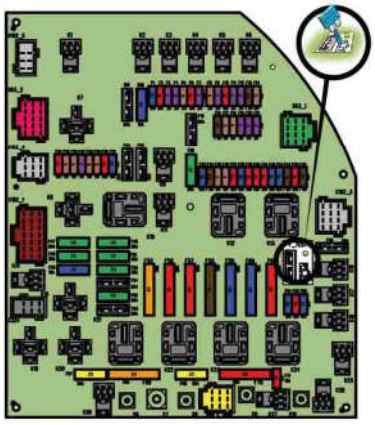
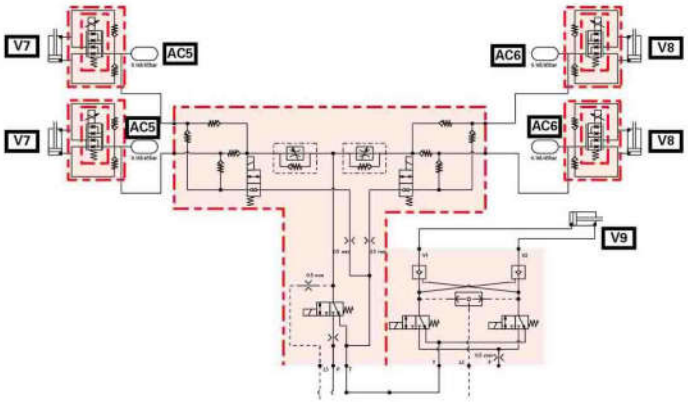
Workshop Service Manual

MASSEY FERGUSON

Technician Service Book - MF 8700 series tractors

Schémas électriques et hydrauliques





Beauvais
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English

Steering	
Model	**MF 8700**
	110 mm x 60 mm (front axles 770/518 and 770/639)
Steering ram stroke	2 x 143,5 mm (front axles 770/517 and 770/638)
	2 x 146 mm (front axles 770/518 and 770/639)
Working pressure	175 bar ± 5 bar
Pressure relief valve adjustment pressure	175 bar ± 5 bar
Shock valve adjustment pressure	235 bar ± 10 bar
Oil recommended for steering	According to MF CMS M1145 specification

Linkage	
Model	**MF 8700**
Rear lift ram diameter	105 mm
Rear linkage travel	788 mm or 860 mm
Maximum lifting capacity at ball joints (rear)	12000 kg
Operating pressure (rear)	180 bar
3-point linkage category (rear)	3
Front lift ram diameter	100 mm x 50 mm
Front linkage travel	826 mm
Maximum lifting capacity at ball joints (front)	5000 kg
Operating pressure (front)	190 bar
3-point linkage category (front)	2 or 3

Live PTO	
Model	**MF 8700**
Number of selections possible for rear PTO	540E/1000 - 1000/1000E
Maximum permissible power 540E in 1"3/8 (21 splines)	100 hp
Maximum permissible power 540E in 1"3/4 (20 splines)	160 hp
Maximum permissible power 1000/1000E in 1"3/8 (6 and 21 splines)	180 hp
Maximum permissible power 1000/1000E in 1"3/4 (20 splines)	MF 8727: 239 hp MF 8730: 262 hp MF 8732: 283 hp MF 8735: 300 hp MF 8737: 300 hp MF 8740: 300 hp
Engine speed for 540E PTO	1577 rpm

1.6 Tightening torques, retaining compounds and sealing products

1.6.1 Retaining compounds and sealing products

General

The Loctite compounds mentioned in this manual are referred to by their industrial name.

For repair purposes, use their commercial names or the corresponding Massey Ferguson references listed in the table below.

Loctite product type	Operation
221	Standard threadlock
241	
242	Medium threadlock
270	Strong threadlock
496	Glue (for metals)
510	Standard sealant
518	Sealant for flat surfaces and paper seals
542	Thread sealant
549	Oil-resistant surface sealant
573	Surface sealant (engine, gearbox)
574	
577	Threaded union sealant (prevents loosening and leakages caused by vibrations)
603	Retainer for cylindrical assemblies (bearings, rings etc.)
638	Strong retainer for cylindrical assemblies (bearings, rings etc.)
648	Strong retainer for cylindrical assemblies (resistant to high temperatures)
706	Degreasing cleaner
5206	Metallic surface sealant (gearbox housing, engine sump)
5910	± Flexible surface sealant
5922	Sealant paste for ± flexible unions (sensor attachments etc.)
7100	Leakage detector for pneumatic systems

NOTE: *Use the product "Form A gasket 2" when sealing between plastic material and cast iron or steel.*

Application method for Loctite products

1. Remove all traces of previous sealants and corrosion
   - mechanically: wire brush or emery cloth
   - chemically: "DECAPLOC 88" (Leave the product to take effect then scrape off and wipe clean).
2. Degrease the components with dry solvent: preferably use "Super Solvant Sec LOCTITE 706".
3. Allow the solvents to evaporate

[2] Metric unit

Torque		
Nm	x 0.7375	lbf ft
lbf ft	x 1.3558	Nm
daNm	x 7.3756	lbf ft
lbf ft	x 0.1356	daNm

Pressure		
bar	x 14.504	psi
psi	x 0.0690	bar

Flow rate		
l/min	x 0.2642	gal/min (US)
gal/min (US)	x 3.7853	l/min
l/hr	x 0.2642	gal/hr (US)
gal/hr (US)	x 3.7853	l/hr
l/ha	x 0.1069	gal/acre (US)
gal/acre (US)	x 9.3531	l/ha

Speed		
kph	x 0.6214	mph
mph	x 1.6093	kph

Weight		
g	x 0.03527	oz
oz	x 28.3495	g
kg	x 2.2046	lb
lb	x 0.4536	kg
t	x 1.1023	US ton
US ton	x 0.9072	t

Temperature		
°C	(°C x 1.8) + 32	°F
°F	(°F - 32)/1.8	°C

Alternator charge warning light

Activating condition(s)

- Indicator light flashing and engine speed greater than 1000 rpm = one of the two alternators is not working
- Indicator light permanently on and engine speed greater than 1000 rpm = neither alternator is working

Cause(s)	Solution(s)
Connection problems in the load circuit	Check the connections in the alternator load circuit back to the battery.
Belt slack or damaged	Check the condition and tension of the belts.
Battery faulty	Check the condition of the batteries.
Alternator faulty	Check the condition of the alternators.

Auxiliary hydraulic oil temperature indicator light

Activating condition(s)

- Indicator light permanently on = temperature above95 °C - stop the engine
- Indicator light flashing = temperature sensor disconnected or short-circuited

Cause(s)	Solution(s)
Radiators blocked	Clean the radiators.
Unusual use of the tractor auxiliary hydraulics	Check operation and connections with the implement.
Sensor disconnected or short-circuited	Contact the dealer.

Auxiliary hydraulic oil filter blockage indicator light

Activating condition(s)

- Indicator light permanently on = filter blocked and auxiliary hydraulic oil temperature above30 °C

Cause(s)	Solution(s)
Filter blocked	Change the filter element.
Auxiliary hydraulic oil polluted	Check the quality of the oil.
Faulty auxiliary hydraulic oil filter blockage sensor	Contact the dealer.

- Degraded mode 1: The engine torque is limited to 75%.
- Final degraded mode: Once the maximum time delay for degraded mode 1 has been reached, the engine torque is limited to 50% and the engine speed is limited to idle speed.

For more information, refer to the following chapter: "Information about the various operating modes of the SCR Technology engine".

No.	FMI	Components concerned	Causes	Standard modes	modes SCR Technology
03	14		The number of injections is limited by the quantity balance of the high-pressure pump		
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	7	Air dosing unit	Position deviation		
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	

No.	FMI	Components concerned	Causes	Standard modes	modes SCR Technology
4346	31	preheater pressure line DEF or AdBlue™	Excessive temperature		
4356	5	module relay DEF or AdBlue™	Open circuit		
4360	2	DOC inlet temperature sensor	Incorrect temperature value		X
4360	3	DOC inlet temperature sensor	Voltage above normal or open circuit		X
4360	4	DOC inlet temperature sensor	Voltage below normal		X
4360	10	DOC inlet temperature sensor	Temperature value inconsistent		
4363	2	Exhaust outlet temperature sensor	Incorrect temperature value		X
4363	3	Exhaust outlet temperature sensor	Voltage above normal or open circuit		X
4363	4	Exhaust outlet temperature sensor	Voltage below normal		X
4363	10	Exhaust outlet temperature sensor	Temperature value inconsistent		
4374	8	pump motor DEF or AdBlue™	Speed fault		X
4374	14	pump motor DEF or AdBlue™	Permanent speed fault		X
4374	31	pump motor DEF or AdBlue™	Not available		X
4375	3	pump motor DEF or AdBlue™	Short circuit to +12 V		X
4375	4	pump motor DEF or AdBlue™	Short circuit to earth (-)		X
4375	5	pump motor DEF or AdBlue™	Current below normal or open circuit		X
4375	31	pump motor DEF or AdBlue™	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 DEF or AdBlue™	High catalyst temperature		
5020	3	Intake temperature sensor	Voltage above normal or open circuit		
5020	4	Intake temperature sensor	Voltage below normal		
5025	31	NOx sensor before DOC	Calibration value outside the reference values		X

No.	Components concerned	Causes	Consequences
04.0X.85	**X25** - Engine speed sensor	Signal outside the reference values	Operation possible in limp home mode
04.0X.86	**X9** - Transmission oil high pressure sensor 1 / **X34** - Transmission oil high pressure sensor 2	Signal outside the reference values	The Dyna-TM function is disabled
04.0X.89	**X19** - Transmission hydraulic oil temperature sensor	Signal outside the reference values	
04.0X.8A	**X68** - Clutch pedal sensor	Inconsistency between the bottom-of-clutch pedal (BOC) signal and the start-up safety signal	
04.0X.8F	**X174** - SRC 14-34 main controller (96-pin) / **X598** - SRC 14-34 main controller (58-pin)	The circumference of the configured wheel is too small or too large.	
04.0X.94		The CAN communication between the different controllers is faulty	
04.0X.A1	**X18** - Transmission control module	The angle of rotation is limited, but not by the speed limiting solenoid valve	• Operation possible in limp home mode • The Dyna-TM function is disabled
04.0X.A2	**X18** - Transmission control module / **X174** - SRC 14-34 main controller (96-pin)	CAN network control interrupted between the module and the controller	• Operation possible in limp home mode • The Dyna-TM function is disabled
04.0X.A3	**X18** - Transmission control module	The increment sensor signal (module internal position sensor) is interrupted or illogical	• Operation possible in limp home mode • The Dyna-TM function is disabled
04.0X.A4	**X174** - SRC 14-34 main controller (96-pin)	The signal from the controller is interrupted or illogical	• Operation possible in limp home mode • The Dyna-TM function is disabled
04.0X.A5	**X18** - Transmission control module	The module reference output (position "0") was not found within 10 seconds of starting the tractor	• Operation possible in limp home mode • The Dyna-TM function is disabled
04.0X.A6	**X18** - Transmission control module	The module reference output (position "0") was not found during tractor operation	• Operation possible in limp home mode • The Dyna-TM function is disabled

No.	Components concerned	Causes	Consequences
18.0X.3A	**X237** - Electrohydraulic Orbitrol (black connector)	No response from the valve	
18.0X.3B	**X237** - Electrohydraulic Orbitrol (black connector)	The valve does not return to the neutral position during shutdown	
18.0X.3C	**X237** - Electrohydraulic Orbitrol (black connector)	Absence of calibration	
18.0X.40		Warning message when trying to activate the Auto-Guide™, or when the Auto-Guide™ cannot be activated within 5 seconds	
18.0X.4A	**X978** - Auto-Guide receiver antenna /**X174** - SRC 14-34 main controller (96-pin)/**X237** - Electrohydraulic Orbitrol (black connector)	A fault is detected on the CAN bus communication	
18.0X.5C	**X174** - SRC 14-34 main controller (96-pin)	Controller parameters in the EEPROM are not valid	
18.0X.5D	**X174** - SRC 14-34 main controller (96-pin)	The stored values are not valid	
18.0X.66	**X237** - Electrohydraulic Orbitrol (black connector)	A fault is detected on the valve (flow rate measurement)	
18.0X.69		The power supply voltage is greater than 32 volts	
18.0X.6A		The power supply voltage is less than 10 volts	
18.0X.6B	**X237** - Electrohydraulic Orbitrol (black connector)	The valve is unable to reach the neutral position	
18.0X.6C	**X237** - Electrohydraulic Orbitrol (black connector)	The valve is not in the neutral position at start-up	
18.0X.6D	**X237** - Electrohydraulic Orbitrol (black connector)	The valve position is greater than the reference position	
18.0X.7F	**X237** - Electrohydraulic Orbitrol (black connector)	A fault is detected on the Auto-Guide™ system or accelerated steering system SpeedSteer	The Auto-Guide™ system or SpeedSteer system is disabled
18.0X.80	**X237** - Electrohydraulic Orbitrol (black connector)/ **X235** - Front axle steering sensor (WAS sensor)	Inconsistency between valve power supply signal and steering sensor signal	The Auto-Guide™ system or SpeedSteer system is disabled
18.0X.81	**X210** - Orbitrol steering sensor (SASA sensor)/**X235** - Front axle steering sensor (WAS sensor)	Inconsistency between **X210** - Orbitrol steering sensor (SASA sensor) signal and signal **X235** - Front axle steering sensor (WAS sensor)	The Auto-Guide™ system or SpeedSteer system is disabled

2.1.25 Front linkage error codes

No.	Components concerned	Causes
09.0X.00	**X279** - Front linkage position sensor	Front linkage is not calibrated

Number	Amperage	Size	Protected function
F56	5 A	Small	+BAT **X152** - Start switch
F57	15 A	Small	+ APC **X598** - SRC 14-34 main controller (58-pin)
F58	10 A	Small	+ APC **X153** - Non-Isobus implement connector
F59	10 A	Small	Not used
F60	7.5 A	Small	+ APC • **X183** - Diagnostics connector • **X184** - Diagnostics connector • **X594** - unit AgCommand™ • **X952** - Additional controller
F61	3 A	Small	+ APC • **X194** - D + alternator 1 • **X195** - D + alternator 2
F62	5 A	Small	K15 relay power circuit supplying +APC to **X216** - Reversing light and **X225** - Trailer connection (reversing light)
F63	10 A	Small	K26 relay power circuit supplying +APC to **X252** - Air conditioning pressure switch
F64	10 A	Small	+ APC • **X272** - Front accessories connection socket (+12 V APC) • **X998** - Relay holder for the ABS connector kit control circuit
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	15A	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
K3			High beam lamps on hand rail relay
K4			Low beam lamps on hand rail relay
K5			Earth relay for the turbo-clutch solenoid valve
K6			Relay supplying the +ACC for the tractor
K7			Relay for function 4 switch on Multi Function Joystick

1. Press the switch (B) to execute an emergency cut-off of the battery isolator.

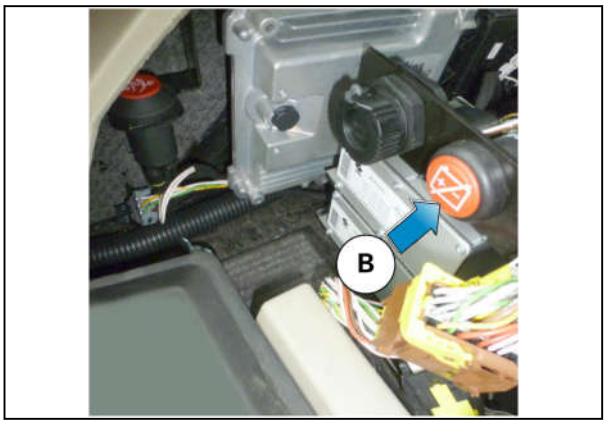

Fig. 8

X196 - In-line fuse (225 A)

X197 - Diesel fuel gage

X198 - Pneumatic trailer brake sensor

X199 - Work light on left-hand step

X200 - Work light on right-hand step

X201 - Engine harness earth

X202 - Front accessory connection socket harness/front function harness junction

X203 - Engine harness/front headlights harness junction

X204 - Cooling unit harness/engine harness junction

X205 - Front axle harness/engine harness junction

X206 - Sensor detecting water in the diesel fuel

X207 - Pneumatic seat adjustment control

X209 - Switch for lowering the rear linkage (pickup hitch)

X210 - Orbitrol steering sensor (SASA sensor)

X211 - Rear Dual Control connector

X212 - Instrument panel harness/armrest harness junction

X213 - Power socket for additional heating

X214 - Multifunction armrest

X215 - Trailer connection (right-hand side light)

X216 - Reversing light

X217 - Cab Isobus harness/external Isobus harness junction

X218 - External Isobus implement connector

X219 - Isobus CAN connector

X220 - Trailer connection (left-hand side light)

X221 - Trailer connection (right-hand direction indicator)

X222 - Trailer connection (left-hand direction indicator)

X223 - Trailer connection (brake lights)

X224 - Trailer connection (earth)

X225 - Trailer connection (reversing light)

X226 - Trailer connection harness earth

X227 - Console harness/cab transmission harness junction

X228 - Front linkage single/double-acting function indicator light

X229 - 120-ohm CAN 1 resistor (cab transmission harness)

X230 - 120-ohm CAN 3 resistor (cab transmission harness)

X231 - 120-ohm CAN 4 resistor (cab transmission harness)

X232 - 120-ohm CAN 2 resistor (cab transmission harness)

X233 - Cab transmission harness/Isobus harness junction

X234 - 120-ohm CAN ATC resistor

X612 - Position switch for the creeper range (snail) lever (supply)

X613 - Connection between the cab transmission harness and the cab linkage control harness

X614 - Connection between the cab transmission harness and the cab lighting harness

X615 - Connection between the cab transmission harness and the cab lighting harness

X616 - DEF or AdBlue™ tank gage with quality sensor

X617 - Position switch for the economy PTO lever (supply)

X618 - Parking brake sensor

X619 - Road mode/field mode switch

X620 - + speed switch

X621 - - speed switch

X622 - Confirmation switch

X623 - Connection between the cab exterior transmission harness and the engine harness

X624 - Connection between the cab exterior transmission harness and the cab exterior lighting harness

X625 - Rear linkage lowering switch on the right-hand fender

X626 - Rear linkage lowering switch on the left-hand fender

X627 - Connection between the cab exterior lighting harness and the exterior cab suspension harness

X628 - Connection between the cab exterior lighting harness and the PTO speed harness

X629 - Left-hand brake wear sensor

X630 - Right-hand brake wear sensor

X631 - Terminal Bias Connexion connector Auto-Guide™

X632 - Dual relay Isobus

X633 - Cab harness/ harness connection Auto-Guide™

X634 - CAN extension

X635 - Auto-hitch extension switch

X636 - Auto-hitch retraction switch

X637 - MEAS sensor

X638 - Connection between the fuse holder board and the hazard warning light unit

X639 - Connection between the fuse holder board and the cab interior transmission harness

X640 - Connection between the fuse holder board and the pillar harness

X641 - Connection between the fuse holder board and the cab interior lighting harness

X642 - Connection between the fuse holder board and the instrument panel harness

X643 - Right-hand marker lights

X644 - Left-hand marker lights

X645 - lever shunt Power Control

X646 - Battery isolator switch

X647 - Battery isolator harness/cab interior transmission harness connection

X648 - Front left-hand headlamp on lower section

X649 - Front right-hand headlamp on lower section

- **X465** - Battery positive terminal contact

(2) On the starter

- **X341** - Starter supply

(3) On the left-hand alternator

- **X192** - B + alternator 1

(4) On the right-hand alternator

- **X193** - B + alternator 2

(5) On the fuse board

- **X117** - Isobus +12 V battery power socket
- **X129** - Fuse box +12 V battery connection
- **X362** - Fuse box (+12 V battery)

4.1.5.2 EFD00000_10 - Battery earth points

EFD00000_10 - Battery earth points

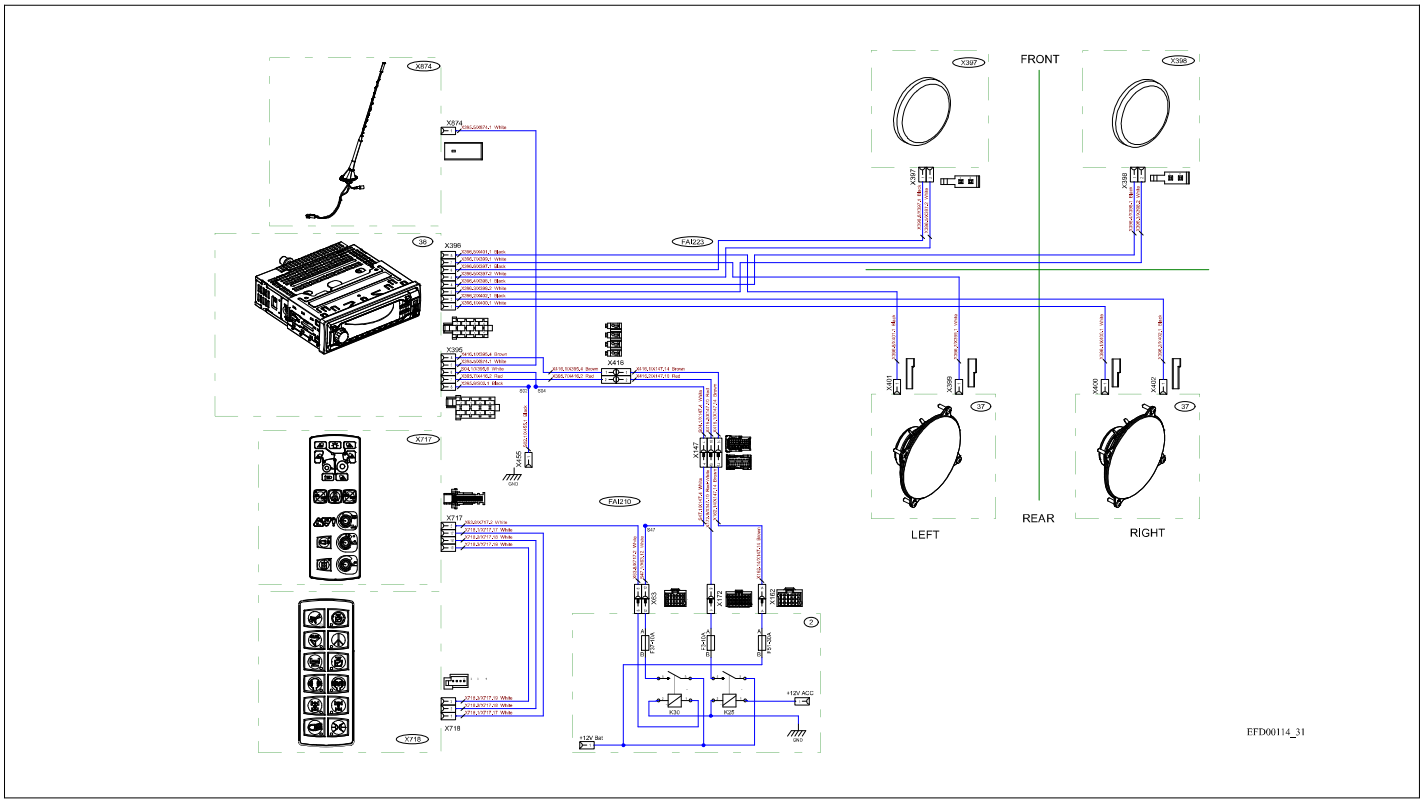

Fig. 10

4.1.5.11 EFD00116_13 - Hydraulic active suspended cab
EFD00116_13 - Hydraulic active suspended cab

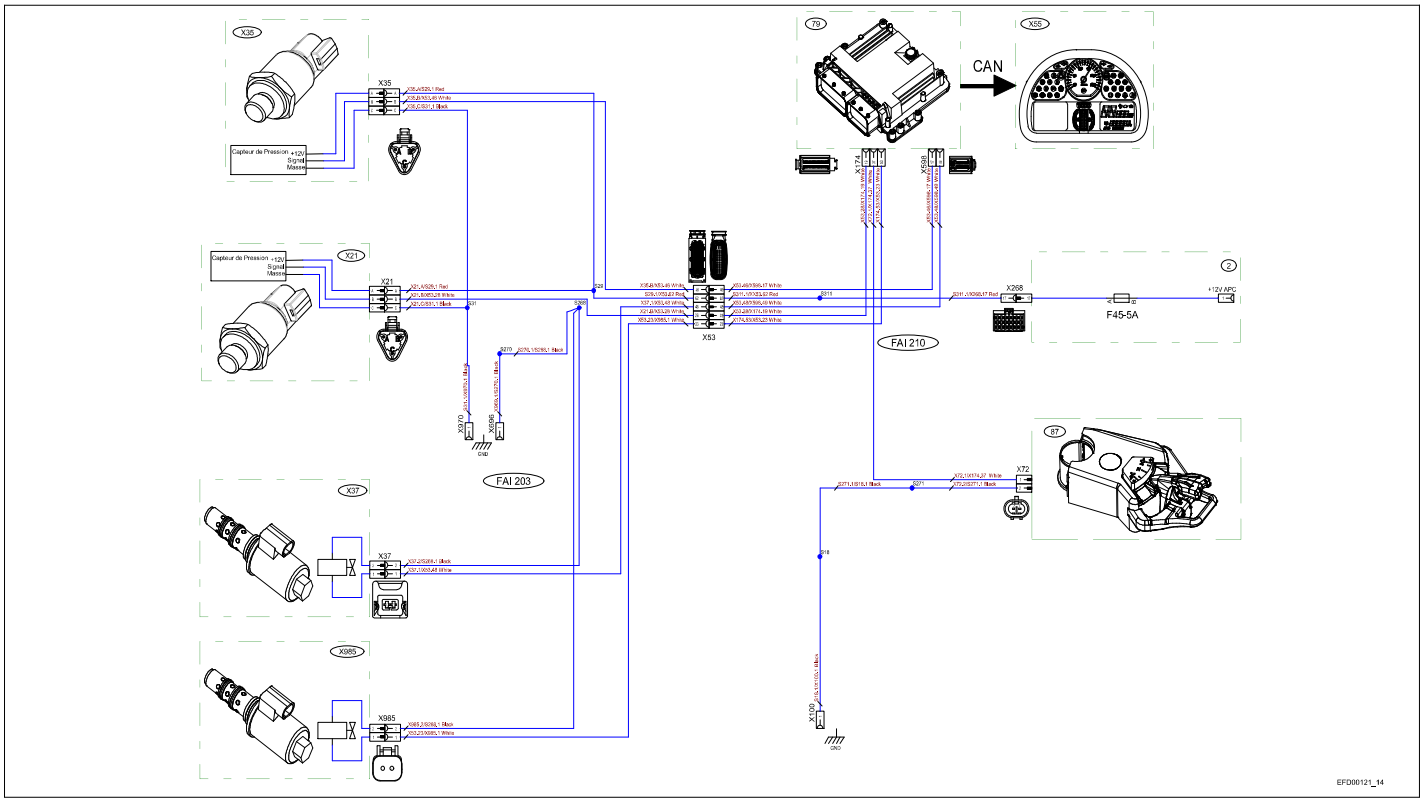

Fig. 20

4.1.5.21 EFD00122_10 - Fuel gage
EFD00122_10 - Fuel gage

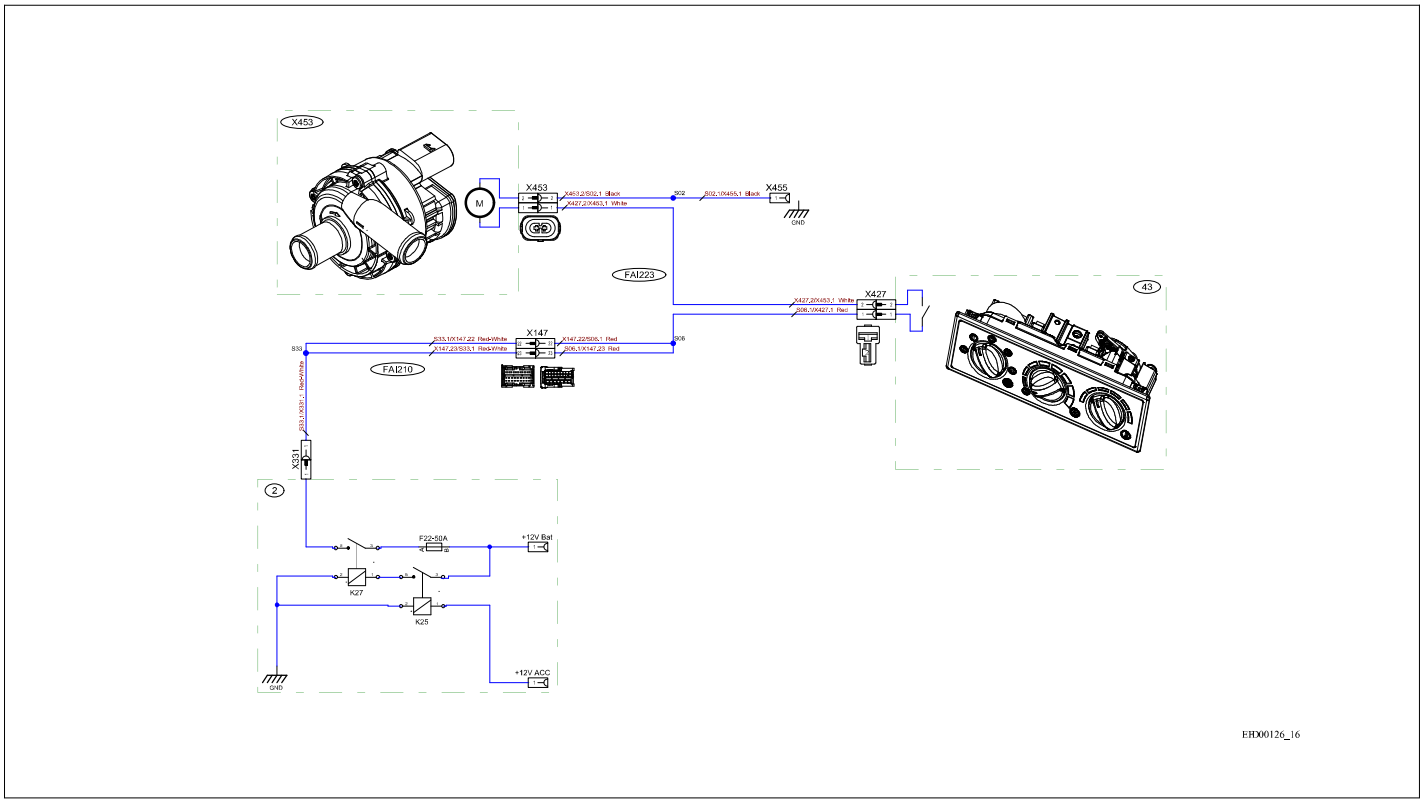

Fig. 30

4.1.5.31 EFD00128_22 - Cab current socket
EFD00128_22 - Cab current socket

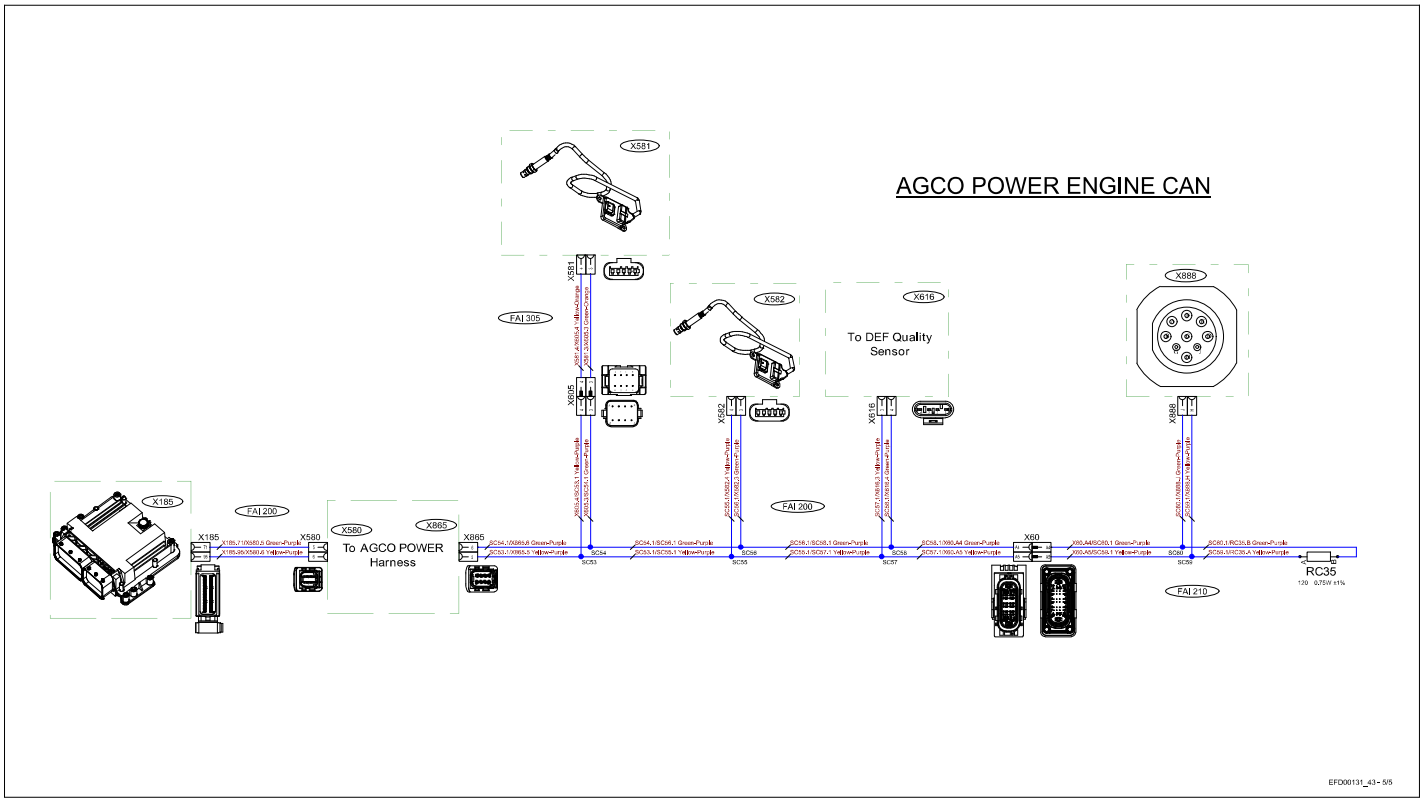

Fig. 39

4.1.5.40 EFD00132_9 - Electric rear-view mirrors
EFD00132_9 - Electric rear-view mirrors

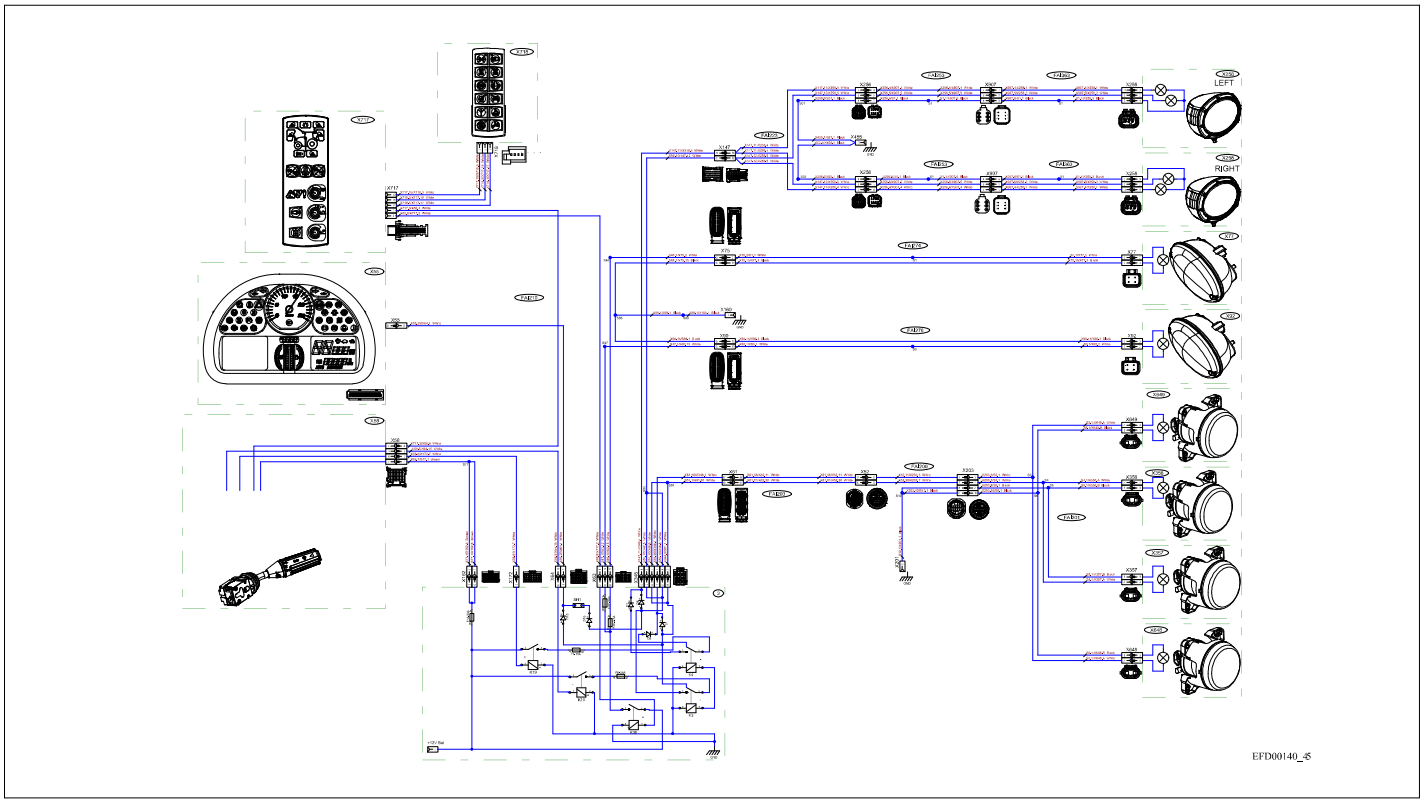

Fig. 49

4.1.5.50 EFD00141_98 - EAME work lights
EFD00141_98 - EAME work lights

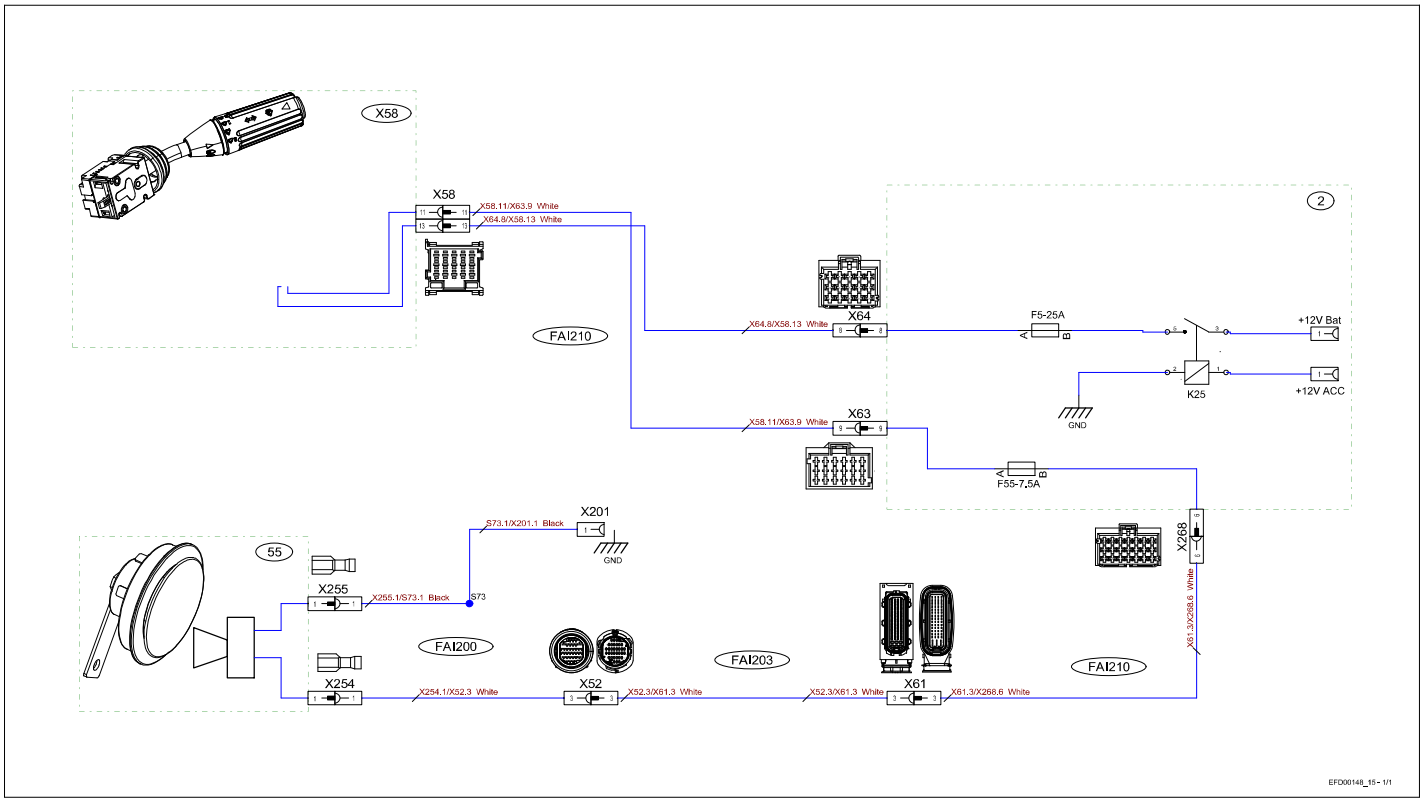

Fig. 59

4.1.5.60 EFD00149_21 - Battery charge + jump start
EFD00149_21 - Battery charge + jump start

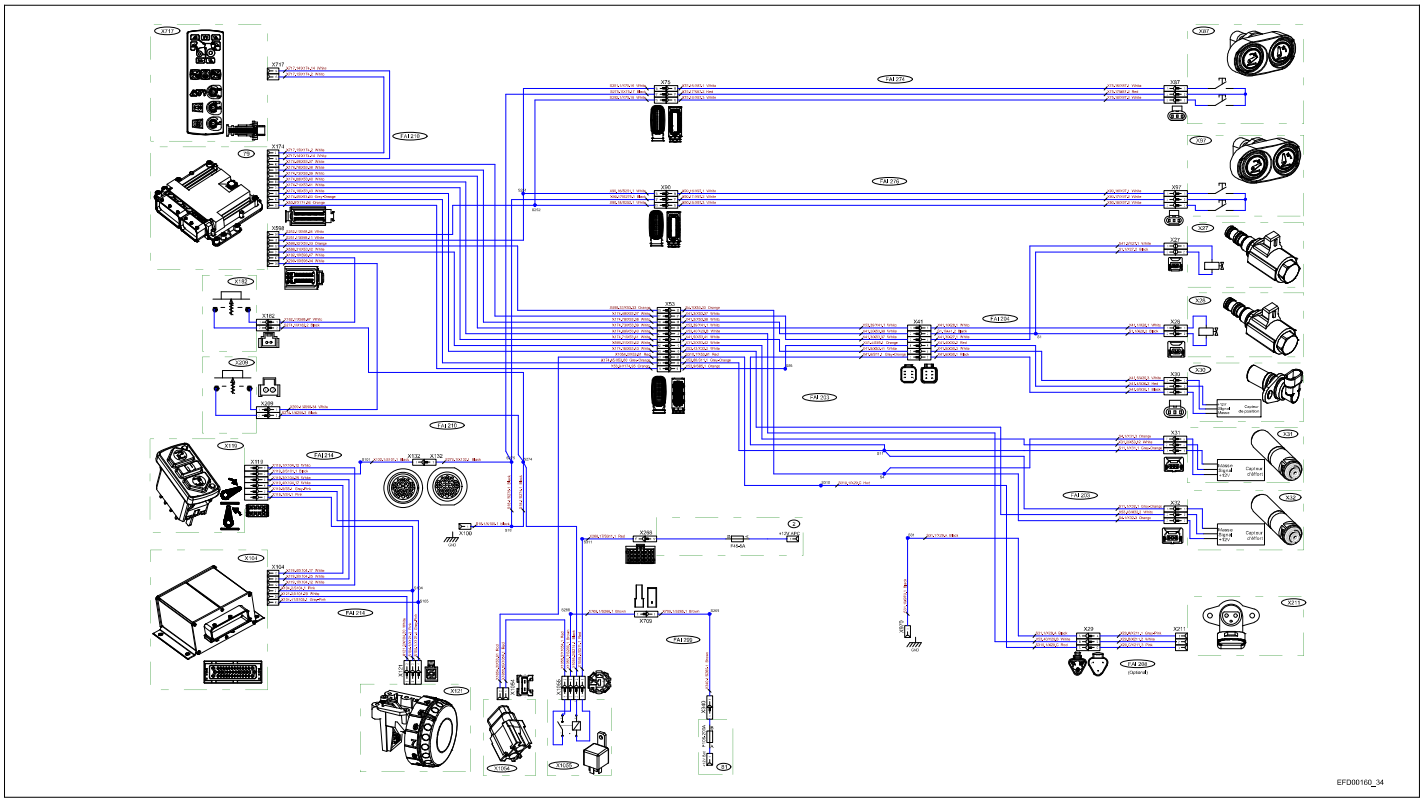

Fig. 69

4.1.5.70 EFD00161_14 - Front linkage
EFD00161_14 - Front linkage

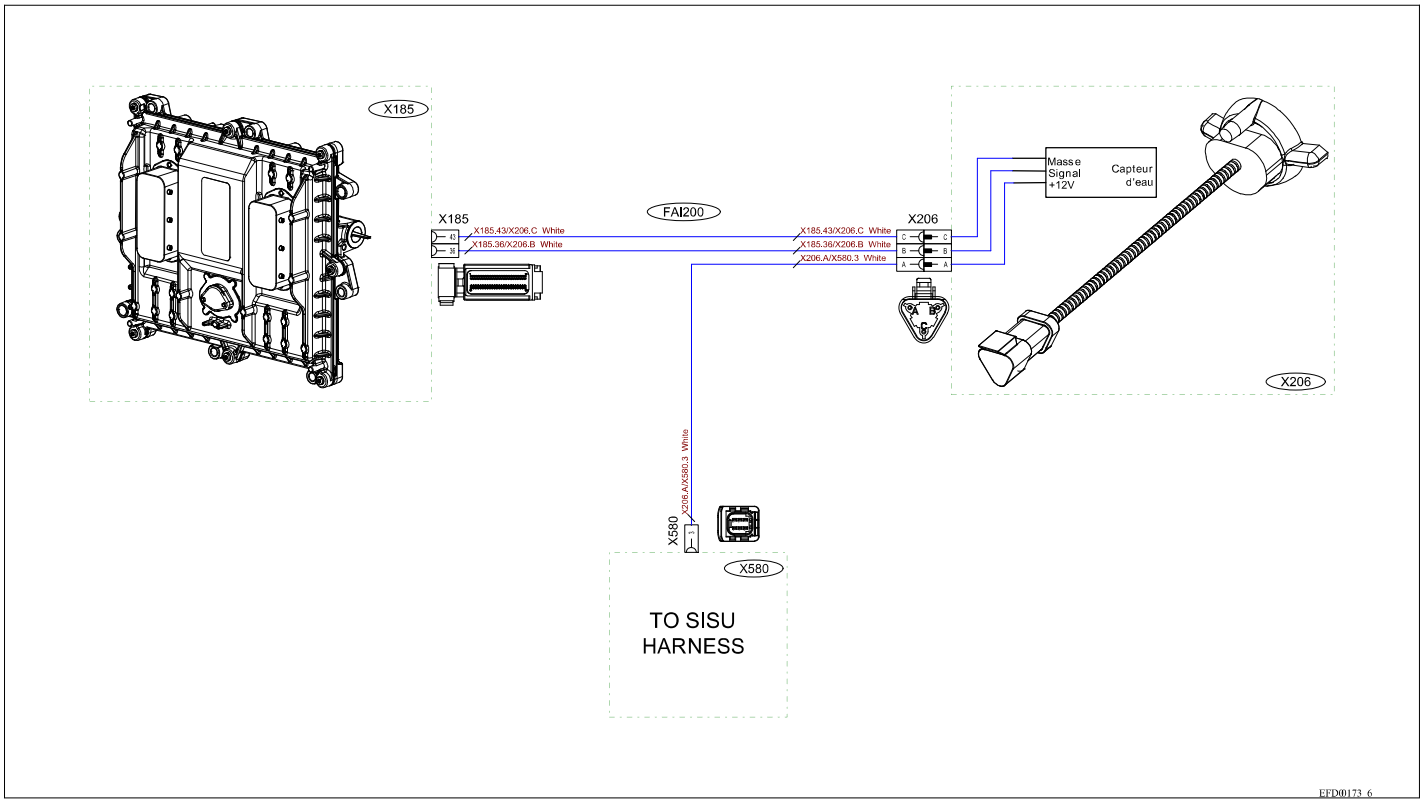

Fig. 79

4.1.5.80 EFD00174_16 - Air brake
EFD00174_16 - Air brake

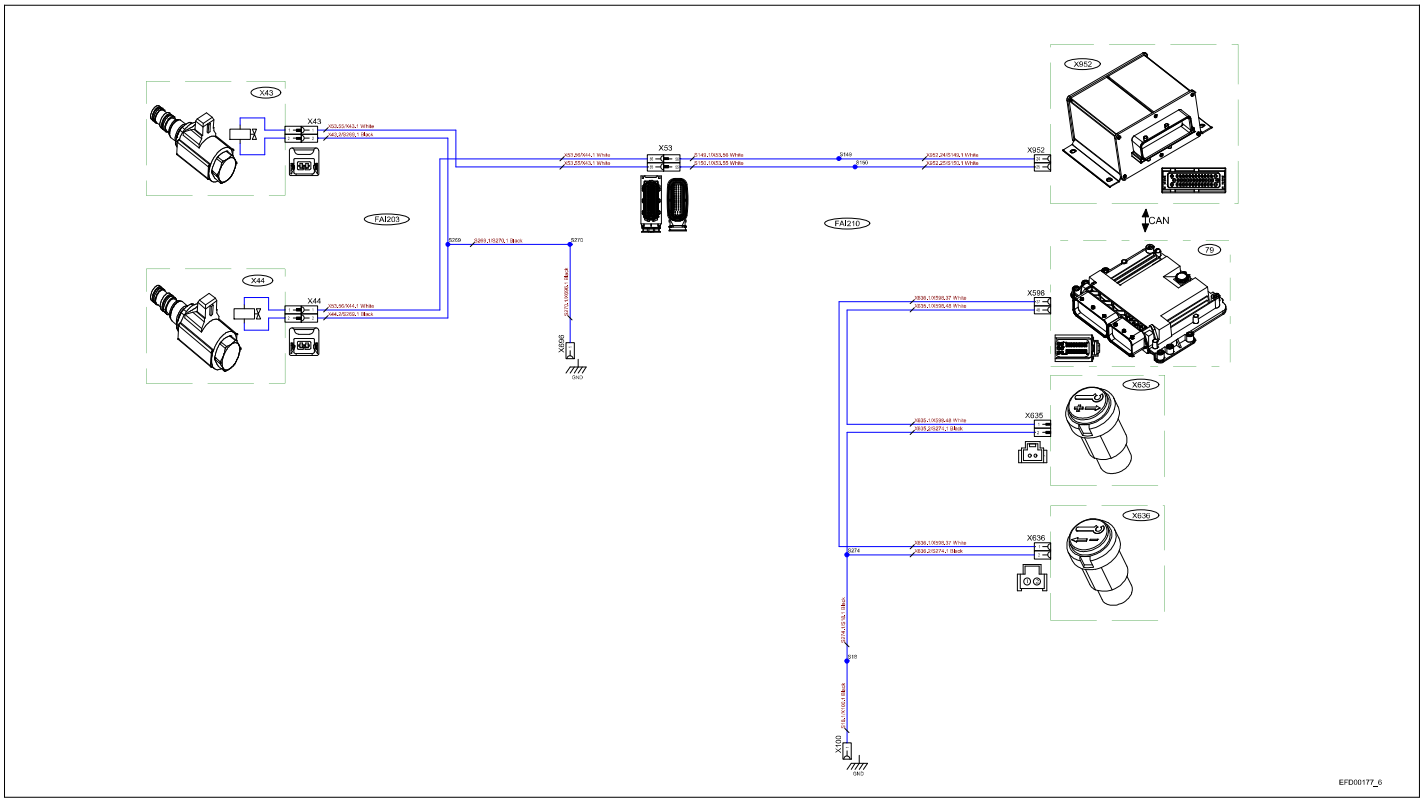

Fig. 89

4.1.5.90 EFD00178_7 - Steering SpeedSteer
EFD00178_7 - Steering SpeedSteer

FAI236 - Start-up harness

FAI237 - +12 APC fuse box harness

FAI238 - +12 APC instrument panel harness

FAI239 - Permanent +12 V supply harness

FAI240 - +12 V permanent fuse box harness

FAI241 - Automatic air conditioning adapter harness

FAI242 - High beam lamps on hand rail adapter harness

FAI243 - Circuit breaker harness

FAI244 - Linkage external controls extension harness

FAI245 - Left-hand linkage external controls harness

FAI246 - Right-hand linkage external controls harness

FAI247 - Power take-off shunt harness

FAI248 - Linkage external controls harness

FAI249 - Suspended front axle harness

FAI250 - Engine harness

FAI251 - Parking brake harness

FAI252 - +12 V battery harness

FAI253 - Hand rail harness

FAI254 - Windscreen wiper harness

FAI255 - 1-speed windscreen wiper harness

FAI256 - High-visibility roof heating harness

FAI257 - High-visibility roof heating harness

FAI258 - Roof earth harness

FAI259 - Platform rotary beacon harness

FAI260 - Cooling unit harness

FAI261 - Isobus harness

FAI262 - Auto-Guide™ engine harness

FAI263 - Auto-Guide™ cab adapter harness

FAI264 - Auto-Guide™ roof adapter harness

FAI265 - Air brake harness

FAI266 -Air brake shunt harness

FAI267 - Console harness

FAI268 - Front function harness

FAI269 - Clutch pedal harness

FAI270 - Front power take-off harness

FAI271 - Cab electric rear-view mirror harness

FAI272 - Suspended cab harness

FAI273 - Front linkage harness

5.1.2.8 FAI203 - Drive train harness - ACW076735

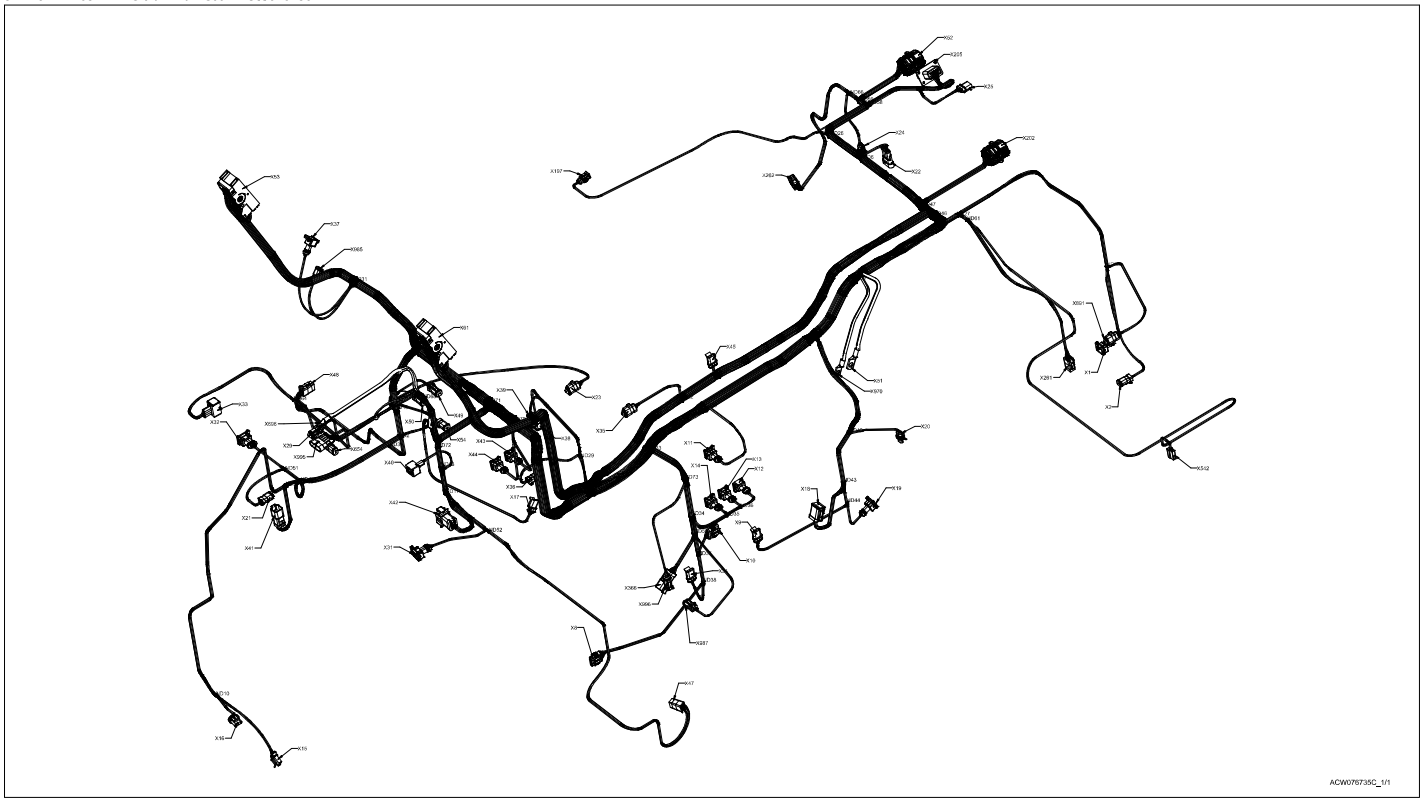

Fig. 8

5.1.2.18 FAI219 - Cab interior current socket harness - 4290574_2/2

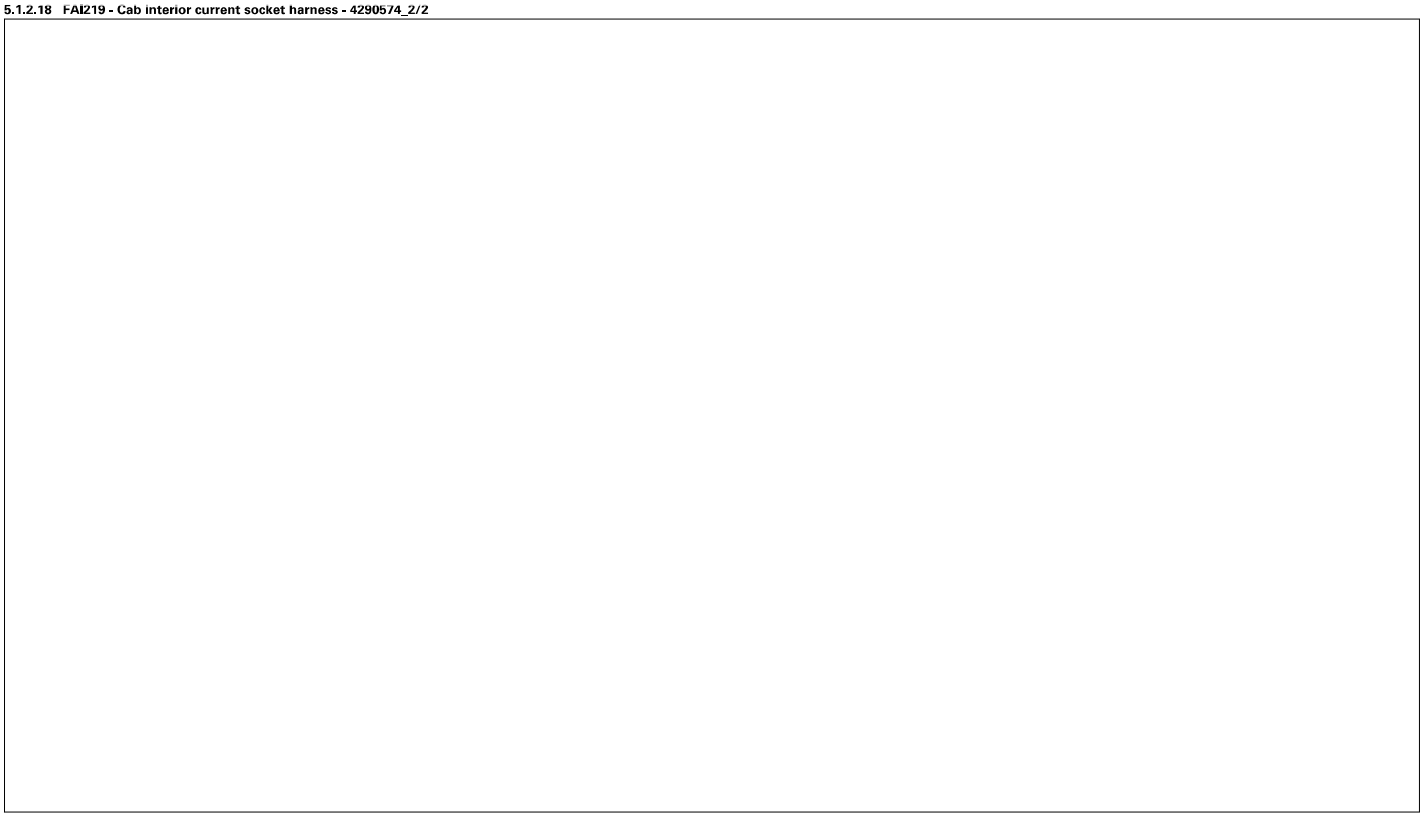

Fig. 18

5.1.2.28 FAI227 - Roof harness with automatic air conditioning EAME - 4389180_2/2

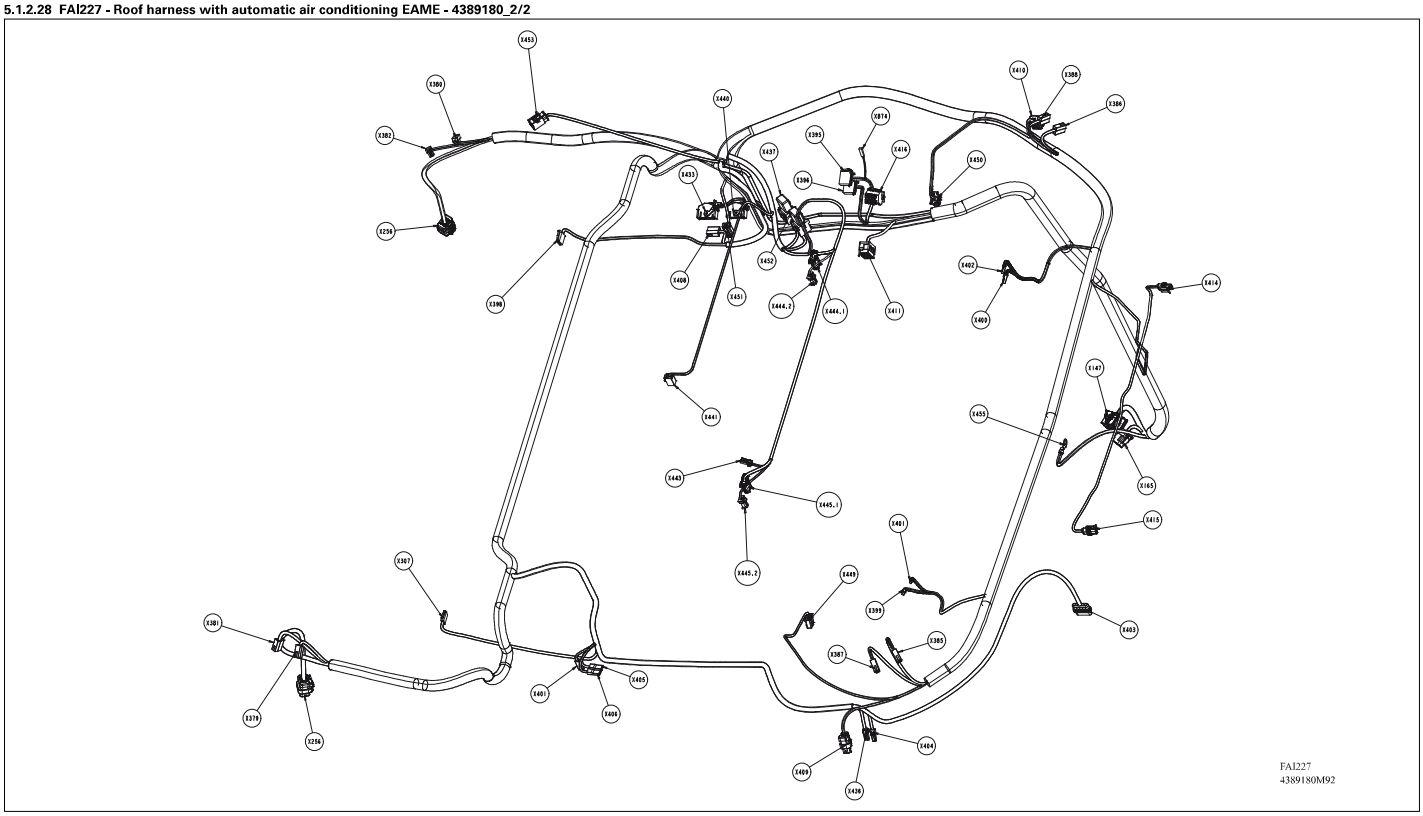

Fig. 28

5.1.2.38 FAI253 - Hand rail harness - ACW039630

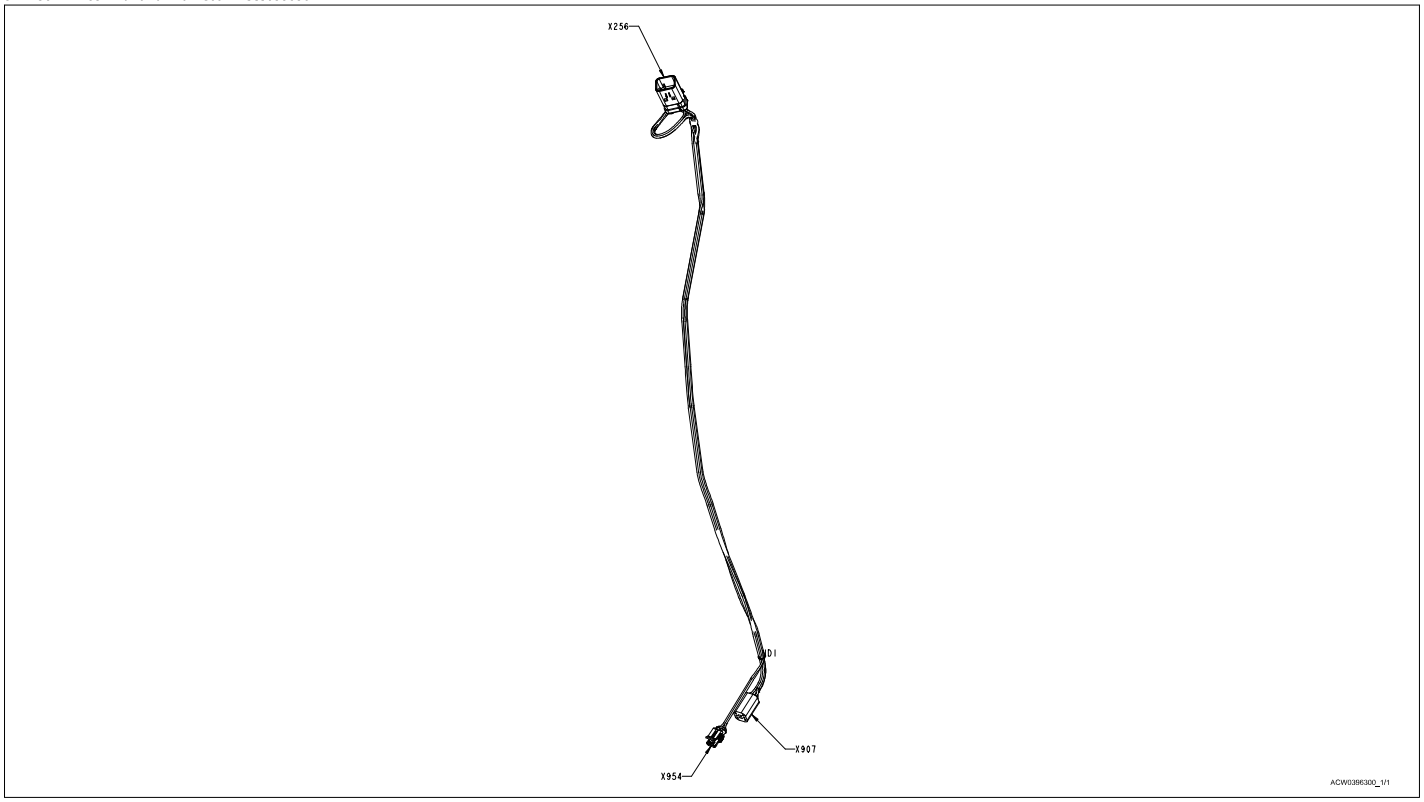

Fig. 38

5.1.2.48 FAI268 - Front function harness - 4293100_2/2

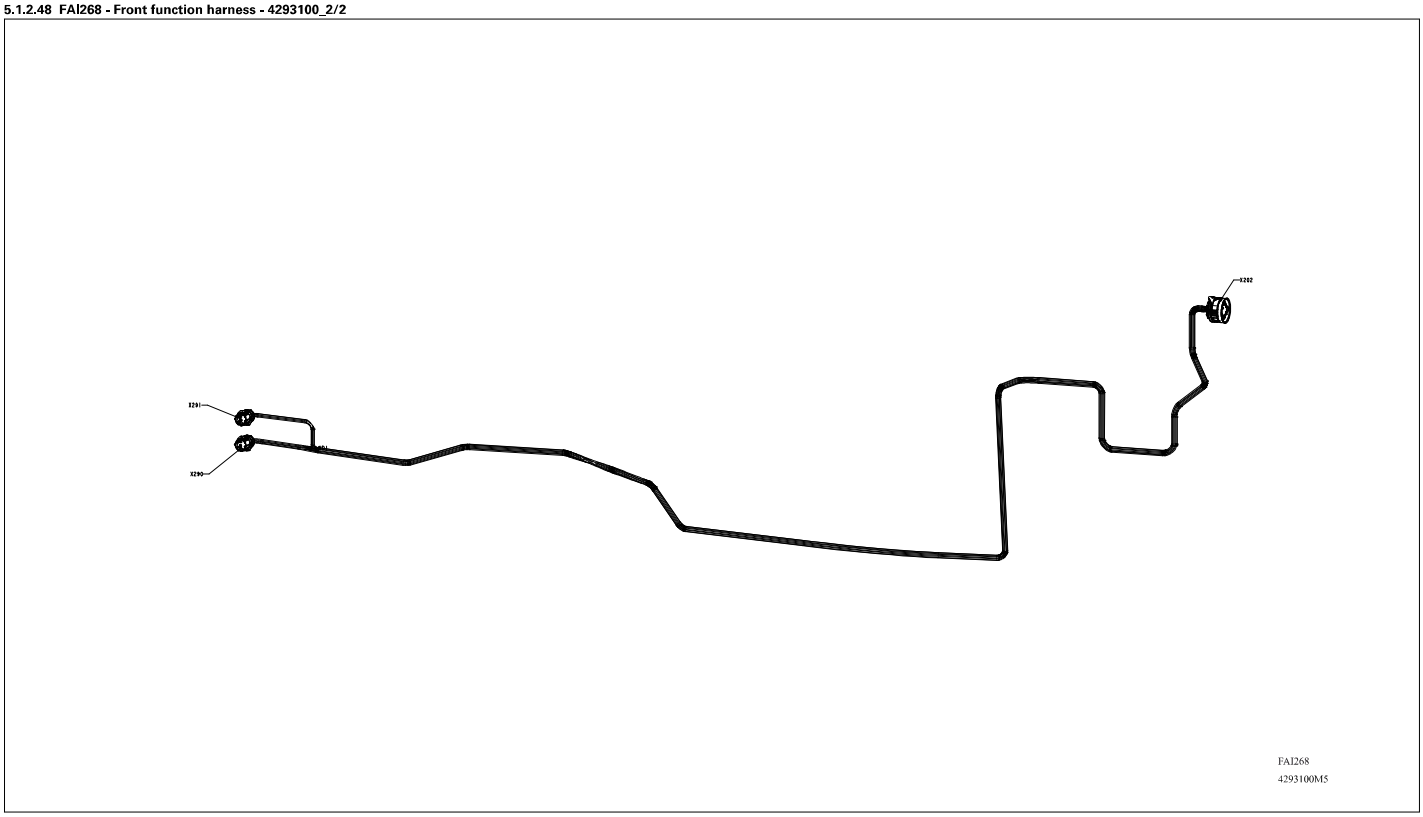

Fig. 48

5.1.2.58 FAI275 - Trailer connector harness NA - 4290011_2/2

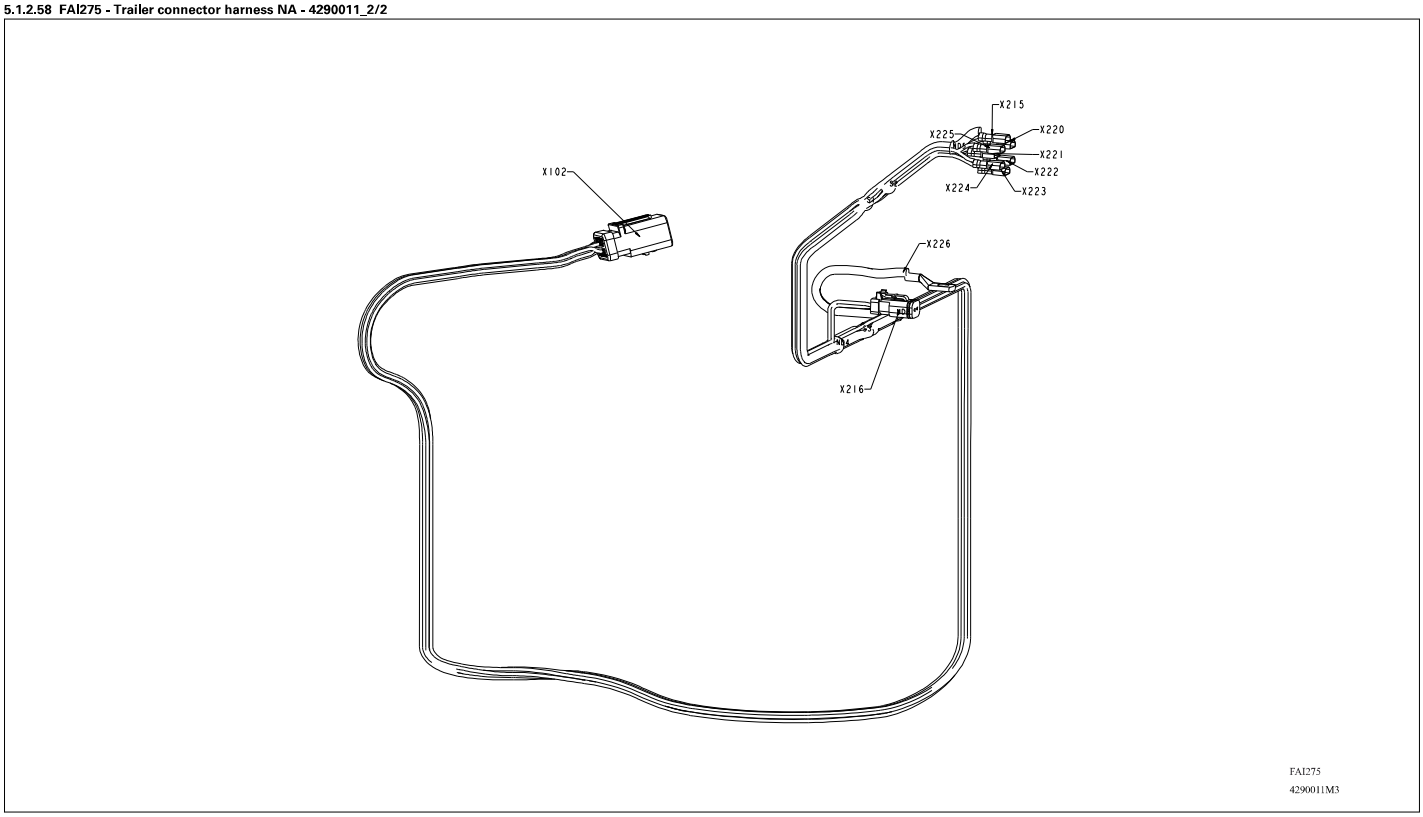

Fig. 58

5.1.2.68 FAI292 - NA direction indicator harness - 4376780_1/2

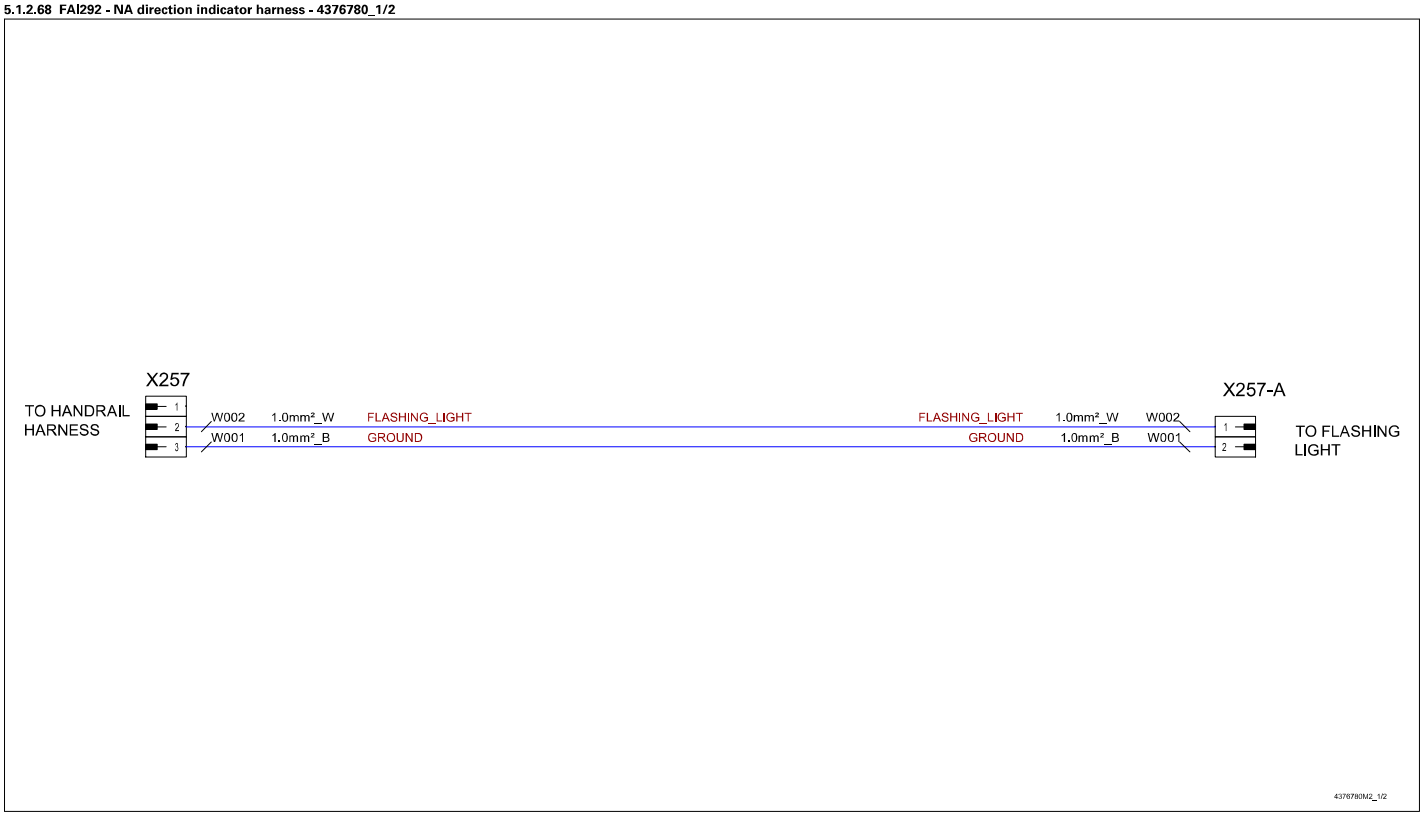

Fig. 68

5.1.2.78 FAI296 - Electrohydraulic valves shunt harness - 4295666

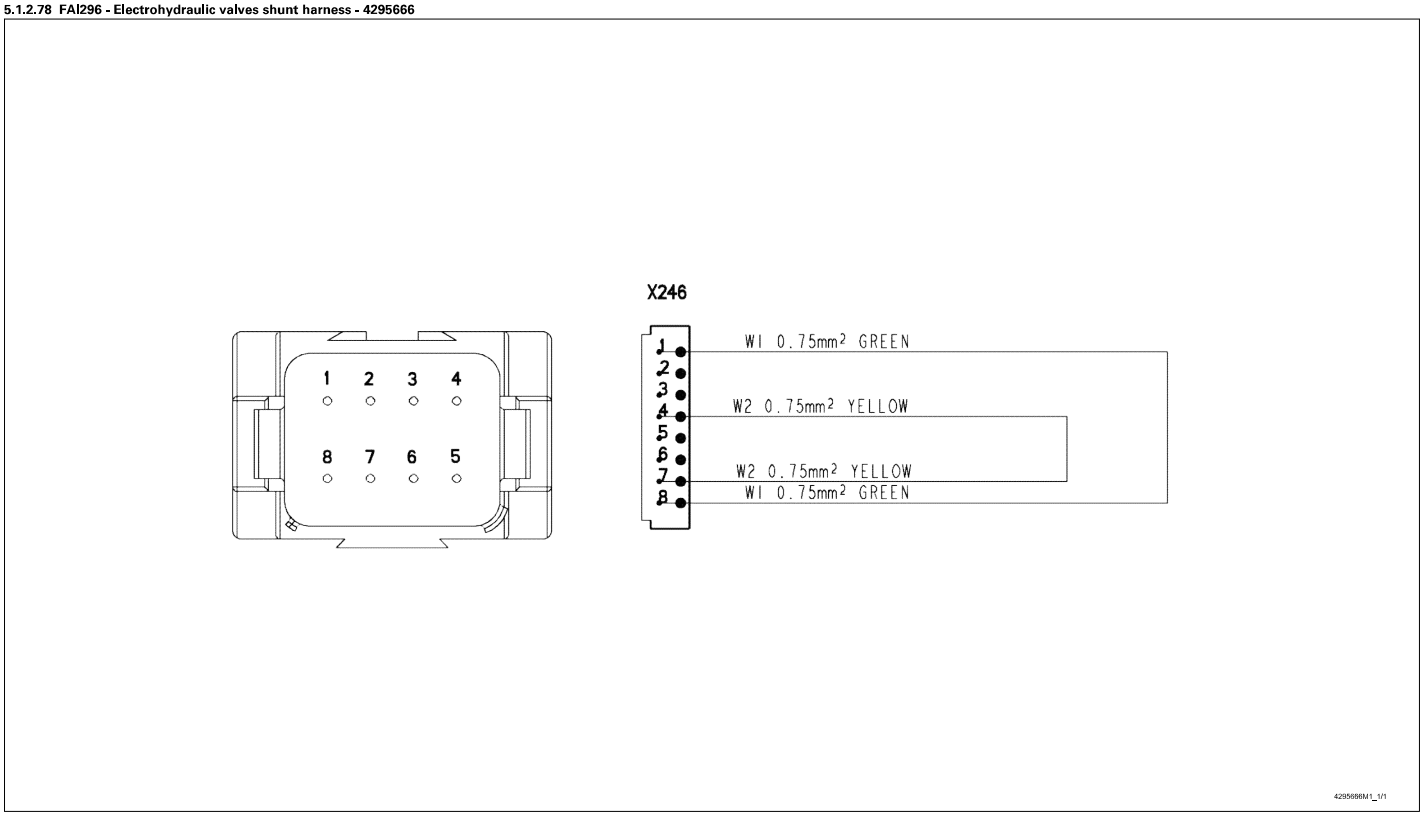

Fig. 78

5.1.2.88 FAI310 - Battery/battery isolator negative cable harness - 4355556

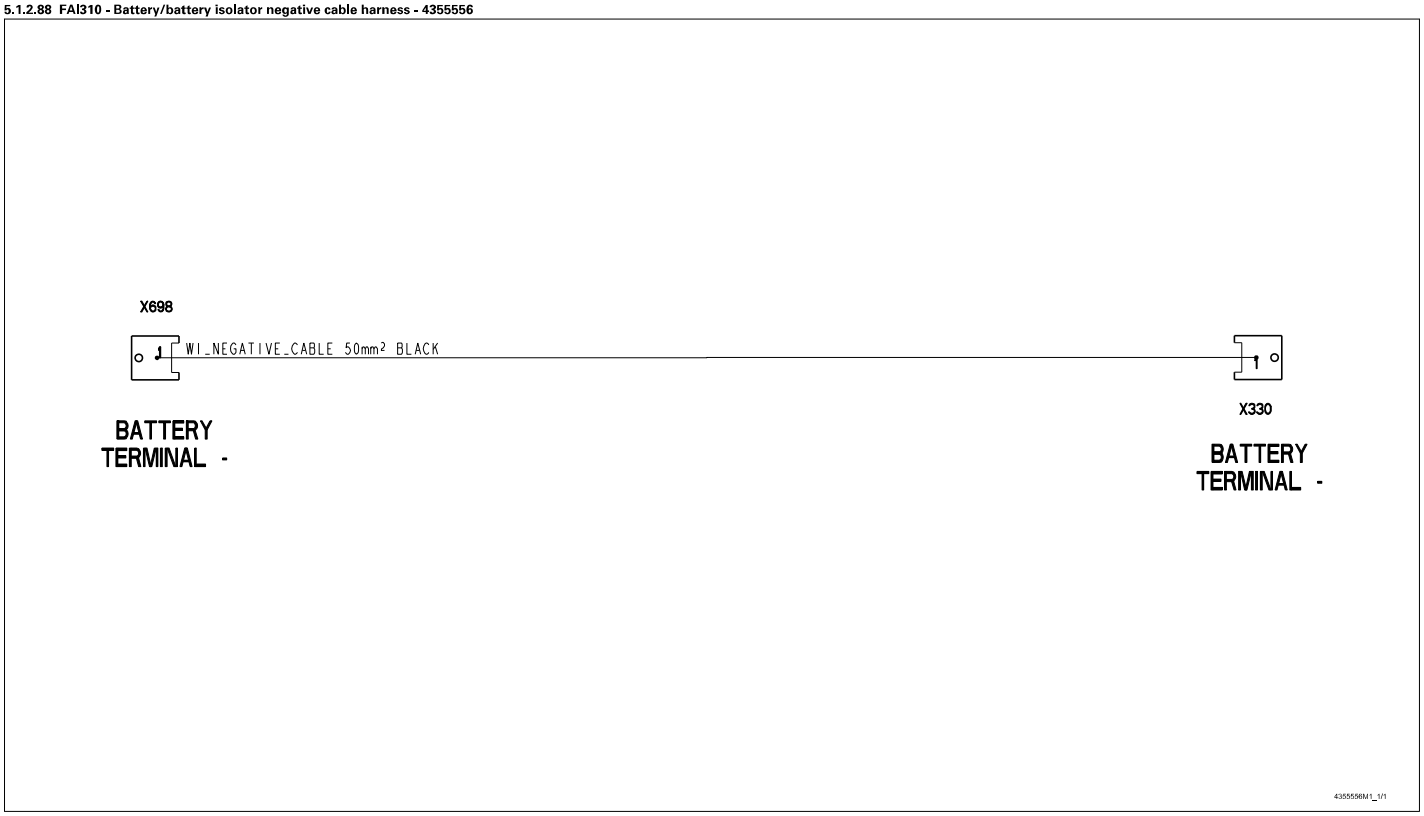

Fig. 88

5.1.2.98 FAI363 - Hand rail harness - 4390208_1/2

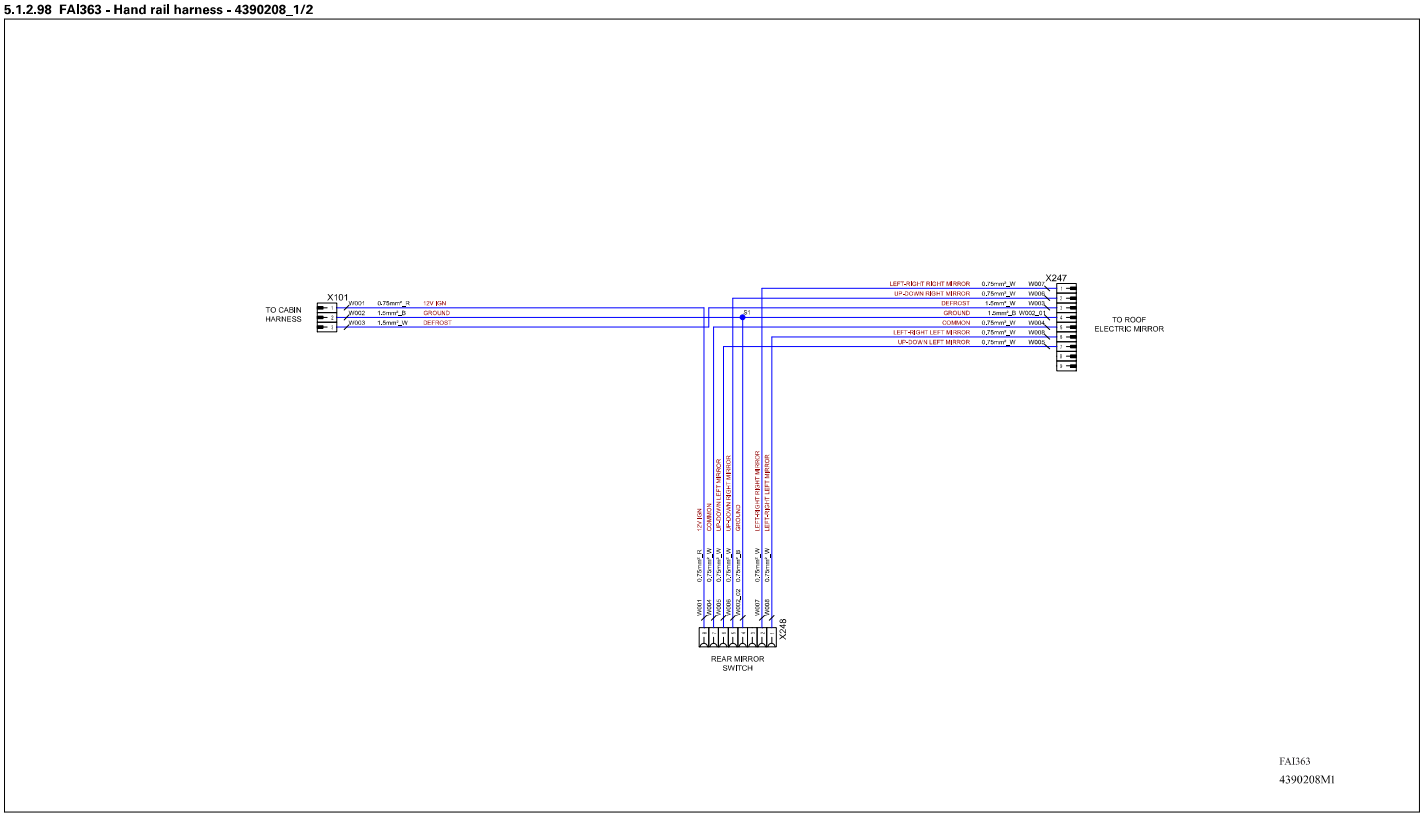

Fig. 98

6.1.1.6 HFD02014 - Hydraulics diagram: standard steering system

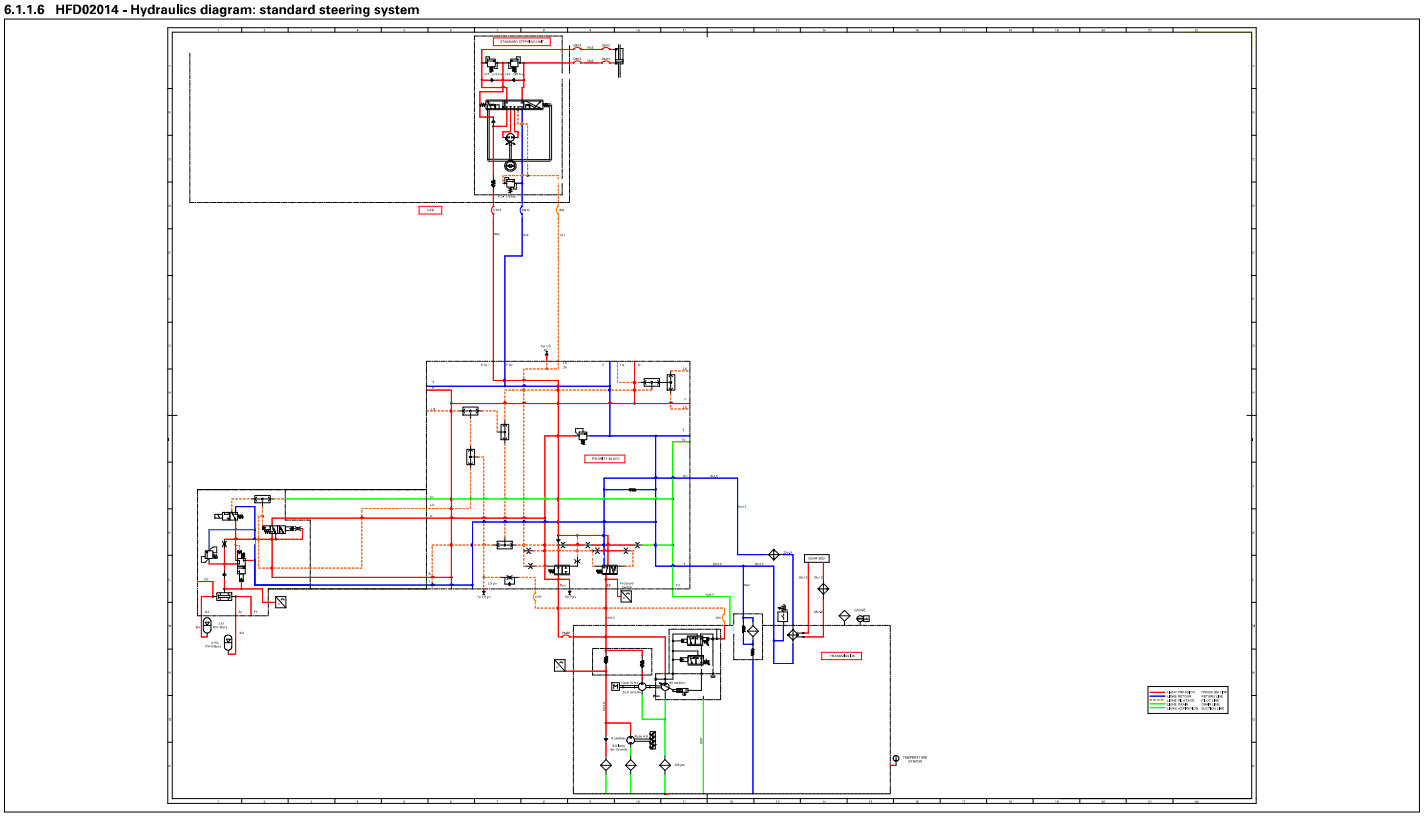

Fig. 6

6.1.1.16 HFD09009 - Hydraulics diagram: suspended cab

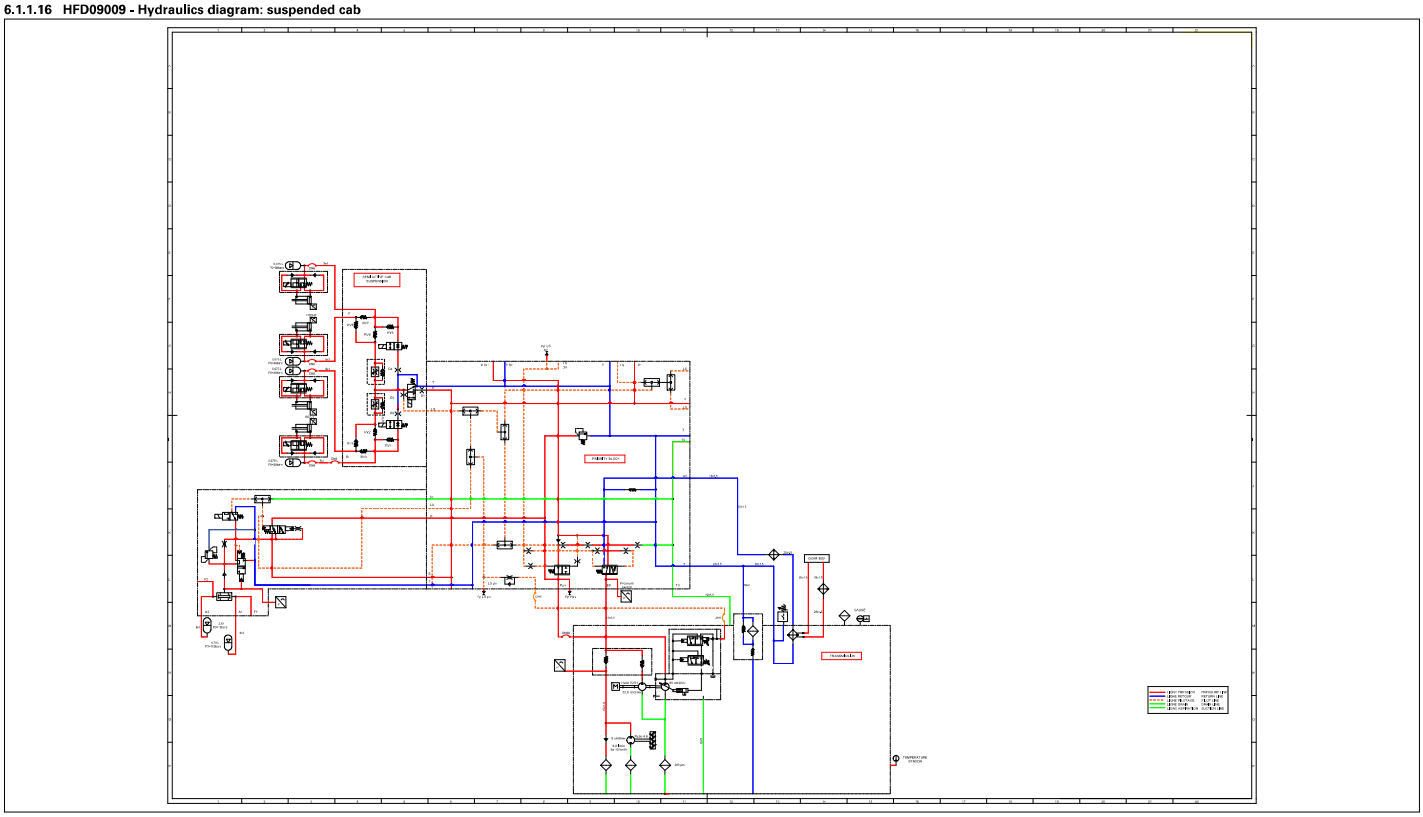

Fig. 16

7.1.1.2 PFD01018 - Trailer brake pneumatic diagram (Mother Regulation)

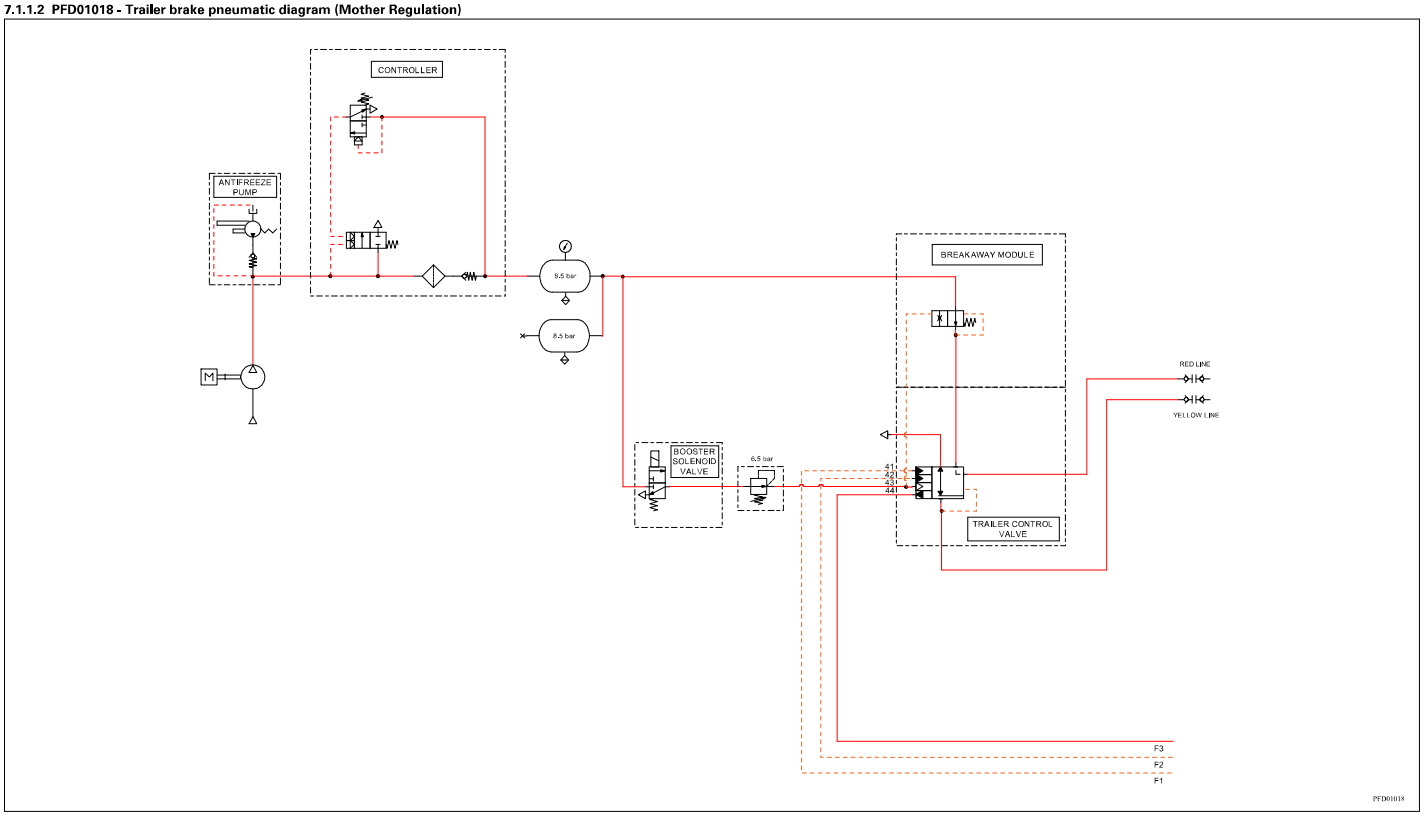

Fig. 2

4. Step 02/02: Fully and carefully release the clutch pedal and then press OK.

Fig. 17

Calibration result

The calibration result is displayed:

-
- **Calibration has failed.**

IMPORTANT:
Error codes can be displayed before, during, and after calibration. To find out what they mean, see chapter Clutch pedal sensor calibration error code, page 8-96 .

5. Press OK.

6. **Switch off the ignition for at least 30 seconds in order to validate the calibration.**

8.2.1.4 Calibration of the throttle pedal sensor

Calibration of the throttle pedal sensor

NOTE:
Calibration procedure
*This calibration is recorded in **X55** - Instrument panel.*
The throttle pedal potentiometer must be calibrated each time one of the following elements is replaced or modified:

- ***X71** - Throttle pedal sensor,*
- ***X55** - Instrument panel.*

Conditions before calibration

1. Ignition on, engine off.

Accessing the calibration menu

2. Access the instrument panel calibration menu and select the  icon, then start calibration.

NOTE: *To access the menu, select and run calibration via the instrument panel, see chapter Access to instrument panel calibration screen, page 8-6 .*

Fig. 51

Calibration

Calibration is carried out automatically and allows:

- **the high and low stops of the suspended front axle to be defined for optimum use of the ram travel,**
- **sensor signals to be measured in order to obtain maximum precision on the front axle position according to the setting potentiometer,**
- **measurement of the solenoid valve starter currents that start to move the front axle.**

3. Wait for automatic calibration of the suspended front axle.

NOTE: *Throughout calibration, the front axle suspension switch **X718** - Additional keypad flashes.*

Fig. 52

Calibration result

The calibration result is displayed:

-
- **Calibration has failed.**

IMPORTANT:
Error codes can be displayed before, during, and after calibration. To find out what they mean, see chapter Suspended front axle calibration error code, page 8-98 .

4. Press 

.

5. Switch off the ignition for at least 30 seconds in order to validate the calibration.

8.2.1.9 Calibrating the suspended cab

Calibrating the suspended cab

- **to measure the solenoid valve starter currents that start to move the linkage.**

6. Wait for automatic calibration of the linkage.

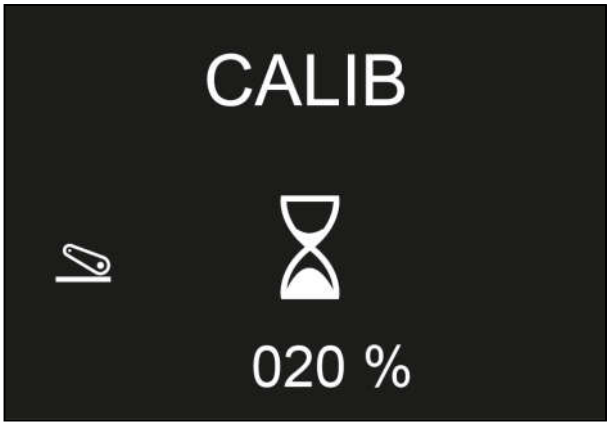

Fig. 78

Calibration result

The calibration result is displayed:

-
- **Calibration has failed.**

IMPORTANT:
Error codes can be displayed before, during, and after calibration. To find out what they mean, see chapter Calibration of the front linkage, page 8-28 .

7. Press 

.

8. Switch off the ignition for at least 30 seconds in order to validate the calibration.

8.2.1.15 Calibration of the hydraulic steering unit

Calibration of the hydraulic steering unit

NOTE:
Calibration procedure
*This calibration is recorded in **X598** - SRC 14-34 main controller (58-pin).*
The hydraulic steering unit must be calibrated each time one of the following components is replaced or modified:

- ***X210** - Orbitrol steering sensor (SASA sensor),*
- ***X235** - Front axle steering sensor (WAS sensor),*
- ***X236** - Electrohydraulic Orbitrol (gray connector),*
- ***X237** - Electrohydraulic Orbitrol (black connector),*
- ***X598** - SRC 14-34 main controller (58-pin),*
- ***X55** - Instrument panel,*
- *the controller programme.*

Conditions before calibration

1. Engine running, vehicle stationary.

2. **X235** - Front axle steering sensor (WAS sensor) must already be calibrated, see chapter *Calibration of the left/right steering angle sensor (WAS),* page 8-17 .

3. The SpeedSteer accelerated steering function must be activated

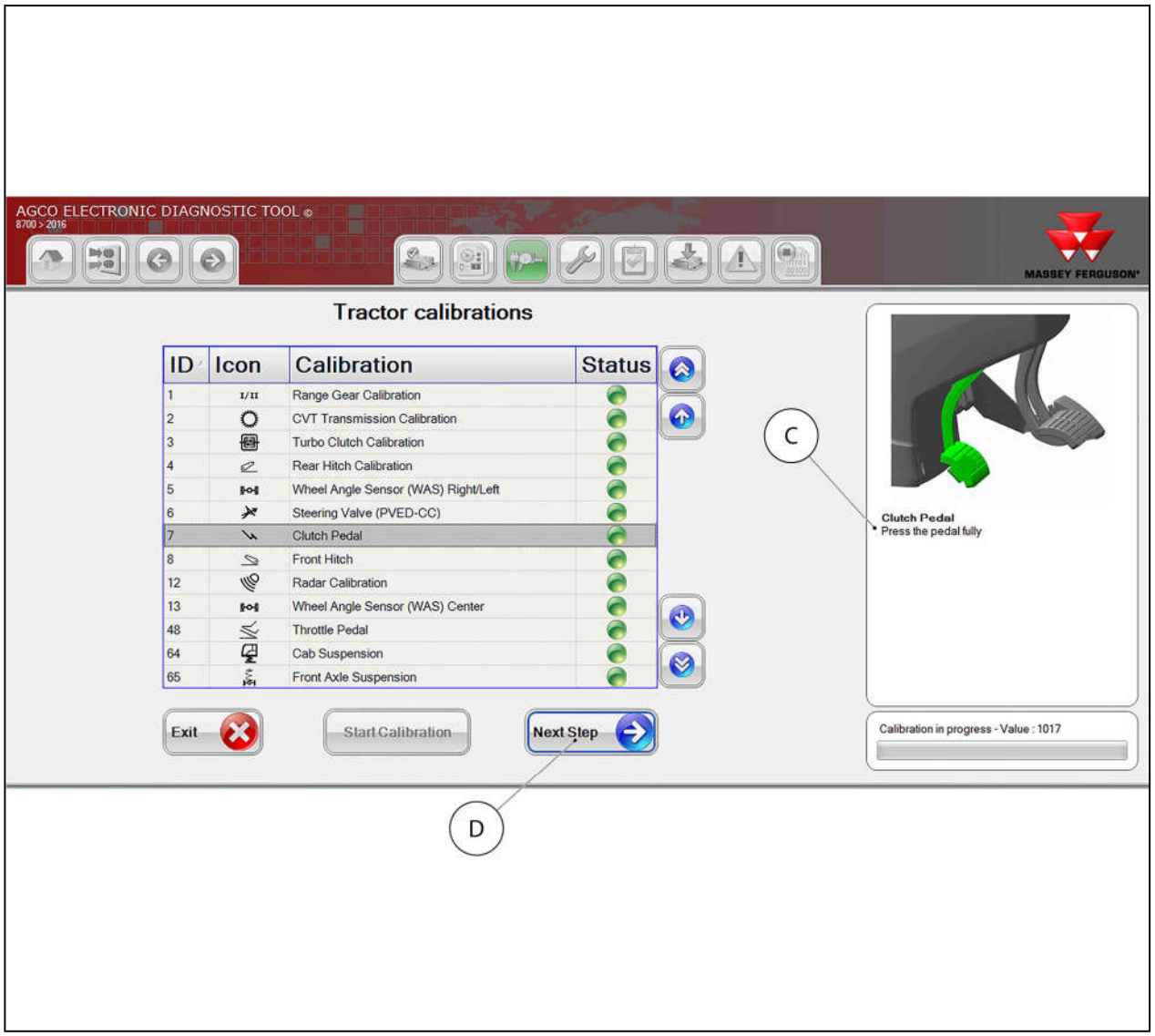

Fig. 96

3. Follow the instructions indicated in the window (C).

4. Click on the button (D) "Next step" to move on to the next step.

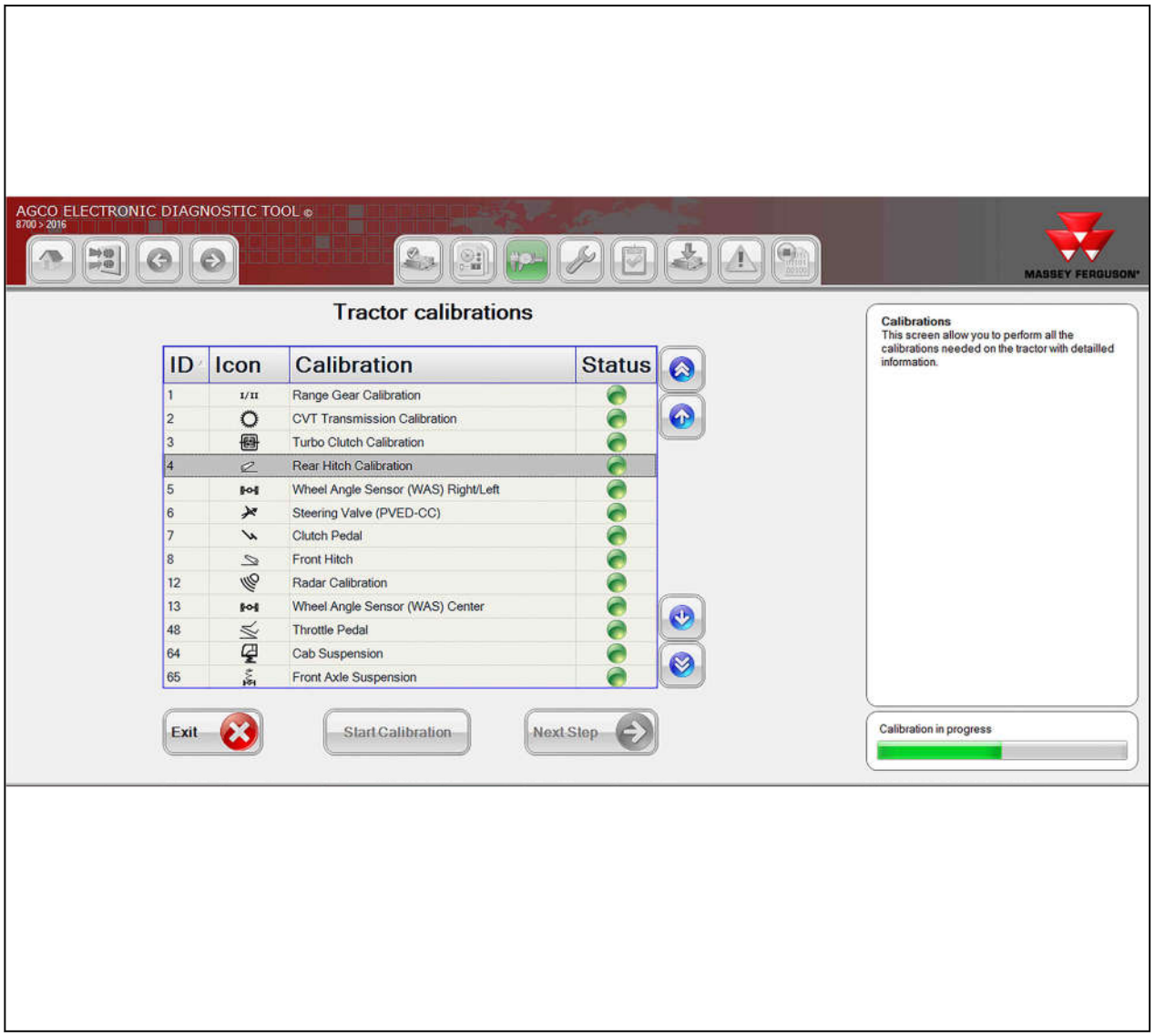

Fig. 106

7. Wait until calibration is carried out automatically.

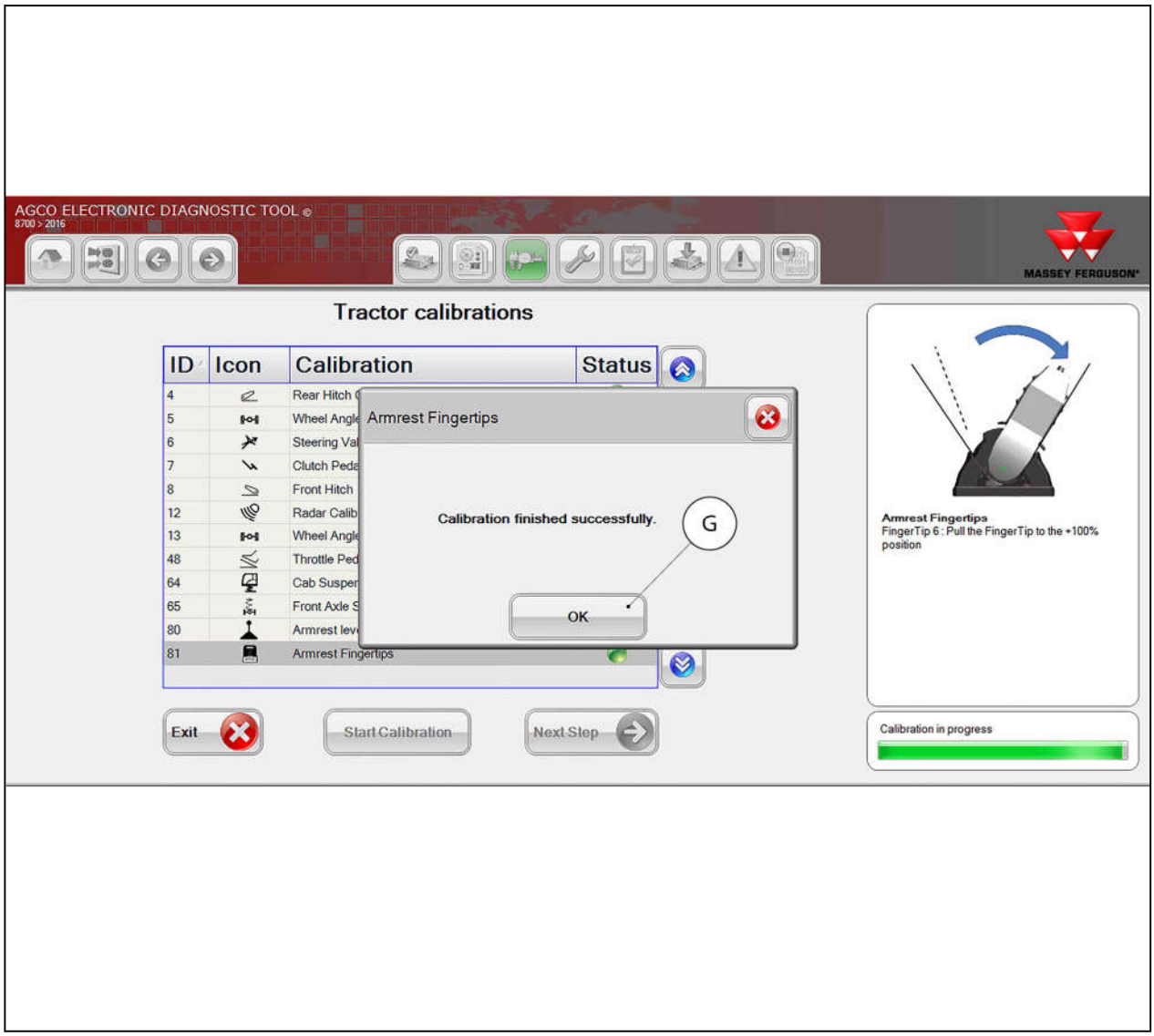

Fig. 117

8. Click on the button (G) "OK" at the end of the calibration process.

NOTE: *If calibration fails, restart the procedure from the beginning.*
Error codes can be displayed before, during, and after calibration. To find out what they mean, see chapter FingerType calibration error code, page 8-97 .

8.2.2.8 Calibrate the suspended front axle.

Calibrate the suspended front axle.

Fig. 127

5. Follow the instructions indicated in the window (E).

6. Click on the button (F) "Next step" to move on to the next step.

Fig. 136

5. Follow the instructions indicated in the window (C).

6. Click on the button (D) "Next step" to mark the start of the course.

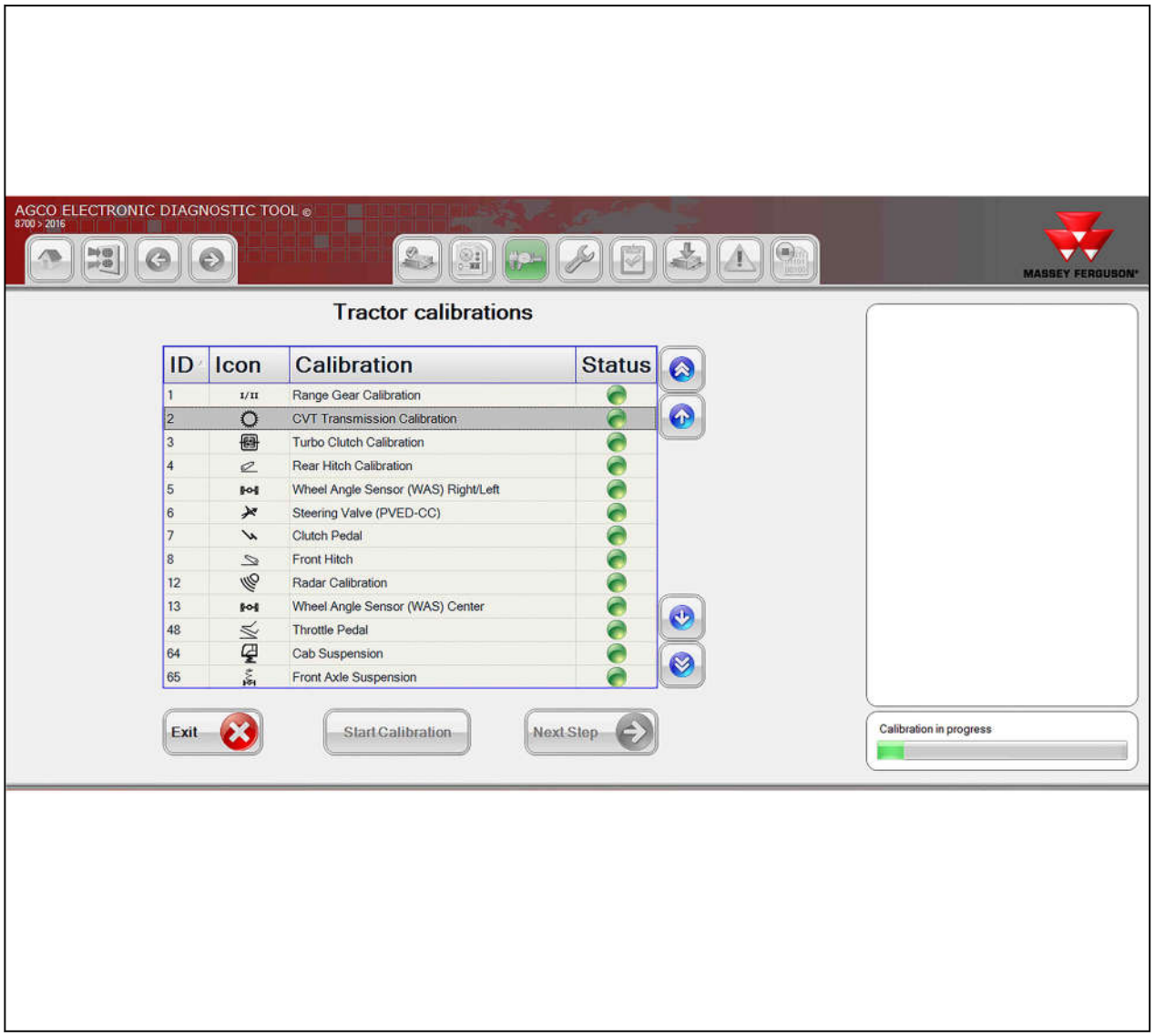

Fig. 146

9. Wait until calibration is carried out automatically.