

Workshop Service Manual

MF 7700 series tractors

GBA15
GBA25
GPA20
GPA40
HA140

HA180
ML140
ML180



MF 7700 series tractors

- 1 Introduction
 - 1A10 MF 7700 - General
 - 1A16 MF 7700 - Adjustments, bleeding and calibrations
- 2 Separation of assemblies
 - 2A17 Front linkage
 - 2B17 Front axle
 - 2C17 Cooling unit
 - 2D17 Front frame
 - 2E17 Engine cover
 - 2F17 Engine
 - 2G17 Cab
- 3 Engine
 - 3A10 T4F SCR engine - General
 - 3A13 T4F SCR engine - Layout of components
 - 3A14 T4F SCR engine - Tests and diagnostics
 - 3A16 T4F SCR engine - Adjustments, bleeding and calibrations
 - 3A17 T4F SCR engine - Disassembly and reassembly
 - 3A18 T4F SCR engine - Service tools
 - 3B10 MF 7700 SCR Technology - General
 - 3B13 MF 7700 SCR Technology - Layout of components
 - 3B17 MF 7700 SCR Technology - Disassembly and reassembly
 - 3B18 MF 7700 SCR Technology - Service tools
- 4 Clutch
 - Chapter not used for this model
- 5 Gearbox
 - 5A10 ML140/ML180 - General
 - 5A13 ML140/ML180 - Layout of components
 - 5A14 ML140/ML180 - Tests and diagnostics
 - 5A17 ML140/ML180 - Disassembly and reassembly
 - 5A18 ML140/ML180 - Service tools
 - 5B10 GBA15 - General
 - 5B13 GBA15 - Layout of components
 - 5B17 GBA15 - Disassembly/reassembly
 - 5B20 GBA15/PowerShuttle - General
 - 5B23 GBA15/PowerShuttle - Layout of components
 - 5B27 GBA15/PowerShuttle - Disassembly/reassembly
 - 5B28 GBA15/PowerShuttle - Service tools
 - 5B30 GBA15/Powershift module - General
 - 5B33 GBA15/Powershift module - Layout of components
 - 5B37 GBA15/Powershift module - Disassembly/reassembly
 - 5B38 GBA15/Powershift module - Service tools
 - 5B40 GBA15/Robotic mechanical gearbox - General
 - 5B43 GBA15/Robotic mechanical gearbox - Layout of components

5B47	GBA15/Robotic mechanical gearbox - Disassembly/reassembly
5B48	GBA15/Robotic mechanical gearbox - Service tools
5B50	GBA15/Creeper gears - General
5B53	GBA15/Creeper gears - Layout of components
5B57	GBA15/Creeper gears - Disassembly/reassembly
5C10	GBA25 - General
5C13	GBA25 - Layout of components
5C17	GBA25 - Disassembly and reassembly
5C20	GBA25/PowerShuttle - General
5C23	GBA25/PowerShuttle - Layout of components
5C27	GBA25/PowerShuttle - Disassembly and reassembly
5C28	GBA25/PowerShuttle - Service tools
5C30	GBA25/Powershift module - General
5C33	GBA25/Powershift module - Layout of components
5C37	GBA25/Powershift module - Disassembly and reassembly
5C38	GBA25/Powershift module - Service tools
5C40	GBA25/Robotic mechanical gearbox - General
5C43	GBA25/Robotic mechanical gearbox - Layout of components
5C47	GBA25/Robotic mechanical gearbox - Disassembly and reassembly
5C48	GBA25/Robotic mechanical gearbox - Service tools
5C50	GBA25/Super creeper gears - General
5C53	GBA25/Super creeper gears - Layout of components
5C57	GBA25/Super creeper gears - Disassembly and reassembly

6 Rear axle

6A10	HA140/HA180 - General
6A13	HA140/HA180 - Layout of components
6A17	HA140/HA180 - Disassembly and reassembly
6A20	HA140/HA180/Final drives - General
6A23	HA140/HA180/Final drives - Layout of components
6A27	HA140/HA180/Final drives - Disassembly and reassembly
6A28	HA140/HA180/Final drives - Service tools
6A30	HA140/HA180/Differential - General
6A33	HA140/HA180/Differential - Layout of components
6A37	HA140/HA180/Differential - Disassembly and reassembly
6A38	HA140/HA180/Differential - Service tools
6A40	HA140/HA180/Tractor braking - General
6A43	HA140/HA180/Tractor braking - Layout of components
6A46	HA140/HA180/Tractor braking - Adjustments, bleeding and calibrations
6A47	HA140/HA180/Tractor braking - Disassembly and reassembly
6A48	HA140/HA180/Tractor braking - Service tools
6A50	HA140/HA180/ParkLock - General
6A53	HA140/HA180/ParkLock - Layout of components
6A56	HA140/HA180/ParkLock - Adjustments, bleeding and calibrations
6A57	HA140/HA180/ParkLock - Disassembly and reassembly
6A60	HA140/HA180/Hydraulic trailer braking - General
6A64	HA140/HA180/Hydraulic trailer braking - Tests and diagnostics
6B10	GPA40 - General
6B13	GPA40 - Layout of components
6B17	GPA40 - Disassembly and reassembly
6B20	GPA40/Final drives - General
6B23	GPA40/Final drives - Layout of components

6B27	GPA40/Final drives - Disassembly and reassembly
6B28	GPA40/Final drives - Service tools
6B30	GPA40/Differential - General
6B33	GPA40/Differential - Layout of components
6B37	GPA40/Differential - Disassembly and reassembly
6B38	GPA40/Differential - Service tools
6B40	GPA40/Tractor braking - General
6B43	GPA40/Tractor braking - Layout of components
6B46	GPA40/Tractor braking - Adjustments, bleeding and calibrations
6B47	GPA40/Tractor braking - Disassembly and reassembly
6B48	GPA40/Tractor braking - Service tools
6B50	GPA40/ParkLock - General
6B53	GPA40/ParkLock - Layout of components
6B57	GPA40/ParkLock - Disassembly and reassembly
6B60	GPA40/Hitch/Linkage - General
6B63	GPA40/Hitch/Linkage - Layout of components
6B67	GPA40/Hitch/Linkage - Disassembly and reassembly
6C10	GPA20 - General
6C13	GPA20 - Layout of components
6C20	GPA20/Final drives - General
6C23	GPA20/Final drives - Layout of components
6C27	GPA20/Final drives - Disassembly and reassembly
6C28	GPA20/Final drives - Service tools
6C30	GPA20/Differential - General
6C33	GPA20/Differential - Layout of components
6C37	GPA20/Differential - Disassembly and reassembly
6C38	GPA20/Differential - Service tools
6C40	GPA20/Tractor braking - General
6C43	GPA20/Tractor braking - Layout of components
6C46	GPA20/Tractor braking - Adjustments, bleeding and calibrations
6C47	GPA20/Tractor braking - Disassembly and reassembly
6C48	GPA20/Tractor braking - Service tools
6C50	GPA20/Hitch/Linkage - General
6C53	GPA20/Hitch/Linkage - Layout of components
6C56	GPA20/Hitch/Linkage - Adjustments, bleeding and calibrations
6C57	GPA20/Hitch/Linkage - Disassembly and reassembly
6C60	GPA20 +/-Hitch/Increased capacity linkage - General
6C63	GPA20 +/-Hitch/Increased capacity linkage - Layout of components
6C66	GPA20 +/-Hitch/Increased capacity linkage - Adjustments, bleeding and calibrations
6C67	GPA20 +/-Hitch/Increased capacity linkage - Disassembly and reassembly
6C68	GPA20 +/-Hitch/Increased capacity linkage - Service tools
6D10	Pneumatic trailer braking - General
6D13	Pneumatic trailer braking - Layout of components
6D14	Pneumatic trailer braking - Tests and diagnostics
6D16	Pneumatic trailer braking - Adjustments, bleeding and calibrations
6D17	Pneumatic trailer braking - Disassembly and reassembly
6D18	Pneumatic trailer braking - Service tools
6E10	Auto-hitch - General
6E13	Auto-hitch - Layout of components
6E16	Auto-hitch - Adjustments, bleeding and calibrations
6E17	Auto-hitch - Disassembly and reassembly

	6F10	Rear wheels/hubs - General
	6F17	Rear wheels/hubs - Disassembly and reassembly
7		Power take-off
	7A10	HA140/HA180 - General
	7A13	HA140/HA180 - Layout of components
	7A17	HA140/HA180 - Disassembly and reassembly
	7B10	GPA40 - General
	7B13	GPA40 - Layout of components
	7B17	GPA40 - Disassembly and reassembly
	7B20	GPA40/Clutch - General
	7B23	GPA40/Clutch - Layout of components
	7B27	GPA40/Clutch - Disassembly and reassembly
	7B28	GPA40/Clutch - Service tools
	7B30	GPA40/Intermediate shaft and driving gears - General
	7B33	GPA40/Intermediate shaft and driving gears - Layout of components
	7B37	GPA40/Intermediate shaft and driving gears - Disassembly and reassembly
	7B40	GPA40/Output shaft and brake - General
	7B43	GPA40/Output shaft and brake - Layout of components
	7B47	GPA40/Output shaft and brake - Disassembly and reassembly
	7B48	GPA40/Output shaft and brake - Service tools
	7B50	GPA40/PTO electrohydraulic controls - General
	7B53	GPA40/PTO electrohydraulic controls - Layout of components
	7B56	GPA40/PTO electrohydraulic controls - Adjustments, bleeding and calibrations
	7C10	GPA20 - General
	7C20	GPA20/Clutch - General
	7C23	GPA20/Clutch - Layout of components
	7C27	GPA20/Clutch - Disassembly and reassembly
	7C28	GPA20/Clutch - Service tools
	7C30	GPA20/Intermediate shaft/Driving gear/PTO brake - General
	7C33	GPA20/Intermediate shaft/Driving gear/PTO brake - Layout of components
	7C37	GPA20/Intermediate shaft/Driving gear/PTO brake - Disassembly and reassembly
	7C40	GPA20/Output shaft without speed selection - General
	7C43	GPA20/Output shaft without speed selection - Layout of components
	7C47	GPA20/Output shaft without speed selection - Disassembly and reassembly
	7C50	GPA20/Output shaft with speed selection - General
	7C53	GPA20/Output shaft with speed selection - Layout of components
	7C57	GPA20/Output shaft with speed selection - Disassembly and reassembly
	7C60	GPA20/PTO electrohydraulic controls - General
	7C63	GPA20/PTO electrohydraulic controls - Layout of components
	7C67	GPA20/PTO electrohydraulic controls - Disassembly and reassembly
	7C70	GPA20/GSPTO - General
	7C73	GPA20/GSPTO - Layout of components
	7C77	GPA20/GSPTO - Disassembly and reassembly
	7D10	Zuidberg front power take-off - General
	7D13	Zuidberg front power take-off - Layout of components
	7D14	Zuidberg front power take-off - Tests and diagnostics

- 7D16 Zuidberg front power take-off - Adjustments, bleeding and calibrations
- 7D17 Zuidberg front power take-off - Disassembly and reassembly

8 Front axle

- 8A10 DANA 740 - General
- 8A13 DANA 740 - Layout of components
- 8A14 DANA 740 - Tests and diagnostics
- 8A17 DANA 740 - Disassembly and reassembly
- 8A20 DANA 750 - General
- 8A23 DANA 750 - Layout of components
- 8A24 DANA 750 - Tests and diagnostics
- 8A27 DANA 750 - Disassembly and reassembly
- 8A30 DANA 755 - General
- 8A33 DANA 755 - Layout of components
- 8A34 DANA 755 - Tests and diagnostics
- 8A37 DANA 755 - Disassembly and reassembly
- 8B10 Front suspension - General
- 8B13 Front suspension - Layout of components
- 8B16 Front suspension - Adjustments, bleeding and calibrations
- 8B17 Front suspension - Disassembly and reassembly
- 8C10 HA140/HA180/4WD clutch - General
- 8C13 HA140/HA180/4WD clutch - Layout of components
- 8C17 HA140/HA180/4WD clutch - Disassembly and reassembly
- 8C20 HA140/HA180/Universal joint shaft brake - General
- 8C27 HA140/HA180/Universal joint shaft brake - Disassembly and reassembly
- 8D10 GPA40/4WD clutch - General
- 8D13 GPA40/4WD clutch - Layout of components
- 8D16 GPA40/4WD clutch - Adjustments, bleeding and calibrations
- 8D17 GPA40/4WD clutch - Disassembly and reassembly
- 8D18 GPA40/4WD clutch - Service tools
- 8E10 GPA20/4WD clutch - General
- 8E13 GPA20/4WD clutch - Layout of components
- 8E17 GPA20/4WD clutch - Disassembly and reassembly
- 8F10 Steering unit/Closed Center - General
- 8F13 Steering unit/Closed Center - Layout of components
- 8F17 Steering unit/Closed Center - Disassembly and reassembly
- 8F20 Steering unit/Open Center - General
- 8F23 Steering unit/Open Center - Layout of components
- 8F27 Steering unit/Open Center - Disassembly and reassembly

9 Hydraulics

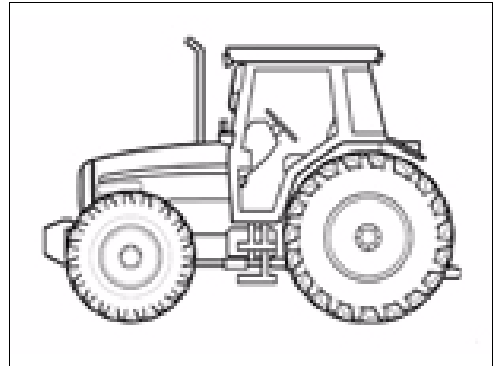
- 9A10 HA140/HA180/Load Sensing - General
- 9A13 HA140/HA180/Load Sensing - Layout of components
- 9A14 HA140/HA180/Load Sensing - Tests and diagnostics
- 9A17 HA140/HA180/Load Sensing - Disassembly and reassembly
- 9A18 HA140/HA180/Load Sensing - Service tools
- 9B10 GPA20/GPA40/Load Sensing - General
- 9B13 GPA20/GPA40/Load Sensing - Layout of components
- 9B14 GPA20/GPA40/Load Sensing - Tests and diagnostics
- 9B18 GPA20/GPA40/Load Sensing - Service tools
- 9B20 GPA20/GPA40/Load Sensing/Right-hand cover plate - General



9B23	GPA20/GPA40/Load Sensing/Right-hand cover plate - Layout of components
9B27	GPA20/GPA40/Load Sensing/Right-hand cover plate - Disassembly and reassembly
9B28	GPA20/GPA40/Load Sensing/Right-hand cover plate - Service tools
9B30	GPA20/GPA40/Load Sensing/Left-hand cover plate - General
9B33	GPA20/GPA40/Load Sensing/Left-hand cover plate - Layout of components
9B37	GPA20/GPA40/Load Sensing/Left-hand cover plate - Disassembly and reassembly
9C10	Load Sensing/Linkage spool valve - General
9C17	Load Sensing/Linkage spool valve - Disassembly and reassembly
9C20	Load Sensing/Rear auxiliary spool valves - General
9C26	Load Sensing/Rear auxiliary spool valves - Adjustments, bleeding and calibrations
9C27	Load Sensing/Rear auxiliary spool valves - Disassembly and reassembly
9C30	Load Sensing/Front auxiliary spool valves - General
9C37	Load Sensing/Front auxiliary spool valves - Disassembly and reassembly
9D10	GPA20/Open Center - General
9D14	GPA20/Open Center - Tests and diagnostics
9D20	GPA20/Open Center/Right-hand cover plate - General
9D23	GPA20/Open Center/Right-hand cover plate - Layout of components
9D27	GPA20/Open Center/Right-hand cover plate - Disassembly and reassembly
9D30	GPA20/Open Center/Left-hand cover plate - General
9D33	GPA20/Open Center/Left-hand cover plate - Layout of components
9D37	GPA20/Open Center/Left-hand cover plate - Disassembly and reassembly
9D40	GPA20/100 l/min Open Center - General
9D44	GPA20/100 l/min Open Center - Tests and diagnostics
9D50	GPA20/100 l/min Open Center/Right-hand cover plate - General
9D53	GPA20/100 l/min Open Center/Right-hand cover plate - Layout of components
9D57	GPA20/100 l/min Open Center/Right-hand cover plate - Disassembly and reassembly
9D60	GPA20/100 l/min Open Center/Left-hand cover plate - General
9D63	GPA20/100 l/min Open Center/Left-hand cover plate - Layout of components
9D67	GPA20/100 l/min Open Center/Left-hand cover plate - Disassembly and reassembly
9D70	GPA20/Open Center/Linkage spool valve - General
9D73	GPA20/Open Center/Linkage spool valve - Layout of components
9D77	GPA20/Open Center/Linkage spool valve - Disassembly and reassembly
9D80	GPA20/Open Center/Auxiliary spool valves - General
9D83	GPA20/Open Center/Auxiliary spool valves - Layout of components
9D86	GPA20/Open Center/Auxiliary spool valves - Adjustments, bleeding and calibrations
9D87	GPA20/Open Center/Auxiliary spool valves - Disassembly and reassembly
9D90	GPA20/Open Center/21 bar valve - General

	9D93	GPA20/Open Center/21 bar valve - Layout of components
	9D96	GPA20/Open Center/21 bar valve - Adjustments, bleeding and calibrations
	9D97	GPA20/Open Center/21 bar valve - Disassembly and reassembly
10	Electricity	
	10A10	General
	10A13	Layout of components
	10B10	Cab fuse box - General
	10B13	Cab fuse box - Layout of components
	10B17	Cab fuse box - Disassembly and reassembly
	10C13	Alternator - Layout of components
	10C14	Alternator - Tests and diagnostics
	10C17	Alternator - Disassembly and reassembly
	10C18	Alternator - Service tools
	10D10	Starter - General
	10D13	Starter - Layout of components
	10D14	Starter - Tests and diagnostics
	10D17	Starter - Disassembly and reassembly
	10E10	Battery isolator - General
	10E13	Battery isolator - Layout of components
	10F17	Triflash triangle - Disassembly/reassembly
11	Electronics	
	11A10	Diagnostic tools - General
	11B10	Telemetry - General
	11B11	Telemetry - Error codes
	11B13	Telemetry - Layout of components
	11B15	Telemetry - Programming and setting parameters
	11B17	Telemetry - Disassembly and reassembly
	11C10	Datatronic - General
	11D10	Multi Function Joystick - General
12	Cab	
	12A10	Standard air conditioning - General
	12A12	Standard air conditioning - Hydraulics diagrams
	12A13	Standard air conditioning - Layout of components
	12A14	Standard air conditioning - Tests and diagnostics
	12A16	Standard air conditioning - Adjustments, bleeding and calibrations
	12A17	Standard air conditioning - Disassembly and reassembly
	12A18	Standard air conditioning - Service tools
	12B10	Self-regulating air conditioning - General
	12B13	Self-regulating air conditioning - Layout of components
	12B14	Self-regulating air conditioning - Tests and diagnostics
	12B16	Self-regulating air conditioning - Adjustments, bleeding and calibrations
	12B17	Self-regulating air conditioning - Disassembly and reassembly
	12C10	Mechanical suspension - General
	12C13	Mechanical suspension - Layout of components
	12C17	Mechanical suspension - Disassembly and reassembly
13	Accessories	
		accessories kits
14	Service tools	

14A01	General
14A02	Separation of assemblies
14A03	Engine
14A05	Gearbox
14A06	Rear axle
14A07	Power take-off
14A08	Front axle
14A09	Hydraulics
14A10	Electricity
14A11	Electronics
14A12	Cab



1 - Introduction

1A10	MF 7700 - General	3
1A16	MF 7700 - Adjustments, bleeding and calibrations	97

1A10 - MF 7700 - General

1	Using the manual	5
2	General specifications for MF 7714, MF 7715, MF 7716, and MF 7718 models	6
2.1	General specifications - MF 7700 Dyna-4 tractors	6
2.2	General specifications - MF 7700 Dyna-6 tractors	13
2.3	General specifications - MF 7700 Dyna-VT tractors	20
3	General specifications for MF 7719, MF 7720, MF 7722, MF 7724, and MF 7726 models	26
3.1	General specifications - MF 7700 Dyna-6 tractors	26
3.2	General specifications - MF 7700 Dyna-VT tractors	33
4	Forward speeds for MF 7714, MF 7715, MF 7716, and MF 7718 models	40
4.1	Forward speed at maximum speed with Dyna-4 40 km/h transmission and 20.8R38 tires	40
4.2	Forward speed at maximum speed with Dyna-6 40 km/h transmission: and 20.8R38 tires	41
4.3	Forward speed at maximum speed with Dyna-6 50 km/h transmission: and 20.8R38 tires	43
4.4	Forward speed for all models with transmission in Dyna-VT mode	45
5	Forward speeds for MF 7719, MF 7720, MF 7722, MF 7724, and MF 7726 models	46
5.1	Forward speed at maximum speed with Dyna-6 transmission 40 km/h: and 20.8R42 tires	46
5.2	Forward speed at maximum speed with Dyna-6 transmission 50 km/h: and 20.8R42 tires	48
5.3	Forward speed with Dyna-6 transmission, 40 km/h and 50 km/h, creeper speed option, 20.8R42 tires	50
5.4	Forward speed for all models with Dyna-VT transmission	51
6	Dimensions and weights for MF 7714, MF 7715, MF 7716, and MF 7718 models	52
6.1	Dimensions and weights	52
7	Dimensions and weights for MF 7719, MF 7720, MF 7722, MF 7724, and MF 7726 models	55
7.1	Dimensions and weights	55
8	Attachment points for MF 7714, MF 7715, MF 7716, and MF 7718 models	66
8.1	Attachment points: Dyna-4/Dyna-6 models without front linkage	66
8.2	Attachment points: Dyna-4/Dyna-6 models with front linkage	68
8.3	Attachment points: Dyna-VT models without front linkage	70
8.4	Attachment points: Dyna-VT models with front linkage	72
9	Attachment points for MF 7719, MF 7720, MF 7722, MF 7724, and MF 7726 models	74
9.1	Attachment points: Dyna-6 models without front linkage	74
9.2	Attachment points: Dyna-6 models with front linkage 5 t	76
9.3	Attachment points: Dyna-VT models without front linkage	78
9.4	Attachment points: Dyna-VT models with front linkage 5 t	80
10	Capacities for MF 7714, MF 7715, MF 7716, and MF 7718 models	82
10.1	Capacities	82
11	Capacities for MF 7719, MF 7720, MF 7722, MF 7724, and MF 7726 models	83
11.1	Capacities	83
12	Conversion table	85
13	Retaining compounds and sealing products	87
14	Tightening torques	89
14.1	Tightening torques for screws and nuts	89
14.2	Tightening torques for hydraulic unions	93

1 Using the manual

General

The purpose of this manual is to assist Dealers and Agents in the installation, servicing and repair of Massey Ferguson equipment. It is important to follow the methods shown and to use special tools in order to perform the operations within the times stated in the repair time schedule.

Structure of the manual

Page numbering

This manual is divided into chapters and sections, each page containing the following information:

Example: 10A12.1

10	Chapter
A	Subset letter
1	Subset order number
2	Subset number
1	Page number within the section

The issue number is indicated at the bottom of the page.

Contents

For quick reference, each chapter starts with a table of contents, listing the various sections included in that chapter.

Meaning of reference numbers

(..)	Reference number for parts
------	----------------------------

Service tools

Where the use of a service tool is necessary to carry out an operation, the tool reference is mentioned with the relevant instruction.

Tool drawings for makeshift tools are given at the end of the relevant sections.

Repairs and parts replacement

During replacement operations, it is essential that only genuine Massey Ferguson parts are used.

If non-genuine Massey Ferguson parts are fitted, the tractor warranty may be invalidated and tractor safety may be compromised. All Massey Ferguson parts are guaranteed by the manufacturer. Massey Ferguson Dealers and Agents are required to supply only genuine service parts.

When carrying out repairs and fitting replacement parts and accessories, the following points are of particular importance:

- Legislation in certain countries prohibits the fitting of parts that do not comply with the tractor manufacturer's specifications
- Torque wrench setting figures given in the workshop manual must be strictly respected
- Locking devices must be fitted where specified. If the efficiency of a locking device is impaired during dis-assembly, it must be replaced.

2 General specifications for MF 7714, MF 7715, MF 7716, and MF 7718 models

2.1 General specifications - MF 7700 Dyna-4 tractors

Engine		
Model	MF 7714	MF 7715
Brand	AGCO Power	
Type	66 AWF-T4F	
Nominal power hp ISO (kW) at an engine speed of 2100 rpm	130 (96)	140 (103)
Maximum power hp ISO (kW) at an engine speed of 1950 rpm	140 (103)	150 (110)
Maximum EPM power hp ISO (kW) at an engine speed of 1950 rpm	165 (121)	175 (129)
Maximum EPM torque (Nm)	675 Nm	732 Nm
Engine displacement (in liters)	6.6	
Piston travel	120 mm	
Piston diameter	108 mm	
Compression ratio	17,8 bar ± 1 bar	
Number of cylinders	6	
Idle speed, hand brake engaged	750 rpm	
Idle speed, hand brake disengaged	850 rpm	
Nominal speed	2100 rpm	
Maximum speed	2160 rpm	
Engine weight	590 kg	
High-pressure pump brand	Bosch	
Fuel injection type	Common rail CP4.2	
Firing order	1-5-3-6-2-4	
Maximum pressure in the high-pressure system	2000 bar	
Injector brand	Bosch	
Injector type	CRIN 3.20	
Charge pump type	Manual	
Fuel prefilter filtration capacity	10 µ	
Main fuel filter filtration capacity	5 µ	
Low-pressure system pressure at minimum speed	0,5 bar to 8,5 bar	
Low-pressure system pressure at maximum speed	0,5 bar to 8,5 bar	
Recommended oil:	API CJ4 or ACEA E9	
Maximum operating tilt (precautions)	25° pitch	
	20° roll	
Oil/fuel consumption	Maximum 0.2%	
Lubrication system	Gear pump	
Oil cooling system	Oil/water heat exchanger	
Oil pressure at minimum speed	1,5 bar	
Oil pressure at maximum speed	2,5 bar at 5 bar depending on the temperature	
Relief valve adjustment pressure	5 bar (spring pressure)	

Engine		
Model	MF 7714	MF 7715
Air suction type	Turbocharged with air/air intercooler	
Air preheating type	Grid heater with relay controlled by the ECU	
Number of valves	24	
Valve clearance value	0,35 mm (inlet and exhaust)	
Engine cooling system	Coolant	
Fan type	Vistronic	
Thermostat begins to open at	83 °C	
Coolant temperature	-35 °C to 106 °C	
Air compressor brand for the brake system	Knorr Bremse	
Type of compressor	Piston	
Pressure range:	6,5 bar to 8 bar	
Block preheater	110 or 220 volts	
Fuel preheater	Not available	
Urea preheater	Tank: coolant	
Exhaust fumes recirculation system	Pump module and supply lines: electric	
DOC + SCR system (injection of AdBlue™ or DEF)	DOC with metal substrate (exhaust fumes oxidation catalyser)	
	SCR Technology with two ceramic substrates (exhaust fume treatment)	
Safety system	NOx sensors at exhaust inlet and outlet	
Device brand	Bosch Denox 2.2+	
Type of control	Engine controller EEM4	
Urea solidification temperature	-11 °C	
Oil vapor recirculation system	Closed system breather (CCV)	
Belt: Air conditioning compressor/left-hand alternator	Poly V belt	
Belt: Fan/right-hand alternator	Poly V belt	
Belt: Air compressor	Poly V belt	

Rear axle transmission	
Model	MF 7714, MF 7715
Gearbox type	GBA25
Number of ratios	4
Number of ranges	4
Number of gears	16/16
Super creeper gears	14/1
Number of gears with super creeper gears	32/32
Maximum speed	40 km/h
Rear axle type	GPA23
Number of pinion/ring gear teeth	8/39
Rear axle ratio	27.161
4WD ratio	0.830
Final drive type	"Super Heavy Duty (SHD)"
Final drive reduction ratio	(64+14)/14

Rear axle transmission	
Model	MF 7714, MF 7715
Maximum 4WD clutch torque	206 daNm
Number of 4WD disks	6 disks
Main brake type	Disk
Number of disks per side	1 disk
Braking pressure	-
Parking brake type	Hand brake
Trailer brake type	Hydraulic and pneumatic with built-in antifreeze pump
Pneumatic trailer braking pressure	6,9 bar to 8,3 bar
Hydraulic trailer braking pressure	0 to 150 bar
Maximum operating tilt - pitch (front/rear)	15° (> 15 km/h) 22° (< or = 15 km/h)
Maximum operating tilt - roll (right/left)	15° (> 15 km/h) 22° (< or = 15 km/h)
Maximum operating tilt - combined	15° (> 15 km/h) 22° (< or = 15 km/h)
Total loaded weight supported by rear axle	6900 kg

Front axle	
Model	MF 7714, MF 7715
Brand	DANA
Supplier reference - suspended axle	740/616
Supplier reference - fixed axle	740/555
Suspended front axle weight	-
Fixed front axle weight	-
Number of differential disks	(10)
Total ratio for fixed and suspended front axle	17.104
Axle type	Suspended or fixed
Total loaded weight supported by front axle	-
Rotational direction	Clockwise
Recommended oil type (beam and final drive)	TRACTELF SF3
Ratio for fixed and suspended axle final drive	6.353
Number of pinion/ring gear teeth	12/34
Maximum steering angle	55°
Oscillation angle	± 9°
Type of oscillation stop	Mechanical
Suspension type	Hydraulics
Suspension ram diameter	2 mm x 70 mm x 50 mm
Suspension ram stroke	155 mm
Hydraulic control unit brand	Hydac
Hydraulic control unit nominal pressure	200 bar
Number of accumulators	3
Accumulator pressure	Lifting 1,4 l: 50 bar Lowering 1,4 l: 70 bar
Suspension sensor type	Angular potentiometer.

Front axle	
Model	MF 7714, MF 7715
Steering sensor type	Angular potentiometer.
Brake type	Combined with the rear brake
Factor K	1.326

Spool valves	
Model	MF 7714, MF 7715
System type	Open Center (OC) 57 l/min or 100 l/min Closed Center Load Sensing (CCLS) 110 l/min
Flow rate	57 l/min or 100 l/min (OC) 110 l/min (CCLS)
High-pressure pump type	Bosch Rexroth gear pump(s) (OC) Bosch Rexroth piston pump (CCLS)
High-pressure pump displacement	19 cc (57 l/min OC) 19 cc + 14 cc (100 l/min OC) 45 cm ³ (CCLS)
High-pressure pump rotational speed	3116 rpm (OC) 865 rpm (CCLS)
High-pressure pump maximum flow rate	57 l/min or 100 l/min (OC) 113 l/min (CCLS)
High-pressure pump maximum pressure	200 bar
Maximum quantity of oil to add for heavy implements	10 l
Maximum exportable oil quantity (without adding oil)	32 l
Maximum exportable oil quantity (adding oil)	42 l
Charge pump type	Suction (OC) 71 cm ³ gear pump (CCLS 110 l/min)
Main relief valve adjustment pressure	195 bar ± 5 bar (OC) 230 bar ± 5 bar (CCLS)
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 or 100 l/min (OC) 100 l/min (CCLS)
Spool valve control type	Mechanical
Recommended oil:	According to MF CMS M 1145 specification

Steering	
Model	MF 7714, MF 7715
Steering type	Hydrostatic
Type of control	Steering wheel
Orbitrol displacement	200 cc
Steering ram diameter	80 mm x 42 mm (front axles 750/560 and 750/639)
Steering ram stroke	2 x 125 mm
Working pressure	175 bar ± 5 bar

Steering	
Model	MF 7714, MF 7715
Pressure relief valve adjustment pressure	175 bar ± 5 bar
Shock valve adjustment pressure	240 bar ± 5 bar
Oil recommended for steering	According to MF CMS M1145 specification

Rear linkage	
Model	MF 7714, MF 7715
Lift ram diameter	75 mm
Linkage travel	OC: 728 mm
	CCLS: 718 mm
Maximum lifting capacity at ball joints	7100 kg
Working pressure	180 bar
3-point linkage category	2 or 3

Front linkage	
Model	MF 7714, MF 7715
Lift ram diameter	80 mm x 40 mm
Linkage travel	684 mm
Maximum lifting capacity at ball joints	2800 kg
Working pressure	190 bar
3-point linkage category	2

Rear power take-off (PTO)	
Model	MF 7714, MF 7715
Number of selections possible for rear PTO	540/540E/1000/1000E
Maximum permissible power 540/540E in 1"3/8 (6 and 21 splines)	100 hp
Maximum permissible power 540/540E in 1"3/4 (20 splines)	110 hp
Maximum permissible power 1000/1000E in 1"3/8 (6 and 21 splines)	127 hp
Maximum permissible power 1000/1000E in 1"3/4 (20 splines)	127 hp
Engine speed for 540 PTO	1980 rpm
Engine speed for 540E PTO	1533 rpm
Engine speed for 1000E PTO	1572 rpm
Engine speed for 1000 PTO	2030 rpm
Rotational direction	Clockwise
Clutch type	Multidisc hydraulic
Number of clutch disks	5 disks
Control pressure	21 bar
Splined shaft type	6 and 21 in 1"3/8 and 20 in 1"3/4

Front power take-off	
Model	MF 7714, MF 7715
Number of selections possible for front PTO	1000 rpm
Maximum permissible power	Clockwise: 136 hp
	Anti-clockwise: 150 hp
Maximum permissible input-output torque	Clockwise: 497 Nm - 955 Nm
	Anti-clockwise: 549 Nm - 1054 Nm
Rotational direction	2 directions of rotation
Engine speed if PTO 1000	1920 rpm
Ratio	1.92
Clutch type	Multidisc hydraulic
Splined shaft type	6 or 21 in 1"3/8

Electric	
Model	MF 7714, MF 7715
Battery brand	TAB
Battery specifications (2 batteries)	12 V - 420 A
Maximum current at start-up (SAE standard)	570 A
Starter type	12 V Iskra
Starter power	3 kW
Alternator type	1 x 175 A or 2 x 120 A (240 A)
Current available on ISOBUS connector	Not available

Electronics	
Model	MF 7714, MF 7715
Instrument panel	IC1
3 Autotronic 5 DC	Transmission/linkage/suspended front axle
PVG 32 valves	-
Lighting/linkage controller	Management of the lighting and of the rear linkage
1 EEM4 (ECM Tier 4f AGCO Power)	Engine and SCR Denox 2.2+ system
1 Orbitrol Danfoss valve	-
Datatronic CCD	-
Automatic air conditioning module	Air conditioning
CAN switches key pad	Controls for several tractor functions, such as 4WD, differential lock, suspension, Auto-Guide™ etc.
AM50 unit	AgCommand™ (telemetry)

Cab and fittings	
Model	MF 7714, MF 7715
Type of cab suspension available	Mechanical
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 cm ³ /rev.

Cab and fittings	
Model	MF 7714, MF 7715
Refrigerant	R134a
Cab noise level	69 DBA
Roof type	Standard with hatch (optional) High-visibility

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com