

72 h.p. — with standard equipment that others rate as extras

MF178



New more powerful version of the famous MF 175

Developed from the big Massey-Ferguson 175, which has achieved outstanding popularity, the new Massey-Ferguson 178 tractor offers more power and a host of detail refinements. It also retains all the popular features of its predecessor — advanced Ferguson System, Pressure Control, Multi-Power and a big range of standard equipment to speed work in safety and comfort.

This is the tractor for the big acreage. It's primarily designed with heavy cultivations in mind, and has ample power to rush work ahead of schedule. The new A4.248 direct injection diesel engine develops 72.5 h.p. at 2,000 rev/min and provides maximum torque of 212 lb. ft. at only 1,300 rev/min. This gives plenty of torque "back up", enabling the engine to "hang on" to the

load under tough conditions and carrying tractor and implement easily through tough spots.

The new MF 178 is a versatile tractor that will handle a wide range of jobs throughout the year. It is perfectly at home on row-crop work — power adjusted variable track rear wheels are standard and the front axle is adjustable. Power steering, built in as standard equipment, provides finger-light operation, ideal for accurate work, and the powerful engine enables the larger implements to be used. It gains much of its wheel-grip from the Ferguson System and Pressure Control — does not pan the ground on lighter jobs — and gives economical operating at all times.



Advanced Ferguson System now applied to heavy tractors—keeps MF ahead of all others



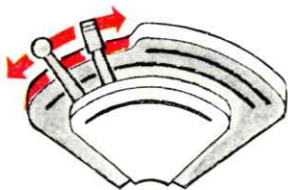
MF were first in the field with the Ferguson System and have kept developing it ever since. Close-coupled 3-point linkage implements are quick to attach, handy to transport and work every corner of the field. The top link prevents the tractor rearing up and harming the operator. Two levers control all operations — but you only use one at a time.



Two-way Draft Control gives extraordinary wheelgrip, eliminating undue weight and allowing Massey-Ferguson to build the MF 178 from light, high-grade materials. Weight is transferred from the implement and the front wheels to the rear of the tractor. Working depth is controlled automatically through sensitive hydraulics. Close-coupled implements or long ploughs work equally well thanks to advanced design. Implement lift and drop, together with draft control are all worked from a single lever.



Position Control lowers the links to any desired height. It's invaluable when doing repetition work such as drilling post holes. Set the control lever stop to the desired position and every hole is made to the same depth. Also helpful when hitching heavy implements or for controlling semi-mounted equipment such as small levelling blades or rotary cutters.



Constant Pumping position provides ample power for external services. Use it to control front-mounted loaders and all kinds of equipment fitted with hydraulic motors. The normal Linkage Pump, together with the optional High Capacity Pump available for Multi-Power tractors, gives a combined oil flow of up to 9.4 gal./min, with a power output of 12.95 h.p. The advanced Ferguson System allows your MF 178 to tackle an unlimited range of farm jobs.



A special shrouded control quadrant below the tractor seat operates Response Control. This regulates the rate of implement drop from very slow to fast. Once the desired setting is made, the operator continues to control the implement from the normal levers.



Exclusive Pressure Control brings Ferguson System efficiency to trailed implements



(Left) Pressure Control is safe and simple. First fit the Pressure Control Coupler to the lower links.

(Right) Attach the drawbar of your existing 4-wheeled trailer or implement to the swinging drawbar fitted as standard to the MF 178. Next attach the coupler chain, wrap it around the trailer drawbar and hook it back into itself with the simple link provided.



(Left) Pull the outer control lever right up. Work the inner lever in the black sector. Down for minimum weight transfer, up for maximum.

(Right) By pulling the inner lever towards "High", weight is taken from the trailer and a lesser amount from the front wheels of the tractor. Up to a ton extra weight is applied to the rear wheels — you'll be amazed at the extra traction and braking power. If the hitch pin should slip out, the coupler chain detaches itself instantly — for perfect safety.



Pressure control provides a new application of the Ferguson System of weight transfer. Through the coupler attached to the tractor lower links, weight is transferred from the trailed equipment to the rear wheels of the tractor. Traction is improved and the power available at the drawbar increases by approximately 11 h.p.

Pressure control shows its worth when more weight is needed on the rear wheels of the tractor using trailed equipment, thus:

- (a) Eliminating wheel-slip in bad conditions and giving better hill climbing with heavy equipment.
- (b) Obtaining safer and better braking downhill with a heavy load, which means less chance of jack-knifing during emergency stops.

With Pressure Control you gain the same benefit with trailed equipment as you do with mounted implements. Since the oil pressure can be adjusted to any maximum setting, you gain protection for hoses and rams using external hydraulic services, e.g., with loaders and tipping trailers.

Pressure Control is safe, simple, efficient and easy to operate. Moreover a Pressure Control tractor can often out-perform a four wheel drive of similar size and can compete on equal terms with a crawler.



**Only MF tractors
have Pressure Control**

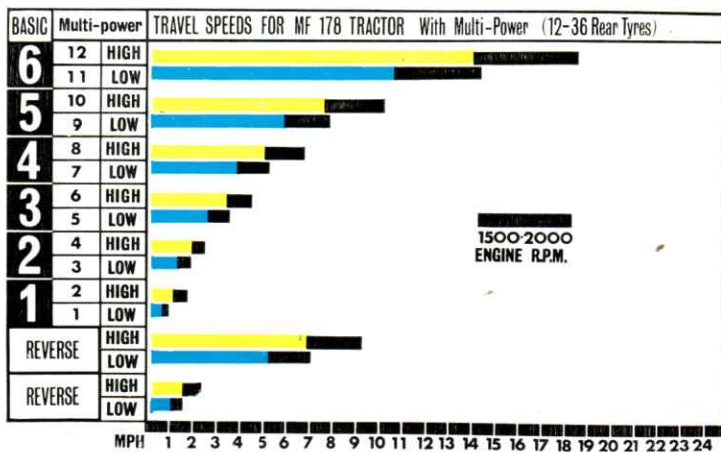
**Multi-Power plus
a new 72.5 h.p.
diesel engine gives
output an extra boost**



Multi-Power — Massey-Ferguson's "change-on-the-go" gear shift is the smoothest operating, most reliable system on the market. It gives twelve forward speeds and four reverse. In Multi-Power "High" range you get an extra 30% of speed — on the road you can travel at up to 19 m.p.h. Simply select the gear you want, then use Multi-Power to flick from Low to High at the touch of a switch. A "Hill-hold" in High range prevents the tractor from rolling back when declutched on an upward slope — a great safety device when handling a heavy trailer.

This diagram shows the speed ranges available with the MF 178 using Multi-Power.

Mowers, foragers, balers and tillage equipment all give increased output with Multi-Power. Where the crop is thin you use the high range. If you strike a heavy patch you drop to the low range only as long as is necessary. On baling this means that bales are more evenly packed and better shaped. There is no stopping to change gear — no interruption of feed. You make maximum use of every hour of sunshine.



**Only MF tractors
have Multi-Power**

**MF 178 is the heavy class
leader in performance
features and value
for money**

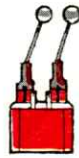


Powered by a new 72.5 h.p. direct injection diesel engine, the new MF 178 makes short work of heavy cultivations, even on large acreages. It all means plenty of lugging capacity to the use of the advanced Ferguson System, plus Pressure Control, which converts the absolute maximum of engine horsepower into useful work. It will tackle jobs which only crawlers have been able to do up to now.

Like the famous MF 135 and MF 165, the new MF 178 is built at Massey-Ferguson's Coventry factory — the world's most modern tractor plant. Highly refined production techniques and rigorous quality control ensure that each MF tractor meets the highest standards of reliability. Your new MF 178 is built to give years of hard work — and is backed by the finest distributor network in the business.

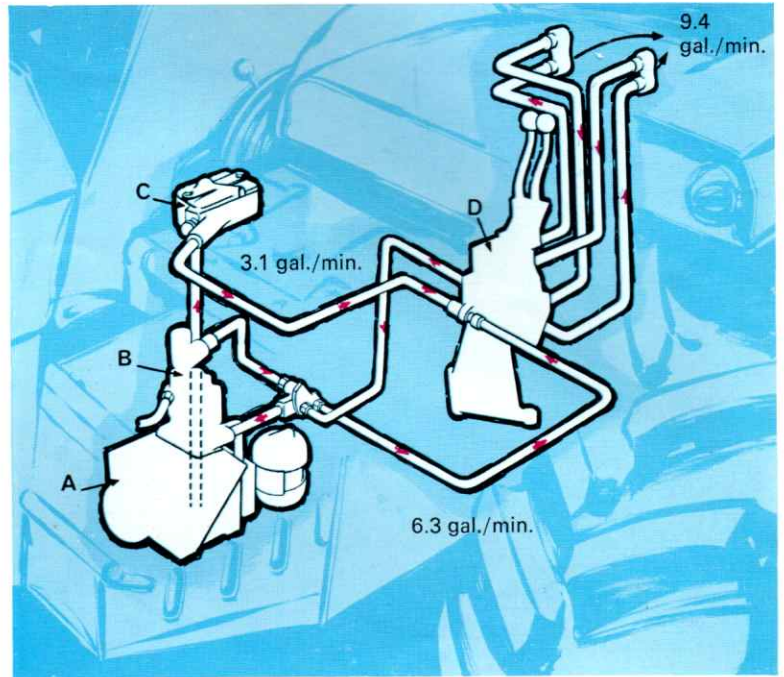


Only MF tractors offer such a complete hydraulic system for trailed equipment, mounted equipment and external services



A high capacity pump (B) is available as an optional extra on Multi-Power tractors. This pump delivers 6.3 gal./min. which is fed to a single or dual spool valve (D) mounted at the rear of the left foot plate. A combining valve (C) can be fitted to the top of the transmission housing which combines the flow — 3.1 gal./min. — from the linkage pump with that of the high capacity pump to give an output of 9.4 gal./min. at the spool valve.

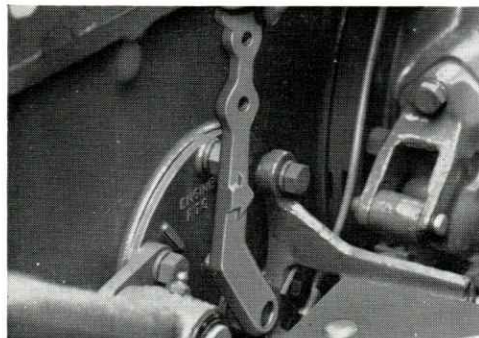
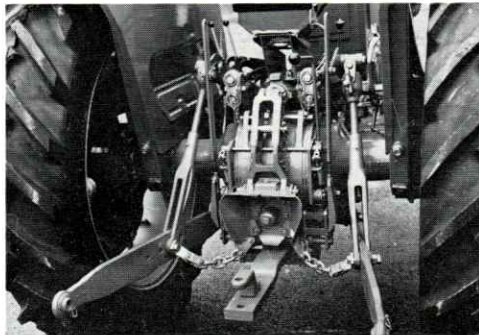
The spool valve can be set to either single or double acting. With the combining valve open a power output up to 12.95 h.p. is available and the increased flow can be used to speed up the operation of external services or to operate hydraulic motors. With the combining valve closed external services can be operated from the high capacity pump leaving the linkage pump free to operate the lift or Pressure Control services.



Standard features to simplify operation increase work output

Heavy duty Category 2 links have lift capacity of 3900 lb. Top link is adjustable. Swinging drawbar is adjustable for height, allowing perfect hitching of trailed PTO driven equipment.

The differential lock gives a "solid axle" effect when operating on muddy ground and ensures maximum traction. The hinged end of the pedal can be raised to give extra standing room.



The live PTO gives 62 h.p. (estimated) at 540 rev/min and 1684 engine rev/min, allowing excellent torque "back-up". Dual clutch gives live PTO and hydraulics. Ground-speed PTO is included.

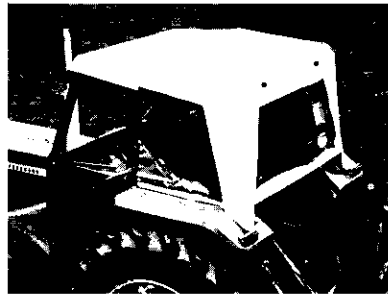
A foot throttle is especially useful for loader work, leaving the hands free. Foot pedal over-rides the hand throttle setting, but engine speed returns to hand setting when the pedal is released.

Tailor-made cabs and attractive styling designed for supreme comfort and safety

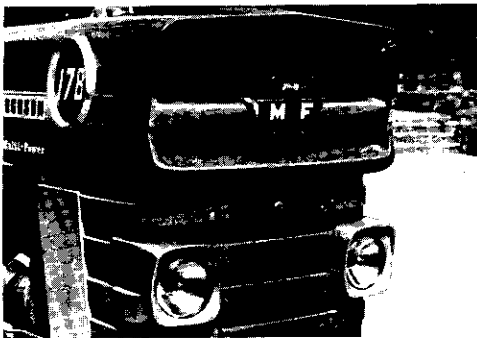


Massey-Ferguson give you a choice of safety cabs, a flexible, as standard, or a de-luxe rigid cab. Both have been carefully designed to let the driver do his work, whatever the weather, in the most comfortable surroundings.

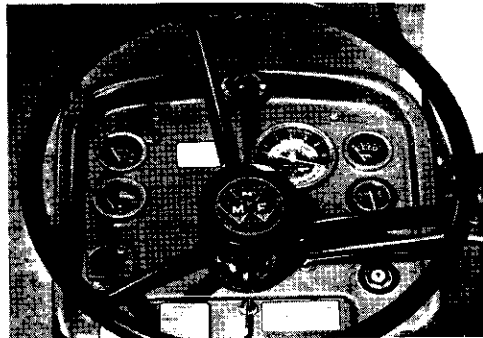
The cabs are roomy, visibility is excellent and with two wide doors getting in is no problem. With detachable cladding the flexible cab lets you choose your comfort, strip off for summer, back on again in the winter. Warm air ducting makes the flexible really snug when the frosts set in.



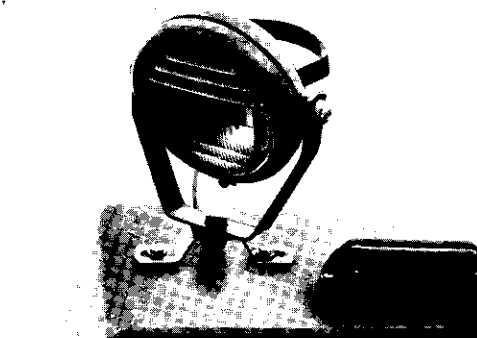
Road regulation lights are incorporated. Side and tail lights are fitted to the fenders. Twin headlamps are built into the radiator grille. Number plate lamp and reflectors are also included.



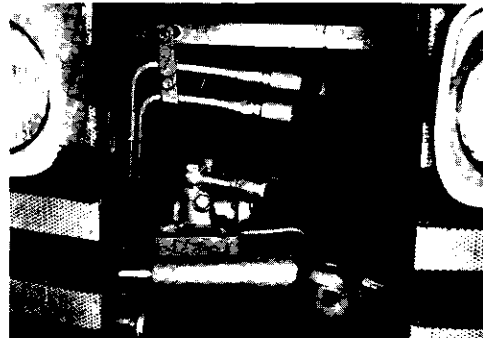
A complete set of instruments is illuminated at night. Cigarette lighter is optional. The tractormeter shows High and Low speed ranges, together with standard PTO and belt pulley speeds.



Push-button handbrake lever operates on both wheels for parking. Twin foot pedals operate the disc brakes either together for road work or independently for field use.



An adjustable plough lamp is fitted to the right-hand fender, ensuring more accurate evening work and proving invaluable when there is a tight schedule to be met.



Hydraulic Power Steering is factory fitted to give finger-light control at all times. It eliminates kick-back on rough ground and greatly eases loader work.



Power Operated Variable Track rear wheels simplify track setting. Range of adjustment is from 54" to 90". Front and rear wheels have heavy cast centres to aid lugging ability.

**Optional equipment
for still further
convenience and range
of work**



Front-end ballast is easily adjusted with this weight-frame/tow hitch. Handy "jerry-can" weights are simple to handle and bolt on securely in seconds. Recessed towing mouth provides useful front-end hitch point.



On all farming jobs MF 178 outpaces every other tractor in its class

The MF 178 switches quickly and easily from job to job. Its simple wheel track adjustments make it ideal for row-crop work. With the Ferguson System and mounted equipment it translates the maximum of engine horse-power into useful work giving really profitable operation.



PTO-driven equipment is handled to full capacity thanks to high PTO horse-power and excellent torque back-up. Both mounted and trailed equipment can be used — the adjustable swinging drawbar ensures that trailed PTO equipment can be hitched correctly for smooth running.



Using exclusive Pressure Control the MF 178 enables you to bring full Ferguson System efficiency to 4-wheeled trailers and trailed equipment. There is no need to scrap existing equipment which is in good order. Pressure Control increases traction — it also provides excellent braking when descending steep hills.



The Automatic Hitch enables the operator to hook up without leaving the tractor seat. A heavily loaded trailer can be hitched without effort — and the hitch speeds operations such as manure spreading. Constant hooking and unhooking presents no problem and wastes no time.



Using Constant Pumping on the hydraulics, all kinds of external services can be brought into play. Trailers can be tipped and lowered quickly. And the MF 178 will operate a wide range of new machines equipped with hydraulic motors.



. . . these are the reasons why the MF 178 gives you power for the big jobs.

MF 178 Tractor Specification

ENGINE

A4.248 four cylinder direct injection diesel made by Perkins to Massey-Ferguson specifications:

Capacity	248 cu. in.
Bore	3.975"
Stroke	5"
Compression ratio	16 : 1
Starting aid	Thermostart Mk III
Injection pump	Distributor type
Governor	Mechanical
Max. Gross H.P.	72.5 at 2000 r.p.m.
Max. Torque	212 lb. ft. at 1300 r.p.m.

TRANSMISSION

Clutch. Dual type with 12" primary and 10" secondary driven plates. Self ventilating for cool running.

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

Multi-Power (optional). Doubles basic gear range giving additional 30% faster speeds in each gear and providing 12 forward, 4 reverse gears. Multi-Power HIGH ratios obtained by hydraulic clutch engagement of extra set of constant mesh gears. Optional high capacity pump available for Auxiliary hydraulics.

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

Differential Lock. Fitted as standard.

Road Speeds. On 12-36 tyres (28" 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	
	1700	2000	1700	2000
GEAR	m.p.h.	m.p.h.	m.p.h.	m.p.h.
1	1.11	1.31	1.44	1.69
2	1.67	1.97	2.18	2.56
3	3.08	3.62	4.00	4.71
4	4.47	5.26	5.81	6.84
5	6.7	7.88	8.73	10.27
6	12.29	14.46	16.01	18.83
Reverse 1 - Low	1.52	1.79	1.98	2.33
Reverse 2 - High	6.08	7.16	7.93	9.33

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.

Ground Speed: Shaft revolves once for 19" travel; clockwise in forward anti-clockwise in reverse.

Engine Speed: Engine PTO reduction 3.12 : 1 gives 540 PTO r.p.m. at 1685 e.r.p.m. and 641 PTO r.p.m. at 2000 e.r.p.m.

64.8 h.p. at British Standard 540 r.p.m.

Belt Speed: 3194 ft./min. at 2000 e.r.p.m.

STEERING

Power steering fitted as standard. 3 $\frac{1}{2}$ turns from lock to lock.

Full mechanical linkage maintains steering when engine is not running.

BRAKES

7" x 4" double discs on each half shaft. Operated together or independently by twin foot pedals. Parking brake fitted as standard.

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.

HYDRAULICS

Functions. Two-way Draft Control, Response Control, Position Control, Pressure Control and control of external rams.

Linkage. Heavy duty Cat. 2 three-point linkage. Top link adjustable. Static Lift capacity 3900 lb.

Linkage Pump. Four cylinder piston type, constant running. Single control valve on suction side. Delivery 3.1 gal./min. at 2000 e.r.p.m. Oil available for external rams.

Auxiliary System (Multi-Power models only). Comprises High Capacity Pump 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 driven from PTO shaft. 6.3 gal./min. available for external services. 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 8.8 h.p., combined pumps 12.95 h.p. Oil Cooler is located between tractor radiator and front grille.

WHEELS AND TYRES

Track Adjustment. Rear 54" to 90". Front 48" to 72" (P.A.V.T. rear wheels fitted as standard).

Tyre Sizes. Rear 12-36, 6 ply. Front 6.00-19 6 ply.

DIMENSIONS, WEIGHTS, CAPACITIES

Length	136"	Weight	
Width (normal track)	72"	(with fuel, oil, water)	6500 lb.
Height (over steering wheel)	67"	Fuel Tank	18 galls.
Ground clearance	17 $\frac{1}{2}$ "	Cooling system	24 pints
Wheelbase	84"	Engine sump	12 $\frac{1}{2}$ pints
Turning circle		Transmission	5 $\frac{1}{2}$ galls.
(without brakes)	23' 6"		

EQUIPMENT SUMMARY

Basic	Optional/Accessories
Pressure Control	Multi Power
Power Steering	Auxiliary Hydraulics
P.A.V.T. rear wheels	One or two spool valve
(Cast centres)	Combining valve
Differential lock	Front frame and weights/Tow hitch
Lights, plough lamp, reflectors	Heavy duty belt pulley
Comprehensive instruments	Auto-Hitch
Hydraulics and Cat. 2 linkage	Cigarette lighter
6 forward, 2 reverse speed transmission	Wheel weights
Dual clutch live PTO	Pressure Control coupler
Ground speed PTO	Drawbar and adjustable stays
Parking brake	Rear tyres, wheels
Mk II Swinging drawbar	15-30 6 ply, Cast P.A.V.T.
Spring suspension seat	12-38 6 ply, Pressed steel and Cast P.A.V.T.
Vertical exhaust	14-30 6 ply, Cast P.A.V.T.
12-36 6 ply Rear tyres	14-34 6 ply, Cast P.A.V.T.
6.00-19 6 ply Front tyres	Front tyres
Foot throttle	7.50-16 6 ply
Disc brakes	



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