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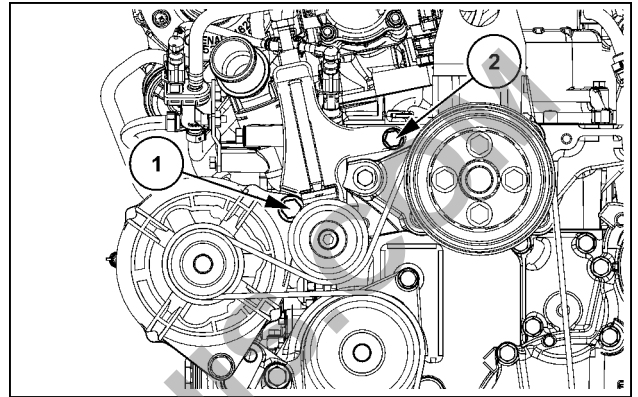
Belt tensioner - Remove – 200 A alternator

Prior operation:

Belt - Remove – 200 A alternator (10.414)

Alternator - Remove – 200 A alternator (55.301)

1. The mounting bolt (1) gets removed during the prior operation of removing the alternator.
2. Remove the mounting bolt (2) and remove the belt tensioner.



SS13A815 1

Next operation:

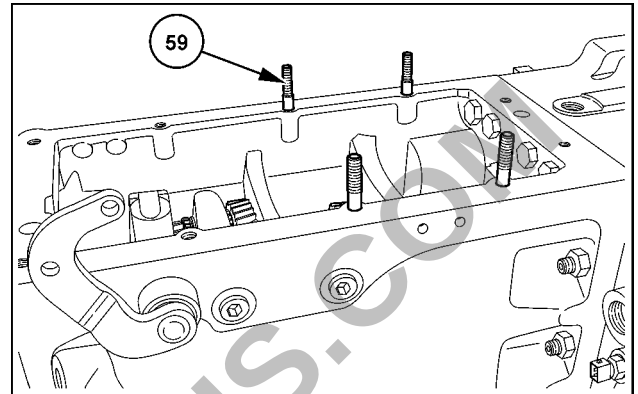
Belt tensioner - Install – 200 A alternator (10.414)

Transmission housing cover - Install

Prior operation:

Transmission housing cover - Assemble (21.111)

1. If you removed the four stud bolts (59), refit these stud bolts.

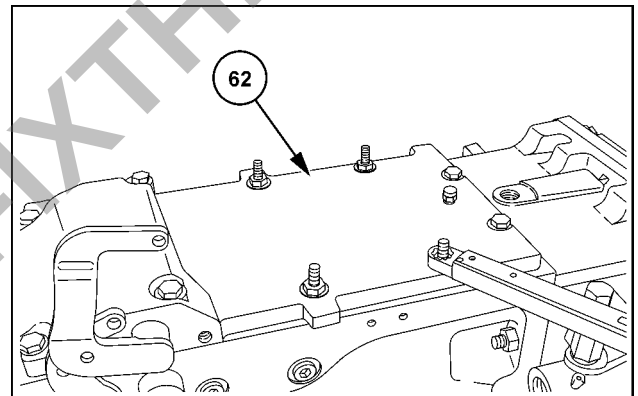


SVIL13TR00439AB 1

2. Coat the sealing surfaces with **LOCTITE® 518**.
3. Fit the cover (62).

NOTE: The shift finger (57) must engage in the synchronizer.

4. Install the bolts and the nuts. Tighten the bolts and the nuts to **46 Nm (34 lb ft)**.



SVIL13TR00441AB 2

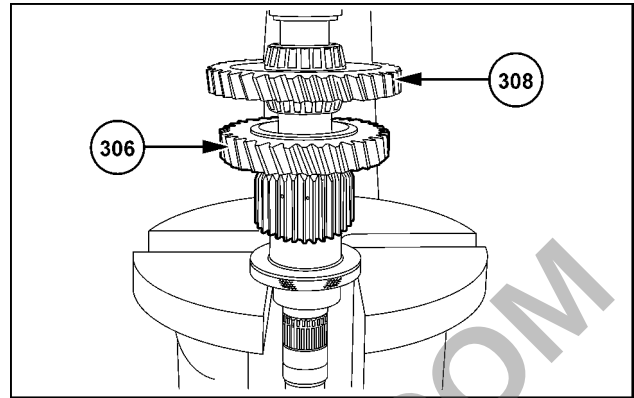
Next operation:

Cab - Install (90.150)

4. Place the bearing inner ring (305) and the gear (306) on a press.

NOTE: Place the bearing inner ring and the gear on a suitable sleeve.

5. Insert the clutch shaft (308) until the clutch shaft sits in place.



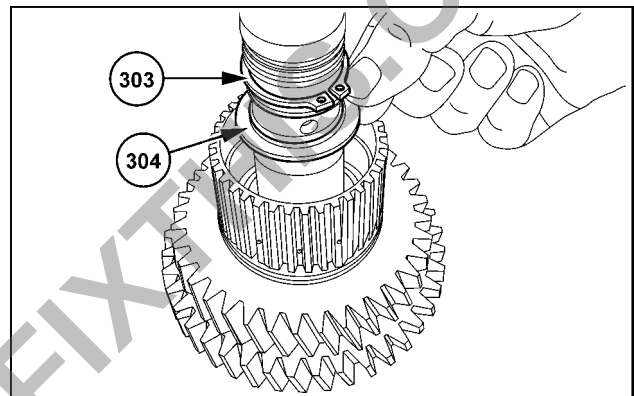
SVIL13TR00468AB 4

6. Install the disk (304).

7. Insert the circlip (303) into the lower ring groove.

NOTE: The circlip is ground on both sides.

NOTE: If you do not use new bearings, you can use the existing adjustment disks. However, you must check the bearing clearance.

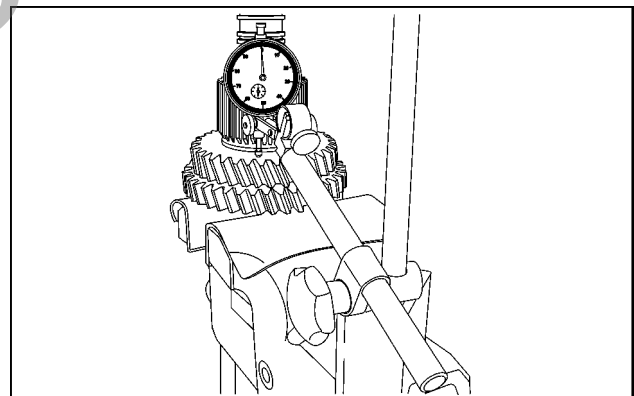


SVIL13TR00469AB 5

8. Check the bearing adjustment of 0.02 - 0.05 mm (0.001 - 0.002 in).

NOTE: Before you check the bearing adjustment, position the bearing inner ring (305) against the circlip. To perform this step, tap a rubber hammer (306) on the gear.

NOTE: Use the relevant disk to correct any deviations from the necessary adjustment value. Refer to the figure 5.

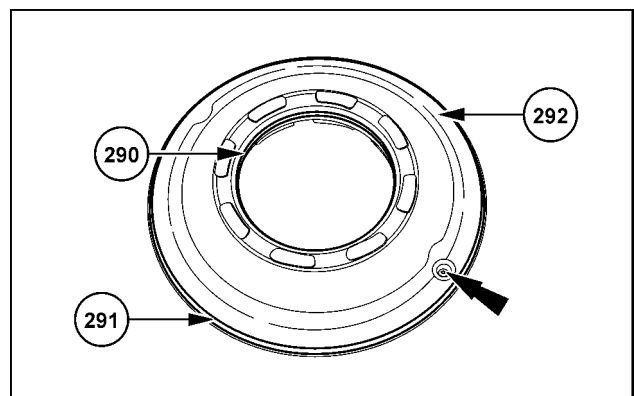


SVIL13TR00470AB 6

9. Grease the O-rings (290) and (292) with industrial Vaseline.

10. Insert the O-rings (290) and (292) into the ring grooves of the piston.

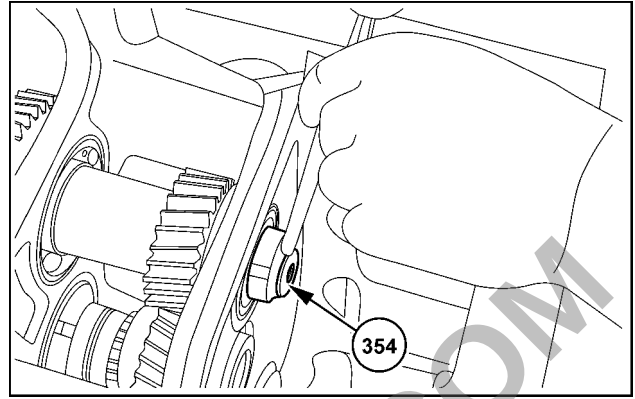
NOTE: Check the function of the purging valve (see arrow). The ball must not jam.



SVIL13TR00161AC 7

32. Secure the groove nut **(354)** with a suitable mandrel.

NOTE: The collar of the groove nut must not tear.



SVIL13TR00404AB 24

Next operation:

Transmission internal controls - Install – Third/fourth gear shift (21.152)

Transmission internal controls - Adjust – First/second gear shift and third/fourth gear shift (21.152)



SERVICE MANUAL

Front axle system

**Farmall 105U Pro EP
Farmall 115U Pro EP
Farmall 95U Pro EP**

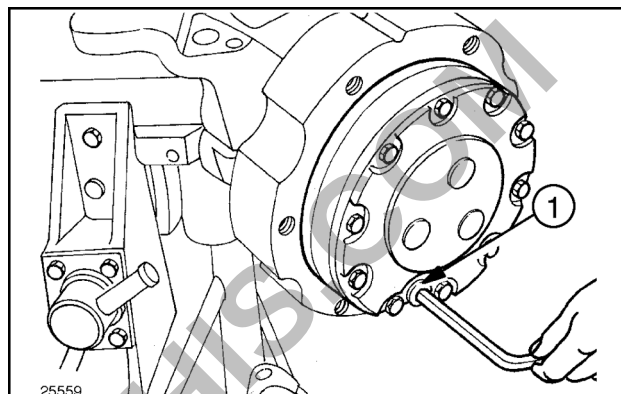
PREVIEW - YOUFIXTHIS.COM

Planetary drive and hub - Disassemble

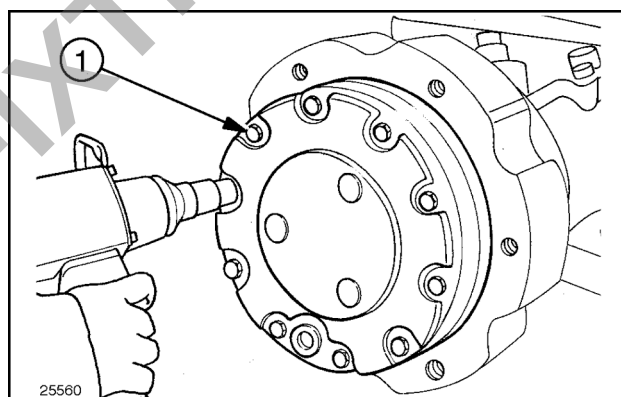
Front epicyclic final drive with brake

NOTE: Front epicyclic final drive removal and installation can be carried out with the axle detached and positioned on the stand **380000251**, or with the axle fitted on the tractor. If the operation is performed with the axle fitted on the tractor, a support stand must be positioned under the engine sump.

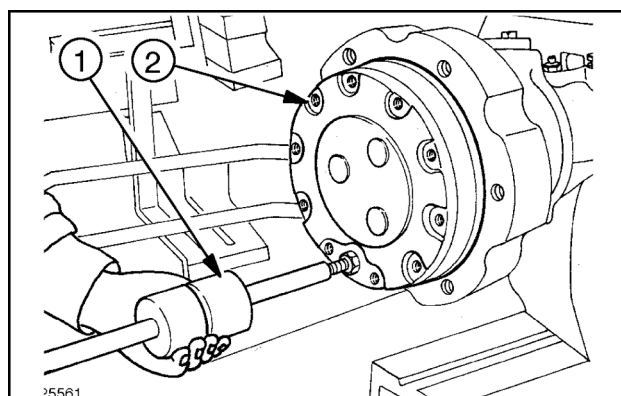
1. Position the axle on stand **380000251**.
2. Remove the plug (1) and drain the oil from the epicyclic final drive.



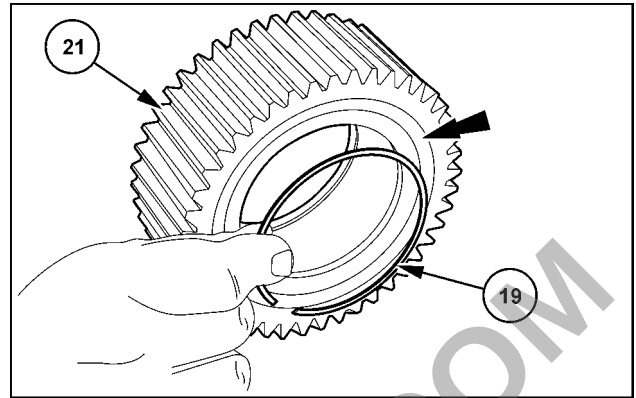
3. Unscrew all of the epicyclic final drive casing retaining bolts (1).



4. Using an extractor (1), fitted on the oil drainage plug, detach the epicyclic final drive casing (2).

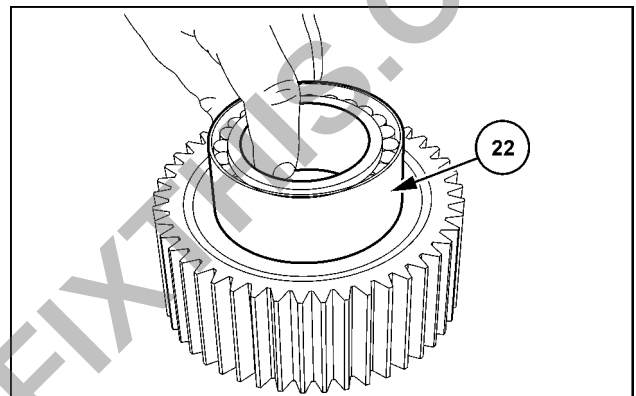


9. Position the circlip **(19)** in the ring nut of the planetary gear **(21)** (driven side – see arrow).
10. From the opposite side, insert a thrust washer **(20)**.



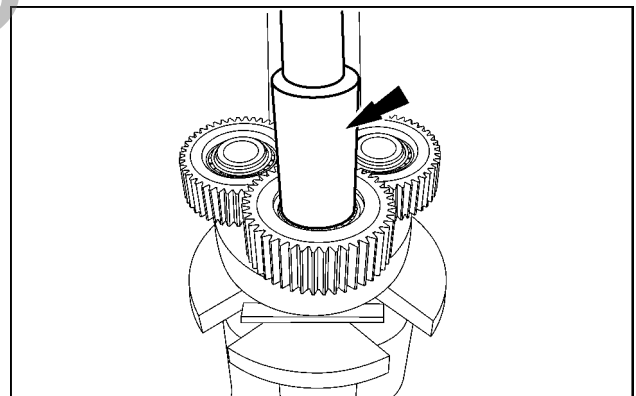
SS13H129 8

11. Fit the roller bearing **(22)**. The rounded side on the inside diameter must face toward the circlip **(19)**.
12. Fit the thrust washer **(23)** and the second circlip **(24)**.



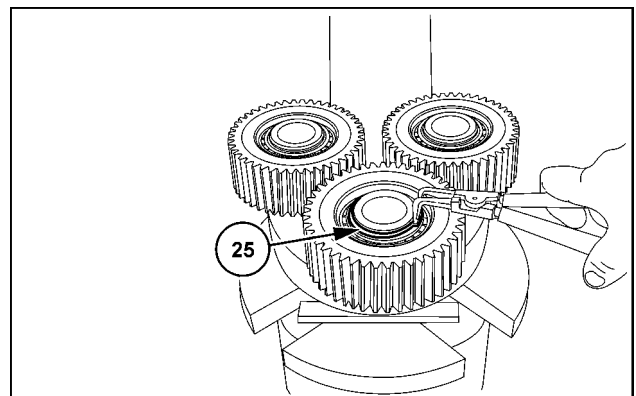
SS13H130 9

13. Fit the pre-assembled planetary gears, with the inside diameter rounded sides (roller bearings) facing the planetary gear carrier.



SS13H131 10

14. Position the circlip **(25)** in the ring groove of the planetary gear carrier.



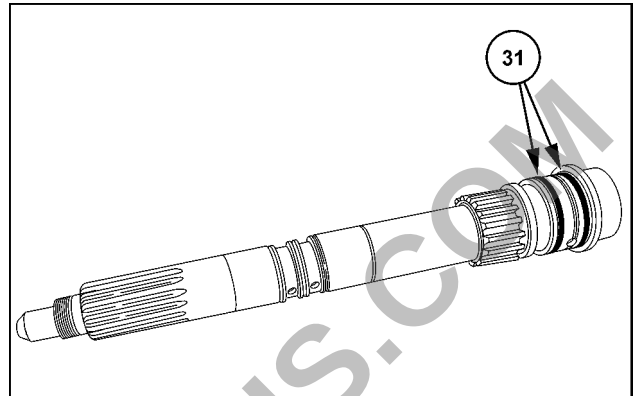
SS13H132 11

Power Take-Off (PTO) clutch - Assemble

Prior operation:

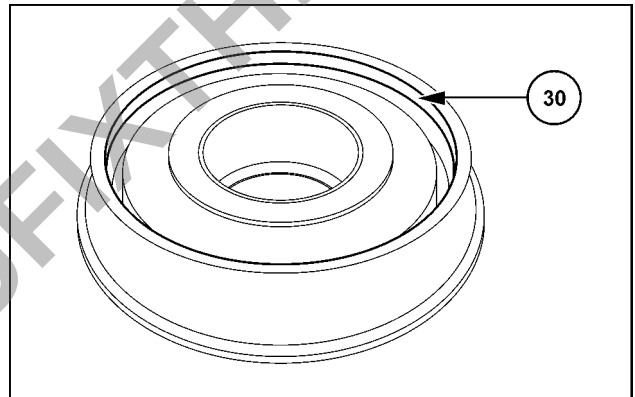
Power Take-Off (PTO) clutch - Disassemble (31.119)

1. Insert the two O-rings (31) into the ring grooves of the drive shaft.



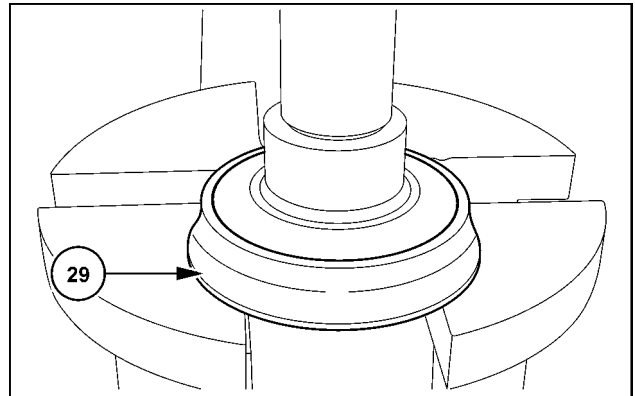
SVIL13TR00203AB 1

2. Insert the O-ring (30) into the ring groove of the cylinder.



SVIL13TR00201AB 2

3. Fit the piston (32) into the cylinder (29).



SVIL13TR00300AB 3

Check the adjustment

14. You must adjust the parking brake cable so that the tie rods on the left-hand side and right-hand side lift between tooth one and tooth two of the brake cylinder when you operate the parking brake lever.
15. Operate the parking brake lever with **30 kg (66 lb)**. The lever should reach tooth seven or tooth eight. If the lever does not reach tooth seven or tooth eight, the cable must be adjusted.

NOTE: *If a compressed-air trailer brake is present, the compressed-air trailer brake must be adjusted so that the trailer brake valve switches between tooth three and tooth four.*

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Oil return filter - General specification

Position

Filtration efficiency in accordance with ISO 16889

Filter bypass valve opens at

Maximum operating pressure

Operating temperature

Cover torque

In hydraulic oil tank

β 15 μ m $\geq$ 200

3 bar (44 psi)

10 bar (145 psi)

-30 - 100 °C (-22 - 212 °F)

15 Nm (11 lb ft)

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Rear wheels - Install

WARNING

Crushing hazard!

The wheels on this vehicle are very heavy. Always use a wheel remover or chain hoists to remove and install the wheels. Use an assistant as required.

Failure to comply could result in death or serious injury.

W0149A

1. Install the rear wheels.
2. Tighten the nuts to **250 N·m (184 lb ft)**.
3. Remove the axle stands from under the final drive cases.

NOTE: *If required, attach the lift rods to the lower links.*

4. Remove the wooden wedges from between the front axle and the front support.

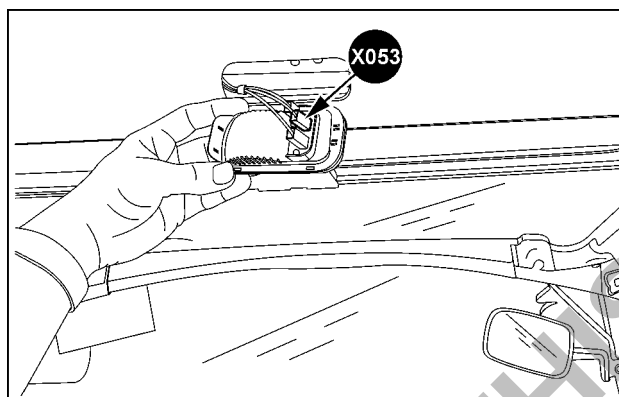
Wiring harnesses - Electrical schematic sheet 06 - ENGINE CONTROL
UNIT 2

Component	Connector	Description	
A-057	X-939	Engine Control Unit (ECU)	
A-101	X-938	Glow plug control module	
B-013	X-961	Intake air pressure and temperature sensor	
B-015	X-967	Common rail pressure sensor	
B-016	X-969	Engine coolant temperature sensor	
B-017	X-968	Fuel temperature sensor	
B-018	X-962	Camshaft sensor	
B-019	X-965	Crankshaft sensor	
B-098	X-963	Exhaust manifold pressure sensor	
M-018	X-964	Exhaust Gas Recirculation (EGR) – Valve actuator	
M-019	X-966	Throttle Valve Actuator (TVA)	
R-060	X-955	Glow plug (cylinder 1)	
R-061	X-956	Glow plug (cylinder 2)	
R-062	X-957	Glow plug (cylinder 3)	
R-063	X-958	Glow plug (cylinder 4)	
S-190	X-959	Engine oil pressure switch	
Y-011	X-970	High pressure pump – Solenoid valve	
Y-061	X-980	Injector cylinder 1	
Y-062	X-981	Injector cylinder 2	
Y-063	X-982	Injector cylinder 3	
Y-064	X-983	Injector cylinder 4	
Y-087	X-960	Waste gate modulation solenoid	
Additional connectors: X-940, X-941			
Wire color codes			
BK Black	GN Green	PK Pink	BL Blue
TN Light Brown	BR Brown	OR Orange	LG Light Green
RD Red	GY Grey	LB Light Blue	
WH White	YE Yellow	VT Violet	

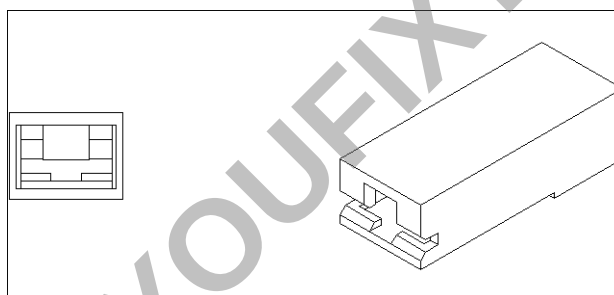
CONNECTOR X-001 - Cab main harness to engine harness 1			
PIN NUMBER	WIRE NUMBER	CIRCUIT REFERENCE	ELECTRICAL SCHEMATIC FRAME
6	CM-9234 (YE) EN-9234 (YE)	X-460 Instrument cluster CN2 X-001 Cab main harness to engine harness 1 X-357 Air cleaner restriction switch X-001 Cab main harness to engine harness 1	Wiring harnesses - Electrical schematic sheet 01 (55.100) Wiring harnesses - Electrical schematic sheet 03 (55.100) Wiring harnesses - Electrical schematic sheet 04 (55.100)
7	CM-010CB (GN) EN-010CB (GN)	SP-010C X-001 Cab main harness to engine harness 1 X-360 Brake fluid level switch X-001 Cab main harness to engine harness 1	Wiring harnesses - Electrical schematic sheet 05 (55.100) Wiring harnesses - Electrical schematic sheet 08 (55.100) Wiring harnesses - Electrical schematic sheet 10 (55.100)
8	CM-9219 (BL) EN-9219 (BL)	X-001 Cab main harness to engine harness 1 X-050 Cab main harness to roof harness 1 X-042 Air-conditioning system – Pressure switch X-001 Cab main harness to engine harness 1	Wiring harnesses - Electrical schematic sheet 13 (55.100) Wiring harnesses - Electrical schematic sheet 17 (55.100) Wiring harnesses - Electrical schematic sheet 18 (55.100)
9	CM-9220 (BL) EN-9220 (BL)	X-001 Cab main harness to engine harness 1 X-044 Antifreeze module X-042 Air-conditioning system – Pressure switch X-001 Cab main harness to engine harness 1	Wiring harnesses - Electrical schematic sheet 21 (55.100) Wiring harnesses - Electrical schematic sheet 23 (55.100)
10	CM-057EL (BK) EN-057EL (BK)	X-001 Cab main harness to engine harness 1 SP-057E CAB GND 3 X-001 Cab main harness to engine harness 1 X-025 Engine harness to engine hood harness	Wiring harnesses - Electrical schematic sheet 24 (55.100)

CONNECTOR X-053 - Cab interior light

CONNECTOR X-053 - Cab interior light			
PIN NUMBER	WIRE NUMBER	CIRCUIT REFERENCE	ELECTRICAL SCHEMATIC FRAME
1	RF-057JD (BK)	X-053 Cab interior light X-064 Door switch left-hand	Wiring harnesses - Electrical schematic sheet 18 (55.100)



SVIL13TR00730AC 12

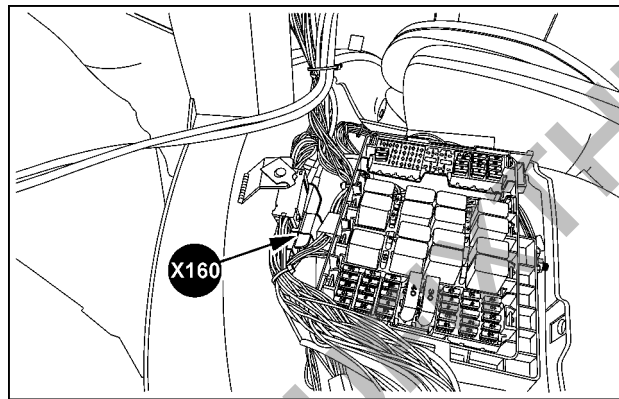
Front inside cab roof

87691425 13

Wire connectors - Component diagram 16

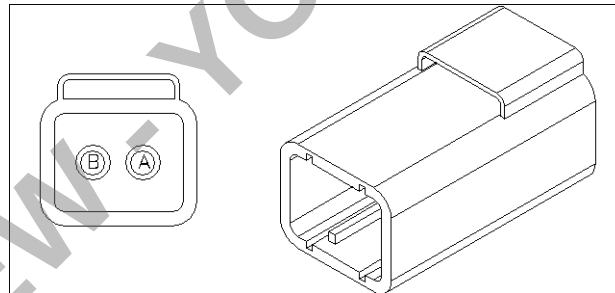
CONNECTOR X-160 - Cab main harness to relay and fuse block – Roof

CONNECTOR X-160 - Cab main harness to relay and fuse block – Roof			
PIN NUMBER	WIRE NUMBER	CIRCUIT REFERENCE	ELECTRICAL SCHEMATIC FRAME
A	CM-001DA (RD) RF-001DA (RD)	SP-001D X-160 Cab main harness to relay and fuse block – Roof X-160 Cab main harness to relay and fuse block – Roof SP-001DA	Wiring harnesses - Electrical schematic sheet 21 (55.100)
B	CM-001DB (RD) RF-001DB (RD)	SP-001D X-160 Cab main harness to relay and fuse block – Roof X-160 Cab main harness to relay and fuse block – Roof SP-001DB	

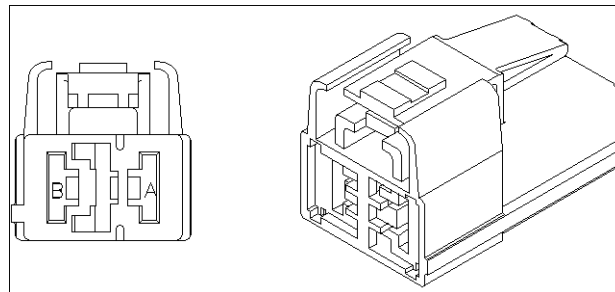


SVIL13TR00716AC 1

Cab left-hand side



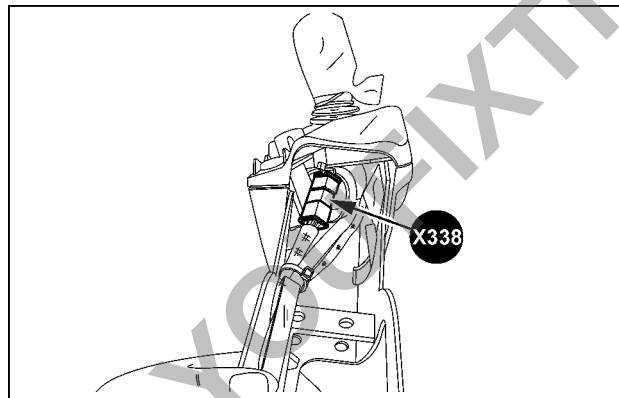
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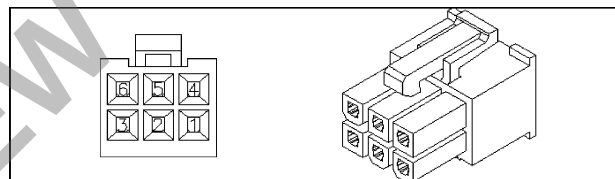
82011938 3

CONNECTOR X-338 - Remote valve encoder

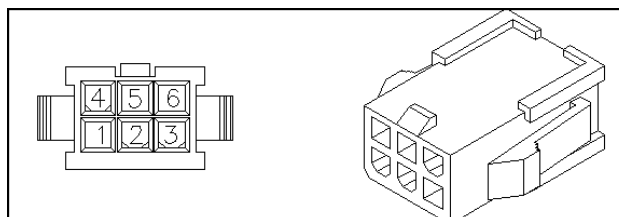
CONNECTOR X-338 - Remote valve encoder			
PIN NUMBER	WIRE NUMBER	CIRCUIT REFERENCE	ELECTRICAL SCHEMATIC FRAME
1	24 (WH/GN)	X-388 Cab main harness to armrest components X-338 Remote valve encoder	Wiring harnesses - Electrical schematic sheet 13 (55.100)
2	1 (WH/GN)	X-388 Cab main harness to armrest components X-338 Remote valve encoder	
3	2 (WH/YE)	X-388 Cab main harness to armrest components X-338 Remote valve encoder	
4	22 (WH/BK)	X-388 Cab main harness to armrest components X-338 Remote valve encoder	
5	3 (WH/RD)	X-388 Cab main harness to armrest components X-338 Remote valve encoder	



SVIL13TR00867AB 17

Armrest

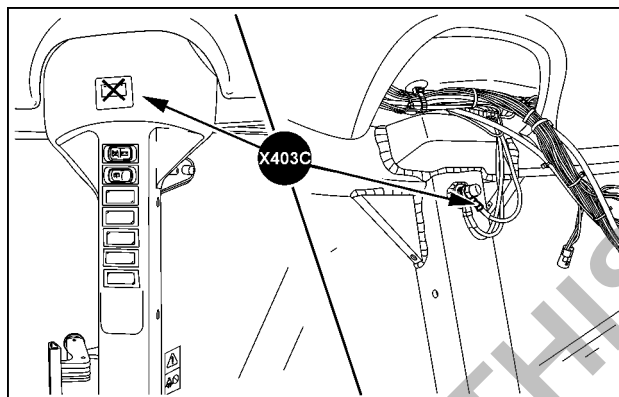
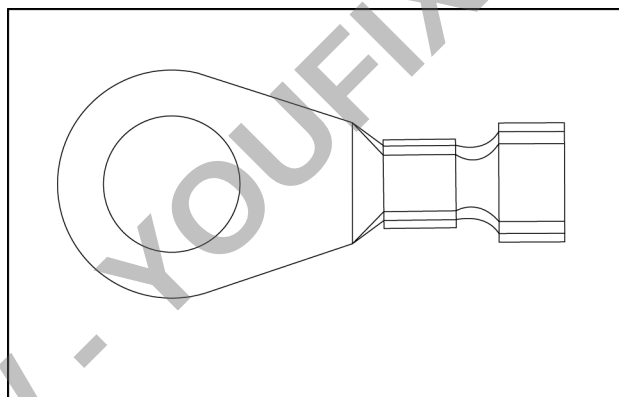
87694706 18



87694696 19

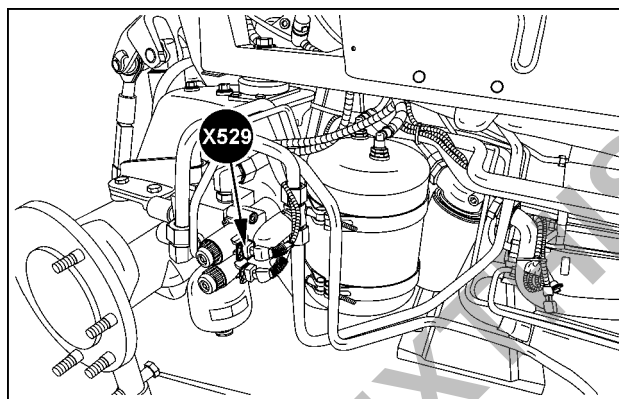
CONNECTOR X-403_C - Ground connection roof left-hand 2

CONNECTOR X-403_C - Ground connection roof left-hand 2			
PIN NUMBER	WIRE NUMBER	CIRCUIT REFERENCE	ELECTRICAL SCHEMATIC FRAME
1	RF-057S (BK)	SP-057S ROOF GROUND LH2 X-403_C Ground connection roof left-hand 2	Wiring harnesses - Electrical schematic sheet 25 (55.100)

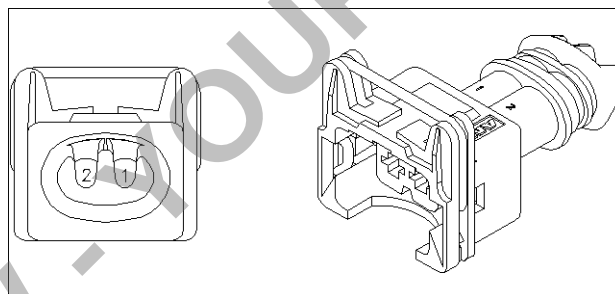
**Left-hand B-pillar**

CONNECTOR X-529 - Front hitch – Lower solenoid valve

CONNECTOR X-529 - Front hitch – Lower solenoid valve			
PIN NUMBER	WIRE NUMBER	CIRCUIT REFERENCE	ELECTRICAL SCHEMATIC FRAME
1	EF-2580 (RD)	X-524 Electronic Front Hitch (EFH) control unit X-529 Front hitch – Lower solenoid valve	Wiring harnesses - Electrical schematic sheet 14 (55.100)
2	EF-2581 (GY)	X-524 Electronic Front Hitch (EFH) control unit X-529 Front hitch – Lower solenoid valve	



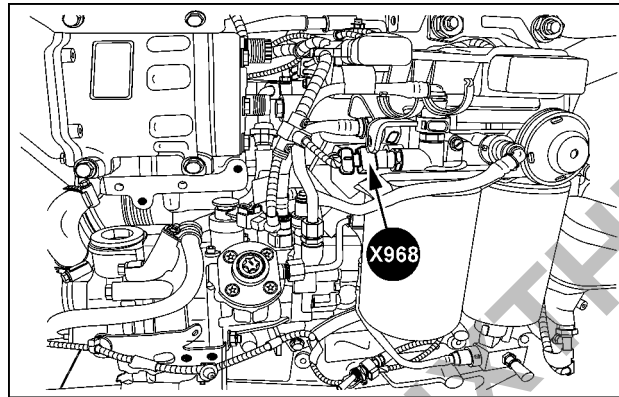
SVIL13TR00821AC 16

Right-hand rear axle

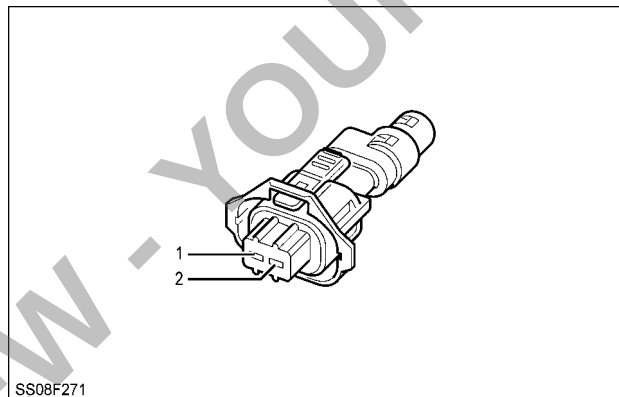
84607243 17

CONNECTOR X-968 - Fuel temperature sensor

CONNECTOR X-968 - Fuel temperature sensor			
PIN NUMBER	WIRE NUMBER	CIRCUIT REFERENCE	ELECTRICAL SCHEMATIC FRAME
1	BR/WH	X-941 Engine harness 2 to engine components X-968 Fuel temperature sensor	Wiring harnesses - Electrical schematic sheet 06 (55.100)
2	BR	X-941 Engine harness 2 to engine components X-968 Fuel temperature sensor	



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Front left-hand engine

SS08F271

SS08F271 18

N°	Test Point	Expected Result	Other Result (Possible Cause)
5	Check Charge the battery. Use the slow charge program.	Result The charging of the battery was successful. Action Perform the heavy load discharge test. Refer to Battery - Testing – Heavy load discharge test (55.302) .	Result The charging of the battery was not successful. Action Replace the battery.

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LOW IDLE ENGINE SPEED OPTION

This section is used to describe the procedure that allows the technician to use the low idle engine speed option.

1. Enter the mode, using the diagnostic test plug special tool **380000843** and navigate to ZE controller H3 menu, low idle engine speed option. See **Electronic module - Configure - HH-Menu overview (55.640)**.
Press the ENTER switch. The DMD displays the low idle engine options and an arrow. The arrow indicates the option which is currently set.
2. Use the UP or DOWN switch to move the arrow to the required settings:
"YES" (enabled low idle strategy): default setting
"NO" (disabled low idle strategy)
3. Hold down the UP or DOWN switch for **1 s**. The cluster will beep and then the setting is stored.
4. Press the HOME switch to go back to the H-Menu.

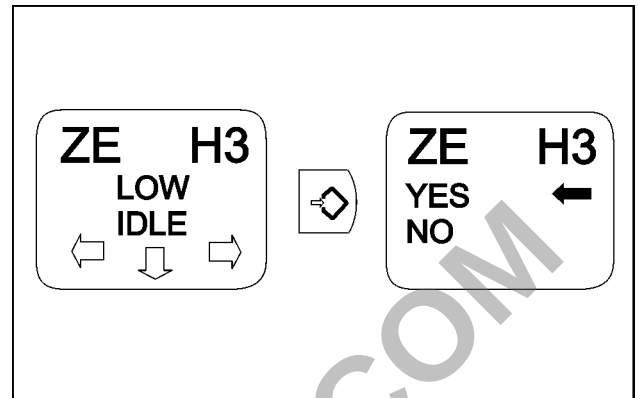
The low idle engine speed will be able to reduce from **800 RPM** to **700 RPM** when the following conditions are met:

- The operator is not present
- The transmission is in neutral position and the clutch released
- Vehicle speed = **0 km/h (0 mph)**
- Both hand and foot throttle at minimum position (low idle request)
- The actual engine percentage torque is between **18 %** and **20 %** (in order to take into account hydraulic load, fan request, alternator)
- The CRPM is not activated
- The coolant temperature is between **60 - 95 °C (140 - 203 °F)**
- The Power Take-Off (PTO) is not engaged
- The electronic remotes are not active (where fitted)
- The hitch is not rising
- The battery voltage is over **11 V**
- The transmission oil temperature is **>40 °C (>104 °F)**
- The engine oil temperature is **>60 °C (>140 °F)**
- The engine oil pressure is not too low
- The air-conditioning system is disabled

Increased idle engine speed 1000 RPM

This engine speed option will be able to increase the engine from **700 RPM** to **1000 RPM**. To avoid problems on the electrical system, the low idle engine speed option is in operation for **60 min**.

The engine speed option remains active for **5 min** before returning back to **700 RPM**.



SS12N569 11

Electronic module ISO bus interface controller - HF - View controller hardware information

Isobus interface controller (TECU) controller identification (OA)

This menu is used to show a sequence of numbers, representing the hardware identifier, the hardware version and in some cases the hardware serial number, which are stored in EEPROM of the control unit.

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Contents

Electrical systems - 55

Rear Power Take-Off (PTO) control system - 048

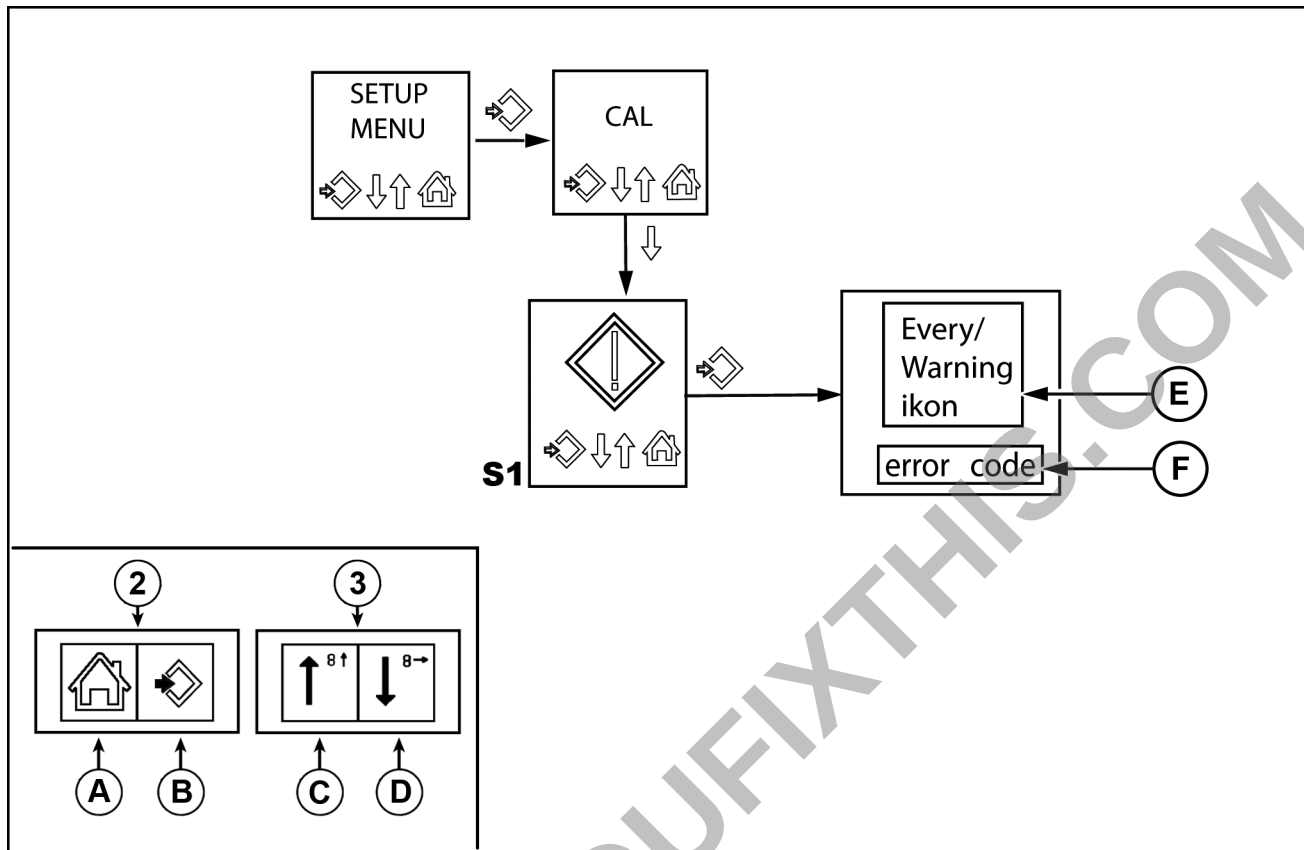
FUNCTIONAL DATA

Power Take-Off (PTO) speed sensor

Overview	3
----------------	---

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Instrument cluster - Dynamic description fault codes display



DCAPLT5NE074S3F 1

If it is necessary to know the list of error codes or warnings saved by the control unit and not permanently visible, proceed as described below:

- Press the switch (2) on the symbol (B) for more than three seconds to enter the programming menu. The central monitor will show "SETUP MENU". Release the symbol (B).
- Press the switch (3) on the symbol (D) a number of consecutive times until the monitor shows the symbol for the error codes (S1).
- Press the switch (2) on the symbol (B) to view the error codes in memory..

The error codes or warnings are displayed in two different ways:

- At the top (2) of the monitor the symbol of the failed component appears combined with its error code at the bottom (1). System error symbols refer to an electrical or mechanical malfunction of the tractor's main components. May be accompanied by a four digit fault code. Stop work and call an authorized dealer.
- The monitor will show only the symbol with no error code. When only the symbol is displayed, it is a warning. The advisory symbols are not detrimental to the operation of the tractor but should not be ignored. Take appropriate action where necessary.
- Press the switch (1) on the symbol (A) to quit viewing error codes..

NOTE: The current fault codes are displayed in sequence. Each code is displayed three times blinking for 4 seconds.

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