such claims will depend upon original density.

REDUCED RUNNING COSTS

The advantageous weight distribution of the 'Hush-Packer', promoting a high payload/GVW ratio, automatically reduces running costs. Licence fees are also reduced in that the unladen taxation weight of the 'Hush-Packer' with any recommended chassis and crew cab combination is well under 7 tons. Fuel costs are also conserved in that the operating speed of the engine is at idling speed only.

OPERATOR COMFORT

We know of no dis-satisfied operators. Low 'off the ground' loading — together with the rapid clearance of the hopper — reduces loading fatigue. Crew-cab comfort and the almost noiseless operation of the packing mechanism, plus reliability and minimum down-time, makes men proud of the vehicle.

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