CALIFORNIA

Proposition 65 Warning

WARNING: Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm. **Wash hands after handling.**

Challenger

MT400D - Maintenance

MT 475D
MT 485D
MT 495D

TechStar CVT

AGCO S.A. - Beauvais - France - RC B562 104 539

Original Operator's Manual

April 2013
No. 7060599M1
MT400D TechStar CVT - NA
English

1.1 Introduction

1.1.1 Introduction - Safety instructions

T000867

Operator's Manual

NOTE: *This Operator's Manual is widely published and distributed and the availability of the attachments indicated, whether fitted to the basic tractor or as an accessory, may vary depending on the country or region in which the tractor is used. To find out which attachments are available in a given region, contact a Challenger dealer.*

The purpose of this manual is to enable the owner and the operator to operate the tractor appropriately under normal conditions of use. Providing they follow the instructions carefully, the tractor will give many years of service in the Challenger tradition.
Use for any other activity (particularly forestry work) is considered to be contrary to the intended use.
The commissioning of equipment by the Challenger dealer on the user's premises enables the dealer to ensure that these operating and service instructions are properly understood. Always consult the Challenger dealer if there is any part of this manual that you do not understand. It is important that these instructions are understood and followed.
This manual does not cover all operation and safety instructions relevant to the implements and accessories that may be fitted at the time of tractor delivery or later. It is essential that operators use and understand the Operator's Manuals relating to these implements and accessories.

IMPORTANT: *This manual must always be kept with the tractor. For extra copies, contact your Challenger dealer.*

This chapter in the Operator's Manual highlights certain basic safety-related situations that may be encountered during normal operation and servicing of the tractor and provides the information needed to handle these situations.
This chapter supplements any safety instructions given in other chapters of this manual.
It may be necessary to take additional precautions, depending on the implements and accessories used and the working conditions on-site or in the service area. Challenger can under no circumstances exercise direct control over the commissioning, operation, inspection, lubrication, or servicing of the tractor. It is therefore YOUR responsibility to take suitable safety precautions in such areas.

WARNING:
It is your responsibility to read and understand the instructions that appear in this chapter before using the tractor. They must then be strictly adhered to throughout the working day.

Servicing, spare parts, accessories and conditions of use

Daily services should become a routine, and a logbook of operating hours should be kept.
When spare parts are required, it is important to use only genuine Challenger parts. Challenger dealers supply genuine parts and can offer advice concerning their fitting and use. The use of lower quality parts may cause serious damage. Customers are advised to purchase their spare parts only from an approved Challenger dealer. In the same way, you must only use accessories specifically adapted to your tractor.
Owing to the considerable variation in operating conditions, it is not possible for the manufacturer to formulate complete or absolute assertions in its publications concerning the performance or operating methods of its machines or to accept liability for any loss or damage which may result from such assertions or possible errors or omissions.
If the tractor is to be used in abnormal conditions which could cause damage (use in deep water or in paddy fields for instance), you should consult your Challenger dealer to obtain special instructions to prevent the warranty from becoming void.
These tractors are designed only for usual farming activities (intended use). Use for any other activity (particularly forestry work) is considered to be contrary to the intended use.
Strict compliance with the repairs, service and operating conditions as specified by Challenger is also an essential component of the intended 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.

1.4.3 Filling the fuel tank

T001555

– Always switch off the engine before filling up.
– Do not smoke while refueling the tractor. Keep away from open flames *fig. 2*.
– Proceed with care to prevent any splashes.

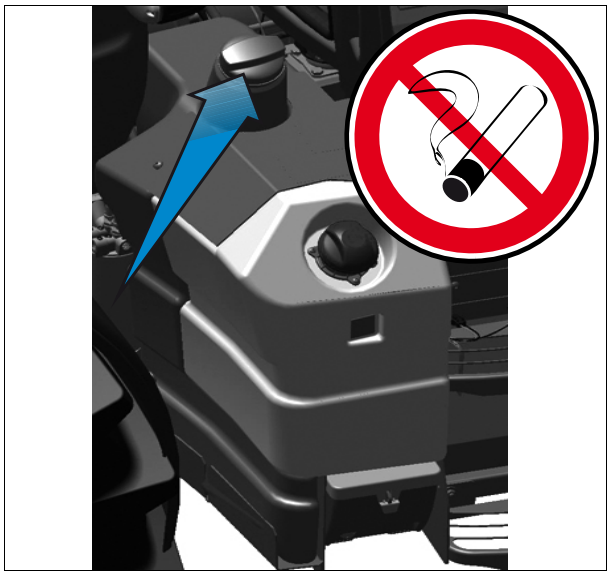


Fig. 2. I043072

Filling AdBlue™ or DEF

Avoid all contact with the eyes, skin and clothing.

– Proceed with care to prevent any splashes.
– If swallowed. If large quantities of this product are swallowed, seek medical advice immediately. Do NOT induce vomiting unless indicated to do so by medical staff. Do not administer liquid to a person who is unconscious.
– In case of contact with skin, rinse with plenty of water and remove contaminated clothing.
– In case of contact with the eyes, rinse immediately under running water. In the event of irritation, seek medical advice.
– If fumes are inhaled, breathe in fresh air and seek medical advice, if necessary.
– Avoid AdBlue™ or DEF coming into contact with other chemical products.
– Urea spillages must not be discharged into the drains.

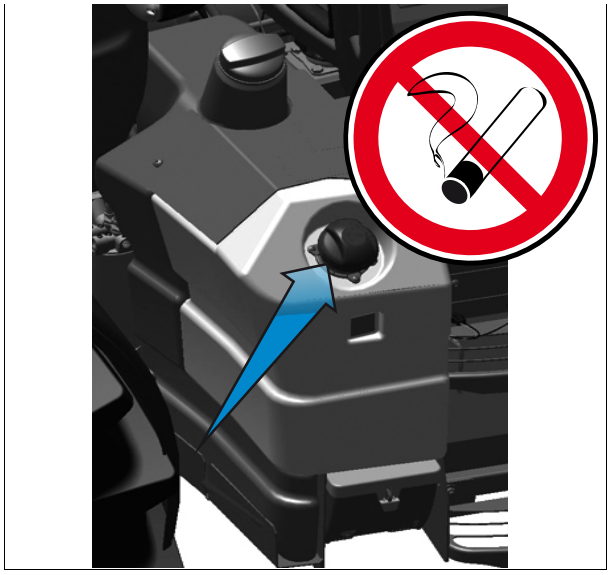


Fig. 3. I043070

1.7.2 Protection of persons other than the operator

T000876

– ***WARNING:***
A tractor is a machine with a single operator.
Do not permit anyone fig. 1 to ride on the tractor or implements, including trailers, unless the implements are specially designed to carry passengers during field work. In the latter case, transport is permitted only for field work, but not for travelling on the road.
In all cases, never allow a child to ride on the tractor or implements.

Fig. 1. I002865

– When operating, always pay attention to the environment of the tractor/implement assembly.
– Never lift loads above someone.
– Do not allow anyone to stand or pass in front of, under or behind an implement *fig. 2*.

Fig. 2. I034928

– Do not allow anyone to stand between the tractor and the implement.
– Keep others away from the working area.
– Beware of the load and implement falling in the event of unexpected lowering of the loader.

1.7.3 Overturning

T000877

Overturning angle

DANGER:
For your safety, never exceed the maximum angle limits listed in the table below.

NOTE: *These angle limits assume a maximum oil level in the rear axle.*
It is recommended to fill up the oil by 15 l (4.0 gal (US)) when working on slopes of maximum gradient.

In case of malfunction, consult your dealer.

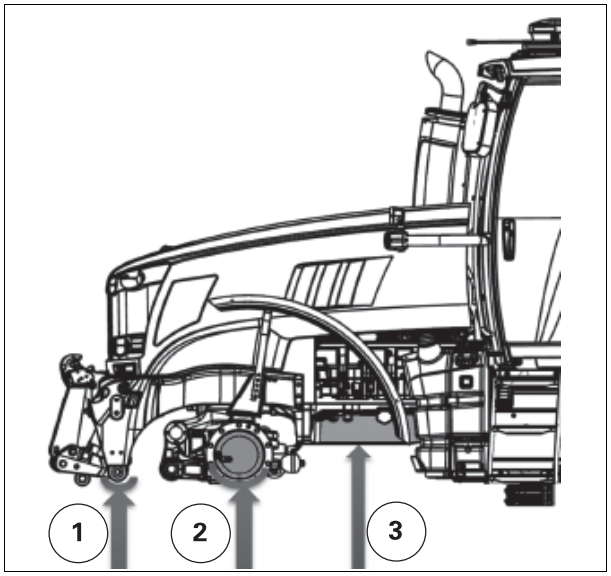
– Accumulators.
The accumulators contain nitrogen and are pressurized.
They may become hot and cause burns.
Modifications must not be made to the accumulators (by welding, drilling, attempting to open, cutting, etc.).
The repair, maintenance, and commissioning of the accumulators must only be carried out by trained personnel.
Consult your Challenger dealer regarding any maintenance.

1.8.3 Handling instructions

T015665

The implement and/or tractor must be supported on suitable blocks or stands, 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 for support 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)
  – (4) and (5) Under the front axle beam



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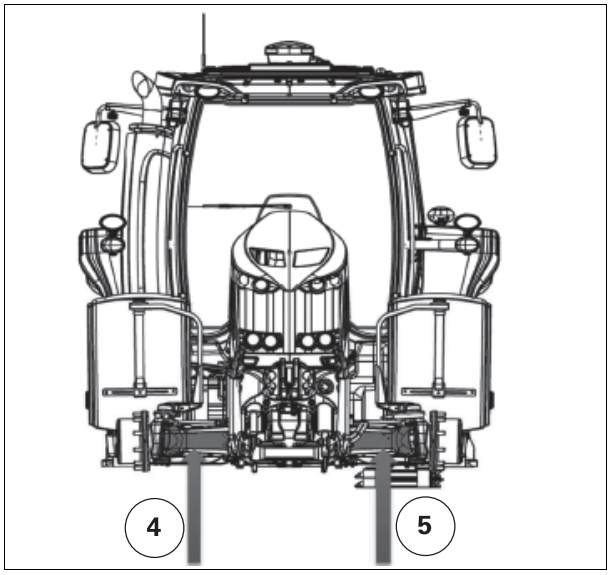

Fig. 2.

I035283

POWER RANGE	WARRANTY TERM	COVERED COMPONENTS
Below or equal to 19 kw	2 years or 1500 hours	Rubber Flanges, Fuel Injection Pump, Fuel Injectors, Intake Manifold, Exhaust Manifold, Nozzle Assembly, Turbo Charger (if applicable), Controlled Hot air Intake System. Miscellaneous Vacuum, temperature, and time sensitive valves and switches, Electronic control units, sensors, solenoids and wiring harnesses. Hoses, belts, connectors, assemblies, clamps, fitting, tubing, sealing , pulleys, belts and idlers, Emission Control Information Labels, Any other part with the primary purpose of reducing emissions or that can increase emissions during failure without significantly degrading engine performance.
19-37 kw	5 years or 3000 hours	Rubber Flanges, Fuel Injection Pump, Fuel Injectors, Intake Manifold, Exhaust Manifold, Nozzle Assembly, Turbo Charger (if applicable), Controlled Hot Air Intake system, Miscellaneous Vacuum, temperature, and time sensitive valves and switches, Electronic control units, sensors, solenoids, and wiring harnesses. Hoses, belts, connectors, assemblies, clamps, fitting, tubing, sealing , pulleys, belts and idlers, Emission Control Information Labels, Any other part with the primary purpose of reducing emissions or that can increase emissions during failure without significantly degrading engine performance.
37kw-Up	5 years or 3000 hours	Fuel Injection Pump, Nozzle Assembly, Injection Pipe, Connector of Fuel Line, Intake manifold, Fuel pipe Assembly, Inlet Pipe, Inlet Pipe band, air cleaner element, fuel filter element, turbocharger systems, exhaust manifold, hoses, clamps, connectors, and sealing gaskets of devices used in systems above, catalysts, Electronic control units and sensors**, cold start enrichment system, charge air cooling system, controlled hot air intake system, catalytic converter, exhaust manifold, regenerators, oxidizers, fuel additive devices, and any other device used to regenerate or aid in the regeneration of the particulate control device, smoke puff limiters, selective catalyst reduction, reductant (DEF) containers/dispensing systems, Miscellaneous Vacuum, temperature, and time sensitive valves and switches, solenoids, and wiring harnesses. Hoses, belts, connectors, assemblies, clamps, fitting, tubing, sealing, gaskets or devices and mounting hardware, pulleys, belts and idlers, Emission Control Information Labels, Any other part with the primary purpose of reducing emissions or that can increase emissions during failure without significantly degrading engine performance.

NOTE: *Filters that are replaced as part of normal scheduled maintenance are NOT covered by emissions warranty. These parts are listed as, but not limited to, engine air filter, oil filter, fuel filter, DEF filters, etc.*

***** SENSORS RELATING TO EMISSION COMPONENTS ONLY***

Repair or replacement of any warranted part under the warranty provisions of this statement shall be performed at no charge to the owner at an authorised warranty station.
The owner shall not be charged for diagnostic labour that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at an authorised warranty station.

2.2 Cab

2.2.1 Air-conditioning system: Condenser

T015966

Frequency

Check the condenser regularly and, if necessary, clean using compressed air.

Procedure

1. Clean the condenser grilles carefully.
   NOTE: *Be careful not to damage the various radiator grilles.*

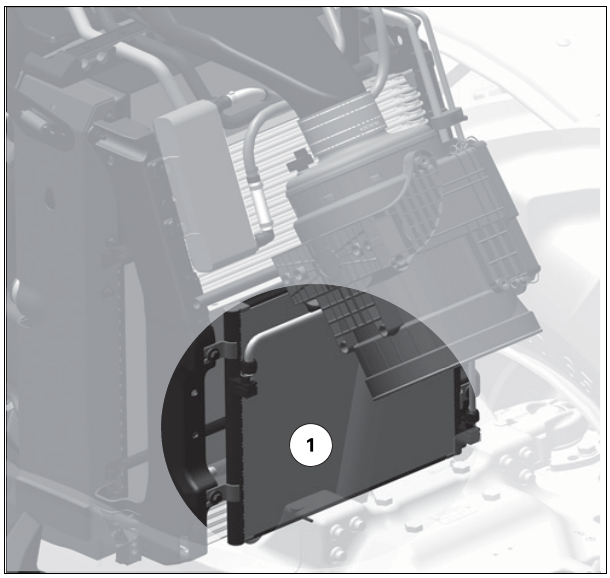

Fig. 1. I035881

2.2.2 Air-conditioning system: Checking the air conditioning system

T001125

Frequency

DANGER:

In the event of a leak, wear safety goggles. Escaping refrigerant gas or liquid can cause severe injuries to the eyes. The R134a refrigerant used in the installation gives off a toxic gas if it comes into contact with a flame.

WARNING:

Do not disconnect any part of the air conditioning system. Consult your dealer or agent if a fault occurs.

1. Operate the air conditioning system for a few minutes every week to keep the whole system in good condition and to lubricate the seals.
2. Add charge to the air conditioning system every year at the start of summer (consult your dealer).

2.2.3 Cab air filter

T001571

Frequency

Clean the cab air filter every 500 hours, or more frequently if necessary.
Replace the cab air filter(s) every 1500 hours, or once a year., whichever comes first.

3. Unscrew the filter cover plate (1)
4. Remove the element (2) and discard
5. Pull to extract the filter (3) and discard
6. Refit a new filter (3)
7. Refit an element (2) and screw on the cover plate (1)
8. Tighten the cover plate to a torque of 20 Nm (15 lbf ft) to 25 Nm (18 lbf ft)
9. Refit the module and tighten the three retaining screws to a torque of 15 Nm (11 lbf ft) to 22 Nm (16 lbf ft)
10. ***IMPORTANT:*** *Before refitting, the contact surfaces of the different elements must be clean and undamaged.*
    Do not reuse worn or wet elements.
    Do not use mineral oil, silicone, or grease when fitting filter seals as the seals are Teflon-coated to facilitate assembly.

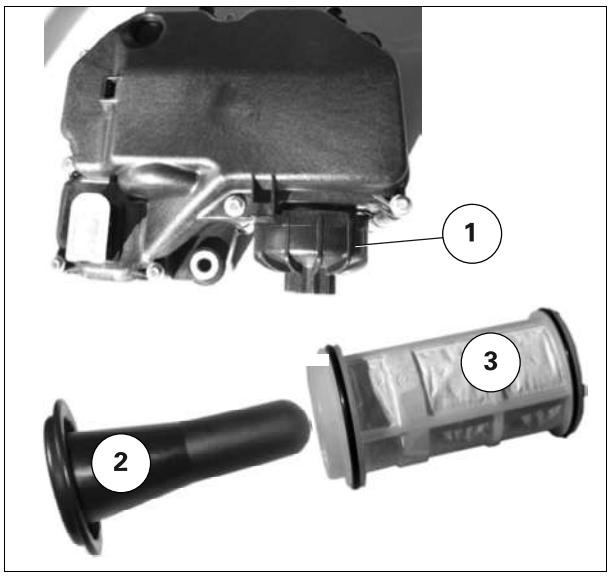

Fig. 5. I025655

2.3.10 Fuel system: Fuel prefilter

T010549

Draining the water: Frequency

Every 50 hours or once a week.

IMPORTANT: *Frequently clean the fuel prefilter bowl. Do not puncture the fuel prefilter.*

NOTE: *To avoid water condensation in the fuel tank, refill with fuel at the end of the working day.*
Ensure that a spare prefilter is always available. If a blockage occurs, due to fuel waxing, changing the fuel filter will enable restarting.

Draining the water: Procedure

1. Place a container underneath the fuel prefilter.
2. Drain the water by opening the valve at the base of the prefilter. Collect the water and dispose of properly in accordance with directives on environmental protection.
3. Re-close the valve and then bleed the system (*see §2.3.14, page 73*).

Replacing the filter element: Frequency

Replace the filter element every 1000 hours.

Replacing the filter element: Procedure

IMPORTANT: *Frequently clean the fuel prefilter bowl. Do not puncture the fuel prefilter.*

NOTE: *To avoid water condensation in the fuel tank, refill with fuel at the end of the working day.*
Ensure that a spare prefilter is always available. If a blockage occurs, due to fuel waxing, changing the fuel filter will enable restarting.

1. Disconnect the connection under the prefilter
2. Drain the prefilter
3. Remove and discard the filter element
4. Fill the new filter element with fuel and refit it (also lubricate the seal with fuel)
5. Reconnect the connection under the prefilter
6. Bleed the system (*see §2.3.14, page 73*).

Procedure

1. Stand the tractor on level ground, with the front axle suspension disengaged.
   Stop the engine.
2. Check that the level is between the minimum and maximum marks on the dipstick.
3. Fill up if necessary.

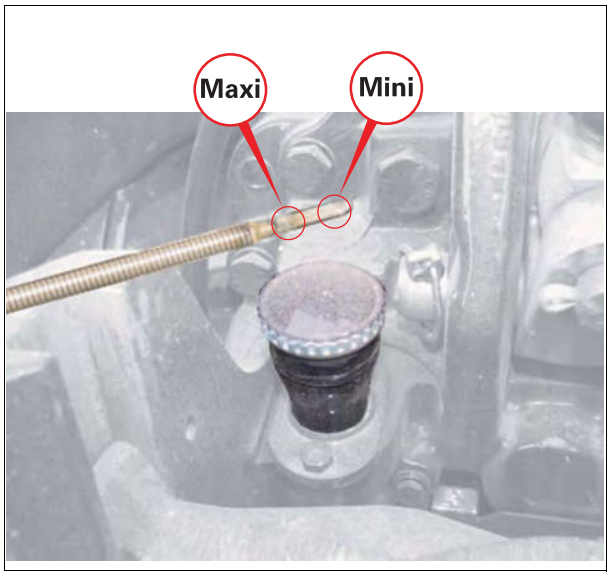

Fig. 1. I017782

2.4.3 Draining the transmission oil

T001411

Frequency

Drain and replace the transmission oil every 2000 hours.

IMPORTANT: *If 821XL type oil is used, the oil must be changed every 1000 hours.*

Replacing the breather: Frequency

Replace the breather filter (3) located behind the protective cover every 500 hours.

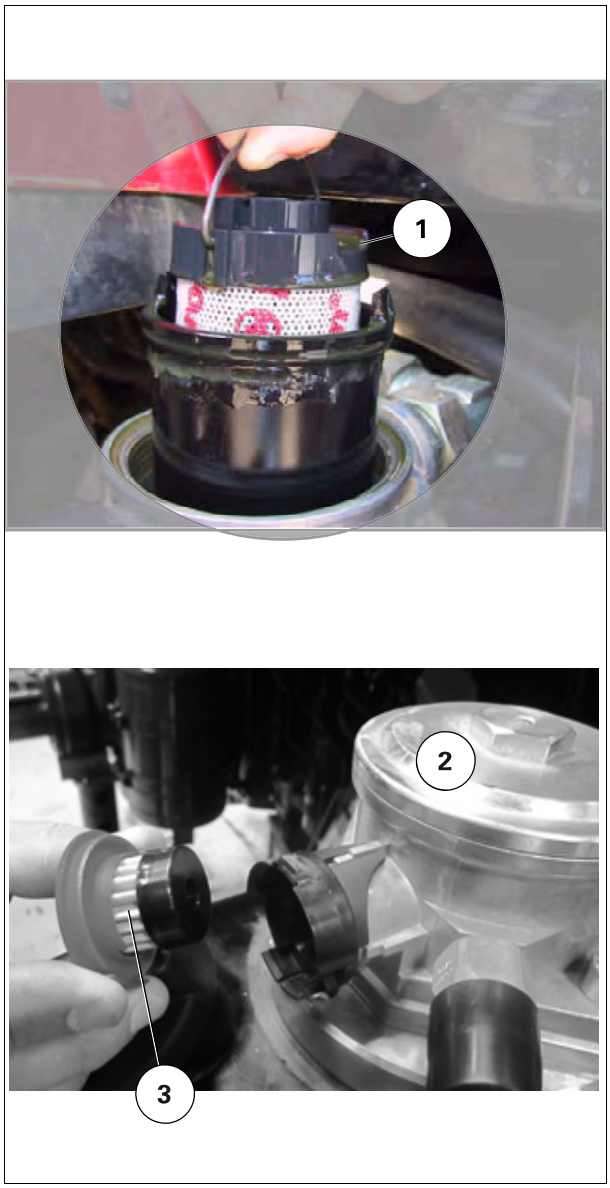

Fig. 6. I033625

2.5.5 Checking and cleaning the auxiliary hydraulic system oil cooler

T001415

Frequency

Check the auxiliary hydraulic system cooler fins every day and clean them if necessary.

(3) Front axle bearing (depending on model)

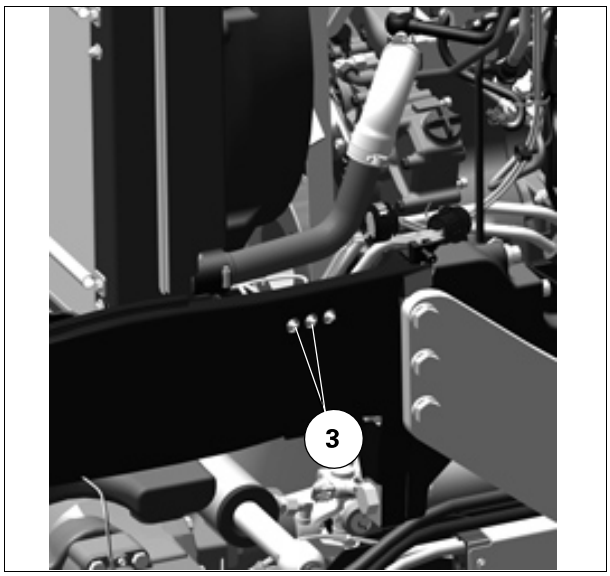

Fig. 5. I041620

4 Front axle cylinder (depending on model)

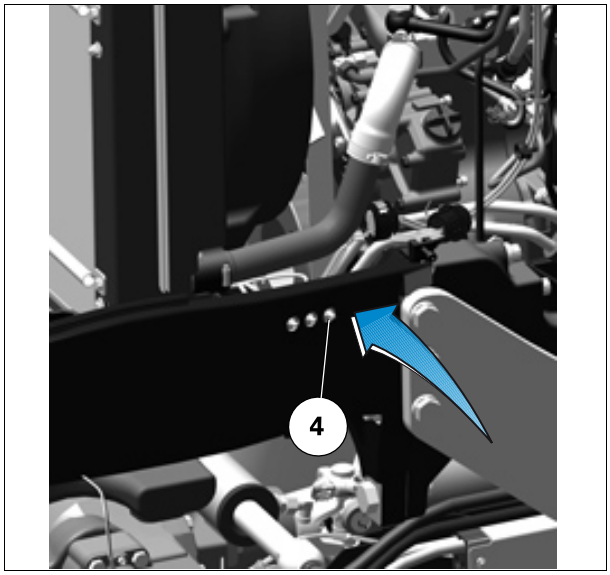

Fig. 6. I042295

Amperage	Size	Color
25	Average	
30	Average	
50	Large	
60	Large	

IMPORTANT: *In the event of electrical faults on the tractor or the implement, emergency cut-off of the battery isolator is possible via a switch (1) located under the controller housing cover plate in the cab but only if the ignition key is in the OFF position.*

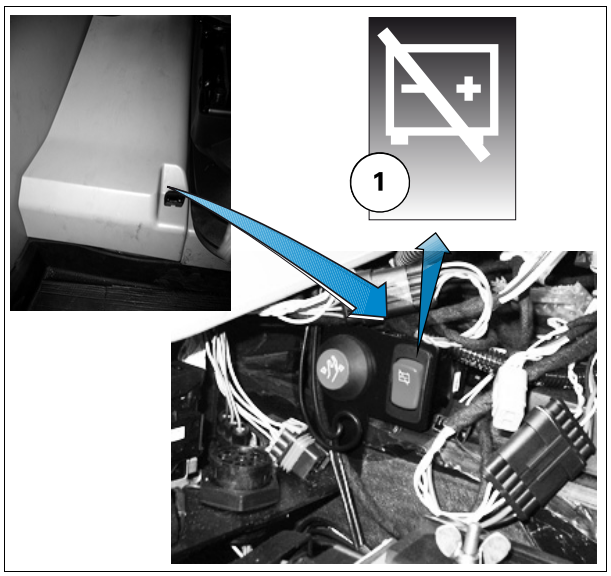

Fig. 8. I033612

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

2.14.3 Indication of faults

T001384

Alarm and faults are indicated via the instrument panel.

Depending on the fault or the alarm recognized by the electronic systems, there may be different types of signals:

– Error codes on the TMC Dash Display screen
– Indicator light(s)
– Audible alarm
– A combination of the three types of signals mentioned above.

Indicator lights

The electronic instrument panel comprises several indicator lights (see description in the Operation section of the Operator's Manual).

Fig. 1. I007879

No.		FMI	Components concerned	Causes	Standard modes	EGR/e3 SCR Technology modes
E	2791	14	EGR valve	Overload		
E	2791	16	EGR valve	Temperature danger		
E	2791	19	EGR valve	Communication error		
E	2791	31	EGR valve	Absent	1	EGR
E	3031	3	AdBlue™ or DEF tank temperature sensor	Voltage above normal or open circuit		e3 SCR Technology
E	3031	4	AdBlue™ or DEF tank temperature sensor	Voltage below normal		e3 SCR Technology
E	3031	10	AdBlue™ or DEF tank temperature sensor	Abnormal rate change during heating cycle		e3 SCR Technology
E	3031	14	AdBlue™ or DEF tank temperature sensor	Deicing time exceeded		e3 SCR Technology
E	3031	16	AdBlue™ or DEF tank temperature sensor	Temperature above normal		e3 SCR Technology
E	3349	8	CAN bus	Torque and speed control delay has been exceeded		
E	3361	3	AdBlue™ or DEF metering module	Low side short-circuited to +12 V		e3 SCR Technology
E	3361	4	AdBlue™ or DEF metering module	High side short-circuited		e3 SCR Technology
E	3361	5	AdBlue™ or DEF metering module	High side short-circuited to +12 V or open circuit		e3 SCR Technology
E	3361	6	AdBlue™ or DEF metering module	Low side short-circuited to earth (-) or open circuit		e3 SCR Technology
E	3361	11	AdBlue™ or DEF metering module			
E	3361	14	AdBlue™ or DEF metering module	Abnormal operation		e3 SCR Technology
E	3361	31	AdBlue™ or DEF metering module	Operating temperature too high		
E	3363	3	AdBlue™ or DEF tank preheating liquid control valve	Short circuit to +12 V		e3 SCR Technology
E	3363	4	AdBlue™ or DEF tank preheating liquid control valve	Shortcut to Ground		e3 SCR Technology
E	3363	5	AdBlue™ or DEF tank preheating liquid control valve	Open circuit		e3 SCR Technology
E	3363	31	AdBlue™ or DEF tank preheating liquid control valve	Excessive temperature		e3 SCR Technology
E	3509	31	EEM4 controller	5 V DC supply 1 out of range		

No.	Components concerned	Causes
T4181		Not used
T4182	**X8** - Bevel gear theoretical speed sensor **X10** - Collecting shaft speed sensor	Inconsistent speeds
T4183	**X8** - Bevel gear theoretical speed sensor **X10** - Collecting shaft speed sensor	Inconsistent direction of rotation.
T4184		Not used
T4185	**X25** - Engine speed sensor	Inconsistent speed
T4186	**X9** - Transmission oil high pressure sensor 1	Inconsistent values
	X34 - Transmission oil high pressure sensor 2	
T4187		Not used
T4188		Not used
T4189	**X19** - Transmission hydraulic oil temperature sensor	Inconsistent value
T418A		Not used
T418B		Not used
T418C		Not used
T418D		Not used
T418E		Not used
T418F		Not used
T4192	**X66** - Left-hand brake pedal sensor	Signal error
T4193	**X67** - Right-hand brake pedal sensor	Signal error
T4194		Not used
T41A0	**X18** - Transmission control module	Signal error
T41A1	**X18** - Transmission control module	Fault with CAN communication between the EXT Lite and the joystick
T41A2	**X18** - Transmission control module	The CAN network control is interrupted
	X174 - EXT Lite transmission controller (96-pin) for TechStar CVT transmission **X598** - EXT Lite transmission controller (58-pin)	
T41A3	**X18** - Transmission control module	Increment sensor signal (internal actual position sensor) interrupted or illogical
T41A4	**X18** - Transmission control module	Transmission controller signal interrupted or illogical
T41A5	**X18** - Transmission control module	Reference output (Position "0") not found at start-up
T41A6	**X18** - Transmission control module	Reference point signal interrupted during operation
T41B0	CAN network	Initialization error
T41B1	**X174** - EXT Lite transmission controller (96-pin) for TechStar CVT transmission **X598** - EXT Lite transmission controller (58-pin)	Illogical range shift

3. Technical specifications

	High speed range (Hare)			Slow speed range (Tortoise)			Creeper range (Snail)		
Forward travel	800 rpm	1900 rpm	2200 rpm	800 rpm	1900 rpm	2200 rpm	800 rpm	1900 rpm	2200 rpm
15 F	10.0 kph (6 mph)	23.8 kph (15 mph)	27.6 kph (17 mph)	5.1 kph (3 mph)	12.2 kph (8 mph)	14.1 kph (9 mph)	1.7 kph (1 mph)	4.0 kph (2 mph)	4.6 kph (3 mph)
16 F	11.4 kph (7 mph)	27.0 kph (17 mph)	31.3 kph (19 mph)	5.9 kph (4 mph)	14.0 kph (9 mph)	16.2 kph (10 mph)	2.0 kph (1 mph)	4.8 kph (3 mph)	5.6 kph (3 mph)
17 F	12.9 kph (8 mph)	30.6 kph (19 mph)	35.4 kph (22 mph)	6.7 kph (4 mph)	16.0 kph (10 mph)	18.5 kph (11 mph)	2.4 kph (1 mph)	5.6 kph (3 mph)	6.5 kph (4 mph)
18 F	14.7 kph (9 mph)	34.8 kph (22 mph)	40.3 kph (25 mph)	7.7 kph (5 mph)	18.2 kph (11 mph)	21.1 kph (13 mph)	2.7 kph (2 mph)	6.4 kph (4 mph)	7.4 kph (5 mph)
19 F	16.7 kph (10 mph)	39.6 kph (25 mph)	45.9 kph (29 mph)	8.8 kph (5 mph)	20.8 kph (13 mph)	24.1 kph (15 mph)	3.0 kph (2 mph)	7.2 kph (4 mph)	8.3 kph (5 mph)
20 F	18.9 kph (12 mph)	45.0 kph (28 mph)	52.1 kph (32 mph)	10.0 kph (6 mph)	23.8 kph (15 mph)	27.6 kph (17 mph)	3.5 kph (2 mph)	8.4 kph (5 mph)	9.7 kph (6 mph)
21 F	21.5 kph (13 mph)	51.0 kph (32 mph)	53.0 kph (33 mph)	11.5 kph (7 mph)	27.4 kph (17 mph)	31.7 kph (20 mph)	4.2 kph (3 mph)	10.0 kph (6 mph)	11.6 kph (7 mph)

	High speed range (Hare)			Slow speed range (Tortoise)			Creeper range (Snail)		
Reverse travel	800 rpm	1900 rpm	2200 rpm	800 rpm	1900 rpm	2200 rpm	800 rpm	1900 rpm	2200 rpm
1 R	1.7 kph (1 mph)	4.0 kph (2 mph)	4.6 kph (3 mph)	0.8 kph (0.5 mph)	1.8 kph (1 mph)	2.1 kph (1 mph)	0.1 kph (0.06 mph)	0.2 kph (0.1 mph)	0.2 kph (0.1 mph)
2 R	1.9 kph (1 mph)	4.4 kph (3 mph)	5.1 kph (3 mph)	0.9 kph (0.6 mph)	2.2 kph (1 mph)	2.5 kph (2 mph)	0.2 kph (0.1 mph)	0.4 kph (0.2 mph)	0.5 kph (0.3 mph)
3 R	2.1 kph (1 mph)	5.0 kph (3 mph)	5.8 kph (4 mph)	1.1 kph (0.7 mph)	2.6 kph (2 mph)	3.0 kph (2 mph)	0.3 kph (0.2 mph)	0.6 kph (0.4 mph)	0.7 kph (0.4 mph)
4 R	2.4 kph (1 mph)	5.6 kph (3 mph)	6.5 kph (4 mph)	1.3 kph (0.8 mph)	3.0 kph (2 mph)	3.5 kph (2 mph)	0.3 kph (0.2 mph)	0.8 kph (0.5 mph)	0.9 kph (0.6 mph)
5 R	2.7 kph (2 mph)	6.4 kph (4 mph)	7.4 kph (5 mph)	1.4 kph (0.9 mph)	3.4 kph (2 mph)	3.9 kph (2 mph)	0.4 kph (0.2 mph)	1.0 kph (0.6 mph)	1.2 kph (0.7 mph)
6 R	3.0 kph (2 mph)	7.2 kph (4 mph)	8.3 kph (5 mph)	1.6 kph (1 mph)	3.8 kph (2 mph)	4.4 kph (3 mph)	0.5 kph (0.3 mph)	1.2 kph (0.7 mph)	1.4 kph (0.9 mph)
7 R	3.5 kph (2 mph)	8.2 kph (5 mph)	9.5 kph (6 mph)	1.8 kph (1 mph)	4.2 kph (3 mph)	4.9 kph (3 mph)	0.6 kph (0.4 mph)	1.4 kph (0.9 mph)	1.6 kph (1 mph)
8 R	4.0 kph (2 mph)	9.4 kph (6 mph)	10.9 kph (7 mph)	2.0 kph (1 mph)	4.8 kph (3 mph)	5.6 kph (3 mph)	0.7 kph (0.4 mph)	1.6 kph (1 mph)	1.9 kph (1 mph)

3.11 Wheels and tires

3.11.1 Rim

T001347

Four-wheel drive front axle	Welded steel rim/disc (2 settings depending on the position of the rim on the hub). Mobile steel rim/disc (8 settings depending on the position of the disc on the rim and on the hub).
Rear wheels	Welded steel rims/disc (setting depending on the position on the straight shaft). Steel rims/cast iron disc (setting of the disc position on the rim and depending on the position on the straight shaft).

3.11.2 Tires

T001348

On an unequal 4-wheel drive tractor, the front wheels are smaller than the rear wheels, so they have to turn slightly faster than the rear wheels.
The synchronization ratio K specifies the difference between the rotation of the front and rear wheels.
For total compatibility between the front and rear tires, apply the synchronization ratio K (the value is displayed on the name plate).

The following formula is used to check that your choice of front/rear tire is correct.
The result should be between 1 and 1.05.
Calculation formula:
1<K x (rolling circumference of the front tire/rolling circumference of the rear tire)<1.05

3.11.3 Tightening torques

T001738

Front axle

	Disc on hub	Rim on disc with lugs	Rim on disc with slots
4-wheel drive	M18: 400 Nm (295 lbf ft) to 450 Nm (332 lbf ft) M22: 640 Nm (472 lbf ft) to 680 Nm (502 lbf ft)	220 Nm (162 lbf ft) to 250 Nm (184 lbf ft)	300 Nm (221 lbf ft) to 320 Nm (236 lbf ft)

Rear axle

	Disc on hub	Rim on disc with lugs	Rim on disc with slots	Rim on disc, fixed cast iron
Flanged shaft	M18: 400 Nm (295 lbf ft) to 450 Nm (332 lbf ft) M22: 640 Nm (472 lbf ft) to 680 Nm (502 lbf ft)	-	-	250 Nm (184 lbf ft) to 350 Nm (258 lbf ft)
Straight shaft	M22: 640 Nm (472 lbf ft) to 680 Nm (502 lbf ft)	-	-	250 Nm (184 lbf ft) to 350 Nm (258 lbf ft)
Cone/hub assembly, M20: 350 Nm (258 lbf ft) to 460 Nm (339 lbf ft				

4.1 Cab

4.1.1 Cab accessories

T001018

- Radio fittings (loudspeakers, aerial and wiring).
- Radio
- Top link for attachments (onboard computer)
- Fender extensions.
- Rotary beacon
- Work lights on hand rails