

MASSEY-FERGUSON



MEDIUM/HEAVY CLASS
MODEL OF THE MF
COMPLETE RANGE
OF TRACTORS

165

TRACTOR

CLYDE ENGINEERING (ROTORUA) LTD.



heavy work or light jobs - this **58 h.p. model** pays both ways ...

Here's abundant power for ploughing or rotavating the heaviest land. But here too are the ease of handling and low-cost running you need for the lighter jobs like mowing and planting. Either way the 165 offers you proved Massey-Ferguson reliability — the trouble-free operation that puts greater profit into farming. It offers the finest value in its class with new design features for high output, comfort for the driver, aptitude for the widest variety of tasks.

Massey-Ferguson tractors have never been matched in the precision and efficiency of their Ferguson System hydraulics. And now these hydraulics are still further advanced. The 165 gives you single lever control of draft-operated implements. Plus Pressure Control, the new hydraulic function. Pressure Control brings Ferguson System weight transfer benefits to the use of trailed implements.

Then there's exclusive Multi-Power, the simplest change-on-the-go ever engineered . . . and the Multi-Power model gives you extra large output of oil for external hydraulic services.

The 165 is styled to set the pace for years ahead — and looks it. Among the many standard fittings are built-in lights, differential lock, handbrake and a really comprehensive set of instruments. Optionals include a cab which is integrally designed, spring suspension seat, power steering and foot throttle. There's a High Clearance model for market-gardeners and row-crop specialists.

So whether your farming is intensive or extensive — whether you farm light or heavy soil, this tractor will pay in every way.





THE MASSEY-FERGUSON TRACTOR RANGE

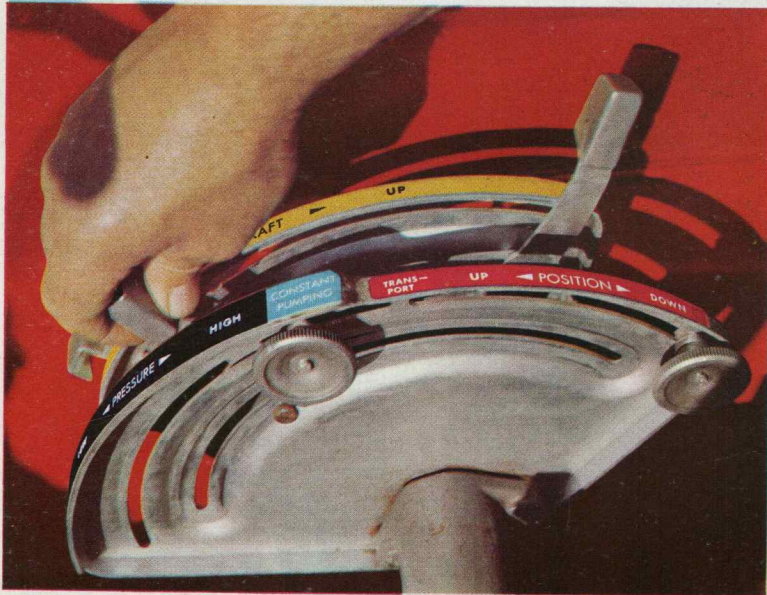
breakthrough to a new era in design

These points show where the MF 165 stands in the tractor world of today . . .

- Medium/heavy model of an all-new range providing a tractor exactly suited to every type and scale of farming enterprise.
- Unique in the power/price combination it offers.
- Last word in realistic design and practical feature specification.
- Engineered for highest efficiency with both trailed and linkage-mounted implements.
- Equipped with the world's most advanced tractor hydraulic system.
- Attractively styled with full regard to operator comfort, convenience and safety.
- High clearance model available for specialised row-crop work.
- Supported by MF's wide and comprehensive range of machinery and implements.
- Supply and service facilities by the country's leading farm machinery Distributor organisation.

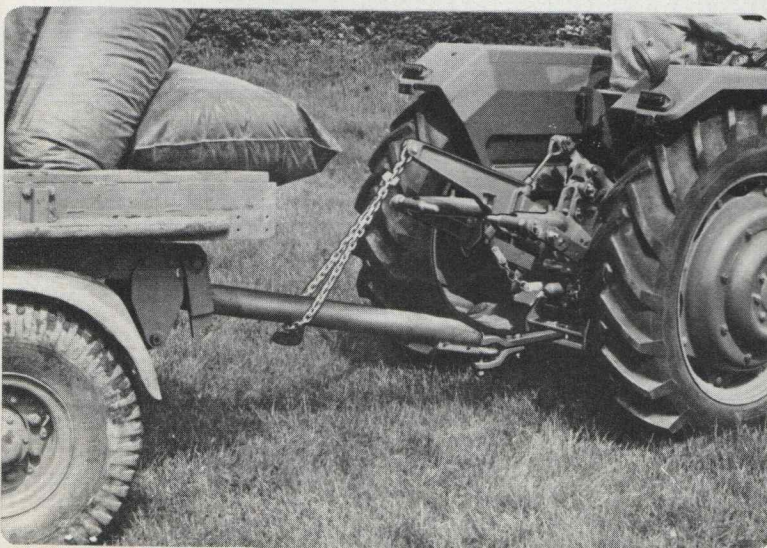
Now see the following pages for 165 feature details . . .

World's most advanced hydraulics



now with **PRESSURE CONTROL**

*— the new dimension
in tractor hydraulics*



The new Ferguson System

Pressure Control extends Ferguson System weight transfer benefits to the use of trailed machines and implements. It opens up a whole new field of possibilities with heavy equipment. Now you can hitch up (in seconds) to virtually any pull-behind implement confident of the tractor's ability to keep moving through the toughest going. Even PTO driven machines — balers for example — can be operated with the special hitch transferring weight to the tractor for positive wheel grip. The finger-tip lever on the 'Pressure' quadrant beside the driver pre-determines maximum pressure in the hydraulic system. Set anywhere between LOW (150 p.s.i.) and HIGH (2300 p.s.i.) it effects a constant lift effort by the lower links ranging from a few pounds to 2500 lbs. Weight transfer is unaffected by rise and fall of the linkage when traversing uneven ground. At maximum, Pressure Control will practically double the weight on the rear wheels — at the same time lightening the front of the trailer to reduce rolling resistance . . .

*. . . and Pressure Control gives
you these other advantages . . .*

EXTERNAL HYDRAULIC SERVICES

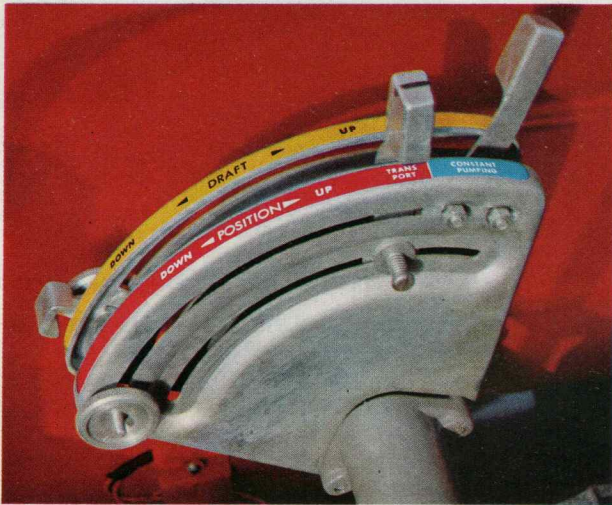
Oil pressure in the system may be limited to any pre-selected maximum. This will protect implement cylinders and hoses designed to operate below normal tractor system pressures. And it means that trailers, for example, can be tipped without need for the operator to remain at the control quadrant. As soon as the trailer's hydraulic ram is fully extended oil pumping ceases — no strain falls upon the tractor relief valve.

SAFETY

Pressure falls immediately the lower links reach their upward limit of travel. So the tractor cannot rear up dangerously when trailing heavy machines.

- *Pressure Control is a factory fitted optional. The special hitch is provided at no extra cost on Pressure Control tractors*

SINGLE LEVER CONTROL for normal mounted implements



Hydraulics control layout on this tractor is the simplest yet. For the great majority of jobs you use only the outer (yellow) quadrant lever.

- Illustration shows the basic quadrant on tractors without Pressure Control.

TWO-WAY DRAFT CONTROL (Outer Lever)

Practically all mounted implements are controlled entirely by the outer lever for lifting, lowering and in work. The two-way draft system automatically maintains constant depth whether implements are long or short, light or heavy, working shallow or deep.

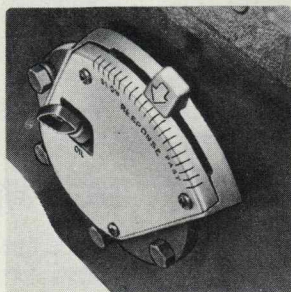
POSITION CONTROL AND CONSTANT PUMPING (Inner Lever)

Inner Lever is used for hitching up and the few occasions where it is required to operate with the linkage at a fixed height. Lower link height, throughout the range of travel, corresponds to the position of the lever on its quadrant.

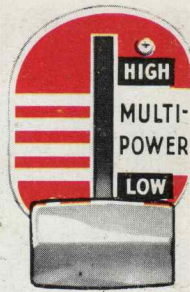
Constant Pumping, to supply continuous oil flow to external services, is obtainable by moving the lever to a separate location at the top end of the quadrant. Once 'Constant Pumping' has been selected, oil supply to remote cylinders is again controlled by the outer lever.

RESPONSE CONTROL

New dash pot system has control quadrant on side of transmission housing below seat. Regulates linkage rate of drop from very slow to fast. Once response setting is made, according to the job in hand, operator again controls implement entirely by the outer lever.



Only MF Tractors have MULTI-POWER



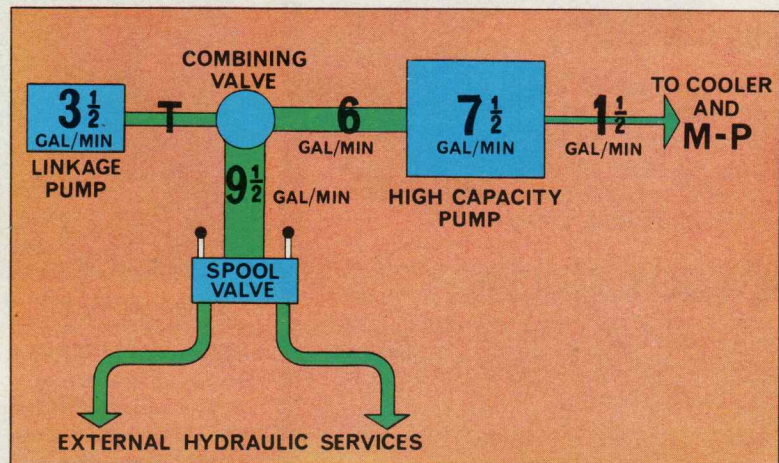
Which lets you switch gears on the move with 12 forward speeds to match every field requirement

It's available on the 165 — the simplest, most practical, most reliable change-on-the-go ever devised. You switch down for more power, switch up for more speed, in any one of the 6 forward, 2 reverse gears of the basic transmission. In easy going you work fast in HIGH. When the going gets tough — uphill or in heavy soil — you just flick the switch to gear down without losing time or traction. Multi-Power makes all the difference to daily output in tillage work, haulage and with PTO machines . . . but now there's even more:

the 165 MULTI-POWER model gives you EXTRA HIGH CAPACITY for EXTERNAL HYDRAULICS

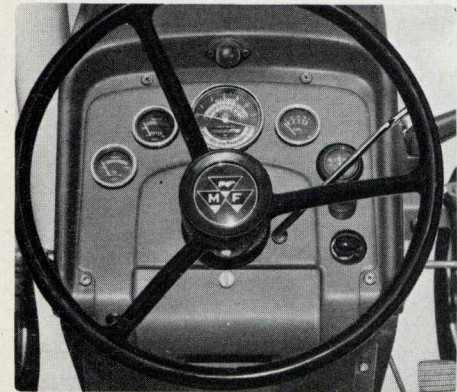
Over 9 gallons per minute — that's the amount of oil you can tap off to external services from the 165 Multi-Power model. This means really fast operation of equipment with remote hydraulic cylinders — tipping trailers, for example, and implements with slave ram depth control. And it gives you great scope in the use of machines driven by hydraulic motors.

MF engineers have achieved this by means of an auxiliary high capacity pump in addition to the tractor's normal linkage pump. You still get the usual efficient action of the rear linkage which is not affected by the new design. The high capacity pump, which also feeds the Multi-Power clutches, gives a surplus 6 g.p.m. Through a combining valve this can be joined to the 3½ g.p.m. of the linkage pump. By means of spool valves all or part of the total 9½ g.p.m. can be directed to one or more remote systems — with a power output of 13 h.p. available. The Combining and Spool valves are optional factory fittings — so you have no trouble in obtaining the right equipment for your tractor.



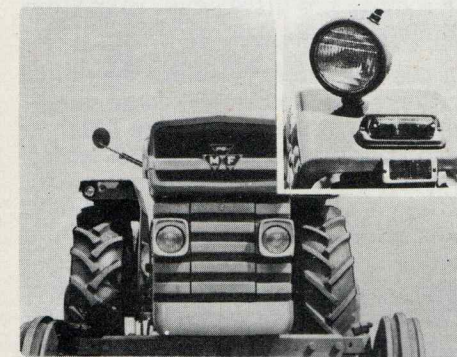
practical features ensure fast, efficient operation

all these are *STANDARD* equipment . . .



FULL SET OF INSTRUMENTS

Illuminated panel. For the first time on any tractor a fuel gauge is standard. Easy-to-read tractormeter gives low range speeds in lower sector, high range speeds in upper sector of dial; also standard PTO and belt speeds. Rear-view mirror, ammeter, water temperature and oil pressure gauges are here too — and, as optional, even a cigarette lighter.

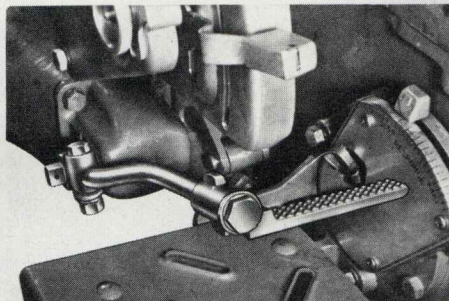


BUILT-IN LIGHTS

The full array of lights — head, side and tail — are neatly built in and comply with Road Traffic Regulations. Number plate illumination and tail reflectors are provided too. There is an adjustable plough lamp

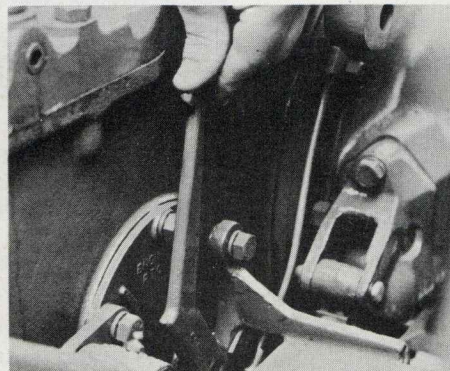
● SAFETY STARTING

No danger of starting in gear — another exclusive feature. All MF tractors have the long-proved safety device which allows the electric starter to work only when the gear shift lever is in neutral.



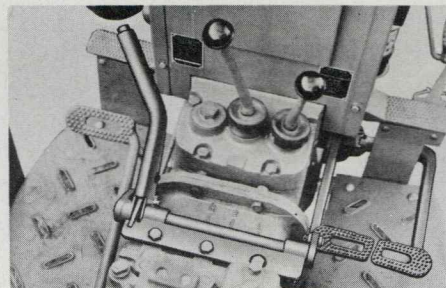
DIFFERENTIAL LOCK

Pedal close to driver's right heel operates differential lock to give 'solid axle' drive when ground surface resists adhesion of either rear wheel. Useful feature of pedal is the hinged end which can be raised to enlarge standing room.



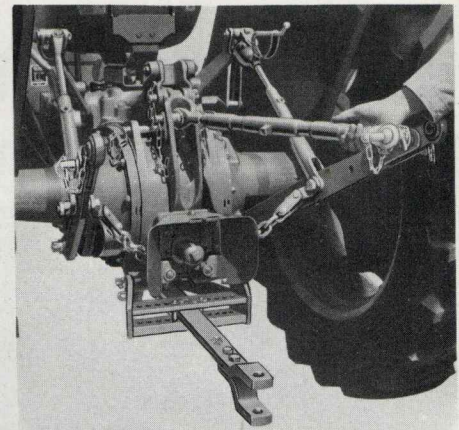
LIVE PTO — 48 h.p. at 540 r.p.m.

PTO drive can be selected proportional to engine speed or ground speed. Standard 540 r.p.m. occurs at 1684 engine r.p.m., providing excellent 'back-up' torque. Dual clutch gives live PTO and hydraulics.



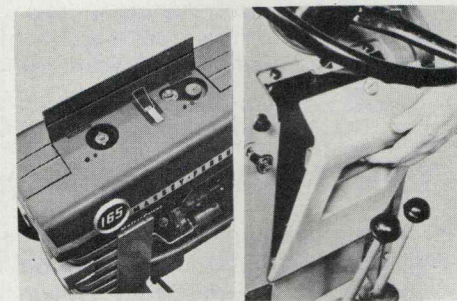
HANDBRAKE — FOOTBRAKES

Push-button hand lever brakes both wheels for parking. Twin foot pedals can be applied together for normal braking or independently to assist steering.



CAT. 1 & 2 LINKAGE—DRAWBAR

Dual Category 1 and 2 links have lift capacity of 2850 lbs. Screw type top link is adjustable for length. Swinging drawbar is adjustable both for length and height.



SERVICE PANELS

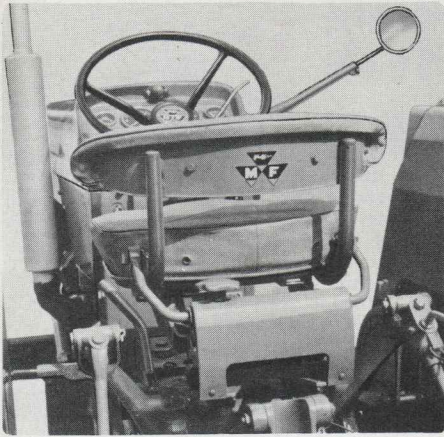
Neat, hinged panel gives quick access to fuel and water filling points. Large panel under steering wheel is removable to allow clear space for servicing battery.



BIG TWIN TOOLBOXES

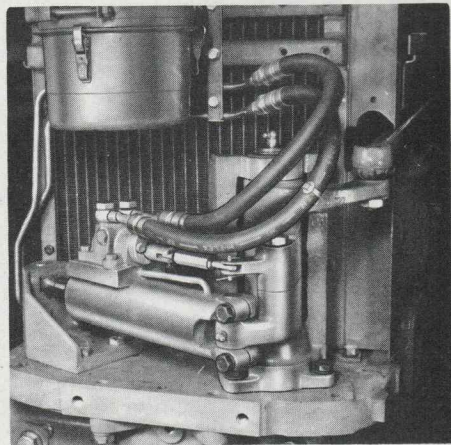
Tools are always safe and close to hand. Two large toolboxes in either fender can be reached from the seat or the ground. Toolkit supplied covers all basic needs for field adjustments.

... and these **OPTIONAL** fittings offer still greater productivity



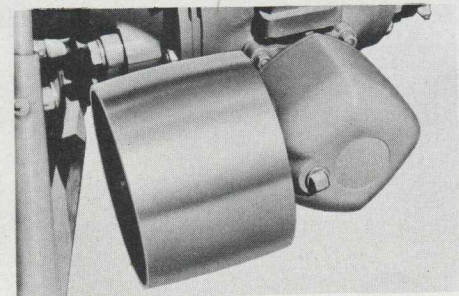
SPRING SUSPENSION SEAT

This seat gives the operator day-long comfort to conserve energy for the job that matters. Adjustable spring tension is set to suit the driver's weight and the work in hand. Shocks are absorbed and bumps levelled out to give a really smooth ride.



POWER STEERING

Hydraulic power assisted steering gives you finger-light control of the tractor and eliminates kick-back over rough ground. Power steering is a great asset—for loader work especially.



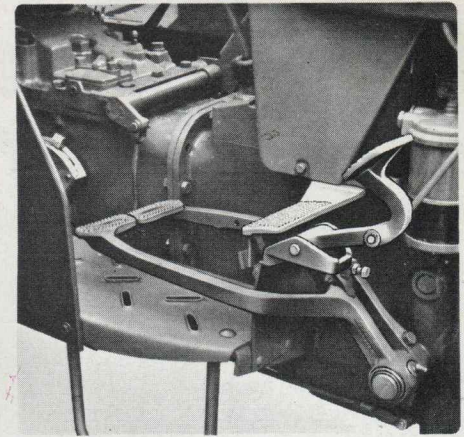
HEAVY DUTY PULLEY

This 10 $\frac{1}{4}$ " pulley is driven by the PTO shaft. Rotation in either direction is obtainable by mounting the unit to left or right of the shaft. Maximum belt speed is 3190 ft./min. Regulation safety guards are provided.



WEIGHT FRAME/TOW HITCH

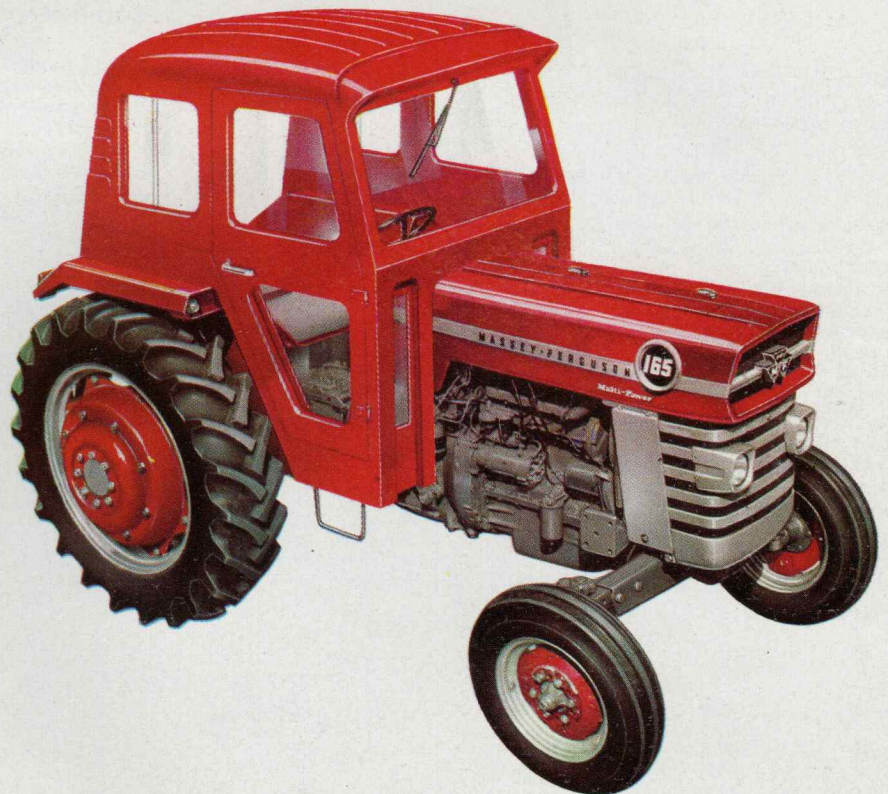
Front-end ballast is easily adjusted with this attachment. Up to eight 60 lb. weights can be set on the frame — each secured in seconds by one bolt. Recessed towing mouth provides useful front hitch point.



FOOT THROTTLE

If you have never used one try before you buy — you'll soon be convinced of its value, especially for transport work. Foot pedal overrides hand throttle; engine speed returns to hand lever setting when pedal is released.

ALL-WEATHER CAB DESIGNED ALONG WITH THE TRACTOR



Now you can order a cab made to MF specifications and designed concurrently with the tractor itself. You know right away that it fits exactly, is styled in keeping, shaped to allow the driver maximum vision, operating room, comfort and convenience. Steel framed fibreglass construction is completely rain proof and free from drumming and rattles. Spigot-hinged doors are detachable in seconds for coolness in Summer. The top is removable in one piece. Side windows are slide opening. Fittings available include a windscreen wiper and roller blind at the rear with inset window.

MASSEY-FERGUSON

165

T R A C T O R

Specification

ENGINE

AD4.203 Four cylinder direct injection diesel made by Perkins to Massey-Ferguson specifications.

Capacity	203.5 cu. in.
Bore	3.6"
Stroke	5"
Compression ratio	18.5:1
Starting aid	Thermostart
Injection pump	Distributor type
Governor	Mechanical
Max. Gross H.P.	58.3 at 2000 r.p.m.
Max. Torque	169 lb./ft. at 1300 r.p.m.

TRANSMISSION

Clutch Dual type with 11" primary and 9" secondary driven plates. Self ventilating for cool running.

Gearbox Sliding spur type with planetary reduction unit giving 'High' and 'Low' ranges to provide 6 forward, 2 reverse gears.

Multi-Power Doubles basic gear range giving additional, 30 per cent faster speeds in each gear and so providing 12 forward, 4 reverse gears. Multi-Power HIGH ratios obtained by hydraulic clutch engagement of extra set of constant mesh gears.

Final Drive Conventional differential with straddle mounted, three pinion epicyclic reduction units at axle ends.

Differential Lock Fitted as standard.

Road Speeds On 11-32 tyres (25.2" rolling radius):-

N.B.—Multi-Power LOW speeds are almost identical to those of the basic range.

Engine r.p.m.	BASIC RANGE		MULTI-POWER HIGH	
	500	2000	500	2000
GEAR	m.p.h.	m.p.h.	m.p.h.	m.p.h.
1	0.3	1.3	0.4	1.7
2	0.5	2.0	0.7	2.6
3	0.9	3.7	1.2	4.8
4	1.3	5.3	1.7	7.0
5	2.0	8.0	2.6	10.4
6	3.7	14.7	4.8	19.1
Reverse 1	0.5	1.8	0.6	2.4
Reverse 2	1.8	7.3	2.4	9.5

Maximum road speeds on 11-36 (optional) tyres: 6th gear 15.9 m.p.h.

With Multi-Power: 6th gear 20.7 m.p.h.

Power Take-off Drive proportional to engine speed or to ground speed. Shaft: diameter 1 $\frac{3}{8}$ ", 6 splines, annular groove and transverse hole for various couplings.

Ground speed: Shaft revolves once for 19" travel (clockwise in forward, anti-clockwise in reverse).

Engine speed: Engine/PTO reduction of 3.12:1 gives 540 PTO r.p.m. at 1684 e.r.p.m. and 641 PTO r.p.m. at 2000 e.r.p.m. Power available: 48 h.p. at 540 r.p.m. Belt Speed: 3190 ft. min. at 2000 e.r.p.m.

STEERING

3 $\frac{1}{2}$ turns from lock to lock. Power steering optional (full mechanical linkage maintains steering when engine is not running).

HYDRAULICS

Functions Two-way Draft Control, Response Control, Position Control, Pressure Control (optional).

BRAKES

7" x 4" double disc brakes on each half shaft. Operated together or independently by twin foot pedals. Handbrake fitted as standard.

Linkage Cat. 1 and 2, three-point linkage. Top link screw adjustable. Lift capacity 2850 lbs. (at end of lower links in lowest position).

Linkage Pump Four cylinder piston type, constant running. Single control valve on suction side. Delivery 3.6 gal./min. at 2000 e.r.p.m. Relief valve setting 2500 p.s.i. Oil supply of up to 1 $\frac{1}{2}$ galls. available from sump for external rams.

Auxiliary System (Multi-Power model only) Comprises High Capacity pump in circuit with oil cooler. Supplies oil for external services (including hydraulic motors) through spool valves; one spool or two spool, double acting, convertible to single acting.

High Capacity pump is located adjacent to linkage pump and driven from PTO shaft. Requirement for Multi-Power is diverted through priority circuit to cooler, leaving 5.8 gal./min. available for external services. Relief valve setting 2000 p.s.i. Combining Valve allows High Capacity and Linkage pump outputs to be united to give total 9.4 gal./min. Hydraulic power available: High Capacity pump only 8.2 h.p., combined pumps 13.2 h.p. Oil Cooler is located between tractor radiator and front grille.

WHEELS AND TYRES

Track Adjustment Rear 52" to 88". Front 48" to 72".

Tyre Sizes

6.00-16 4 ply or 6 ply Front with 11-32 4 ply or 6 ply Rear
6.00-19 4 ply or 6 ply Front with 11-36 4 ply or 6 ply Rear.
6.00-16 4 ply or 6 ply Front with 13-28 6 ply Rear

DIMENSIONS, WEIGHTS, CAPACITIES

Length	132"	Weight (with fuel, oil, water)	4400 lbs.
Width (normal track) ...	72"	Weight Distribution:	
Height (over steering wheel)	62"	Front	1800 lbs.
Ground Clearance (min.)	14"	Rear	2600 lbs.
Wheelbase	82"	Fuel Tank	15 galls.
Turning Circle (without brakes)	22'	Cooling System	3 galls.
		Engine Sump	1 $\frac{1}{2}$ galls.
		Transmission	7 galls.

EQUIPMENT SUMMARY

Basic

Lights, plough lamp, reflectors
Differential lock
Comprehensive instruments, rear mirror
Hydraulics, Cat. 1 and 2 linkage
6 forward, 2 reverse transmission
Dual Clutch/Live PTO
Ground Speed PTO
Handbrake
Swinging drawbar
Cushion seat
6.00-16 4 or 6 ply, 11-32 4 or 6 ply tyres.

Optional/Accessories

Cab
Multi-power/Auxiliary hydraulics
Combining valve
One or Two-spool valves
Pressure Control and hitch
Power steering
Spring Suspension Seat
Foot throttle
Front frame and weights/Tow hitch
Heavy duty belt pulley
Automatic hitch
Cigarette lighter
Dual rear wheels (11-32 and 11-36
Front and rear wheel weights
6.00-19 4 or 6 ply, 11-36 4 or 6 ply tyres
6.00-16 4 or 6 ply, 13-28 6 ply tyres

HIGH CLEARANCE MODEL

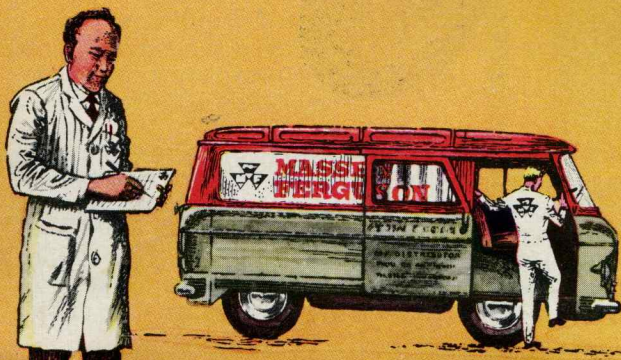
Has special ratio transmission giving road speeds approximately equal to those of the normal model.

Minimum ground clearance: 19".

Tyres: 6.00-16 4 ply front, 11-38 6 ply rear.

Track adjustment: Front 49" to 73", Rear 52" to 88" (in 4" steps).

In accordance with the Company's policy of continuous improvement to its machines, alterations in the specifications of machines may be made at any time without notice and the Company accepts no responsibility for any discrepancies which may occur between the specifications of its machines and the descriptions thereof contained in its publications.



Set a date — We'll demonstrate