How to use this manual

This manual is divided into Sections. Each Section is then divided into Chapters. Contents pages are included at the beginning of the manual, then inside every Section and inside every Chapter. An alphabetical Index is included at the end of a Chapter. Page number references are included for every piece of technical information listed in the Chapter Contents or Chapter Index.

Each Chapter is divided into four Information types:

- Technical Data (specifications) for all the mechanical, electrical or hydraulic devices, components and, assemblies.
- Functional Data (how it works) for all the mechanical, electrical or hydraulic devices, components and assemblies.
- Diagnostic Data (fault codes, electrical and hydraulic troubleshooting) for all the mechanical, electrical or hydraulic devices, components and assemblies.
- Service Data (remove disassembly, assemble, install) for all the mechanical, electrical or hydraulic devices, components and assemblies.

Sections

Sections are grouped according to the main functions or a systems on the machine. Each Section is identified by a number 00, 35, 55, etc. The amount of Sections included in the manual will depend on the type and function of the machine that the manual is written for. Each Section has a Contents page listed in alphabetic/numeric order. This table illustrates which Sections could be included in a manual for a particular product.

	PRODUCT				
	Tractors				
		Vehicles with working arms: backhoes, excavators, skid steers, ….			
			Combines, forage harvesters, balers, ….		
				Seeding, planting, floating, spraying equipment, ….	
SECTION					Mounted equipment and tools, ….
00 - Maintenance					
05 - Machine completion and equipment					
10 - Engine					
14 - Main gearbox and drive					
18 - Clutch					
21 - Transmission					
23 - Four wheel drive system					
25 - Front axle system					
27 - Rear axle system					
29 - Hydrostatic drive					
31 - Implement power take-off					
33 - Brakes and controls					
35 - Hydraulic systems					
36 - Pneumatic system					
37 - Hitches, drawbars and implement couplings					
39 - Frames and ballasting					
41 - Steering					
44 - Wheels					
46 - Steering clutches					
48 - Tracks and track suspension					
50 - Cab climate control					
55 - Electrical systems					
56 - Grape harvester shaking					
58 - Attachments/headers					
60 - Product feeding					
61 - Metering system					
62 - Pressing - Bale formation					

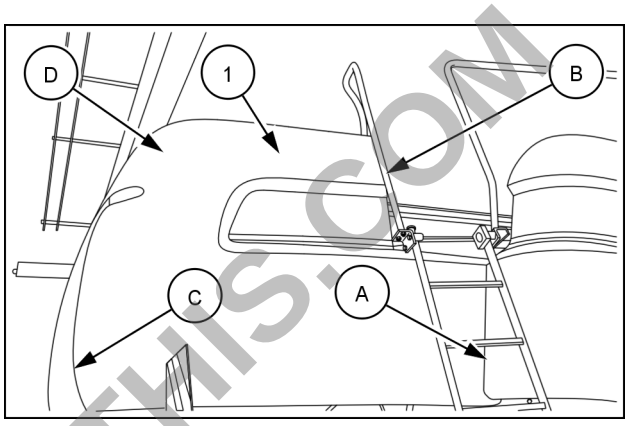
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Diesel Exhaust Fluid (DEF)/AdBlue®/ARLA tank - Remove

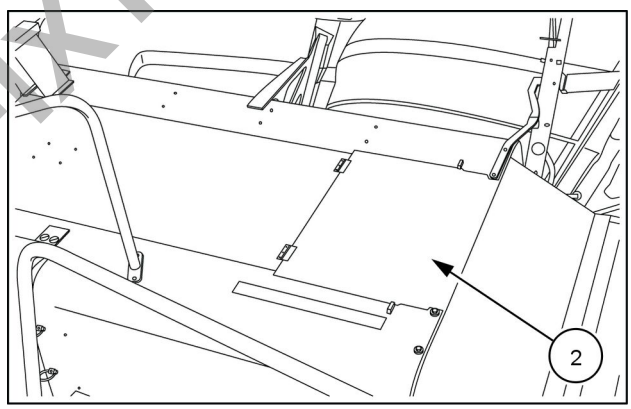
CX5.80 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 STAGE IV	
CX5.90 Hillside FPT NEF 6 STAGE IV	
CX5.90 Laterale FPT NEF 6 TIER 4B (FINAL) AND STAGE IV	
CX6.80 FPT NEF 6 STAGE IV	
CX6.90 FPT CURSOR 9 STAGE IV	
CX6.90 Laterale FPT CURSOR 9 TIER 4B (FINAL) AND STAGE IV	

NOTE: *It is required to remove the rear right-hand side shield* ***(1)*** *to gain access to the* ***DEF/AdBlue®*** *tank. The shield* ***(1)*** *is secured to the machine frame at four locations* ***(A)****,* ***(B)****,* ***(C)*** *and* ***(D)****.*



ZEIL14CXM0123AZ 1

NOTE: *Access to some of the hardware is through the straw walker inspection cover* ***(2)****.*



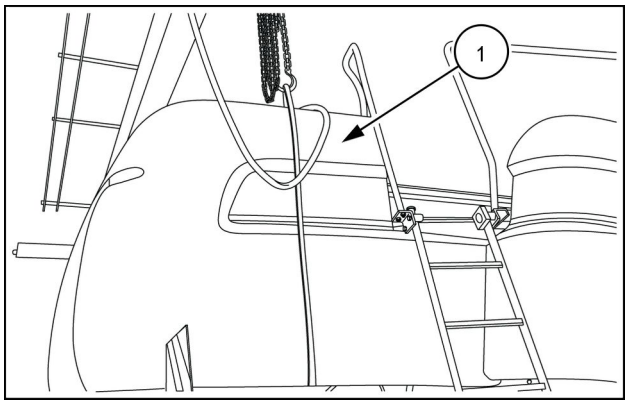
ZEIL14CXM0131AA 2

⚠ CAUTION

Heavy object!
The component is heavy. Use care not to drop the component when installing, removing, or handling.
Failure to comply could result in minor or moderate injury.

C0095A

1. Use a suitable hoist and secure the rear right-hand side shield **(1)**.



ZEIL14CXM0123AA 3

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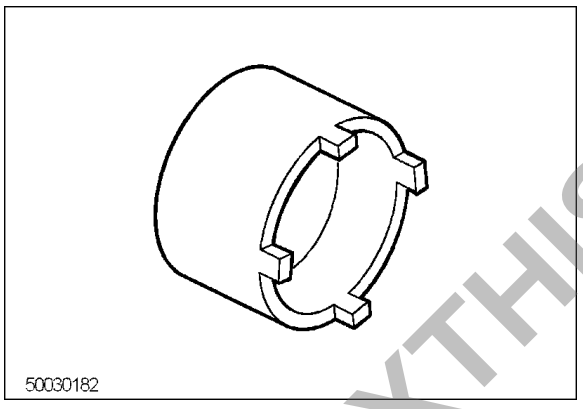
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Mechanical transmission - Torque

Nut on drive shaft	**150-170 Nm** (**111-125 lb ft**)
Nut on input shaft	**150-170 Nm** (**111-125 lb ft**)

Mechanical transmission - Special tools

Description	Tool No.
Ring nut wrench (Metric **45 mm**)	**380001074**



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Mechanical transmission - General specification

CX5.80 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 TIER 3	
CX5.90 Laterale FPT NEF 6 TIER 4B (FINAL) AND STAGE IV	

Differential ratio	16/71
Differential lock	Yes/No
Gear ratio	
1st gear ratio	18/58
2nd gear ratio	35/62
3rd gear ratio	59/48
Maximum input speed (high idle)	2699
Maximum input speed (full load)	2208
Maximum input torque	**634 Nm** (**468 lb ft**)
Maximum output speed (high idle)	748
Maximum output torque	2 x **4533 Nm** (**3344 lb ft**)
Maximum power	**156 kW**
Brake disc diameter	**330 mm** (**13 in**)
Approximately total weight	**380 kg** (**838 lb**)

Mechanical transmission - General specification

CX6.80 FPT NEF 6 STAGE IV	
CX6.80 FPT NEF 6 TIER 3	
CX6.90 FPT CURSOR 9 STAGE IV	
CX6.90 FPT CURSOR 9 TIER 3	---
CX6.90 Laterale FPT CURSOR 9 TIER 4B (FINAL) AND STAGE IV	

Differential ratio	18/71
Differential lock	Yes/No
Gear ratio	
1st gear ratio	18/58
2nd gear ratio	35/62

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Final drive - Torque

CX5.80 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 TIER 3	

10/75 final drive

Bolt final drive cover	**28 – 45 N·m** (**20.7 – 33.2 lb ft**)
Bolt input shaft cover	**50 – 60 N·m** (**36.9 – 44.3 lb ft**)
Nuts in output shaft	See assembly procedure
Level plug	**70 – 90 N·m** (**51.6 – 66.4 lb ft**)
Magnetic plug	**90 – 110 N·m** (**66.4 – 81.1 lb ft**)
Filler / Breather plug	**90 – 110 N·m** (**66.4 – 81.1 lb ft**)
Bolt final drive to traction beam	**470 – 530 N·m** (**346.7 – 390.9 lb ft**)
Wheel nuts torque	**710 – 790 N·m** (**523.7 – 582.7 lb ft**)

Final drive - Torque

CX5.90 Laterale FPT NEF 6 TIER 4B (FINAL) AND STAGE IV	
CX6.80 FPT NEF 6 STAGE IV	
CX6.80 FPT NEF 6 TIER 3	
CX6.90 FPT CURSOR 9 STAGE IV	
CX6.90 FPT CURSOR 9 TIER 3	---
CX6.90 Laterale FPT CURSOR 9 TIER 4B (FINAL) AND STAGE IV	

11/111 final drive

Bolt final drive cover	**28 – 45 N·m** (**20.7 – 33.2 lb ft**)
Bolt input shaft cover	**50 – 60 N·m** (**36.9 – 44.3 lb ft**)
Bolt in output shaft	**252 – 278 N·m** (**185.9 – 205 lb ft**)
Level plug (sight glass)	**8 – 12 N·m** (**5.9 – 8.9 lb ft**)
Magnetic plug	**90 – 110 N·m** (**66.4 – 81.1 lb ft**)
Filler / Breather plug	**90 – 110 N·m** (**66.4 – 81.1 lb ft**)
Bolt final drive to traction beam	**470 – 530 N·m** (**346.7 – 390.9 lb ft**)
Wheel nuts torque	**710 – 790 N·m** (**523.7 – 582.7 lb ft**)

Final drive - Torque

CX5.90 Hillside FPT NEF 6 STAGE IV	

11/111 final drive

Bolt final drive cover	**70 – 80 N·m** (**51.6 – 59.0 lb ft**)
Bolt input shaft cover	**50 – 60 N·m** (**36.9 – 44.3 lb ft**)
Bolt in output shaft	**252 – 278 N·m** (**185.9 – 205 lb ft**)
Level plug (sight glass)	**8 – 12 N·m** (**5.9 – 8.9 lb ft**)
Magnetic plug	**90 – 110 N·m** (**66.4 – 81.1 lb ft**)
Filler / Breather plug	**90 – 110 N·m** (**66.4 – 81.1 lb ft**)
Bolt final drive to traction beam	**635 – 705 N·m** (**468.4 – 520.0 lb ft**)
Wheel nuts torque	**610 – 732 N·m** (**449.9 – 539.9 lb ft**)

Final drive - General specification

CX5.80 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 TIER 3	

10/75 final drive

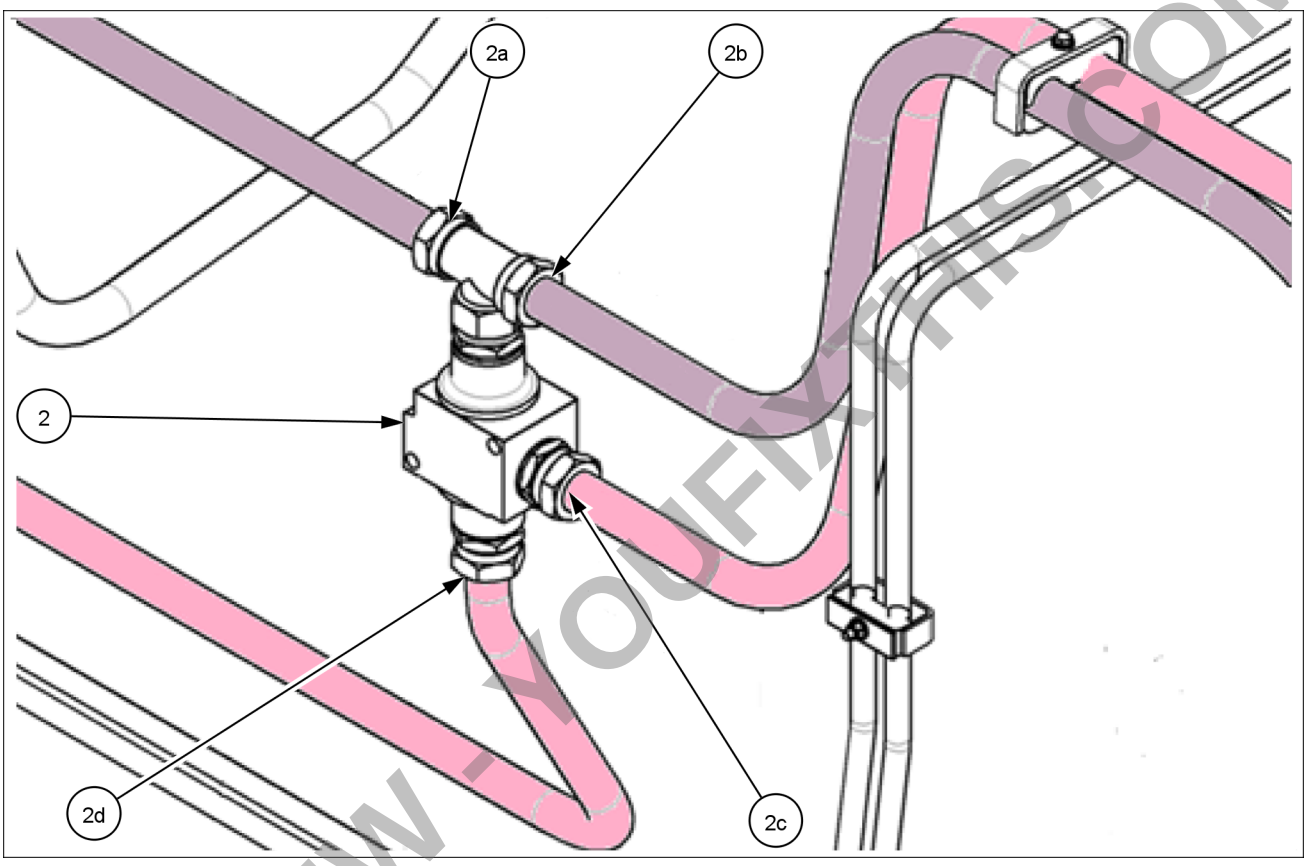
Gear ratio	10/75
Input shaft axial end play	**0.05 – 0.1 mm** (**0.002 – 0.004 in**)

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Thermostat - Overview

Accessible from inside the grain tank.

Item	Description
2.	Thermostat valve
2a.	From oil cooler
2b.	To oil reservoir
2c.	From hydrostatic pump (inlet)
2d.	To oil cooler



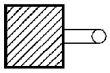
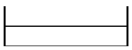
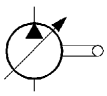
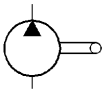
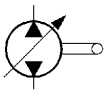
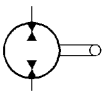
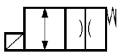
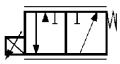
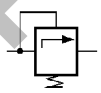
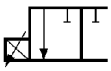
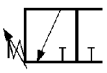
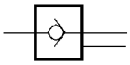
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Hydraulic systems - Hydraulic symbol

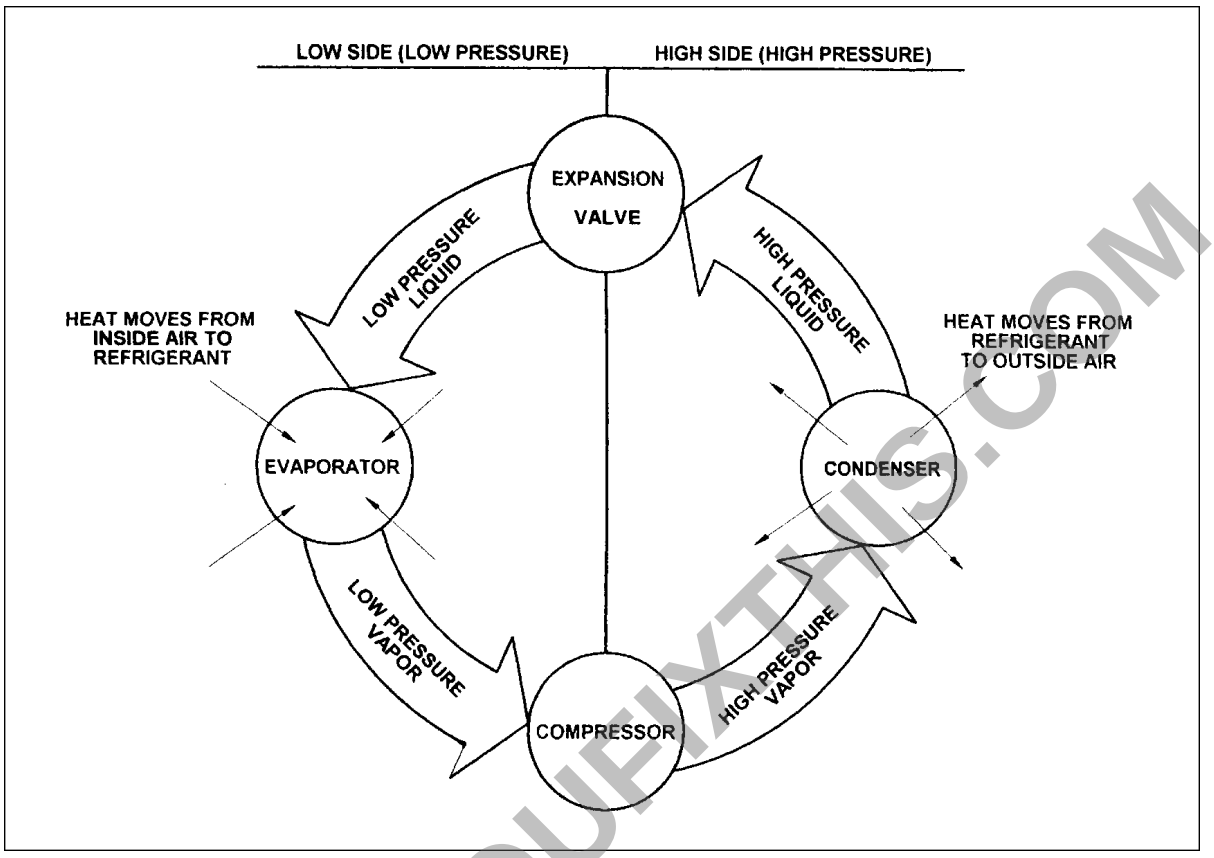
CX5.80 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 STAGE IV	
CX6.80 FPT NEF 6 TIER 3	
CX6.90 FPT CURSOR 9 STAGE IV	
CX6.90 FPT CURSOR 9 TIER 3	

	Engine		Reservoir
	Hydraulic pump, direction with variable displacement		Hydraulic pump single direction fixed displacement
	Hydraulic pump, directional with displacement		Steering motor (bi-directional)
	Motor, single direction fixed displacement		Motor bi-directional fixed displacement
	2 position valve		3 position valve
	Proportional (PWM) valve		Pressure relief valve
	Solenoid controlled movement		Proportional solenoid movement (Pulse Width Modulation)
	Movement by or against spring tension		Movement by or against adjustable spring tension
	Movement by or against oil pressure		Lock-out valve
	Non return valve		Non return valve, pressure controlled
	Quick coupler with non return valve		Flexible hose
	Restrictor		Thermostat

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Air conditioning - Functional diagram



50_SEC50-1_09 1

A/C cycle

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Electrical system - General specification

Fuses

Fuses protect circuits with thin pieces of metal and wire which heat up and melt to open up the circuit when too much current flows through them.

Fuses are used to protect the circuit from overload. This can occur in the event of a short circuit or by connecting equipment which demands a current greater than the circuit is designed to carry.

There are several types of fuses, but they all consist of a metal conductor which is capable of carrying a limited current. If the specified current is exceeded then the metal conductor will overheat, causing it to melt and break. This will in turn cause an open circuit.

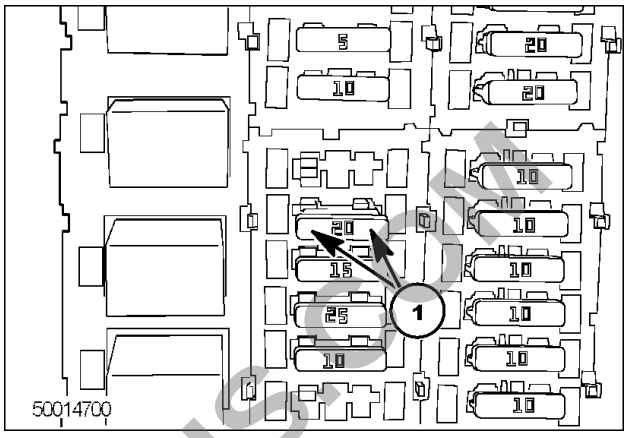
The rating of the fuse relates to the current that the fuse can carry continuously.

If a fuse blows, it must be replaced with a fuse of the correct rating, and if it blows again, then the cause must be investigated.

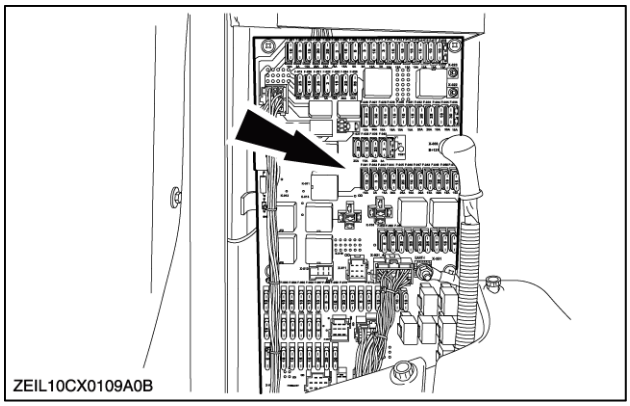
A fuse may be tested by checking continuity across the fuse on the two exposed terminals **(1)**.

Fuses and relays are located on different places of the combine:

1. Fuse printed circuit: located at the backside at the right-hand side of the cab.

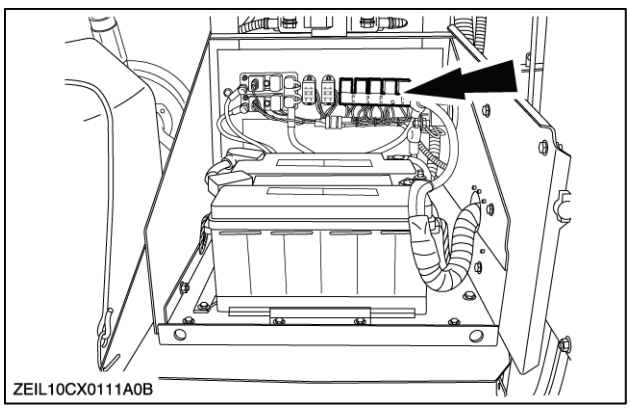


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2. Fuses located in the battery compartment.



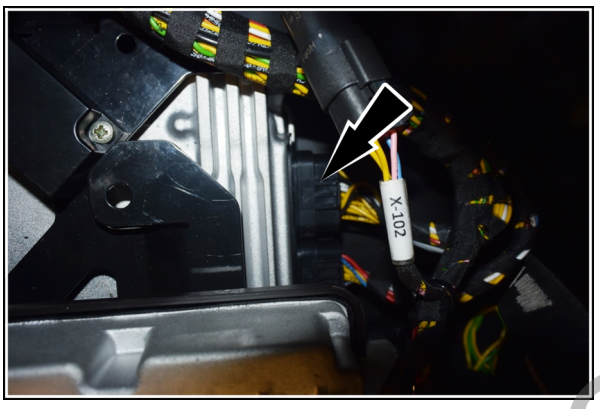
ZEIL10CX0111A0B 3

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Wire connectors - Component diagram 00

X-001 - UCM POSITION X-001C4A PIN 18 (87410951) (Plug)



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On the Universal Control Module (UCM) in the cab.

Pin	From	Wire	Description	Color-Size	Frame
1	**X-101 (Receptacle) pin 1** STEERING WHEEL MOTION	RGC-675	SENSOR STEERING POSITION	YE - 1.5	**SHEET 59**

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Dosing control unit - Dynamic description Selective Catalyst Reduction (SCR) Healing Process

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CX5.90 FPT NEF 6 STAGE IV	
CX5.90 Hillside FPT NEF 6 STAGE IV	
CX5.90 Laterale FPT NEF 6 TIER 4B (FINAL) AND STAGE IV	
CX6.80 FPT NEF 6 STAGE IV	
CX6.90 FPT CURSOR 9 STAGE IV	
CX6.90 Laterale FPT CURSOR 9 TIER 4B (FINAL) AND STAGE IV	

Healing is a process which the Selective Catalytic Reduction (SCR) system needs to perform to determine the functionality of the after-treatment system ability to control Nitric Oxide (NO_x) emissions. In order for the after-treatment system to perform this test, the exhaust system needs to be at a specific temperature for the chemical reaction to occur properly.

The exhaust system for Tier 4a applications has three sensors located in the exhaust system. Two exhaust temperature sensors (upstream and downstream) and one NO_x sensor. The exhaust temperature sensors are located before and after the catalyst. The NO_x sensor is located after the catalyst and before the downstream temperature sensor in the exhaust system.

DOSING ACTION

Healing can only occur when a minimum exhaust temperature is reached of **220 – 240 °C** (**428.0 – 464.0 °F**) on both of the upstream and downstream exhaust temperature sensors. Once the catalyst temperature is reached the after-treatment system will perform two types of dosing of the DEF/AdBlue® in order to control NO_x emissions.

During the first stage of dosing, the after-treatment system will start applying DEF/AdBlue® quatities based upon internal logic table similar to the fueling table the fuel injection system uses. This controls a great portion of the NO_x emissions until the system is fully operational.

Once the NO_x sensor is warm and able to read correct NO_x parts per million (ppm) the system will dose DEF/AdBlue® based on the observations from the NO_x sensor ppm output. This form of dosing is the most accurate in controlling the NO_x emissions.

The after-treatment system will perform the healing process if the following conditions occur.

- Technical Failure of the SCR system.
- Low Exhaust temperature.
- Poor DEF/AdBlue® quality

NOTE: *Some Technical Failures do not need the “active” dosing to occur for the SCR system to heal. These type of failures need a key cycle to the OFF position for* ***2 min*** *minimum and the unit reaches low idle after a restart. If this occurs, the SCR warning message will be eliminated. If active dosing is required, “Low Exhaust Temperature” will be displayed on 2011 and newer software level machines.*

Validation restarts may need to be reset in order to obtain full engine rpm and full engine torque. Use the Electronic Service Tool (EST) to reset the validation restarts as needed. The validation restarts is located under the configuration icon.

HEALING INSTRUCTIONS

The operator should observe one of the two messages displayed. This indicates the system needs to run a healing process to determine the functionality of the SCR system.

NOTE: *Reference instructions “Monitoring Instructions” (located in the EST) to monitor the upstream and downstream catalyst temperatures along with the “Derate Status Instructions” and monitor NO_x sensor ppm value.*

1. Reset the validation restarts if 0/3 is displayed when the unit is started. Reference instructions “Validation Reset Instructions “ (in the EST) for the proper procedure.

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DTC 119A - DEF/AdBlue tank level sensor voltage too high

CX5.80 FPT NEF 6 STAGE IV	
CX5.90 FPT NEF 6 STAGE IV	
CX5.90 Hillside FPT NEF 6 STAGE IV	
CX5.90 Laterale FPT NEF 6 TIER 4B (FINAL) AND STAGE IV	
CX6.80 FPT NEF 6 STAGE IV	
CX6.90 FPT CURSOR 9 STAGE IV	
CX6.90 Laterale FPT CURSOR 9 TIER 4B (FINAL) AND STAGE IV	

Control Module: ECU

NOTE: *When the cause of the fault code has been rectified, clear the fault code and test the system for normal operation.*

NOTE: *Because this fault causes inducement, it is necessary to perform the Engine Restart Counter Reset / Unlock Inducement configuration with the Electronic Service Tool (EST) before you return the machine to service. See the corresponding configure menu in the EST.*

Context:
For information regarding the functional operation of the Selective Catalytic Reduction (SCR) system see the appropriate manual. The Engine Control Unit (ECU) **A-029B** monitors the level and temperature of the **Diesel Exhaust Fluid (DEF)/AdBlue®** fluid. If the **DEF/AdBlue®** tank level and temperature sensor **B-051B** level sensing signal is greater than **4.65 V** for **0.5 s**, this fault will occur.

Cause:
The **B-051B** level signal to the **A-029B** is greater than **4.65 V**.

Possible failure modes:

1. Faulty **B-051B** damaged internally.
2. Faulty **B-051B** level signal wiring, open or shorted to a high source.
3. Faulty **A-029B** software.

Solution:

1. Verify fault is present and active.

   Use the EST to check the status of this fault.

   A. If the fault is present and active, continue with Step **2**.

   B. If the fault is no longer present or in an inactive state, the fault may be intermittent and not currently active. Continue with Step **5**.
2. Verify the condition of the **B-051B**.

   Disconnect the vehicle harness from the **B-051B** at connector **X-151B**.

   Use a multimeter to measure the resistance of the **B-051B**:

From	To	Result
Component side of connector **X-151B (Receptacle) pin 1**	Component side of connector **X-151B (Receptacle) pin 2**	Should be less than infinite resistance, typically less than **17,000 Ω** which is greater than full tank resistance

   A. If there is less than infinite resistance, leave connector **X-151B** disconnected and continue with Step **3**.

   B. If there is infinite resistance, the **B-051B** has failed internally. Replace the **B-051B** unit.
3. Check the **B-051B** temperature signal circuit wiring for an open circuit condition.

   Disconnect the vehicle harness from the **A-029B** at connector **X-035-T4B**.

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A. If the voltage indicated is greater than **5 V**, continue to Step **5**.

B. If the voltage indicated is approximately **5 V**, continue to Step **6**.

5. Check for a short circuit.
Turn the ignition switch OFF.
Disconnect the **A-001** connector **X-001C1A**.
Turn the ignition switch ON.
Use a multimeter to perform the following voltage check:

From	To	Result
X-102 pin 1, wire CAB-212C (PK)	Ground	Should be no voltage

A. If a voltage is indicated, there is a short circuit. Repair or replace the wiring harness as required.

B. If a voltage is not indicated, and the wiring harness is okay, download the correct level of software into the **A-001**.
If the fault recurs, remove and replace the **A-001**.

6. Check for an open circuit.
Use a multimeter to perform the following continuity check:

From	To	Result
X-102 pin 2, wire CAB-216C (BL)	Ground	Should be continuity

A. If an open circuit is indicated, continue to Step **7**.

B. If an open circuit is not indicated, continue to Step **8**.

7. Check for an open circuit.
Turn the ignition switch OFF.
Disconnect the **A-001** connector **X-001C4A**.
Use a multimeter to perform the following continuity check:

From	To	Result
X-102 pin 2, wire CAB-216C (BL)	**X-001C4A (Receptacle) pin 20**, wire CAB-216 (BL)	Should be continuity

A. If an open circuit is indicated, repair or replace the wiring harness as required.

B. If an open circuit is not indicated, download the correct level of software into the **A-001**.
If the fault recurs, remove and replace the **A-001**.

8. Check for a short circuit.
Turn the ignition switch OFF.
Disconnect the **A-001** connector **X-001C1B**.
Turn the ignition switch ON.
Use a multimeter to perform the following voltage check:

From	To	Result
X-001C1B (Receptacle) pin 13, wire CAB-050 (YE)	Ground	Should be no voltage

A. If a voltage is indicated, there is a short circuit. Repair or replace the wiring harness as required.

B. If a voltage is not indicated, continue to Step **9**.

9. Check for a short circuit.
Turn the ignition switch OFF.
Use a multimeter to perform the following continuity check:

From	To	Result
X-001C1B (Receptacle) pin 13, wire CAB-050 (YE)	All other pins in **X-001C1B**	Should be no continuity

A. If a short circuit is indicated, repair or replace the wiring harness as required.

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E0649-07 - Header Height Control (HHC) Set #1 Switch - mechanical system not responding or out of adjustment

Control Module: RHM

Context:
The Right-Hand Module (RHM) **A-004** monitors the operation of the header memory switch on the Inner Control Panel (ICP) **CommandGrip™** handle **A-007**.

Cause:
RHM **A-004** is sensing a mechanical malfunction or the header memory switch depressed for greater than **1.0 s** during power up in the header memory switch circuit.

Possible failure modes:

1. Faulty ICP **CommandGrip™** handle **A-007**.
2. Faulty wiring harness.
3. Faulty RHM **A-004**.

Solution:

1. Verify that the fault is present and active.

   Use the display monitor diagnostic capability to view parameter status to check the voltage level.

   For additional information about the monitor diagnostic capability, see **Instrument cluster - Detailed view (55.408)**.

   A. If the voltage reading is high, continue to Step **2**.

   B. If there is voltage, the fault may intermittent and not currently active. Continue to Step **5**.
2. Place the ignition switch in the ON position.

   Disconnect the Right Console (RC) harness from the ICP **CommandGrip™** handle **A-007** at connector **X-007**.

   Use a multimeter to check for voltage:

From	To	Result
Right Console (RC) harness side of connector **X-007 (Female) pin 22**, wire RC-2339 (OR)	Chassis ground	Should be approximately **12 V**

   A. If the voltage reading is high, continue to Step **4**.

   B. If there is voltage, reconnect connector **X-007** and continue to Step **3**.
3. Verify that the switch functions properly.

   Actuate the header memory switch.

   Use a multimeter to check for voltage:

From	To	Result
Right Console (RC) harness side of connector **X-007 (Female) pin 19**, wire RC-2341 (YE)	Chassis ground	Should be approximately **12 V**

   A. If the voltage reading is high, the switch has failed internally. Replace the ICP **CommandGrip™** handle **A-007**.

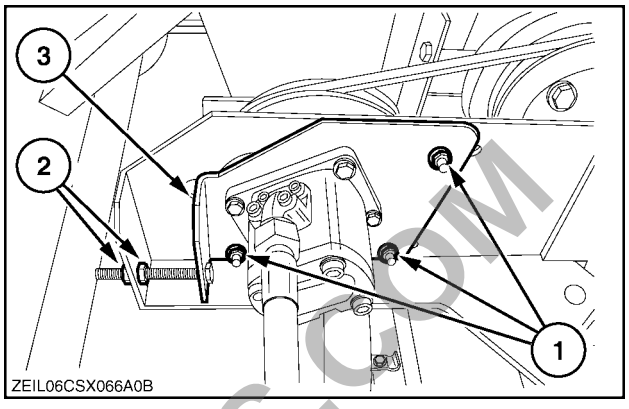
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Reel drive belt - Replace

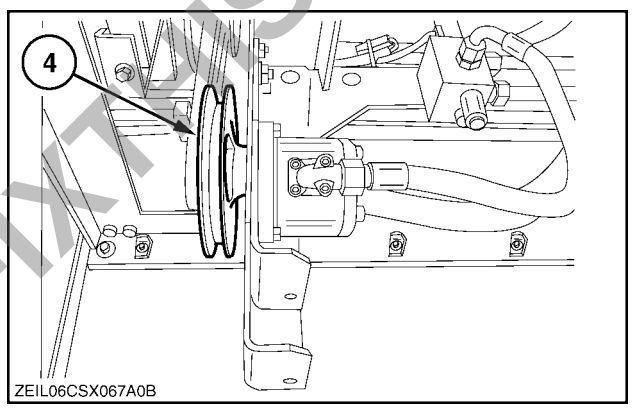
NOTE: *For more details, refer to* ***Lines - Overview (35.518)****.*

1. Loosen the three nuts **(1)**. Loosen the nuts **(2)** and slide the pump support plate **(3)** rearwards.



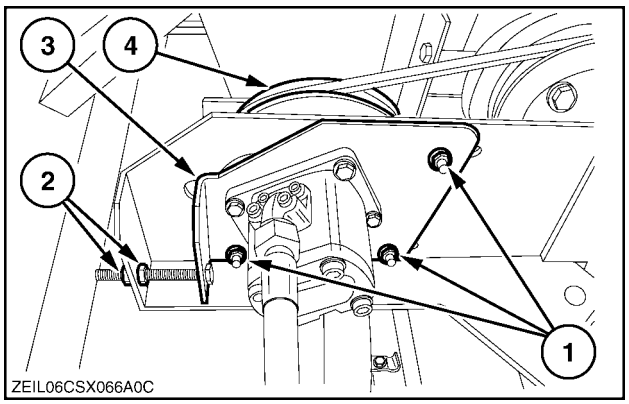
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2. Remove the belt from the pulley **(4)** and from the pulley at the rear.



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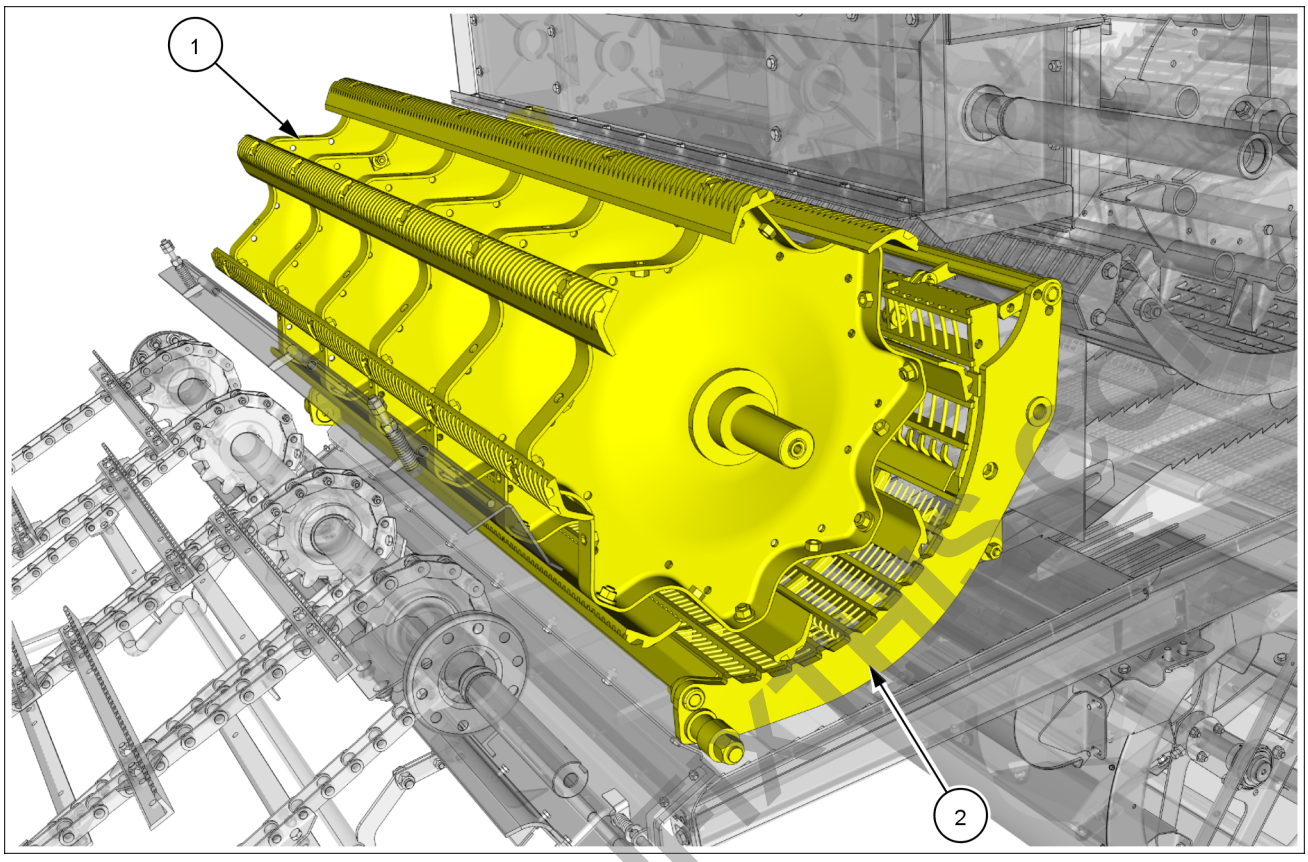
3.
   - Replace the belt with a new one on the rear and front pulley **(4)**.
   - Tension the belt by moving the pump support plate **(3)** forwards with the nuts **(2)**. For the proper belt tension, refer to the Operators Manual of your combine.
   - Tighten the nuts **(1)** and **(2)**.



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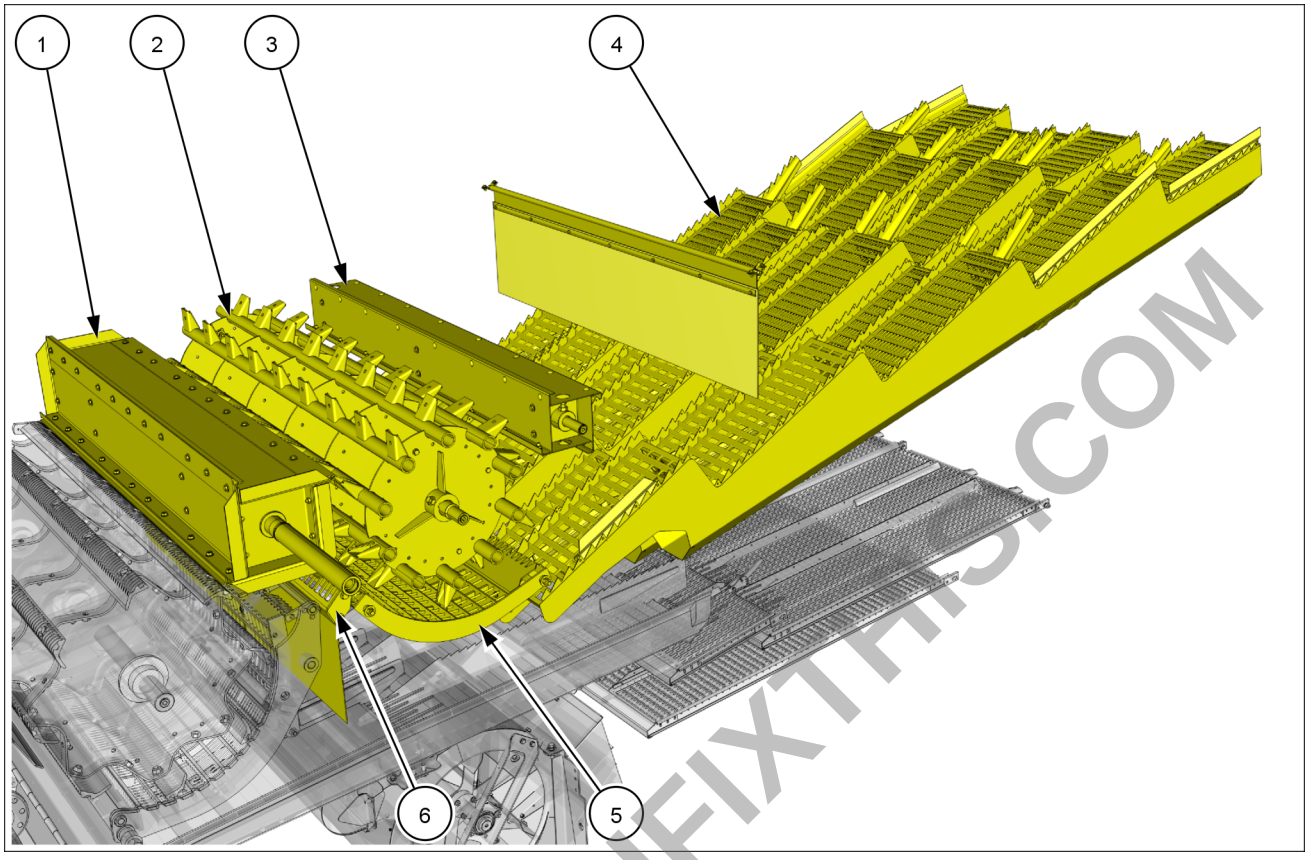
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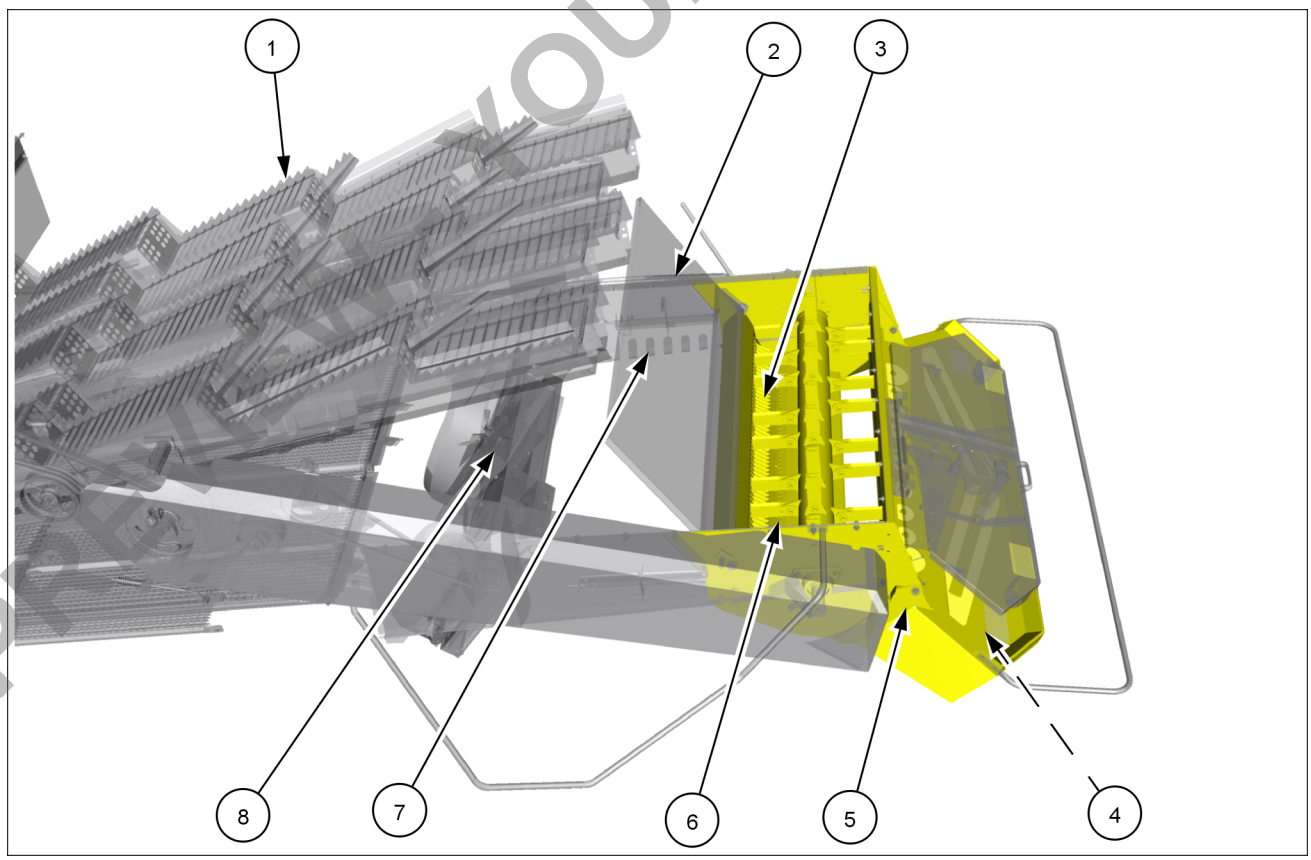
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Straw chopper - Overview

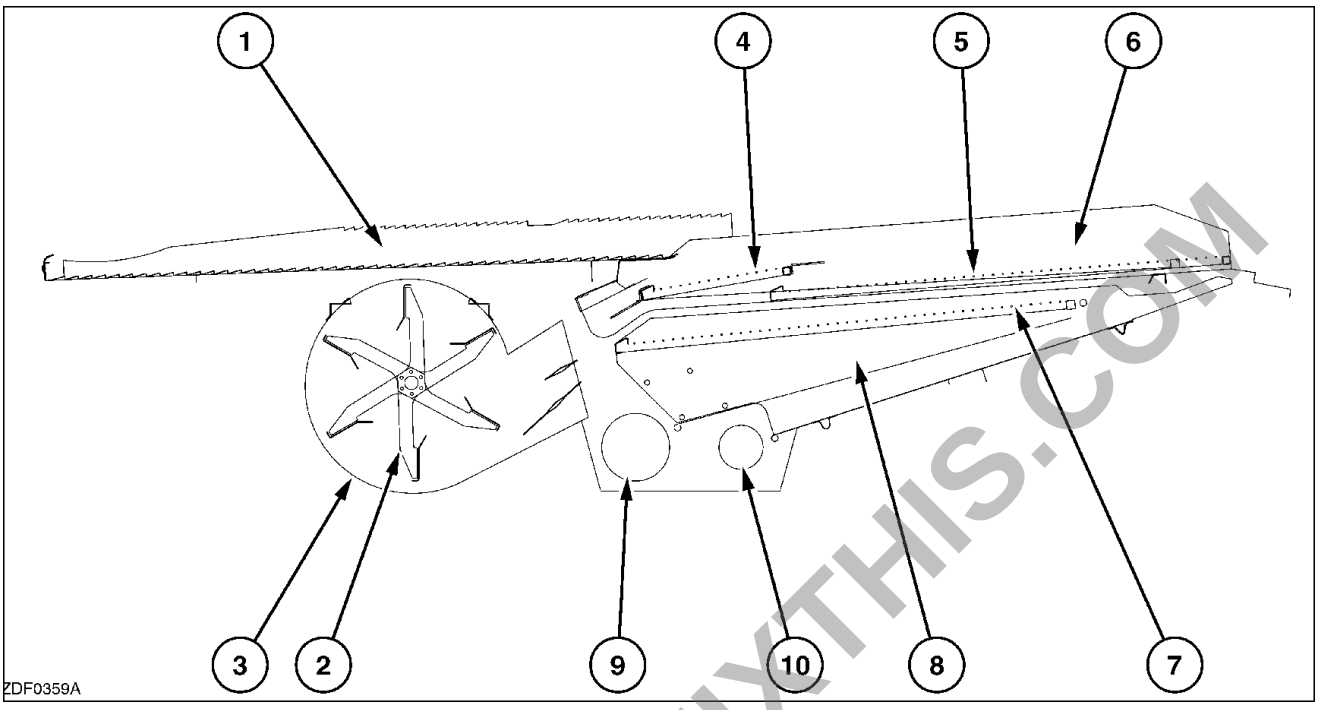
Item	Description
1.	Straw walkers
2.	Straw guiding plate • To move the straw guiding plate into the swath-forming position, see the operator's manual **Spreader hood - Static description (73.230)**. • To move the straw-guiding plate into the chopping position, see the operator's manual **Straw chopper - Operating (if equipped) (73.230)**.
3.	Counter knives, to replace the counter knives, see the operator's manual **Counter knife - Static description (73.230)**.
4.	Chopper spreading plates • To calibrate the spreader plates, see the operator's manual **Calibrations (55.408)**. • To adjust the spreader plates, see the operator's manual **Spreader plates (73.230)**.
5.	Straw chopper • To check the belt tension of the belts, see the operator's manual **Drive belts and chains tension (21)**. • For more information about the straw chopper, see the operator's manual **Straw chopper - Operating (if equipped) (73.230)**. • For the straw walker/chopper protection sensor, see **B-220**.
6.	Rotor knives, to replace the rotor knives, see the operator's manual **Rotor Knife - Static description (73.230)**.
7.	Swathing rakes, to switch the position of the swathing rakes, see the operator's manual **Swath rake - Static description (73.220)**.
8.	Chaff spreader



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Cleaning - Static description



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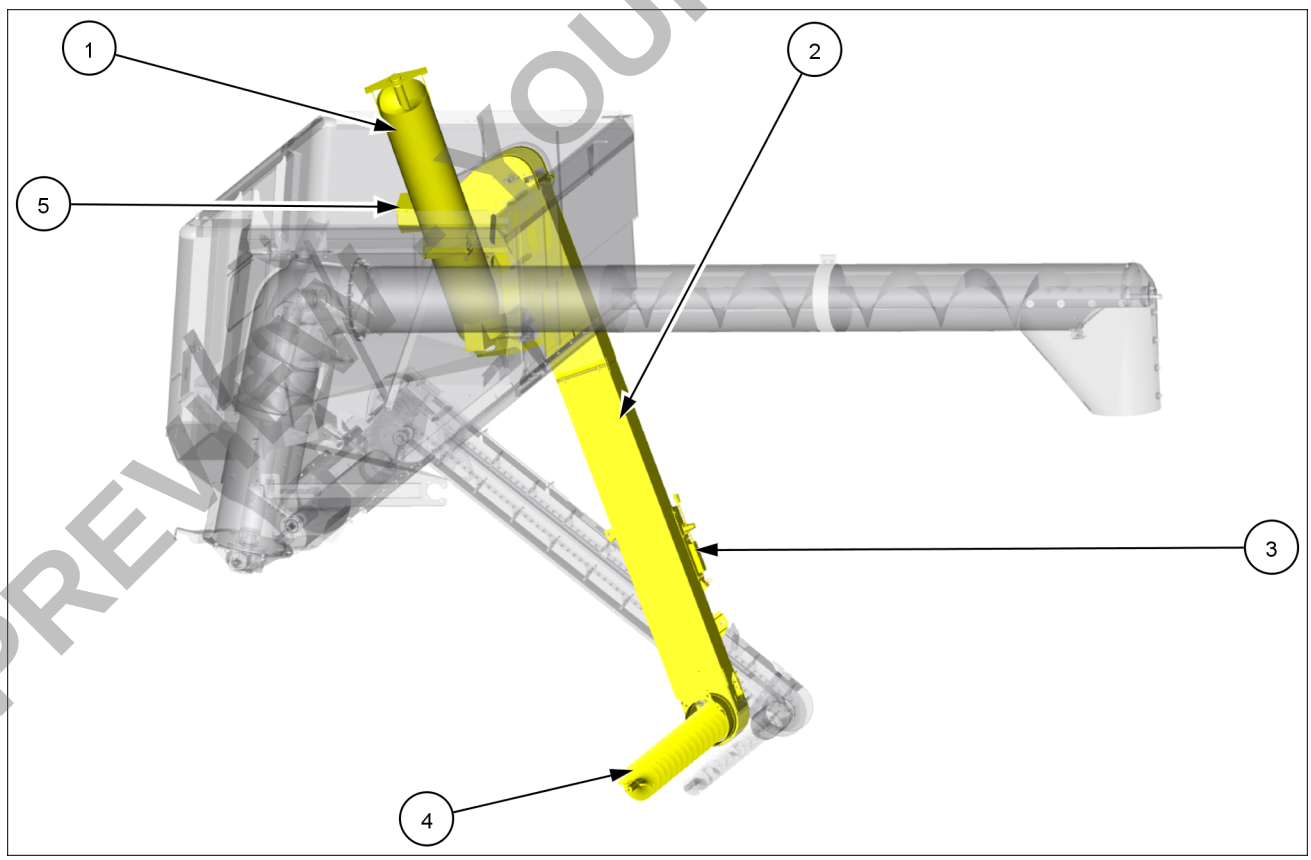
1 Grain pan
2 Cleaning fan
3 Cleaning fan housing
4 Pre-sieve
5 Upper sieve
6 Upper shaker shoe
7 Lower sieve
8 Bottom shaker shoe
9 Clean grain cross auger
10 Returns cross auger

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Clean grain elevator - Overview

Item	Description
1.	Bubble-up • To lubricate the bubble-up auger drive chain, see the operator's manual **Transmission - Lubricate (21)**. • For the grain elevator speed, see the operator's manual **Combine info (55.408)**. • To change the bubble-up gearbox oil, see the operator's manual **Grain tank delivery system Gearbox - Change fluid (80.150)**. • To clean the bubble-up augers, see the operator's manual **Grain tank (80.150)**.
2.	Clean grain elevator • To clean the clean grain elevator, see the operator's manual **Grain tank - Static description (80.150)**. • To check the clean grain elevator speed, see the operator's manual **Combine info (55.408)**.
3.	Moisture sensor • For the dynamic description, see **Clean grain elevator - Dynamic description - Moisture sensor (if equipped) (80.101)**. • For more information, see the operator's manual **Moisture sensor (if equipped) (55.426)**. • For the alarm, see the operator's manual **Machine operation**.
4.	Clean grain cross auger, there is a difference between the five straw walker and the six straw walker.
5.	Grain flow sensor • For the dynamic description, see **Clean grain elevator - Dynamic description - Yield sensor (if equipped) (80.101)**. • For more information, see the operator's manual **Grain flow sensor - Cleaning (if equipped) (55.426)**.



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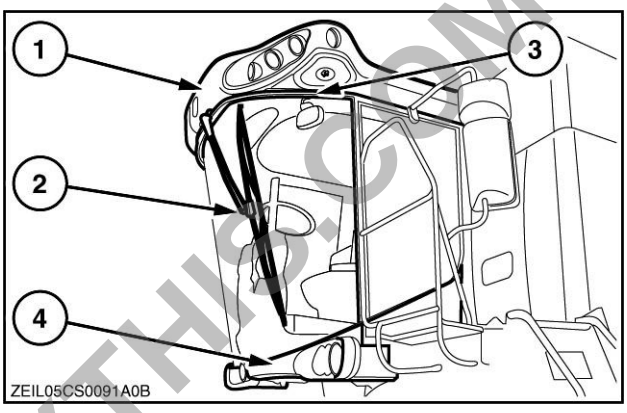
For the drive belts and chain tensions, see the operator's manual **Drive belts and chains tension (21)**.

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Cab doors and hatches - Replace

NOTE: *The most difficult problem for a manufacturer and dealer is the supply of the polyurethane based adhesive to be used, due to its short shelf life. For this reason ask your local supplier of products to glue windows.*

1. Park the combine so that they can stay for minimum 48 hours on the spot after the window is replaced.
2. Use a sturdy and sufficiently high working platform placed in front of the cab.
3. Open up the roof **(1)** of the cab (refer to your Operator's Manual - Section 4 - Lubrication and Maintenance). Remove the wiper **(2)**, the supports **(3)** and the lower yellow covers **(4)**.



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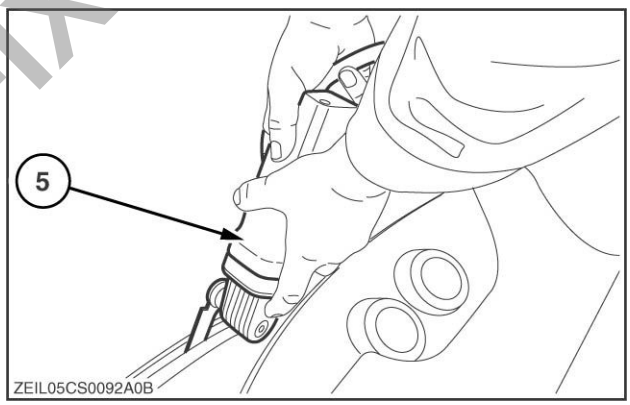
4. Using a foot slicer **(5)**, to saw out of the broken window: Place the foot slicer inside the cab between the window and the frame as shown.

NOTE: *You can also use a wire to cut out the window.*

⚠ WARNING ⚠

Always wear safety glasses when using a drill, hammer, saw, or other tools that may cause chips to fly.

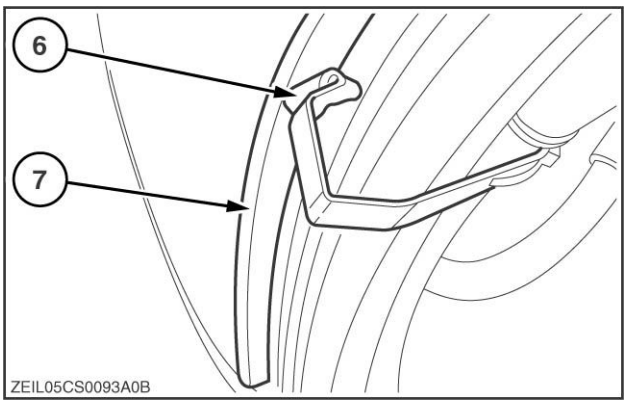
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5. Push the little clamps **(6)** at the bottom down as shown. Keep the U shape **(7)** on the bottom of the window for later use.
   Remove the window.

NOTE: *Make sure that all the silicone is removed from the frame where the window should be sticked on.*



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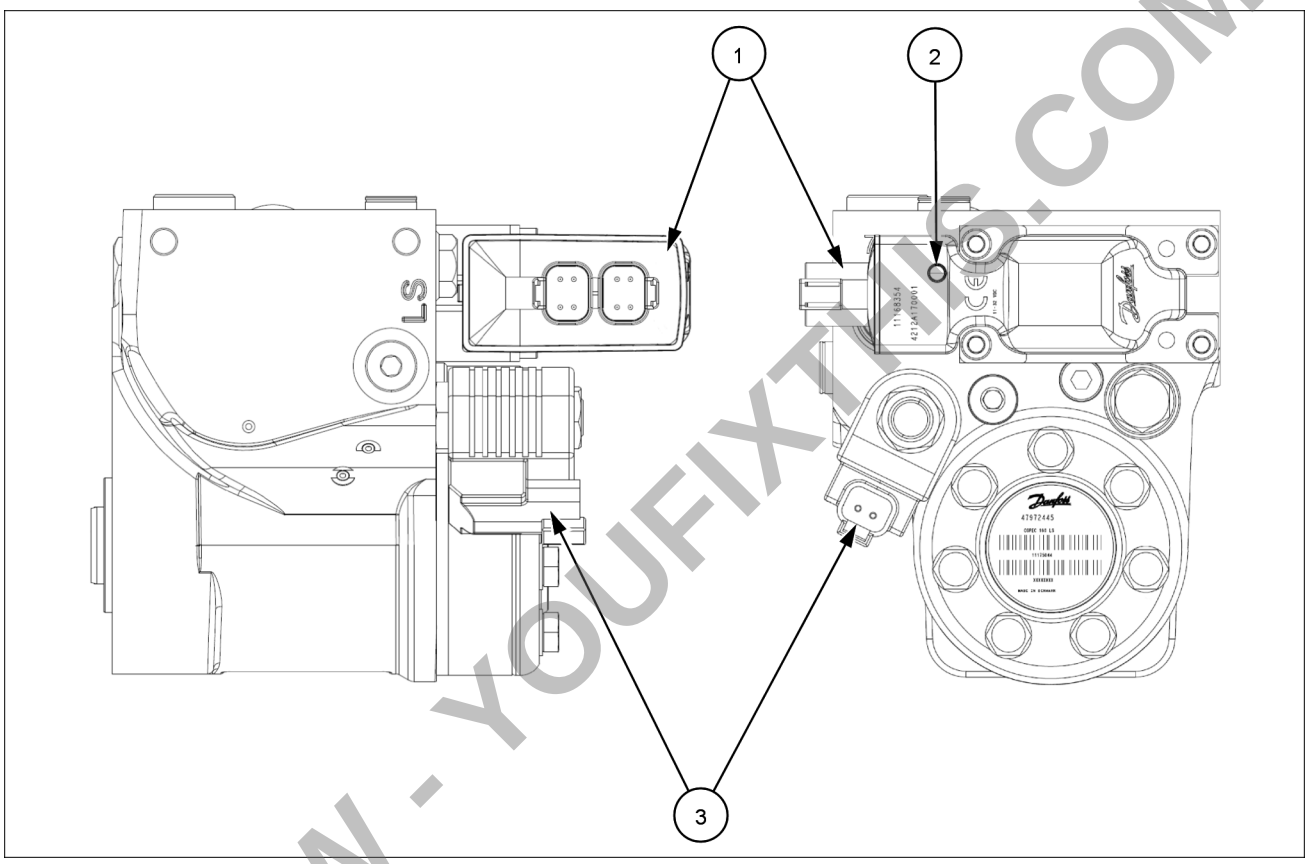
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Autoguidance valve - Overview

Item	Description
1	Autoguidance valve. For the connector specifications (*), see **A-072**.
2	Light emitting diode (LED) indicator, see **Autoguidance valve - View (41.432)**.
3	Safety valve, see the connector **X-2420**.

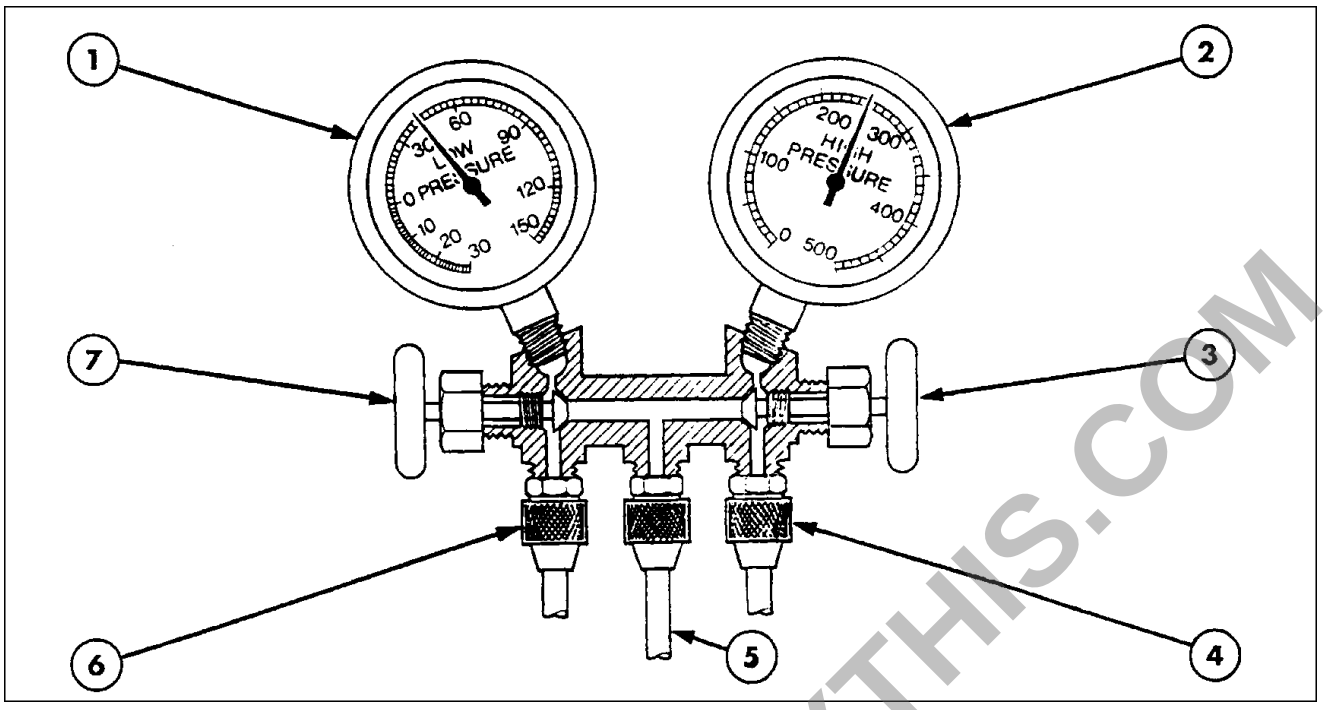
(*): There are two identical connectors but only one is used.
The other one is to loop additional controller area network (CAN) valves (is now plugged).



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50_SEC50-1_20 8

1 Low side high
2 High side high
3 High side hand valve closed
4 High side hose connected to high side service connector
5 Not used
6 Low side hose connected to low side service connector
7 Low side hand valve closed

GAUGE READINGS AND INTERPRETATIONS
EXAMPLE 8
Problem:
Insufficient or no cooling.
Cause:
Improper operation of thermostatic expansion valve (stuck open)
CONDITIONS*

1. Low side pressure too high.
2. High side pressure too high.
3. Evaporator air warm.
4. Evaporator and suction hose (to compressor) surfaces show considerable moisture.

CORRECTIVE PROCEDURES

1. Check for sticking expansion valve:
   Operate the system at maximum cooling
   Check the low side gauge. The pressure should drop slowly.
2. If the test indicates that the expansion valve is defective, proceed as follows:
   Recover the refrigerant from the system.
   Replace the expansion valve.
   Evacuate the system.
   Charge the system.
   Performance test the system.

NOTE: *DIAGNOSIS: Thermostatic expansion valve is allowing too much refrigerant to flow through the evaporator coils. Valve may be stuck open.*

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E0044-05 - Spreader position plate sensor - current below normal or open circuit

Control Module: UCM

NOTE: *When the cause of the fault code has been rectified, clear the fault code and test the system for normal operation.*

NOTE: *If more than one fault code is present, using the electrical schematics, check for any common components, powers or grounds which may share a common cause before replacing the Unit Control Module (UCM)* ***A-001*** *if instructed.*

Cause:
The **A-001** has detected a voltage less than **0.25 V** at connector **X-001C2B (Receptacle) pin 33**, wire CAB-141 (YE) from the spreader position plate sensor **M-620** connector **X-620 (Receptacle) pin C**, wire CH-141 (YE)..

Possible failure modes:

1. Faulty connector.
2. Faulty wiring harness.
3. Faulty **M-620**.
4. Faulty **A-001** software.
5. Faulty **A-001**.

Solution:

1. Verify fault is present and active.
   Record all the fault codes present. Clear the fault codes and check for correct operation of the machine.

   A. If the fault is present and active, continue to Step **2**.

   B. If the fault is no longer present or in an inactive state, the fault may be intermittent and not currently active. Continue to Step **11**.

2. Check the **A-001** connectors **X-001C1A**, **X-001C2B** and **X-001C2A**, the wiring harness connectors **X-925AR** and **X-1032R** and the **M-620** connector **X-620**.
   Make sure the connectors are connected, not damaged, the pins are in the correct position and that the fit is tight.

   A. If a fault is indicated, repair or replace as required.

   B. If the connectors are okay, continue to Step **3**.

3. Check for a short circuit.
   Disconnect the connector **X-620**.
   Use a multimeter to perform the following continuity check:

From	To	Result
Component side of connector **X-620** pin B	Component side of connector **X-620** pin C	Should be greater than **0.3 Ω**

   A. If the resistance indicated is less than **0.3 Ω**, replace the **M-620**. Connect the connector **X-620**, clear the fault codes and check for correct operation of the machine.

   B. If the resistance indicated is greater than **0.3 Ω**, continue to Step **4**.

4. Check for a **5 V** supply voltage.
   Turn the ignition switch ON.
   Use a multimeter to perform the following voltage check:

From	To	Result
X-620 (Receptacle) pin A, wire SH-212AB (PK)	Ground	Should be approximately **5 V**

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E1582-12 - Electrical systems Fuel injection system Injection control , Bad intelligent device

CX5.90 FPT NEF 6 TIER 3	
CX6.80 FPT NEF 6 TIER 3	
CX6.90 FPT CURSOR 9 TIER 3	---

Control Module: ECU

NOTE: *When the cause of the fault code has been rectified, clear the fault code and test the system for normal operation.*

Context:
The Engine Control Unit (ECU) **A-029** has determined that an unclassifiable failure exists in the Cylinder #2 injector **Y-002** circuit. A power stage component energizes the injection system transistors and simultaneously observes the current flow in the high-side and low-side switching branch by sensing resistors. If there is a deviation from the expected current flow the component detects specific faults and reports them to the **A-029**. This fault message is then rearranged so it holds information on performed injections, faults of cylinders on the same bank, bank specific faults and cylinder specific faults. The rearranged fault message is then compared to applicable fault patterns and if there is a match the failure corresponding to the matched pattern is output. If a fault message doesn't match any pattern the defect is treated as an unclassifiable fault. Monitoring is performed once per camshaft revolution. This fault is the result of a failure in the **Y-002** circuit that is unclassifiable over 8 camshaft revolutions. As a result of this fault an individual cylinder or bank is shut off, based on parameters established in the **A-029**. Certain parameters, as currently applied, are permanent (without a healing possibility, once tested by switching on the component to see if the defect is still present) and others evoke an irreversible or reversible shut off of the engine to be executed.

Cause:
The **A-029** has determined that there is a fault associated with the injector output power driver stage.

Possible failure modes:

1. Faulty injection valve.
2. Faulty electrical wiring (damaged connector or conductor).
3. Faulty **A-029**, hardware or software.

Solution:

1. Verify this fault code is still present and in an active state.
   A. If the fault is still present and active, continue with Step **2**.
   B. If the fault is no longer present or is in an inactive state, continue with Step **3**.
2. Visually check the electrical integrity of the injector circuit (Inspect connector housing body/latch, pins and wiring harness for damage or corrosion).
   A. If damage is determined after careful inspection, repair wiring and/or replace connector parts to ensure a good and sound electrical connection.
   B. If no damage is determined, the **A-029** or injector may have failed. Try reloading the **A-029** software. If the fault reoccurs, try replacing the **Y-002**. If the fault reoccurs, replace the **A-029**.
3. Visually inspect the relevant harnesses and connectors for damage, bent or dislocated pins, corroded terminals or broken wires. Verify that the connectors are fully installed. Flex the harnesses involved to reveal intermittent breaks or shorts in the wiring concerned. Operate the machine while monitoring the Display.
   A. If damage is found or other than normal display readings are indicated, repair the damage discovered during the inspection or locate and repair the other than normal display condition and verify that the fault has been resolved.
   B. If no damage or other than normal display readings are indicated, erase the fault code and continue operation.

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