Operator's Manual

MASSEY FERGUSON

MF 5700 S - Maintenance

MF 5709 S
MF 5710 S
MF 5711 S
MF 5712 S
MF 5713 S

Dyna-4 - Dyna-6

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

Original Operator's Manual

November 2017
ACT0040930
NA
English

1. Tractor identification

2.3.2 Presentation and location of the safety decals and instructions

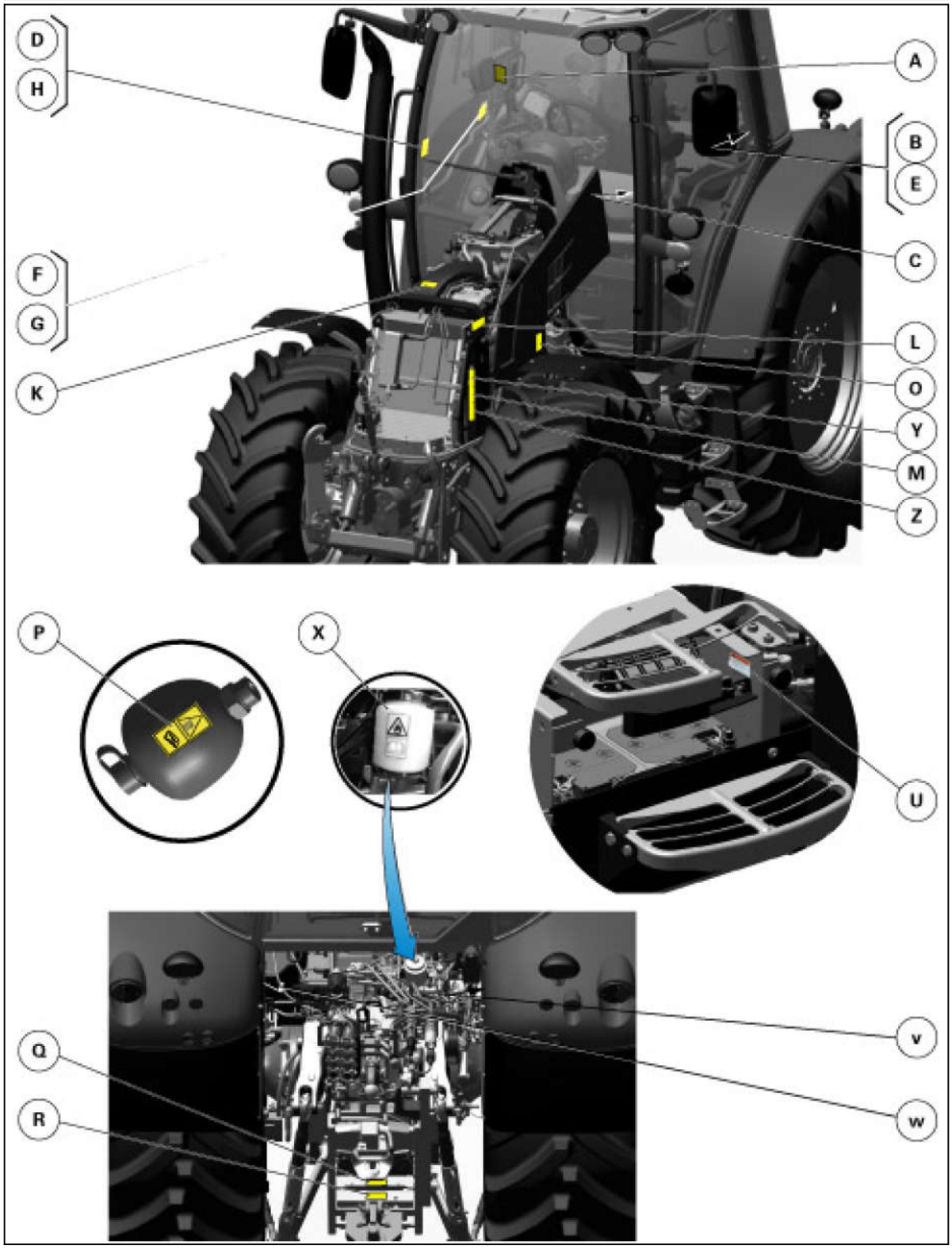

Fig. 1

5. Management System Review: Management is required to review the management system to ensure its suitability, adequacy and effectiveness. This cycle includes provisions for exposure monitoring and the monitoring of control measure performance. It is the responsibility of the manager of the safety and health program to determine how worker exposure to air contaminants and other hazards are to be controlled. It is also the responsibility of this manager to take whatever actions are needed to control work-place hazards. This includes but is not limited to exposure assessment, audits of varies programs such respiratory protection, ventilation system maintenance, etc.

Limitations of Cabs Used in Hazardous Environments:

While it may seem that respiration (breathing) exposure would present the greatest risk for personal exposure to contaminants, this is not the case when working with pesticides. The most prevalent method of exposure for applicators and those working around agricultural pesticides is through dermal (skin) contact.

Dermal contact with contaminants may occur directly from air-borne contaminants. It may also happen when contaminants are transferred from one object to another or when air-borne contaminants settle on objects that are subsequently contacted. Any surfaces in or out of the cab that have been contaminated are potential hazards for dermal exposure.

Within the cab, seats, upholstery, controls and other surfaces that become contaminated will pose such a hazard. In addition to dermal exposure, a contaminated cab interior will also pose a respiration hazard as the contaminant may, after settling on a surface, become air-borne once again whereby it may be inhaled.

Recirculation filters can be used to help reduce these contaminates from the cab interior air space. When a vehicle is operated in an environment where air-born contaminants exist, the cab can be an effective engineering control for reduction of exposure risk to persons within it.

In order for a cab to be used for this purpose, it must be of appropriate design. It must also be manufactured, maintained, tested and operated according to the specific requirements defined by evaluation of the hazards.

No cab should ever be considered an effective engineering control unless it has been qualified as such within a comprehensive OHSMS. While the cab manufacturer can design and manufacture a cab to physical specifications, the cab manufacturer can not qualify the cab as an appropriate engineering control for any specific application.

Site-specific information is needed to evaluate the appropriateness of control measures. To use the cab to control hazards, the managers of the OHSMS must carefully consider and evaluate the effectiveness of all engineering controls in their specific application.

The Cab as an Engineering Control

The engineering control requirements of the respiratory protection regulation may be fulfilled by the application of a cab, but this can only be done properly within an OHSMS. Elements of such a program are:

1. Assessment of the hazard with identification of the risk involved.
2. A survey of the machine and the cab involved in the hazardous operation.
3. Reviewing the cab ventilation system and the filter to ensure the filter provides the reduction in contaminants required.
4. Defining how long the filter can be used in this application.
5. Testing the cab ventilation system to ensure it provides the protection required for the operation to be performed. This also includes a review of any monitoring equipment to ensure it is working properly.
6. Repair and/or replacement of any defects or defective equipment found.
7. Retesting of the cab air system as required.
8. Recording in the appropriate log book all information regarding the test results, and repairs and replacement of parts and/or components.
9. Assessment of the effectiveness of the program at a specified time in the cycle of the activity.

- If the tractor is bogged down in mud or frozen to the ground:
  - Do not attempt to drive forward as the tractor could then rotate around its rear wheels and overturn
  - Lift any attached implements and attempt to reverse If this is not possible, tow the tractor out with another vehicle.
- If the tractor is stuck in a ditch, if possible, attempt to reverse out. If you must go forward, do so slowly and carefully.
- A bare tractor or a tractor fitted with a rear implement must climb a slope in reverse gear and descend the slope in forward gear.
- A tractor fitted with a full loader at the front must climb a slope in forward gear and descend the slope in reverse gear. The loader must be kept as close to the ground as possible.
- Always engage a gear when driving downhill. Do not allow the tractor to coast down the slope with the clutch disengaged or the transmission in neutral.
- When parking on a slope, turn the wheels in the opposite direction to the slope.

2.7.4 Tractor towing

Comply with the instructions described in the "Operation" chapter of this book.

2.7.5 Regulatory data on maximum permitted trailed weights

Drawbars and towing equipment

IMPORTANT:
Before attaching a trailed implement, read the following carefully.

Maximum permitted towed weight

The equipment identification number plate provides important information on tractor and towed equipment weight combinations. The figures represent the maximum weights authorized for the vehicle and towed equipment which should not be exceeded so as not to affect tractor safety.

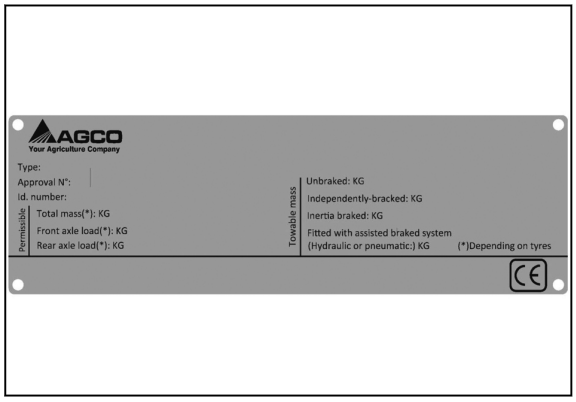

Fig. 14

Before transporting towed equipment, read the equipment's Operator's Manual. Check that the equipment is properly installed, find out how to safely transport it, and determine the maximum permitted transport speed. Check that the tractor/towed equipment combination is in compliance with local and national legislation.

Never transport at speeds higher than the equipment's maximum transport speed. By exceeding the maximum transport speed of the equipment, there is a risk of reducing the braking performance and/or losing control of the tractor and its towed equipment.

Unless otherwise specified by the equipment manufacturer or the legislation, observe the following rules when towing.

For towed equipment:

Do not tow equipment:

- Accumulators.

  The accumulators contain nitrogen and are pressurized.

  They may become hot and cause burns.

  Modifications must not be made to the accumulators (by welding, drilling, attempting to open, cutting etc.).

  The repair, maintenance and commissioning of the accumulators must only be carried out by trained personnel.

  Consult your Massey Ferguson dealer regarding any maintenance.

2.8.3 Handling instructions

The implement and/or tractor must be supported on suitable blocks or stands and not on a hydraulic jack.

The blocks and supports must be adapted to the load carried and must be sufficiently stable to prevent tilting.

Place the blocks and supports on solid ground that can support the load.

The blocks and supports must be approved and regularly checked by the appropriate authorities.

Positioning axle stands at the front of the tractor

Depending on the requirements of the removal procedure, the axle stands must be placed under one of the following locations:

- (1) Under the low point of the front linkage
- (2) Under the front axle final drives
- (3) Under the engine oil sump (if the front axle is to be removed)
- under the front axle beam.

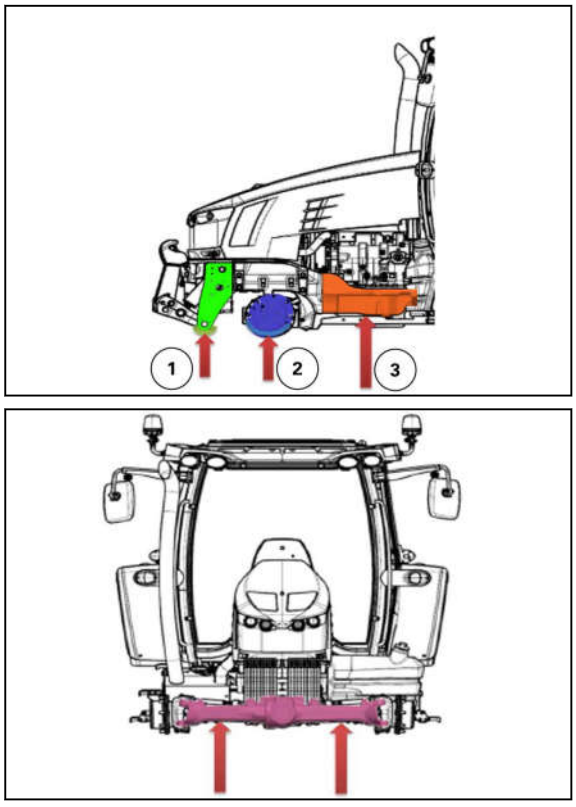

Fig. 24

AGCO'S WARRANTY RESPONSIBILITY

Listed below are the parts covered by this warranty. Any part listed below that is subject to scheduled maintenance during the warranty period is warranted up to the first scheduled replacement point for that part. A part repaired or replaced under this warranty is warranted for the remainder of the warranty period. Parts replaced under this warranty become the property of the manufacturer. The warranted parts could include:

SERVICE GUIDE	50 hrs	500 hrs [1]	1000 hrs [1]	1500 hrs [2]	2000 hrs [2]	Every day
Lubricate the rear axle shaft bearings (depending on model).		○				
Brakes						
Check the condition and the brake pipes/ compressed air tank.	○○			○		
Bleed the brakes.					○	
Check the hand brake adjustment.	○○	○				
Check the trailer brake valve for correct operation.	○○			○		
Check the regulator filter of the pneumatic braking system.		○				
Front axle and steering						
Check the oil level in the front axle and final drives.		○ (200 hours)				
Change the oil in the front axle and final drives.	○○ (100 hours)		○			
Check the front wheel hubs/steering pivots.		○				
Lubricate the steering pivots.	○○	○				
Grease the right-hand and left-hand pivot pins for the front axle support (at the rear of the front axle)	○ (100 hours) [4]					
Lubricate the front axle drive shaft.	○○	○				
Check the steering and wheel alignment (including tire wear and damage).				○		
Power take-off						
Check the PTO for correct operation.	○○	○				
Change the ZUIDBERG front PTO oil.	○○	○ [5]				
Clean the "ZUIDBERG" front PTO strainer.	○○	○				
Linkage						
Check the auto-hitch for correct operation (if fitted).	○○			○		
Lubricate the front and rear linkages						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.	○○	○				

Fuel storage

The biodiesel must be stored in compliance with the recommended standards to avoid any water absorption or deterioration. Fuel must never be stored for more than 12 months. Under certain conditions, biodiesel deterioration may lead to corrosion of the metal components and cause the seals to split prematurely. Never store fuel in a tank with a painted inner surface, as biodiesel dissolves many types of paint.

When you fill up the tractor, make sure that the fuel does not run down the side of the filler neck. If there is any spillage, wipe up any traces of fuel immediately. Avoid splashing the hoses with fuel and wipe off any spillage as quickly as possible.

General information

- If the oil level exceeds the **Max** mark on the dipstick, the engine oil must be replaced.
- If a fuel leak (oil increase/dilution) suddenly worsens, the cause must be identified and corrected.
- Biodiesel can be used at start-up temperatures down to approximately -16°C.
- If the tractor needs to remain immobilized for at least 4 weeks, use pure diesel during the last hour of operation to avoid clogging various components and filters or damaging seals with a weaker resistance to biodiesel.
- As biodiesel is a very powerful solvent, any residue in the fuel system may become dislodged after using biodiesel. The fuel filters must therefore be replaced promptly after the first few times the tank is filled with biodiesel.
- The low combustion value of biodiesel may lead to a drop in performance of 5% or an increase in fuel consumption of approximately 10%.
- All older models must be carefully inspected by an approved dealer before using biodiesel. Low compression, a leak from the injectors and coolant temperatures that are too low may lead to dilution of the engine oil. All the hoses and pipes must be checked at least once a year by an approved dealer.

Possible consequences of using diesel fuels containing 10 to 20% FAAE/FAME type biodiesel

To protect the engine and the fuel system, the tractor must be serviced at the recommended shorter intervals.

- Loss of power and reduced performance
- Fuel leaks from the seals and hoses
- Corrosion of the biodiesel injection equipment
- Reduced lubrication of the injection pump
- Carbonisation/obstruction of the injectors, leading to diminished biodiesel spraying
- Filter blockage
- Coating/seizing of the internal injection system components
- Build-up of mud and sediments
- Reduced operating life

Warranty application

The normal warranty for the machine remains the same on condition that the information and standards given above are complied with and the machine is serviced by an approved dealer according to the servicing schedule. Warranty claims are not accepted for paint damage caused by biodiesel. All claims regarding exhaust fume emissions, increased fuel consumption or reduced performance due to the use of biodiesel are also excluded. Faults caused by the use of any type of fuel are not considered to be manufacturing or materials faults and are not covered by the warranty.

3.3.5 Diesel Exhaust Fluid (DEF)

Recommendations:

Diesel Exhaust Fluid (DEF) is a urea-based fluid sold under the brand name Diesel Exhaust Fluid (DEF).

3.3.19.1 Checking the level and quality of the coolant

Procedure

1. **Cold engine**, visually check the coolant level daily.
2. **CAUTION:**
   The quality of the coolant must be checked when the engine is cold.

   Check the quality of the mixture regularly, especially before the cold season.

3.3.19.2 Filling to top up the coolant level

CAUTION:
If the engine is very hot, loosen the plug to the first notch before removing it to lower the expansion tank pressure.

IMPORTANT: *If the correct procedures are not used, AGCO cannot be held responsible for damage caused.*

Procedure

1. Lift the engine cover to access the expansion tank.
2. Open the expansion tank plug.
3. Fill the expansion tank with coolant up to the witness mark line as indicated by the arrow.
4. After filling, open the heater valve fully and run the engine at 1000 rpm for several minutes.
5. Switch off the engine, check the level and top up if necessary, without exceeding the mid-way point on the tank.
6. Refit the plug.

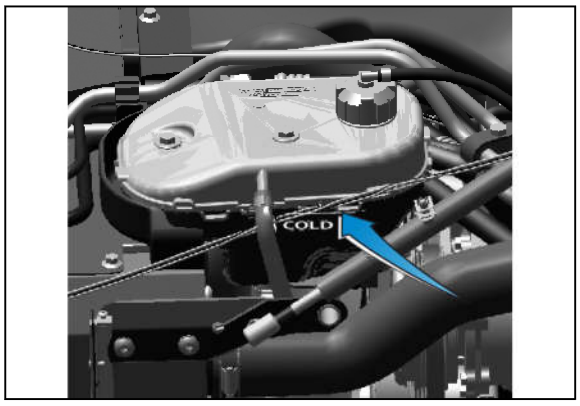

Fig. 21

3.3.19.3 Draining the cooling system

Drain the system every 1500 hours or every two years according to the following procedure.

CAUTION:
Wait until the system has completely cooled before draining.

3.5 Brakes

3.5.1 Recommended products

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

Pneumatic brake

For the winter period, use **wabcothyl** antifreeze (reference: 79019149)

3.5.2 Checking the regulator filter

Frequency

Check the regulator filter every 500 hours.

Replace the regulator filter if necessary (e.g. if it is heavily blocked).

Procedure

1. Remove the screw (2) from the filter access
2. Extract the filter (1) and clean it. Blow through with compressed air before refitting the assembly

   NOTE:
   Bleed the hydraulic system after carrying out any maintenance on the brake system (see the chapter: Bleeding the brake system).

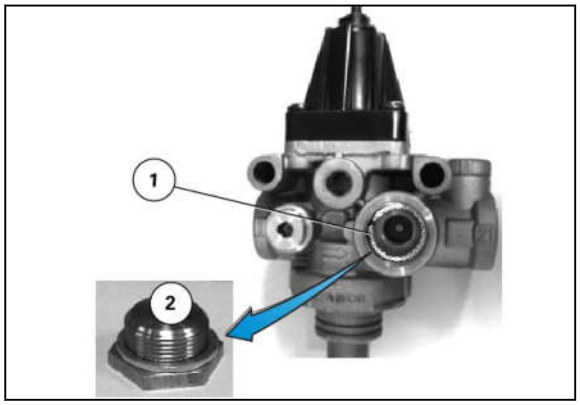

Fig. 36

3.5.3 Bleeding the brake system

Frequency

Bleed the brake/piston system every 2000 hours and after every service operation.

Bleed screw locations

The brake bleed screws are located on the right- and left-hand sides of the center housing.

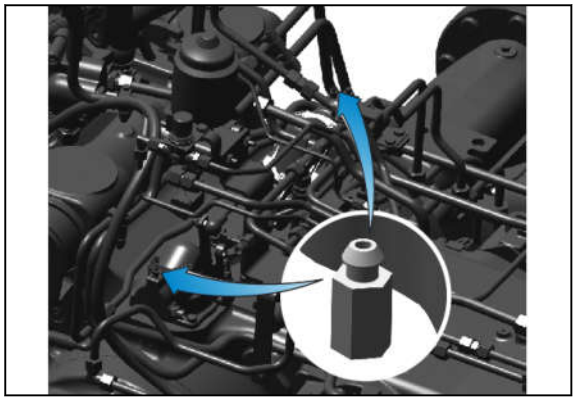

Fig. 37

3.8.3 Front linkage: lubrication

(1) Lift ram joints
(2) Linkage arm joint

Lubricate the front linkage joints every 500 hours.

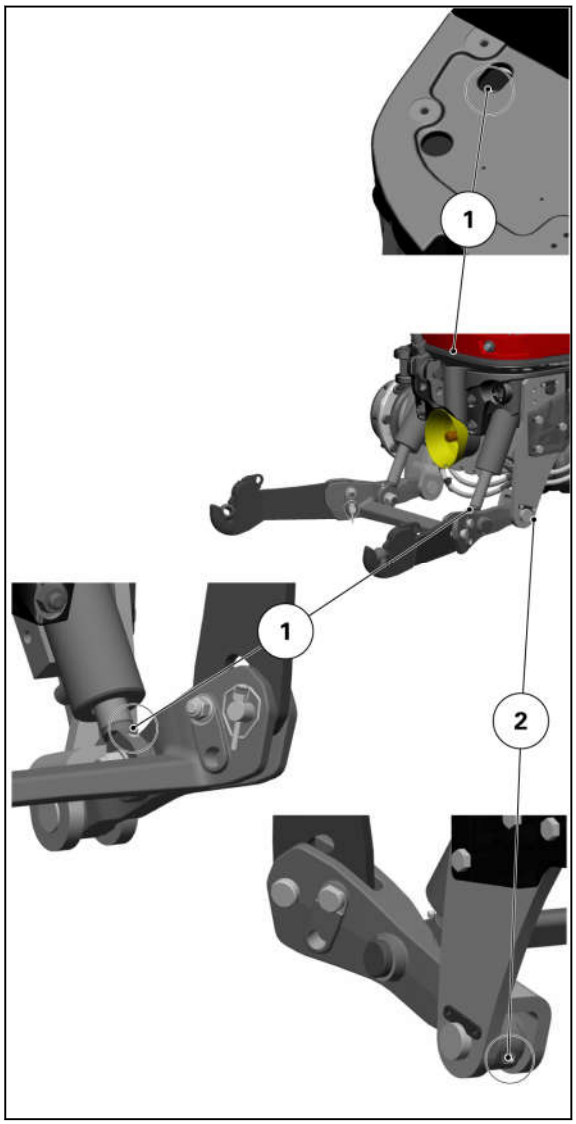

Fig. 54

Number	Amperage	Size	Protected function
F57	15 A	Small	+ APC • **X472** - Transmission controller 1 • **X473** - Transmission controller 2 • **X726-E** - GSPTO switch (electrical control)
F58	10 A	Small	+ APC **X153** - Non-Isobus implement socket
F59	10 A	Small	+ APC • **X650** - Hydraulics flow rate change/memory switch • **X704** - Auxiliary hydraulics locking switch • **X854** - Electrohydraulic unit controller • **X875** - Loader selector sensor
F60	7.5 A	Small	+ APC • **X177** - Power lift controller • **X183** - Diagnostics connector • **X184** - Diagnostics connector • **X594** - unit AgCommand™
F61	3 A	Small	+ APC • **X194** - D + alternator 1 • **X195** - D + alternator 2
F62	5 A	Small	K15 relay power circuit supplying +APC to the **X216** - Reversing light and reversing alarm and trailer connector
F63	10 A	Small	K26 relay power circuit supplying +APC to the air conditioning compressor
F64	10 A	Small	+ APC **X272** - Front attachments connection socket (+12 V APC)
F65	10 A	Small	+ APC • **X248** - Right- and left-hand electric rear-view mirror adjustment switch • **X249** - External rear-view mirror defroster switch
SH2	25 A	Average	High beam lamps on grille (present only without the high beam lamps/low beam lamps on hand rails option)
SH3	15 A	Average	Low beam lamps on grille (present only without the high beam lamps/low beam lamps on hand rails option)
K1			Relay for front windscreen wiper control unit and front windscreen wiper motor
K2			Not used

3.10 Pressure washing

3.10.1 Pressure washing

When pressure washing, protect and do not direct the jet on the following components:

- Alternator
- Starter
- Radiator
- Front axle pivot pins
- Inspection cover
- Radar
- Harnesses and electrical connections
- Decals
- Cab door and window seals.
- **IMPORTANT:** *Exhaust outlet: When washing, it is strictly prohibited to allow water into the exhaust outlet.*

Grid Heater indicator light

Activating condition(s)

- Indicator light permanently on = Grid Heater activated: Preheating when the ignition key is in the preheating position, then post-heating for 40 seconds after the engine has started.

Engine air filter blockage indicator light

Activating condition(s)

- Indicator light permanently on = engine air filter blocked

Cause(s)	Solution(s)
Air filter blocked	Clean the air filter.
Air filter blockage switch faulty	Contact the dealer.

Tractor forward travel indicator light

Activating condition(s)

- Indicator light permanently on = tractor in forward gear

Tractor reverse travel indicator light

Activating condition(s)

- Indicator light permanently on = tractor in reverse gear

Steering system fault warning light

Activating condition(s)

- Indicator light permanently on = fault on the steering system

Cause(s)	Solution(s)
Incorrect use of the steering system	Contact the dealer.

No.	FMI	Components concerned	Causes	Standard modes	modes
110	0	Coolant T° sensor	Coolant temperature HIGH, ALARM (>113 °C (235 °F))	**Flm**	
110	3	Coolant T° sensor	Coolant temperature sensor voltage above normal or open circuit	1	
110	4	Coolant T° sensor	Coolant temperature sensor voltage below normal	1	
110	16	Coolant T° sensor	Coolant temperature HIGH, (>106 °C (223 °F))	**Flm**	
132	2	Air flow sensor	Inconsistent signal		X
132	13	Air flow sensor	Calibration of point 0 failed		
132	19	Air flow sensor	CAN communication error		X
157	0	Rail pressure sensor	Rail pressure above normal	3	
157	2	Rail pressure sensor	Intermittent rail pressure	3	
157	3	Rail pressure sensor	Rail pressure sensor voltage above normal or open circuit	3	
157	4	Rail pressure sensor	Rail pressure sensor voltage below normal	3	
157	15	Rail pressure sensor	Positive pressure difference in common rail	3	
157	16	Rail pressure sensor	Rail pressure ABOVE NORMAL	3	
157	(17)	Rail pressure sensor	Negative pressure difference in common rail	3	
157	20	Rail pressure sensor	The rail pressure value has exceeded the tolerance threshold when starting or after stopping the engine		
157	21	Rail pressure sensor	The rail pressure value is below the tolerance threshold when starting or after stopping the engine		
168	0	Battery voltage	Battery voltage VERY HIGH (>17 V)		
168	1	Battery voltage	Battery voltage VERY LOW (<7.8 V)		
171	3	Ambient temperature sensor	Temperature sensor voltage above normal or open circuit		
171	4	Ambient temperature sensor	Temperature sensor voltage below normal		
171	10	Ambient temperature sensor	Temperature sensor voltage inconsistent		
171	19	Ambient temperature sensor	Loss of ambient temperature CAN signal		

No.	FMI	Components concerned	Causes	Standard modes	modes
520204	3	Main relay 3	Short circuit		
520205	31		Error in input torque measurement		
520206	31	Engine controller	Controller internal error		
520207	31	Rail pressure sensor	Pressure below normal		
520209	31	Injectors	Injection time error		
520210	12	Injectors	Error with start of opening angle		
520211	31	CY33X	Component fault		
520212	31	MOCSOP (redundant stop test)	Diagnostic error		
520213	31	MOCSOP (redundant stop test)	Diagnostic error		
520214	31	MOCSOP (redundant stop test)	Diagnostic error		
520215	31	MOCSOP (redundant stop test)	Diagnostic error		
520216	31	MOCSOP (redundant stop test)	Diagnostic error		
520217	31	MOCSOP (redundant stop test)	Diagnostic error		
520218	31	MOCSOP (redundant stop test)	Loss of message synchronization		
520219	31	MOCSOP (redundant stop test)	Error appeared when storing torque limitation in memory		
520220	31	MOCSOP (redundant stop test)	Incorrect response time		
520221	31	MOCSOP (redundant stop test)	Too many errors during execution		
520222	31	MOCSOP (redundant stop test)	Diagnostic error		
520223	31	MOCSOP (redundant stop test)	Diagnostic error		
520224	31	MOCSOP (redundant stop test)	Time exceeded		
520225	31	MOCSOP (redundant stop test)	Diagnostic error		
520226	31	MOCSOP (redundant stop test)	Diagnostic error		
520227	31	MOCSOP (redundant stop test)	Diagnostic error		
520228	12	CY320	Module multiple supply error		
520229	13	FADC	A/D fast converter calibration error	3	
520229	31	Rail pressure sensor	Negative deviation of the pressure		
520230	31	Engine protection	Specification fault		
520231	31	All applications	Power take-off input error		
520232	31	All applications	Incorrect digital input configuration		
520233	31	Rail pressure sensor	Pressure below normal		
520237	31	User 1 error	Digital input		
520238	31	User 2 error	Digital input		

No.	Components concerned	Causes
3.X. 81	**X104** - TECU controller	VIN Error - Vehicle electronic identification incorrect
3.X. 83	**X104** - TECU controller **X717** - Power lift and PTO keypad on pillar	CAN message lost
3.X. 84	**X104** - TECU controller **X214** - Multifunction armrest	CAN message lost
3.X. 85	**X104** - TECU controller **X717** - Power lift and PTO keypad on pillar	CAN message lost on Classic models
3.X. 86	**X587** - FingerTIP 3	Shortcut to Ground
3.X. 87	**X587** - FingerTIP 3	Short circuit to 12 V
3.X. 89	**X587** - FingerTIP 3	Calibration not performed
3.X. 8A	**X588** - FingerTIP 4	Shortcut to Ground
3.X. 8B	**X588** - FingerTIP 4	Short circuit to 12 V
3.X. 8C	**X588** - FingerTIP 4	Calibration not performed
3.X. 94	**X110** - FingerTIP 6	Shortcut to Ground
3.X. 95	**X110** - FingerTIP 6	Short circuit to 12 V
3.X. 96	**X110** - FingerTIP 6	Calibration not performed
3.X. 97	**X882** - FingerTIP 7	Shortcut to Ground
3.X. 98	**X882** - FingerTIP 7	Short circuit to 12 V
3.X. 99	**X882** - FingerTIP 7	Calibration not performed
3.X. 9A	**X883** - FingerTIP 8	Shortcut to Ground
3.X. 9B	**X883** - FingerTIP 8	Short circuit to 12 V
3.X. 9C	**X883** - FingerTIP 8	Calibration not performed
3.X. 9D	Hand throttle on armrest	Shortcut to Ground

4.1.3 MF 5711 S model

Engine	
Brand	AGCO Power
Type	44 AWFC
Number of cylinders	4

Transmission	
Gearbox type	GBA25
Rear axle type	GPA54
Final drive type	GPA54

Power take-off	
PTO type	Shiftable
Speeds	540/540eco/1000

Front axle	
Front axle type	DANA 730 or LODI 140 CP
Synchronization ratio (displayed on the name plate)	1.339

Hydraulics	
Hydraulic type	Open Center or Closed Center depending on version
Number of spool valves	2-3-4

Electronics	
Transmission control	Autotronic 5
Linkage control	Autotronic 5

Cab	
Air conditioning	Version Classic: Standard Version Deluxe: Standard or automatic
Windscreen	Standard
Roof	Standard/High-visibility/Flat (optional)

4.5 Brakes

4.5.1 Brake technical specifications

Operation	• Hydraulics • Two master cylinders • Automatic adjustment
Type	• Multidisk
Parking brake	• Disk • Acts mechanically on the main brakes
Trailer brake	• Available as an option • Hydraulic braking controlled by hydraulic spool valve or pneumatic braking or hydraulic and pneumatic braking.

Tire	Cab in high or low position
	480/70 R30
	540/65 R30
Minimum dimensions of front tires	12.4 R24
	320/85 R24
	360/80 R20
	340/80 R24
	380/70 R20
	440/65 R20

NOTE:
The data in this table is not exhaustive. Ask your dealer for further information on other possible choices.

4.11.4 Tightening torques

	Disk on hub	Rim on disk
2WD front axle	160 Nm (118 lbf ft) to 210 Nm (155 lbf ft)	-
4WD front axle	400 Nm (295 lbf ft) to 450 Nm (332 lbf ft)	220 Nm (162 lbf ft) to 250 Nm (184 lbf ft)
Rear axle	400 Nm (295 lbf ft) to 450 Nm (332 lbf ft)	220 Nm (162 lbf ft) to 250 Nm (184 lbf ft)

Procedure

1. Move the selector (1) to position (L) to adjust the left rear-view mirror or to position (R) to adjust the right rear-view mirror
2. Move the switch (2) into position to adjust the rear-view mirror correctly
3. When you have made the adjustment, return the switch (1) to the neutral position

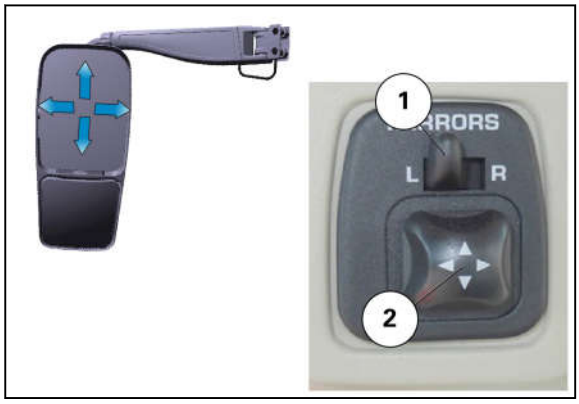

Fig. 4

4. If the mirror electrical adjustment is insufficient, it may be necessary to manually adjust the mounting to obtain the required level of adjustment: Remove the cover (1) to access the rear-view mirror support
5. Slightly loosen the screw (2) of the rear-view mirror support in order to rotate the rear-view mirror
6. Make the required horizontal or vertical adjustment
7. Retighten the screw (2).
8. Refit the rear-view mirror casing (1).

Fig. 5

Electric defroster

9. The external rear-view mirror defrosters can be activated by pressing the switch (3) This function is activated for 6 minutes
   - Red LED lit: Defroster activated
   - Red LED not lit: Defroster deactivated

   NOTE:
   The defrost function is deactivated after 6 minutes or when the engine is turned off.The status is not stored in a memory; the function must be reactivated when the tractor is restarted

Fig. 6