Operator's Manual

MASSEY FERGUSON

MF 7700 - Maintenance

MF 7719
MF 7720
MF 7722
MF 7724
MF 7726

Dyna-6

Beauvais
AGCO S.A.S. - 41 avenue Blaise Pascal - 60000
Beauvais - France - RC B562 104 539

Original Operator's Manual

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ACT002001A
EAME
English

1. Safety instructions and safety points - Warranty

1.4 General safety instructions

1.4.1 Awareness of the safety instructions and symbols

Remember that you alone are responsible for safety. Good safety practices protect not only you, but also bystanders. Before using the tractor, study the instructions given in this book with care, as well as all of the safety decals and instructions fixed to the tractor: Make them an integral part of your safety procedure. Also note all the usual protective measures that should be taken when working and above all, don't forget:

Safety depends on you. You can prevent accidents which could cause serious injury or death.

WARNING:

In some of the illustrations in this book, the safety panels and guards have been removed for reasons of clarity. Never use the tractor if these parts are not in place. If some of these parts have been removed for repair purposes, they must be refitted before use.

1.4.2 Operator familiarity in the use of the tractor

WARNING:
The operator must not drink alcohol or take any medication that may affect his concentration or co-ordination.
If taking medication, whether prescribed or not, the operator must seek medical advice with regard to his ability to operate machinery safely.

Fig. 2

- To be able to use your tractor, it is first necessary:
  - to be familiar with operating an agricultural tractor
  - to have been trained in the operation of the tractor that you have just purchased
  - to have read and understood this entire book — to always consult the dealer as soon as there is any doubt or lack of understanding
  - find out about the rules and safety regulations applicable to the work you are doing. Some regulations specify that no one under the age of 16 may operate power machinery, for example. This includes tractors. It is your responsibility to know what these regulations are and to observe them in the operating area or situation. These rules include, but are not limited, to the safety instructions relating to correct operation of the tractor as described in this book.
- Do not allow children or unqualified persons to operate the tractor.
- Do not allow children to use the instructor seat.
- The instructor seat is only intended for short periods of use.

WARNING:
In poor conditions, slow down and be extra careful, and engage 4-wheel drive if fitted.

It is important to have good knowledge of the operation of the tractor as well as all of its accessories and attached implements.

Remember that rain, snow, ice, loose gravel or soft ground can change the performance of the tractor.

1.7 Specific safety instructions for starting the tractor

1.7.1 Protection of persons other than the operator

Procedure

1. Before starting up, walk all the way round the tractor and any attached equipment. Ensure that no one is under it, on it or close to it.
2. Warn anyone nearby that the tractor is about to start.
3. Only start up if there is nobody in the vicinity of the tractor/implement assembly. Pay particular attention to looking out for children.

1.7.2 Start up safely

General instructions

WARNING:

Before starting the engine, ensure there is plenty of ventilation in the area. The exhaust fumes may cause asphyxiation. Do not operate the engine in an enclosed space.

IMPORTANT:

For tractors equipped with an electromechanically controlled brake on the steering column (ParkLock) For safety reasons, when the engine is stopped, the ParkLock engages automatically regardless of the position of the control. After the engine is started, it is necessary to initialise the ParkLock control in order to deactivate it. If this is not carried out, when a gear is shifted, a beep will sound and the padlock symbol on the instrument panel indicates that the ParkLock remains engaged.

- Always start the engine from the operator's seat.
- Adjust the seat before using the tractor to ensure it is correctly positioned in relation to the controls and to minimize vibration (see description of seat).
- For road use, ensure that the tractor brake pedals are locked together.
- Fasten the seat belt.
- Check that the parking brake is applied or that ParkLock is engaged.
- For tractors with a PowerShuttle, position the PowerShuttle lever in neutral.
- For tractors with mechanical reverse shuttle, position the reverse shuttle lever and the gear shift lever in neutral.
- Deactivate the power take-off (PTO) controls.
- Follow the start-up procedures described in the chapter Operation of this book.

DANGER:
Start the engine with the ignition key and from the operator's seat only.

Do not attempt to start the engine by short-circuiting the starter terminals: The tractor may start in gear and this can cause serious injury or death to anyone in the vicinity.

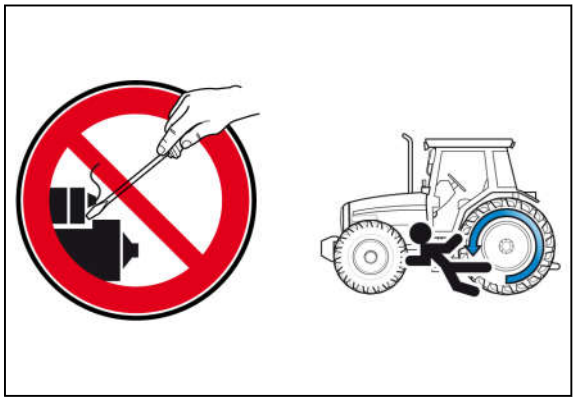

Fig. 8

- Exercise the utmost caution when driving on snow-covered or slippery roads.
- Wait for traffic to clear before entering a public road.
- Beware of blind intersections: Slow down until you have a clear view.
- Do not attempt to push your way through at any intersection.
- Slow down for turns and curves.
- Make wide turns at a moderate speed.
- Signal your intention to slow down, stop or turn.
- Shift to a lower gear before going up or down hills.
- Always drive the tractor in gear. Do not coast with the clutch disengaged or transmission in neutral.
- Do not overlap the lane of traffic for vehicles traveling the other way.

  Stay in your lane, as close as possible to the roadside.
- If a traffic jam forms behind the tractor, pull off the road and allow the vehicles behind to pass.
- Drive carefully. Anticipate what other drivers might do.

If towing a load

- Always anticipate obstacles, especially if the trailed implement is not fitted with brakes.
- Start braking much earlier than usual and slow down gradually.
- Ensure that the load is not concealing the lights or the rotary beacons.
- Take account of your load, especially for high obstacles.

1.8.7 Parking brake

If the brakes fail and in an emergency situation, use the park brake located to the left of the operator.

NOTE:
For tractors equipped with a ParkLock, this function acts as a parking brake. Its control is located on the steering wheel.

IMPORTANT:
If the brakes fail, contact your dealer to resolve the problem.

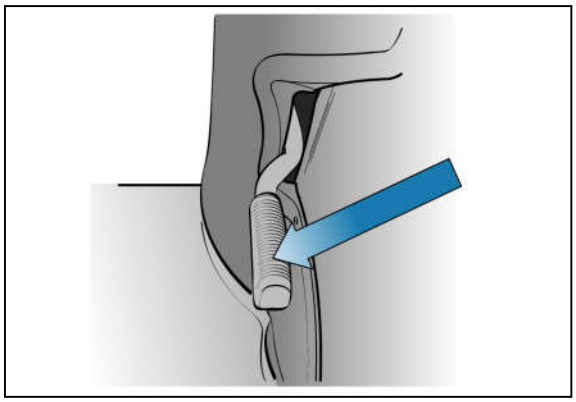

Fig. 16

1.8.8 Power take-off

DANGER:

Do not attempt to unplug the hydraulic connections or adjust an implement with the engine running or the PTO in operation. To do so may result in serious injury or death. To avoid any accidents, do not stand on the implement or between the implement and the tractor when external linkage or PTO controls are being used.

1.10.4 Instructor seat

- Use of the instructor seat is exclusively reserved for an instructor or technician. The seat is NOT suitable for children.
- The seat belt must always be worn and correctly adjusted when using the instructor seat.

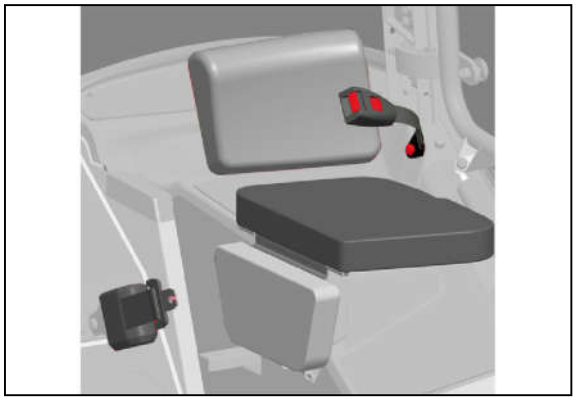

Fig. 28

Frequency	50 hrs	600 hrs[1]	1200 hrs[1]	1800 hrs[2]	2400 hrs[2]	Every day
Check the clutch pedal and transmission for correct operation.	°°	°				
Check the condition and the brake pipes/ compressed air tank.	°°			°		
Bleed the brakes.				°		
Check the operation of the hand brake.	°°	°				
Replace the 25-micron filter of the high-pressure braking system.	°°	°				
Check the trailer brake valve for correct operation.	°°		°			
Check the regulator filter (pneumatic trailer braking option)		°				
Check the level of WABCOTHYL fluid in the compressed air system.						°
Bleed the air from the pneumatic accumulators of the trailer brake system (if fitted).						°
Front axle and steering						
Check the oil level in the front axle and the front axle final drives.	°°	200 hrs				
Change the oil in the front axle and final drives.	°°		°			
Check the front wheel hubs/steering pivots.		°				
Lubricate the non-suspended front axle.	°[7]	200 hrs				
Lubricate the front axle drive shaft.	°					
Check the steering and wheel alignment (including tire wear and damage).				°		
Calibrate the suspended front axle.				°		
Power take-off						
Check the PTO for correct operation.	°°	°				
Change the ZUIDBERG front PTO oil.	°°	°[4]				
Clean the "ZUIDBERG" front PTO strainer.	°°	°				
Check/clean the front PTO cooler.		100 hrs[4]				
Hitch/linkage						
Check the auto-hitch for correct operation (if fitted).	°°			°		
Check/lubricate the auto-hitch (if fitted).	Once a week					
Lubricate the front and rear linkages/hitches.	Once a week					
Electrical equipment						
Check the condition of the battery and the electrolyte level.	°°	°				
Check the tightness of the battery connections and battery safety.	°°	°				

IMPORTANT: *If the DEF or AdBlue™ is modified or replaced by another fluid, which does not comply with standards ISO 22241-1 or DIN 70070, there is a risk that it will not provide the intended result and it may damage the SCR Technology.*

Fuel storage

WARNING:
DEF or AdBlue™ fluid must be stored at a temperature below 30°C and away from direct sunlight.

2.3.5 6-cylinder SisuDiesel engine

(1) Engine oil filter
(2) Oil filler plug
(3) Engine oil dipstick
(4) Fuel prefilter
(5) Fuel filter

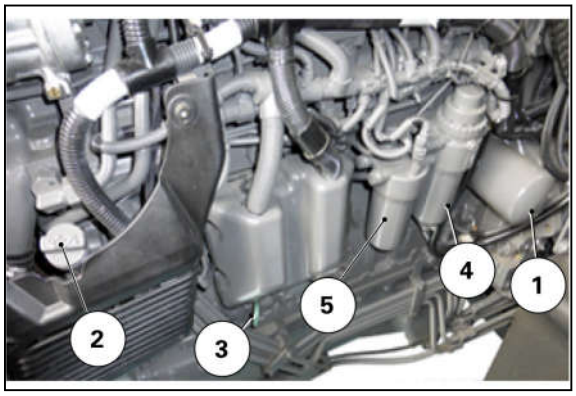

Fig. 8

(6) Engine oil drain plugs

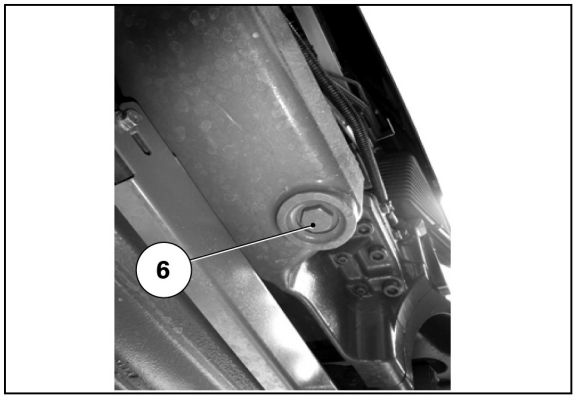

Fig. 9

Procedure

1. Place a container under the prefilter to collect the fuel
2. Undo the bleed screw (1) and fit a transparent pipe onto the port
3. Operate the pump (2) until the liquid flows through the bleed screw without any air
4. Retighten the bleed screw
5. Start the engine and allow it to run at idle for several minutes to completely bleed the system

   NOTE:
   Never activate the starter for more than 30 seconds in one go to avoid overheating the starter and discharging the battery.
6. Check that there are no leaks
7. Repeat the operation if required.

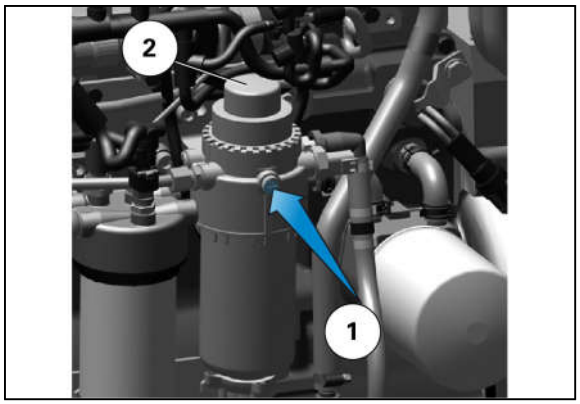

Fig. 30

2.3.16 Fuel system: Injector pump, regulator and injectors

The injection pump, regulator and injectors must be checked and adjusted by the dealer or agent (in accordance with the service guide).

2.3.17 Fuel system: 3rd generation T4F SCR engine injection

The injection system must be checked and adjusted by the dealer or agent (in accordance with the service guide).

2.3.18 Air filter

Cleaning and replacement: Frequency

Main filter

- Only clean the main filter if the blockage indicator light comes on
- Replace the main filter (2) after the blockage indicator light has lit up five times, or once a year.

Secondary filter:

- Only clean the secondary filter if the blockage indicator light comes on
- Replace the secondary filter (3) once for every two main filter changes, or every two years.

CAUTION:
Do not use tractor exhaust fumes to blow the main filter or secondary filter out. Never put oil in the main filter or secondary filter. Never use petrol, paraffin or solvents to clean the main filter or secondary filter.
Before installing the main or secondary filter, visually check that there are no cuts, tears or damage on the surface of the seals; do not install the filter if such damage is visible.

2.3.18.1 Cleaning and replacement of the main filter: Procedure

IMPORTANT: *Stop the engine before starting work on the filter system.*

NOTE: *Although the model shown may not fully correspond to your model, the procedure is identical.*

Procedure

1. Stand the tractor on level ground, with the front axle suspension disengaged.
2. Place the bottom links in the lowest position. Stop the engine.
3. Remove the drain plug(s) (1) and the filler plug (A). Wait until the oil has drained out completely.
4. Refit the drain plug(s) (1), then refill the transmission with a recommended oil to the correct level.

   NOTE:
   Allow time for the oil to settle in the transmission and the rear axle before rechecking the level. After changing the transmission oil, you MUST bleed the hydraulics and brake systems. If necessary, consult your nearest dealer.

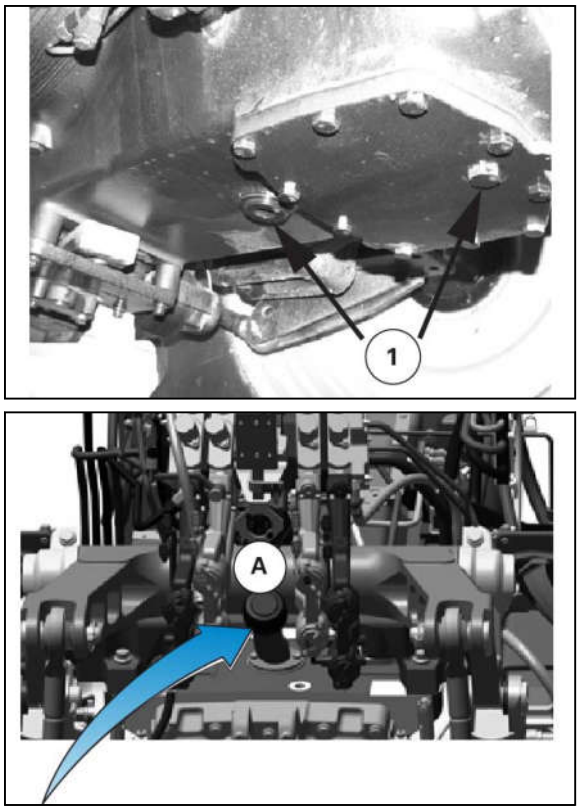

Fig. 47

2.4.4 Filtering the Closed Center hydraulic system

Changing the 150-micron suction strainer and the 15-micron filter: Frequency

1. Change the 150-micron suction strainer (4) every 1800 hours.
2. Change the 15-micron filter (5) every 600 hours.

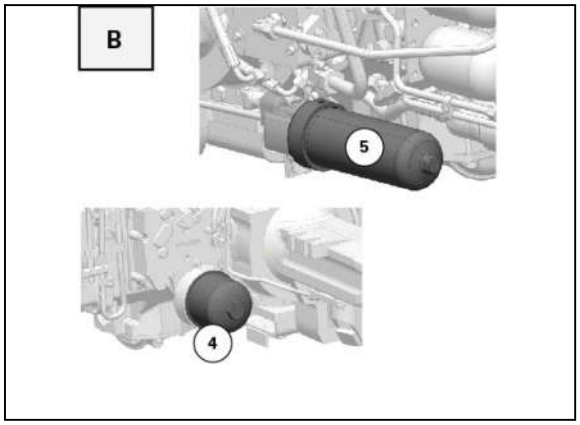

Fig. 48

(B) Closed center:

2.4.4.1 Filtering the transmission system

Replacing the suction strainer (depending on model): Frequency

Replace the transmission suction strainer every 1800 hours.

Replacing the suction strainer: Procedure

2.6 Front power take-off

2.6.1 Recommended products

IMPORTANT:
The warranty remains valid only as long as the lubricants used comply with the following classifications, and no other products are used.

Front power take-off

You must use Autran DX III/Fluid 9 oil.

2.6.2 Checking and cleaning the oil cooler of the front PTO

Frequency

Check the cooler every 100 hours and, if necessary, clean using compressed air.

Check the cooler every day and, if necessary, clean using compressed air in dusty conditions.

Procedure

IMPORTANT:
Take care not to damage the various radiator grilles.

Procedure

Clean the PTO oil cooler (1) with compressed air.

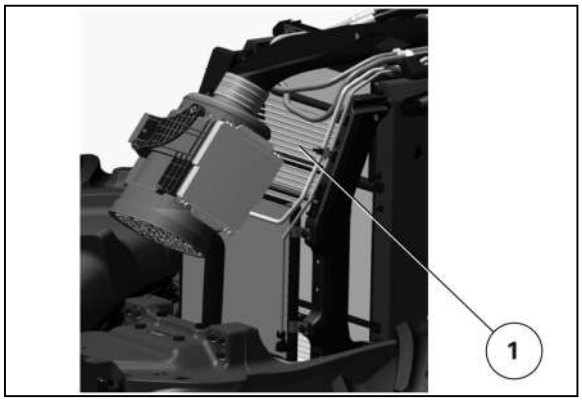

Fig. 65

2.6.3 Draining oil

Frequency

NOTE:
The front PTO functions hydraulically in a separate, independent system. The entire system is cooled by an oil cooler.

Drain the front PTO at 50 hours and then every 600 hours or every six months.

2.6.3.1 Procedure

2.10 Towing equipment

2.10.1 Recommended products

IMPORTANT:
The warranty remains valid only as long as the lubricants used comply with the following classifications, and no other products are used.

Grease: AGCO M.1105 or lithium multi-purpose grease in accordance with the N.L.G.I. indices:

- N.L.G.I. number 1: Temperature often below 7°C
- N.L.G.I. number 2: Temperatures consistently between 7°C and 27°C
- N.L.G.I. number 3: Temperature often exceeds 27°C

2.10.2 4-wheel trailer clevis hitch: lubrication

Frequency

Check/lubricate the trailer clevis hitches once a week.

WARNING:
Stop the PTO before lubricating.

Automatic clevis hitch: Lubrication points

(1) Movement handle
(2) Clevis rotation

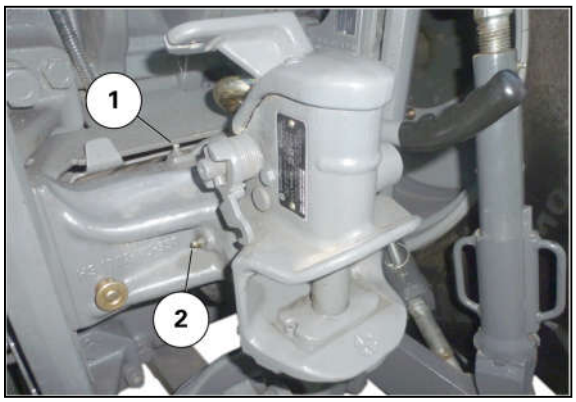

Fig. 84

(3) Locking pin
(4) Vertical movement pin

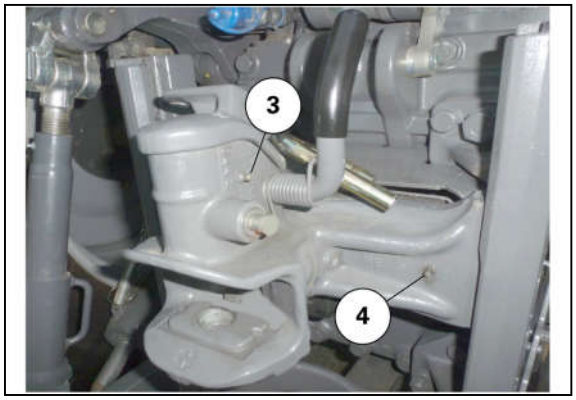

Fig. 85

Number	Amperage	Size	Protected function
			• **X122** - Hand throttle (only on Essential) • **X592** - Position switch for the rear PTO 540/1000 speed (only on models MF 7714/MF 7715/MF 7716/MF 7718) • **X650** - Hydraulics flow rate change/memory switch • **X704** - Auxiliary hydraulics locking switch • **X719** - Hare/Tortoise mode or range shift switch
F28	15 A	Small	+APC • **X87** - Linkage lifting switch on right-hand fender • **X94** - Rear PTO external switch • **X97** - Linkage lifting switch on left-hand fender • **X124** - Pedal/Lever mode switch • **X127** - Rear PTO engagement switch • **X128** - Rear PTO engagement switch • **X135** - Braking pressure sensor • **X166** - Suspended front axle position sensor • **X235** - Front axle steering sensor (WAS sensor) • **X277** - Front linkage lifting switch • **X612** - Position switch for the creeper range (snail) lever (supply) • **X617** - Position switch for the economy PTO lever (supply) • **X618** - Parking brake sensor • **X619** - Upper and lower limits of the engine speed switch (only on Efficient/Exclusive) • **X619** - Memorized speed A engagement switch(only on Essential) • **X658** - Front linkage lowering switch • **X664** - Linkage lowering switch on right-hand fender • **X665** - Linkage lowering switch on left-hand fender • **X732** - Position switch for the GSPTO lever (supply) (only on models MF 7714/MF 7715/MF 7716/MF 7718) • **X733** - Position switch for the rear PTO 540/1000 rpm lever (supply) • **X815** - Panoramic cab + APC relay control circuit • **X884** - Hydraulic spool valve controls change-over switch
F29	10 A	Small	+APC • **X20** - Transmission filter blockage sensor • **X22** - Radar • **X33** - Connector for the electrohydraulic spool-valves supply • **X168** - Pneumatic brake system pressure sensor

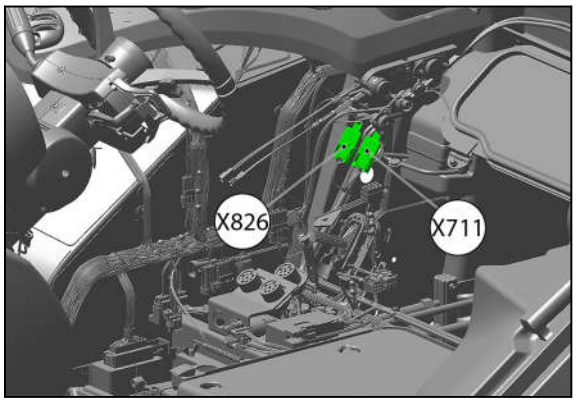

Fig. 98

Number	Protected function
X826	**X336** - Battery isolator supply relay
X711	**X646** - Battery isolator switch relay supplying **X336** - Battery isolator

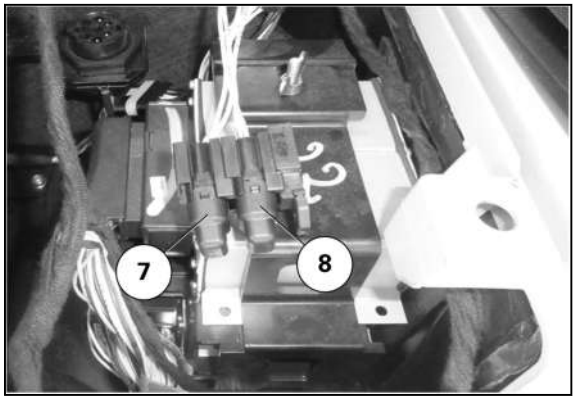

Fig. 99

Number	Amperage	Size	Protected function
7 - X828	5 A	Specific	Power circuit for relay X826 and X711 supplying **X336** - Battery isolator
8 - X869	3 A	Specific	Control circuit for relay X826 supplying **X336** - Battery isolator

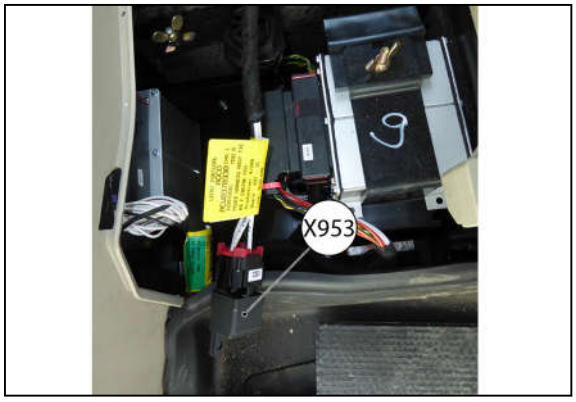

Fig. 100

Suspended front axle engagement switch indicator light

Activating condition(s)

- Indicator light permanently on = front axle suspension active
- Indicator light flashing = front axle suspension error

Cause(s)	Solution(s)
Front axle overloaded	Remove load from the front axle.
Calibration in progress or failed	Contact the dealer.
Error in one of the components	Contact the dealer.

4WD front axle engaged indicator light

Activating condition(s)

- Indicator light permanently on = 4WD front axle engaged
- Indicator light flashing = 4WD front axle error

Cause(s)	Solution(s)
Error in one of the components	Contact the dealer.

High-pressure transmission oil filter blockage indicator light

Activating condition(s)

- Indicator light permanently on = filter blocked, if transmission oil temperature is above 49 °C

Cause(s)	Solution(s)
Filter blocked	Change the filter element.
Transmission oil polluted	Check the quality of the oil.
High-pressure transmission oil filter blockage switch faulty (error code T4150)	Check the blockage switch.

Differential lock indicator light

Activating condition(s)

- Indicator light permanently on = differential lock engaged

No.	FMI	Components concerned	Causes	Standard modes	modes
27	6	EGR valve	Overload of the EGR valve		
27	7	EGR valve	Difference between the current position and the commanded position		
27	11	EGR valve	The control is limited to avoid overheating		
27	12	EGR valve	Short circuit		
27	13	EGR valve	Mechanical error		X
29	3	Throttle sensor	Sensor above normal or in open circuit		
29	4	Throttle sensor	Sensor below normal		
51	3	Air dosing unit	Voltage above normal	1	
51	4	Air dosing unit	Voltage below normal	1	
51	13	Air dosing unit	Calibration error	1	
91.	3	Throttle sensor	Throttle sensor 1 (IDLE) above normal or in open circuit		
91.	4	Throttle sensor	Throttle sensor 1 (IDLE) below normal		
94	3	Fuel filter pressure sensor	Fuel filter pressure sensor voltage above normal or open circuit	1	
94	4	Fuel filter pressure sensor	Fuel filter pressure sensor voltage below normal	1	
94	16	Fuel filter pressure sensor	Fuel filter pressure ABOVE NORMAL	1	
94	18	Fuel filter pressure sensor	Fuel filter pressure BELOW NORMAL	1	
94	31	Fuel filter pressure sensor	Pressure value outside the range, ALARM	3	
97	31	Water sensor	Water in fuel	2	
100	1	Oil pressure sensor	Oil pressure LOW, ALARM		
100	3	Oil pressure sensor	Oil pressure sensor voltage above normal or open circuit	1	
100	4	Oil pressure sensor	Oil pressure sensor voltage below normal	1	
100	16	Oil pressure sensor	Oil pressure ABOVE NORMAL (9,5 bar/30 °C)	2	
100	18	Oil pressure sensor	Oil pressure LOW		
102	0	Boost pressure sensor	Boost pressure high	2	
102	2	Boost pressure sensor	Communication error	3	
102	11	Boost pressure sensor	Measured pressure too high	1	
102	12	Boost pressure sensor	Boost pressure inconsistent	2	

No.	FMI	Components concerned	Causes	Standard modes	modes
4374	31	DEF or AdBlue™ pump motor	Not available		X
4375	3	DEF or AdBlue™ pump motor	Short circuit to +12 V		X
4375	4	DEF or AdBlue™ pump motor	Short circuit to earth (-)		X
4375	5	DEF or AdBlue™ pump motor	Current below normal or open circuit		X
4375	31	DEF or AdBlue™ pump motor	Excessive temperature		X
4376	3	Lower side pump control valve	Short circuit to +12 V		X
4376	4	Lower side pump control valve	Shortcut to Ground		X
4376	5	Lower side pump control valve	Current below normal or open circuit		X
4376	31	Lower side pump control valve	Excessive temperature		X
4753	3	DOC outlet temperature sensor	Voltage above normal or open circuit		
4753	4	DOC outlet temperature sensor	Voltage below normal		
4753	10	DOC outlet temperature sensor	Temperature value inconsistent		
4792	14	system	The catalytic converter temperature sensors are inverted		
5025	31	NOx sensor before DOC	Calibration value outside of the measurement range		X
5026	2	NOx sensor before DOC	Point 0 calibration error		X
5028	13	NOx sensor before DOC	Calibration value unavailable or incompatible with the sensor		X
5028	31	NOx sensor before DOC	Calibration value outside of the measurement range		X
5032	31	Exhaust outlet NOx sensor	Calibration value outside of the measurement range		X
5033	2	Exhaust outlet NOx sensor	Point 0 calibration error		X
5035	13	Exhaust outlet NOx sensor	Calibration value unavailable or incompatible with the sensor		X
5035	31	Exhaust outlet NOx sensor	Calibration value outside of the measurement range		X
5370	19	Wastegate actuator	Communication error (error 7)	2	
5372	0	Wastegate actuator	Excessive temperature (error 1)		
5372	16	Wastegate actuator	Excessive temperature (error 2)		
5451	4	Wastegate actuator	Short circuit (error 21)	2	
5451	14	Wastegate actuator	Initialisation error (error 6)	2	
5451	31	Wastegate actuator	Not present	2	
520200	16	Batteries	Voltage too high		
520200	18	Batteries	Voltage too low		
520201	19	CAN bus	CAN bus engine OFF (1M)		

Number	Components concerned	Causes
A.YX.11		RAM or EEPROM error
A.YX.12		Insufficient power
A.YX.13		Excessive power
A.YX.15		Excessive power
A.YX.18		The valve does not return to neutral position
A.YX.19		The valve is not in the neutral position at start-up
A.YX.1A		The valve position is greater than the reference
A.YX.1B		The valve does not reach floating position
A.YX.1E		Valve internal error
A.YX.1F		Communication error
A.YX.20		The position of the valve is the opposite of the specified value
A.YX.21		Checking error
A.YX.22		Validation error
A.YX.23		Validation error
A.YX.24		The valve flow rate is higher than 100%
A.YX.25		The position received from the valve is unknown
A.YX.26		Validation error
A.YX.27		Validation error
A.YX.28		Validation error
A.YX.29		Validation error
A.YX.2A		The valve is not emitting a CAN message
A.X.36	**X96** - Hydraulic spool valve switch on left-hand fender	Incorrect signal

Power take-off	
	1000/1000 Eco Economy mode only available with Efficient/ Exclusive versions

Front axle	
Front axle type	DANA 755/507 (fixed) DANA 755/607 (suspended)
Synchronization ratio (value id displayed on the name plate)	1.352 (GPA44) 1.353 (GPA45)

Hydraulics	
Hydraulic type	Closed center: 110 l or 150 l per min
Number of spool valves	5 maximum

Electronics	
Transmission control	Autotronic 5
Linkage control	Autotronic 5

Cab	
Air conditioning	Manual or automatic
Roof	Standard

3.1.5 Model MF 7726 Dyna-6

Engine	
Brand	AGCO Power
Type	74 AWF-T4
Number of cylinders	6

3.4.5 Final drives

Drives	Epicyclic, located in the rear axle housings
Reduction ratio:	• Normal Duty: 5.571 to 1 • Heavy Duty sealed and Heavy Duty+: 6.214 to 1 • Composite: 7.141 to 1

3.4.6 Rear differential lock

Type	Dog clutch lock
Control	Hydraulic, with electric control

(13) Rear work light: H3 55 W
(14) Rear indicators/warning lights: 21 W
(15) Rear brake lights/side lights: 21 W / 5 W

Weights and tires, point 2.2.3.1 rear axle beam								
				Tire load capacity (ETRTO)		Maximum weight technically permissible depending on tire fittings		
Tire designations	Load index	Index radius (mm)	Speed index	By tire	By axle beam	MF 7719/ MF 7720/ MF 7722/ MF 7724/ MF 7726	MF 7722/ MF 7724/ MF 7726	/MF 7726
320/90R54	151	925	A8	3450	6900	6900	6900	6900
380/90R50	166	925	A8	5300	10600	9000	9500	10000
480/80R46	158	925	A8	4250	8500	8500	8500	8500
520/85R42	162	925	A8	4750	9500	9000	9500	9500
620/70R42	166	925	A8	5300	10600	9000	9500	10000
650/65R42	168	925	A8	5600	11200	9000	9500	10000
650/75R38	169	925	A8	5800	11600	9000	9500	10000
710/60R42	161	925	A8	4625	9250	9000	9250	9250
710/70R38	171	925	A8	6150	12300	9000	9500	10000
900/50R42	168	925	A8	5600	11200	9000	9500	10000
380/90R54	170	975	A8	6000	12000	-	-	10000
480/80R50	159	975	A8	4375	8750	-	-	8750
520/85R46	158	975	A8	4250	8500	-	-	8500
650/85R38	176	975	A8	7100	14200	-	-	10000
710/70R42	176	975	A8	7100	14200	-	-	10000
800/70R38	176	975	A8	7100	14200	-	-	10000
900/60R38	172	975	A8	6300	12600	-	-	10000
900/60R38	178	975	A8	7500	15000	-	-	10000
650/65R46	160	975	A8	4500	9000	-	-	9000
650/65R38	167	975	A8	5450	10900	-	-	10000
620/70R46	162	975	A8	4750	9500	-	-	9500
800/70R38	173	975	A8	6500	13000	-	-	10000
800/70R38	178	975	A8	7500	15000	-	-	10000
900/70R32	188	975	A8	10000	20000	-	-	10000