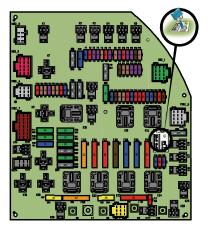
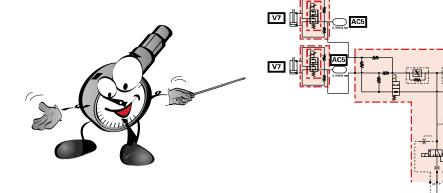
# Workshop Service Manual Technician Service Book -MF 6600

GBA25 GPA20 HA130 ML130

Electrical and hydraulics diagrams







AGCO S.A. - Beauvais - France - RC B562 104 539 MASSEY FERGUSON is a worldwide brand of AGCO © AGCO 2015 May 2015 No. 7060685M2 6600 Dyna-4 6600 Dyna-6 6600 Dyna-VT English

V8

V8

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AC6



# **Technician Service Book - MF 6600**

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## 1 - General

| А | General specifications   |
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### 1 Model MF 6612 Dyna-4

| Eng  | gine  |
|--|---|
| Brand  | AGCO Power  |
| Туре   | 49 AWI  |
| Nominal power (ISO TR14396) at 2200 rpm          | 110 hp (81 kW)  |
| Maximum power (ISO TR14396) at 2000 rpm          | 120 hp (88 kW)  |
| Maximum torque (ISO TR14396)                     | 575 Nm (424 lbf ft)   |
| Idle speed, hand brake engaged and/or Power Con- | 750 rpm   |
| trol lever in neutral (PTO disengaged)           |   |
| Normal idle speed                                | 850 rpm   |
| Maximum speed                                    | 2260 rpm  |
| Engine weight                                    | 430 kg (948 lb)   |
| Number of cylinders                              | 4   |
| Engine displacement in litres                    | 4.9   |
| Piston travel                                    | 134 mm (5.3 in)   |
| Piston diameter                                  | 108 mm (4.3 in)   |
| Compression ratio                                | 17.8  |
| Injection pump brand                             | Bosch   |
| Injection pump type                              | Common rail CP4.1   |
| Firing order                                     | 1-2-4-3   |
| Maximum pressure in the high-pressure system     | 1600 bar (23206 psi)  |
| Injector brand                                   | Bosch   |
| Injector type                                    | CRIN 3  |
| Charge pump type                                 | Manual  |
| Fuel prefilter filtration capacity               | 10 μ  |
| Main fuel filter filtration capacity             | 5μ  |
| Low-pressure system pressure at minimum speed    | 0,5 bar (7 psi) - 8,5 bar (123 psi)                             |
| Low-pressure system pressure at maximum speed    | 0,5 bar (7 psi) - 8,5 bar (123 psi)                             |
| Recommended oil:                                 | API CJ4 / ACEA E9   |
| Maximum operating tilt (precautions)             | 20° roll<br>25° pitch   |
| Lubrication system                               | Gear pump at the bottom of the timing                           |
| Oil cooling system                               | Oil/water heat exchanger  |
| Oil pressure at minimum speed                    | 1,5 bar (22 psi)  |
| Oil pressure at maximum speed                    | 2,5 bar (36 psi) at 5 bar (73 psi) depending on the temperature |
| Relief valve adjustment pressure                 | 5 bar (73 psi) (spring pressure)                                |
| Air suction type                                 | Turbocharger with air/air intercooler                           |
| Air preheating type                              | Grid heater with relay controlled by the ECU                    |
| Number of valves                                 | 16 (4 per cylinder)   |
| Valve clearance value                            | 0,35 mm (0.01 in) (inlet and exhaust)                           |
| Engine cooling system                            | Coolant   |
| Fan type   | Viscostatic   |
| Thermostat begins to open at                     | 83 °C (181 °F)  |
| Liquid temperature from - to                     | -35 °C (-31 °F) to 106 °C (223 °F)                              |
| Air compressor brand for the brake system        | Knorr Bremse  |



| Engine   |  |
|--|--|
| Type of compressor   | Pistons  |
| Pressure range:  | 6,5 bar (94 psi) to 8 bar (116 psi)  |
| Type and brand of air conditioning compressor  | SD7H15 - Sanden with axial pistons   |
| Air conditioning compressor displacement (cm <sup>3</sup> )  | 154.9  |
| Refrigerant  | R134a  |
| Block preheater  | 110 or 220 volts   |
| Fuel preheater   | Not available  |
| Urea preheater   | Coolant (tank)<br>Electric (supply module and urea lines)                                |
| Exhaust fumes recirculation system   | DOC (diesel oxidation catalyst) + SCR systems<br>(selective catalytic reduction)         |
| DOC (diesel oxidation catalyst) system   | DOC (diesel oxidation catalyst) with metal substrate (exhaust fumes oxidation catalyser) |
| SCR system (AdBlue™ or DEF injection)  | SCR with 1 ceramic substrate in silencer (exhaust fumes treatment)                       |
| Safety system  | NOx sensors at exhaust inlet and outlet  |
| Device brand   | Bosch Denox 2.2  |
| Type of control  | Engine controller EEM4   |
| Tank strainer filtration capacity  | 70 µm  |
| Main filter filtration capacity  | 20 µm  |
| Filtration capacity of pump module inlet connector   | 100 µm   |
| Urea solidification temperature  | -11 °C (12 °F)   |
| Oil vapour recirculation system  | Closed system breather (CCV)   |
| Belt: air conditioning compressor/left-hand alterna-<br>tor/air compressor (2 dimensions: with or without<br>air compressor) | Poly V 6 rib belt  |
| Belt: fan/right-hand alternator/air compressor (2<br>dimensions: a different fan pulley is used depending<br>on the power)   | Poly V 10 rib belt   |

| Rear axle transmission                   |                     |  |
|--|---------------------|--|
| Gearbox type                             | GBA25               |  |
| Transmission type                        | Dyna-4              |  |
| Number of ratios                         | 4                   |  |
| Number of ranges                         | 4                   |  |
| Number of gears                          | 16/16               |  |
| Creeper gears                            | 4/1                 |  |
| Number of gears with creeper gears       | 24/24               |  |
| Super creeper gears                      | 14, 1/1             |  |
| Number of gears with super creeper gears | 32/32               |  |
| Maximum speed                            | 40 km/h (25 mile/h) |  |
| Rear axle type                           | GPA22               |  |
| Number of pinion/ring gear teeth         | 8/39                |  |
| Rear axle ratio (crownwheel and pinion)  | 24.75               |  |
| 4WD ratio                                | 0.830               |  |
| Final drive type                         | Heavy Duty          |  |
| Final drive reduction ratio              | (53+13)/13          |  |



| Rear axle transmission  |   |  |
|---|---|--|
| Maximum 4WD clutch torque   | 206 daNm (1519 lbf ft)  |  |
| Number of 4WD discs   | 6   |  |
| Main brake type   | Disc  |  |
| Number of discs   | 1 per side  |  |
| Braking pressure  | -   |  |
| Parking brake type  | Hand brake  |  |
| Trailer brake type  | Hydraulic and/or pneumatic with built-in antifreeze pump      |  |
| Pneumatic trailer braking pressure                                  | 6,5 bar (94 psi) to 8 bar (116 psi)                           |  |
| Hydraulic trailer braking pressure                                  | 0 to 150 bar (2176 psi)                                       |  |
| Maximum operating tilt - pitch (front/rear)                         | 15° (> 15 km/h (9 mile/h))<br>22° (< or = 15 km/h (9 mile/h)) |  |
| Maximum operating tilt - roll (right/left)                          | 15° (> 15 km/h (9 mile/h))<br>22° (< or = 15 km/h (9 mile/h)) |  |
| Maximum operating tilt - combined                                   | 15° (> 15 km/h (9 mile/h))<br>22° (< or = 15 km/h (9 mile/h)) |  |
| Transmission preheater  | 110 V and 220 V accessory kits                                |  |
| Total loaded weight supported by rear axle - 40 km/h<br>(25 mile/h) | 7600 kg (16755 lb)  |  |

| Front axle  |                                 |  |
|---|---------------------------------|--|
| Front axle brand  | DANA                            |  |
| Axle type   | Fixed or suspended              |  |
| Supplier reference - fixed front axle                                   | 735/528                         |  |
| Supplier reference - suspended front axle                               | 735/614                         |  |
| Rotational direction  | Anti-clockwise                  |  |
| Fixed front axle weight   | 347 kg (765 lb)                 |  |
| Suspended front axle weight   | 587 kg (1294 lb)                |  |
| Total loaded weight supported by front axle (maxi-<br>mum load on road) | 6000 kg (13228 lb)              |  |
| Recommended oil type (beam and final drive)                             | SAE85W90 (API GL4-MIL L-2105B)  |  |
| Total ratio for fixed front axle  | 15.500                          |  |
| Total ratio for suspended front axle                                    | 15.500                          |  |
| Number of teeth on final drive  | 70/38                           |  |
| Ratio for fixed axle final drive  | 6                               |  |
| Ratio for suspended axle final drive                                    | 6                               |  |
| Number of fixed axle pinion/ring gear teeth                             | 12/31                           |  |
| Number of suspended axle pinion/ring gear teeth                         | 12/31                           |  |
| Differential type   | Multidisc                       |  |
| Number of differential discs  | 12                              |  |
| Maximum steering angle  | 55°                             |  |
| Oscillation angle   | ± 9°                            |  |
| Type of oscillation stop  | Mechanical                      |  |
| Steering ram diameter   | 68 mm (2.7 in) x 32 mm (1.3 in) |  |
| Steering ram stroke   | 2 x 129 mm (5.1 in)             |  |
| Suspension type   | Hydraulics                      |  |





| Front axle                              |  |  |
|---|--|--|
| Suspension ram diameter                 | 65 mm (2.6 in) x 60 mm (2.4 in)  |  |
| Suspension ram stroke                   | 97 mm (3.8 in)   |  |
| Hydraulic control unit brand            | Husco  |  |
| Hydraulic control unit nominal pressure | 190 bar (2756 psi)   |  |
| Number of accumulators                  | 2  |  |
| Accumulator pressure                    | Left 0,5 I (0.1 gal (US)) = 10 bar (145 psi)<br>Right 0,75 I (0.2 gal (US)) = 50 bar (725 psi) |  |
| Suspension sensor type                  | Elobau angular potentiometer   |  |
| Steering sensor type                    | Elen angular potentiometer   |  |
| Brake type                              | Combined with the rear brake   |  |
| Factor K                                | 1.325  |  |

| Electrohydraulic   |   |  |
|--|---|--|
| System type  | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US)) Open Centre  |  |
| Flow rate  | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US))  |  |
| High-pressure pump type                                  | Bosch-Rexroth gear pump(s)  |  |
| High-pressure pump displacement                          | 19 cm3 (57 l/min (15.1 gal/min (US)) Open Centre)<br>19 cm3 + 14 cm3 (100 l/min (26.4 gal/min (US))<br>Open Centre) |  |
| High-pressure pump rotational speed                      | 3042 rpm - 2200 rpm engine speed  |  |
| High-pressure pump maximum flow rate                     | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US))  |  |
| High-pressure pump maximum pressure                      | 200 bar (2901 psi)  |  |
| Maximum quantity of oil to add for heavy imple-<br>ments | 10 I (2.6 gal (US))   |  |
| Maximum exportable oil quantity (without adding oil)     | 32 I (8.5 gal (US))   |  |
| Maximum exportable oil quantity (adding oil)             | 42 I (11.1 gal (US))  |  |
| Charge pump type   | Suction   |  |
| Main relief valve adjustment pressure                    | 195 bar (2828 psi) ± 5 bar (73 psi)   |  |
| Number of spool valves (maximum)                         | 4   |  |
| Number of front "push-pull" connectors (maximum)         | 2   |  |
| Number of rear "push-pull" connectors (maximum)          | 8   |  |
| Maximum flow rate per spool valve                        | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US))  |  |
| Spool valve control type                                 | Mechanical  |  |
| Recommended oil:   | According to MF CMS M 1145 specification  |  |

| Steering                   |  |
|----------------------------|--|
| Steering type              | Hydrostatic  |
| Type of control            | Steering wheel   |
| Steering unit displacement | 160 cm3  |
| Steering ram diameter      | 68 mm (2.7 in) x 32 mm (1.3 in)<br>72 mm (2.8 in) x 38 mm (1.5 in) |
| Steering ram stroke        | 2 x 129 mm (5.1 in)  |



| Steering                                  |   |  |
|---|---|--|
| Working pressure                          | 170 bar (2466 psi) - 175 bar (2538 psi) |  |
| Pressure relief valve adjustment pressure | 170 bar (2466 psi) - 175 bar (2538 psi) |  |
| Shock valve adjustment pressure           | 225 bar (3263 psi) - 245 bar (3553 psi) |  |
| Oil recommended for steering              | According to MF CMS M1145 specification |  |

| Linkage   |  |  |
|---|--|--|
| Rear lift ram diameter                          | 75 mm (3.0 in)   |  |
| Rear linkage travel                             | 263,5 mm (10.4 in)                                       |  |
| Maximum lifting capacity at ball joints (rear)  | CAT 2 = 6000 kg (13228 lb)<br>CAT 3 = 6100 kg (13448 lb) |  |
| Operating pressure (rear)                       | 180 bar (2611 psi)                                       |  |
| 3-point linkage category (rear)                 | CAT 2 or CAT 3   |  |
| Front lift ram diameter                         | 80 mm (3.2 in)   |  |
| Front linkage travel                            | 684 mm (26.9 in)   |  |
| Maximum lifting capacity at ball joints (front) | 4392 kg (9683 lb)  |  |
| Operating pressure (front)                      | 190 bar (2756 psi)                                       |  |
| 3-point linkage category (front)                | CAT 2  |  |

| Rear power take-off (PTO)  |                                 |
|--|---------------------------------|
| Number of selections possible for rear PTO                       | 540/1000 540/540E/1000/1000E    |
| Maximum permissible power 540/540E in 1"3/8 (6 and 21 splines)   | 540 = 100 kW<br>540E = 55 kW    |
| Maximum permissible power 540/540E in 1"3/4 (20 splines)         | 540 = 110 kW<br>540E = 55 kW    |
| Maximum permissible power 1000/1000E in 1"3/8 (6 and 21 splines) | 1000 = 100 kW<br>1000E = 55 kW  |
| Maximum permissible power 1000/1000E in 1"3/4<br>(20 splines)    | 1000 = 127 kW<br>1000E = 55 kW  |
| Engine speed if PTO 540  | 1980 rpm                        |
| Engine speed if PTO 540E   | 1532 rpm                        |
| Engine speed if PTO 1000   | 2030 rpm                        |
| Engine speed if PTO 1000E  | 1572 rpm                        |
| Rotational direction   | Clockwise                       |
| Clutch type  | Multidisc hydraulic             |
| Number of clutch discs   | 5                               |
| Control pressure   | 21 bar (305 psi)                |
| Splined shaft type   | 6 or 21 in 1"3/8 or 20 in 1"3/4 |

| Front power take-off                        |   |
|---|---|
| Number of selections possible for front PTO | 1000 rpm  |
| Maximum permissible power - clockwise       | 136 kW  |
| Maximum permissible power - anti-clockwise  | 150 kW  |
| Maximum permissible torque - clockwise      | 955 Nm (704 lbf ft)                                   |
| Maximum permissible torque - anti-clockwise | 1054 Nm (777 lbf ft)                                  |
| Rotational direction                        | 2 directions of rotation: Clockwise or anti-clockwise |
| Engine speed if PTO 1000                    | 1920 rpm  |

# 1 - General **A - General specifications**



| Front power take-off |                     |
|----------------------|---------------------|
| Ratio                | 1.92                |
| Clutch type          | Multidisc hydraulic |
| Splined shaft type   | 6 or 21 in 1"3/8    |

| Electric   |                                |  |
|--|--------------------------------|--|
| Battery brand  | ТАВ                            |  |
| Battery specifications (1 battery)   | 12 V 105 A/H                   |  |
| Maximum current at start-up (IEC standard)   | 420 A                          |  |
| Starter type   | 12 V                           |  |
| Starter power  | 3.2 KW                         |  |
| Alternator type  | 1 x 175 A or 2 x 120 A         |  |
| Current available on ISOBUS connector  | 50 A                           |  |
| Hazard warning light unit  | HELLA                          |  |
| Interior light, left-hand door   | 2 x 5 W                        |  |
| Roof light   | -                              |  |
| Type of bulb for side light indicators on hand rail                                    | 12 V 21 W / 12 V 10 W          |  |
| Type of bulb for brake lights, side lights on fenders                                  | 12 V 21 W / 12 V 5 W           |  |
| Type of bulb for main beams on lighting bar at front of bonnet                         | H4 - 12 V 60/55 W              |  |
| Type of bulb for dipped beam lights and side lights on lighting bar at front of bonnet | H7 - 12 V 55 W + T4 - 12 V 4 W |  |
| Type of bulb for main beams on hand rail   | H4 - 12 V 60/55 W              |  |
| Type of bulb for main beams on hand rail, low posi-<br>tion                            | H3 - 12 V 55 W                 |  |
| Type of bulb for work lights on hand rail  | H3 - 12 V 55 W                 |  |
| Type of bulb for work lights on roof   | H3 - 12 V 55 W                 |  |
| Type of bulb for work lights on step   | -                              |  |
| Type of bulb for number plate lights on roof   | H3 - 12 V 55 W                 |  |
| Type of bulb for reversing lights  | 12 V 21 W                      |  |
| Type of bulb for rotary beacon   | H1 - 12 V 55 W                 |  |

| Electronics                  |  |
|------------------------------|--|
| Function of e                | each controller  |
| DCC3                         | Instrument panel   |
| AUTOTRONIC 5 DC              | 3 Autotronic 5 DC:<br>- 1 for linkage                                  |
|                              | <ul> <li>– 1 for transmission</li> </ul>                               |
|                              | <ul> <li>1 TECU (without VIN code) suspended front<br/>axle</li> </ul> |
| Lights module                | Linkage/rear electrohydraulic power take-off/user<br>lights interface  |
| EEM4 (ECM Tier 4 AGCO Power) | Engine   |
| NOX ECU                      | 2 NOx ECU: converters of NOx sensor signals to EEM4 via CAN            |
| TopDock aerial               | optional   |
| Datatronic CCD               | No   |



| Electronics             |   |
|-------------------------|---|
| Air conditioning module | Manual  |
| CAN switches key pad    | – Rear linkage  |
|                         | <ul> <li>Rear electrohydraulic PTO</li> </ul>   |
| LIN switches key pad    | Controls for:<br>– main lighting<br>– 4WD front axle, manual and automatic<br>– manual and automatic differential lock<br>– front axle suspension |
| AM50 unit               | AgCommand™  |

| Cab and fittings                              |   |
|---|---|
| Type of cab suspension available              | Fixed<br>Mechanical, 2 points at rear     |
| Type of rear-view mirror control available    | Manual                                    |
| Type of air conditioning control available    | Manual                                    |
| Type and brand of air conditioning compressor | SANDEN with axial pistons                 |
| Compressor displacement                       | 154.9 cm3/rev.                            |
| Refrigerant                                   | R134a                                     |
| Noise level in cab with doors closed          | 71 DBA                                    |
| Roof type                                     | Standard or with hatch or high visibility |



## 2 Model MF 6613 Dyna-4

| Eng  | jine  |
|--|---|
| Brand  | AGCO Power  |
| Туре   | 49 AWI  |
| Nominal power (ISO TR14396) at 2200 rpm  | 120 hp (88 kW)  |
| Maximum power (ISO TR14396) at 2000 rpm  | 130 hp (96 kW)  |
| Maximum torque (ISO TR14396)   | 618 Nm (456 lbf ft)   |
| Idle speed, hand brake engaged and/or Power Con-<br>trol lever in neutral (PTO disengaged) | 750 rpm   |
| Normal idle speed  | 850 rpm   |
| Maximum speed  | 2260 rpm  |
| Engine weight  | 430 kg (948 lb)   |
| Number of cylinders  | 4   |
| Engine displacement in litres  | 4.9   |
| Piston travel  | 134 mm (5.3 in)   |
| Piston diameter  | 108 mm (4.3 in)   |
| Compression ratio  | 17.8  |
| Injection pump brand   | Bosch   |
| Injection pump type  | Common rail CP4.1   |
| Firing order   | 1-2-4-3   |
| Maximum pressure in the high-pressure system   | 1600 bar (23206 psi)  |
| Injector brand   | Bosch   |
| Injector type  | CRIN 3  |
| Charge pump type   | Manual  |
| Fuel prefilter filtration capacity   | 10 µ  |
| Main fuel filter filtration capacity   | 5μ  |
| Low-pressure system pressure at minimum speed  | 0,5 bar (7 psi) - 8,5 bar (123 psi)                             |
| Low-pressure system pressure at maximum speed  | 0,5 bar (7 psi) - 8,5 bar (123 psi)                             |
| Recommended oil:   | API CJ4 / ACEA E9   |
| Maximum operating tilt (precautions)   | 20° roll<br>25° pitch   |
| Lubrication system   | Gear pump at the bottom of the timing                           |
| Oil cooling system   | Oil/water heat exchanger  |
| Oil pressure at minimum speed  | 1,5 bar (22 psi)  |
| Oil pressure at maximum speed  | 2,5 bar (36 psi) at 5 bar (73 psi) depending on the temperature |
| Relief valve adjustment pressure   | 5 bar (73 psi) (spring pressure)                                |
| Air suction type   | Turbocharger with air/air intercooler                           |
| Air preheating type  | Grid heater with relay controlled by the ECU                    |
| Number of valves   | 16 (4 per cylinder)   |
| Valve clearance value  | 0,35 mm (0.01 in) (inlet and exhaust)                           |
| Engine cooling system  | Coolant   |
| Fan type   | Viscostatic   |
| Thermostat begins to open at   | 83 °C (181 °F)  |
| Liquid temperature from - to   | -35 °C (-31 °F) to 106 °C (223 °F)                              |
| Air compressor brand for the brake system  | Knorr Bremse  |



| Engine   |  |
|--|--|
| Type of compressor   | Pistons  |
| Pressure range:  | 6,5 bar (94 psi) to 8 bar (116 psi)  |
| Type and brand of air conditioning compressor  | SD7H15 - Sanden with axial pistons   |
| Air conditioning compressor displacement (cm <sup>3</sup> )  | 154.9  |
| Refrigerant  | R134a  |
| Block preheater  | 110 or 220 volts   |
| Fuel preheater   | Not available  |
| Urea preheater   | Coolant (tank)<br>Electric (supply module and urea lines)                                |
| Exhaust fumes recirculation system   | DOC (diesel oxidation catalyst) + SCR systems<br>(selective catalytic reduction)         |
| DOC (diesel oxidation catalyst) system   | DOC (diesel oxidation catalyst) with metal substrate (exhaust fumes oxidation catalyser) |
| SCR system (AdBlue™ or DEF injection)  | SCR with 1 ceramic substrate in silencer (exhaust fumes treatment)                       |
| Safety system  | NOx sensors at exhaust inlet and outlet  |
| Device brand   | Bosch Denox 2.2  |
| Type of control  | Engine controller EEM4   |
| Tank strainer filtration capacity  | 70 μm  |
| Main filter filtration capacity  | 20 μm  |
| Filtration capacity of pump module inlet connector   | 100 µm   |
| Urea solidification temperature  | -11 °C (12 °F)   |
| Oil vapour recirculation system  | Closed system breather (CCV)   |
| Belt: air conditioning compressor/left-hand alterna-<br>tor/air compressor (2 dimensions: with or without<br>air compressor) | Poly V 6 rib belt  |
| Belt: fan/right-hand alternator/air compressor (2 dimensions: a different fan pulley is used depending on the power)         | Poly V 10 rib belt   |

| Rear axle transmission                   |                     |
|--|---------------------|
| Gearbox type                             | GBA25               |
| Transmission type                        | Dyna-4              |
| Number of ratios                         | 4                   |
| Number of ranges                         | 4                   |
| Number of gears                          | 16/16               |
| Creeper gears                            | 4/1                 |
| Number of gears with creeper gears       | 24/24               |
| Super creeper gears                      | 14, 1/1             |
| Number of gears with super creeper gears | 32/32               |
| Maximum speed                            | 40 km/h (25 mile/h) |
| Rear axle type                           | GPA22+              |
| Number of pinion/ring gear teeth         | 8/39                |
| Rear axle ratio (crownwheel and pinion)  | 24.75               |
| 4WD ratio                                | 0.830               |
| Final drive type                         | Heavy Duty +        |
| Final drive reduction ratio              | (53+13)/13          |



| Rear axle transmission  |   |
|---|---|
| Maximum 4WD clutch torque   | 206 daNm (1519 lbf ft)  |
| Number of 4WD discs   | 6   |
| Main brake type   | Disc  |
| Number of discs   | 1 per side  |
| Braking pressure  | -   |
| Parking brake type  | Hand brake  |
| Trailer brake type  | Hydraulic and/or pneumatic with built-in antifreeze pump      |
| Pneumatic trailer braking pressure                                  | 6,5 bar (94 psi) to 8 bar (116 psi)                           |
| Hydraulic trailer braking pressure                                  | 0 to 150 bar (2176 psi)                                       |
| Maximum operating tilt - pitch (front/rear)                         | 15° (> 15 km/h (9 mile/h))<br>22° (< or = 15 km/h (9 mile/h)) |
| Maximum operating tilt - roll (right/left)                          | 15° (> 15 km/h (9 mile/h))<br>22° (< or = 15 km/h (9 mile/h)) |
| Maximum operating tilt - combined                                   | 15° (> 15 km/h (9 mile/h))<br>22° (< or = 15 km/h (9 mile/h)) |
| Transmission preheater  | 110 V and 220 V accessory kits                                |
| Total loaded weight supported by rear axle - 40 km/h<br>(25 mile/h) | 7600 kg (16755 lb)  |

| Front axle  |                                 |
|---|---------------------------------|
| Front axle brand  | DANA                            |
| Axle type   | Fixed or suspended              |
| Supplier reference - fixed front axle                                   | 735/528                         |
| Supplier reference - suspended front axle                               | 735/614                         |
| Rotational direction  | Anti-clockwise                  |
| Fixed front axle weight   | 347 kg (765 lb)                 |
| Suspended front axle weight   | 587 kg (1294 lb)                |
| Total loaded weight supported by front axle (maxi-<br>mum load on road) | 6000 kg (13228 lb)              |
| Recommended oil type (beam and final drive)                             | SAE85W90 (API GL4-MIL L-2105B)  |
| Total ratio for fixed front axle  | 15.500                          |
| Total ratio for suspended front axle                                    | 15.500                          |
| Number of teeth on final drive  | 70/38                           |
| Ratio for fixed axle final drive  | 6                               |
| Ratio for suspended axle final drive                                    | 6                               |
| Number of fixed axle pinion/ring gear teeth                             | 12/31                           |
| Number of suspended axle pinion/ring gear teeth                         | 12/31                           |
| Differential type   | Multidisc                       |
| Number of differential discs  | 12                              |
| Maximum steering angle  | 55°                             |
| Oscillation angle   | ± 9°                            |
| Type of oscillation stop  | Mechanical                      |
| Steering ram diameter   | 68 mm (2.7 in) x 32 mm (1.3 in) |
| Steering ram stroke   | 2 x 129 mm (5.1 in)             |
| Suspension type   | Hydraulics                      |



| Front axle                              |  |
|---|--|
| Suspension ram diameter                 | 65 mm (2.6 in) x 60 mm (2.4 in)  |
| Suspension ram stroke                   | 97 mm (3.8 in)   |
| Hydraulic control unit brand            | Husco  |
| Hydraulic control unit nominal pressure | 190 bar (2756 psi)   |
| Number of accumulators                  | 2  |
| Accumulator pressure                    | Left 0,5 I (0.1 gal (US)) = 10 bar (145 psi)<br>Right 0,75 I (0.2 gal (US)) = 50 bar (725 psi) |
| Suspension sensor type                  | Elobau angular potentiometer   |
| Steering sensor type                    | Elen angular potentiometer   |
| Brake type                              | Combined with the rear brake   |
| Factor K                                | 1.325  |

| Electrohydraulic   |   |
|--|---|
| System type  | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US)) Open Centre  |
| Flow rate  | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US))  |
| High-pressure pump type                                  | Bosch-Rexroth gear pump(s)  |
| High-pressure pump displacement                          | 19 cm3 (57 l/min (15.1 gal/min (US)) Open Centre)<br>19 cm3 + 14 cm3 (100 l/min (26.4 gal/min (US))<br>Open Centre) |
| High-pressure pump rotational speed                      | 3042 rpm - 2200 rpm engine speed  |
| High-pressure pump maximum flow rate                     | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US))  |
| High-pressure pump maximum pressure                      | 200 bar (2901 psi)  |
| Maximum quantity of oil to add for heavy imple-<br>ments | 10 I (2.6 gal (US))   |
| Maximum exportable oil quantity (without adding oil)     | 32 I (8.5 gal (US))   |
| Maximum exportable oil quantity (adding oil)             | 42 I (11.1 gal (US))  |
| Charge pump type   | Suction   |
| Main relief valve adjustment pressure                    | 195 bar (2828 psi) ± 5 bar (73 psi)   |
| Number of spool valves (maximum)                         | 4   |
| Number of front "push-pull" connectors (maximum)         | 2   |
| Number of rear "push-pull" connectors (maximum)          | 8   |
| Maximum flow rate per spool valve                        | 57 l/min (15.1 gal/min (US)) or 100 l/min<br>(26.4 gal/min (US))  |
| Spool valve control type                                 | Mechanical  |
| Recommended oil:   | According to MF CMS M 1145 specification  |

| Steering                   |  |
|----------------------------|--|
| Steering type              | Hydrostatic  |
| Type of control            | Steering wheel   |
| Steering unit displacement | 160 cm3  |
| Steering ram diameter      | 68 mm (2.7 in) x 32 mm (1.3 in)<br>72 mm (2.8 in) x 38 mm (1.5 in) |
| Steering ram stroke        | 2 x 129 mm (5.1 in)  |

#### 1 - General



| Steering                                  |   |  |
|---|---|--|
| Working pressure                          | 170 bar (2466 psi) - 175 bar (2538 psi) |  |
| Pressure relief valve adjustment pressure | 170 bar (2466 psi) - 175 bar (2538 psi) |  |
| Shock valve adjustment pressure           | 225 bar (3263 psi) - 245 bar (3553 psi) |  |
| Oil recommended for steering              | According to MF CMS M1145 specification |  |

| Linkage   |  |
|---|--|
| Rear lift ram diameter                          | 75 mm (3.0 in)   |
| Rear linkage travel                             | 263,5 mm (10.4 in)                                       |
| Maximum lifting capacity at ball joints (rear)  | CAT 2 = 6000 kg (13228 lb)<br>CAT 3 = 6100 kg (13448 lb) |
| Operating pressure (rear)                       | 180 bar (2611 psi)                                       |
| 3-point linkage category (rear)                 | CAT 2 or CAT 3   |
| Front lift ram diameter                         | 80 mm (3.2 in)   |
| Front linkage travel                            | 684 mm (26.9 in)   |
| Maximum lifting capacity at ball joints (front) | 4392 kg (9683 lb)  |
| Operating pressure (front)                      | 190 bar (2756 psi)                                       |
| 3-point linkage category (front)                | CAT 2  |

| Rear power take-off (PTO)  |                                 |  |
|--|---------------------------------|--|
| Number of selections possible for rear PTO                       | 540/1000 540/540E/1000/1000E    |  |
| Maximum permissible power 540/540E in 1"3/8 (6 and 21 splines)   | 540 = 100 kW<br>540E = 55 kW    |  |
| Maximum permissible power 540/540E in 1"3/4 (20 splines)         | 540 = 110 kW<br>540E = 55 kW    |  |
| Maximum permissible power 1000/1000E in 1"3/8 (6 and 21 splines) | 1000 = 100 kW<br>1000E = 55 kW  |  |
| Maximum permissible power 1000/1000E in 1"3/4<br>(20 splines)    | 1000 = 127 kW<br>1000E = 55 kW  |  |
| Engine speed if PTO 540  | 1980 rpm                        |  |
| Engine speed if PTO 540E   | 1532 rpm                        |  |
| Engine speed if PTO 1000   | 2030 rpm                        |  |
| Engine speed if PTO 1000E  | 1572 rpm                        |  |
| Rotational direction   | Clockwise                       |  |
| Clutch type  | Multidisc hydraulic             |  |
| Number of clutch discs   | 5                               |  |
| Control pressure   | 21 bar (305 psi)                |  |
| Splined shaft type   | 6 or 21 in 1"3/8 or 20 in 1"3/4 |  |

| Front power take-off                        |   |
|---|---|
| Number of selections possible for front PTO | 1000 rpm  |
| Maximum permissible power - clockwise       | 136 kW  |
| Maximum permissible power - anti-clockwise  | 150 kW  |
| Maximum permissible torque - clockwise      | 955 Nm (704 lbf ft)                                   |
| Maximum permissible torque - anti-clockwise | 1054 Nm (777 lbf ft)                                  |
| Rotational direction                        | 2 directions of rotation: Clockwise or anti-clockwise |
| Engine speed if PTO 1000                    | 1920 rpm  |

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