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# BRAY FOUR 4/65



**FOUR-WHEEL-DRIVE TRACTOR**

## FEATURES

### **MORE ENGINE POWER — 65 B.H.P. at 2,200 R.P.M.**

This permits greater flexibility of operation and a faster working rate in all gears. A maximum road speed of 19.1 m.p.h. is attained using standard 11 x 36 tyre and wheel equipment and the renowned B.M.C. Diesel engine economy is retained.

### **NEW HYDRAULIC SYSTEMS**

A rugged Quadrant Control with 3 lever action for ease of control and foolproof operation. The re-designed Draft Control System permits a degree of working control second to none. It ensures uniformity of working depth and implement draft making optimum use of engine power.

Increased lower link effort — 3,600 lbs. at implement attachment point facilitates use of heavy or light implements with equal ease.

The extended lower links and hydraulic assister ram are offered as an optional extra and are designed to increase lift capacity by 50%. This addition will enable the Four 4/65 to be teamed with larger and heavier implements thus fully utilising the four wheel drive tractive effort.

### **FRONT AXLE DIFFERENTIAL LOCK**

This feature is now included as standard equipment for agricultural application. Simultaneous lock on all four wheels gives a "track like" adhesion under the most adverse conditions. Differential locks on front and rear axles are actuated by the same pedal.

### **STEERING**

"Hydrostatic" power assisted control gives instantaneous response to finger light operation—eliminating operator fatigue and ensuring day long working continuity at peak efficiency under the most difficult conditions — five and a half (Mean) turns lock to lock, give a higher degree of unit manoeuvrability than hitherto possible.

This system together with the well proven FIVE TON BRAY HEAVY DUTY FRONT AXLE provides a very efficient and rugged system. There is also the additional facility and safety feature of manual steering in the event of any hydraulic pump failure.

A Bostrom De Luxe suspension seat is fitted as standard equipment.

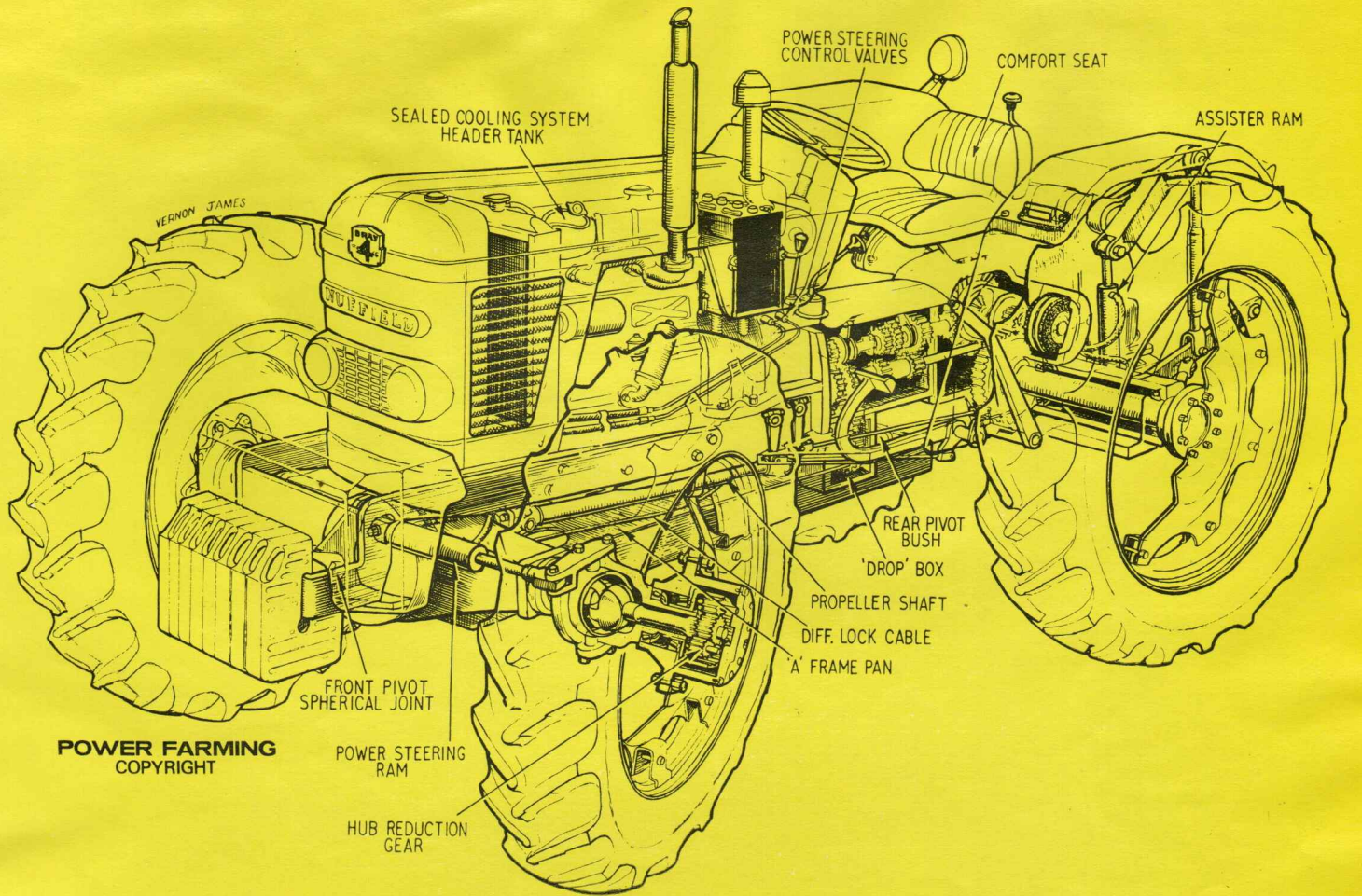
### **WEIGHT DISTRIBUTION**

A notable feature is the provision, as optional extras, of easily attachable B.M.C. Hand Weights. These can be fitted to the front counter weight sub-frame which also incorporates a towing hitch as standard. When equipped with these weights the BRAY FOUR 4/65 weighs 8,600 lbs. with 57% carried on the front axle. The removal of these hand weights reduce the front axles loading by 704 lbs. to 53%, this flexibility is an enormous advantage during Spring Cultivation.

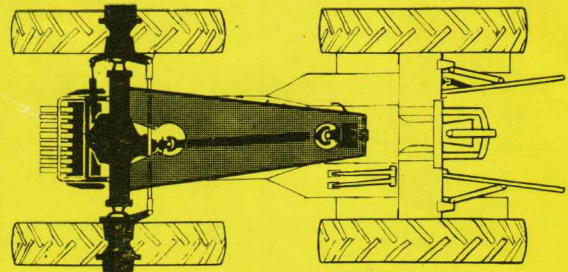
Additional standard B.M.C. Rear Wheel Weights may be fitted to all four wheels should greater adhesion be desirable up to a gross vehicle weight of 10,000 lbs.

### **FUEL TANK**

A 16 Imperial Gallon fuel tank now ensures adequate reserves of fuel for operation over a full working day.



**POWER FARMING**  
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WORM'S EYE VIEW SHOWING BRAY COMPONENTS IN BLACK

# SPECIFICATION

## ENGINE

B.M.C. 4 cylinder, 3.8 litre, direct injection.  
O.H.V. Diesel.

Bore.....3.94 in. (100 mm)  
Stroke ..... 4.724 in. (120 mm)  
Capacity.....230 cu. in. (3,770 cc.)  
Compression Ratio.....16.5 : 1  
Max. Power .....65 b.h.p. at 2,200 r.p.m.  
Max. Torque.....170 lbs. ft. (23.5 kgm) at 1250 r.p.m.

## GEARBOX

12 positions gearbox, dual range giving:—  
8 forward speeds for field work, 2 forward speeds for road work, and 2 reverse speeds.

Gear	Overall ratio (crankshaft to wheels)	Speed at 2200 rpm	
		mph	kph
Low 1st	225.30 : 1	1.562	2.519
High 1st	177.70 : 1	1.98	3.190
Low 2nd	142.50 : 1	2.46	3.97
High 2nd	112.4 : 1	3.12	5.02
Low 3rd	89.19 : 1	3.94	6.35
High 3rd	70.33 : 1	4.99	8.03
Low 4th	49.49 : 1	7.08	11.41
High 4th	30.03 : 1	8.99	14.48
Low 5th	23.34 : 1	15.03	25.28
High 5th	18.41 : 1	19.01	30.72
Low Rev.	76.96 : 1	4.55	7.33
High Rev.	60.67 : 1	5.79	9.31

## FINAL TRANSMISSION TO REAR AXLE

By spiral gear differential and heavy duty spur gears.  
Differential lock.

## FINAL TRANSMISSION TO FRONT AXLE

Spur gear power take off from gear box output shaft.  
Driving through propeller shaft to spiral gear differential and planetary hub reduction in front axle.

*Front Axle Differential Lock included as standard.*

Front axle with integral rigid radius rod assembly pivoting on heavy duty front cross-member attached to unit forward of the engine. Rear support pivoting on extension of front axle drive take off gearbox.

## BRAKES

Self energising independent disc type steering brakes.

## STEERING

Power assisted hydraulic steering through a 2½" (6.35 cm) diameter ram which acts directly on arm attached to stub axle.

Number of turns on steering wheel lock to lock = 5.5 (mean)

Turning circle diameter (unassisted) = 39 ft. (11.89 m).

Turning circle diameter with brakes = 26 ft. (7.925 m).

## HYDRAULIC LIFT LINKAGE

Category 1 and 2. The dual flow pump is situated within the hydraulic power unit casing which is bolted to the tractor transmission housing.

Pump Operating Pressure 2600 lbs./in.  
(182.8 kg/cm)

Pump outputs:—

Power lift circuit 6.5 gpm (29.5 Lpm)  
Depth control circuit 1.5 gpm (6.82 Lpm)

Lift effort

without assister ram 3600 lbs. (1632 kg.)  
with assister ram 5400 lbs. (2450 kg.)

## CLUTCH & POWER TAKE OFF

Normal P.T.O. on standard model with 13" (33 cm) clutch. Alternatively on the de-luxe model 11" (28 cm) dual clutch providing full independent P.T.O. giving 540 rpm at 1830 engine rpm can be supplied.

## TYRE SIZES

Standard	11 x 36	6 ply
Optional alternative	12 x 38	6 ply
	(track adjustable 56"—80" 1.42 m—2.03 m)	
Optional alternative	14 x 30	6 ply
" "	15 x 30	8 ply
	(track fixed at 66", 1.67m)	

## DIMENSIONS

Wheelbase	89"	(2.26 m)
Overall length (overall linkage)	160"	(4.06 m)
Overall Height (without silencer, etc.)	67"	(1.7 m)
Minimum ground clearance	17"	(.432 m)
Maximum width	78.75"	(2.00 m)

## WEIGHTS

Total weight with Hyd. Lift and Linkage — 8040 lbs (3780 kg).

Front axle weight — 4290 lbs. (1946 kg).

Rear axle weight — 3750 lbs. (1701 kg).

## OPTIONAL EXTRAS

Assister Ram complete with extended linkage for use with extra heavy implements.

Automatic Pick-Up Hitch

BMC Hand Weights (set of 8 at 70 lbs each.)

BMC Wheel Weights.

## SHIPPING SPECIFICATION

12 Ocean Tonnes (13 with 15 x 30 tyres)

The fitting of the differential lock is not recommended in certain industrial applications.

The manufacturers reserve the right to alter or amend, without notice, any of the specifications, dimensions and numbers contained in this publication.

## AGRICULTURAL DIVISION of BRAY CONSTRUCTION EQUIPMENT LIMITED

(A Subsidiary of Sheepbridge Engineering Ltd.)

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Cables : Braydozer, Feltham

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