Foreword - Ecology and the environment

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

NOTE: *The following are recommendations that may be of assistance:*

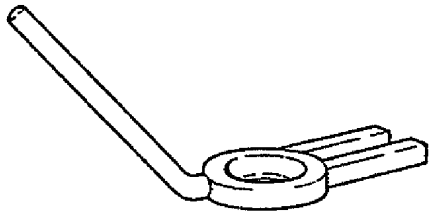
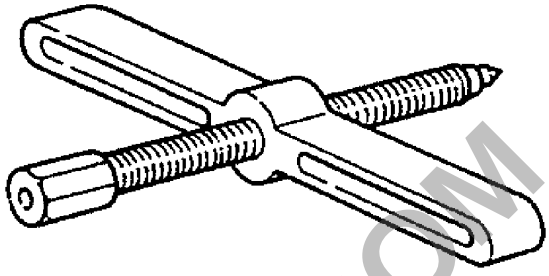
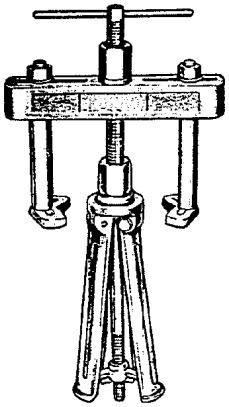
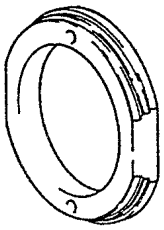
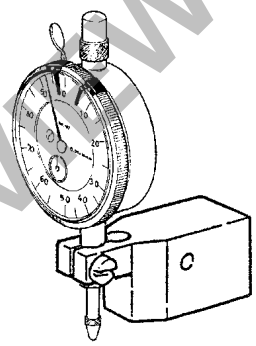
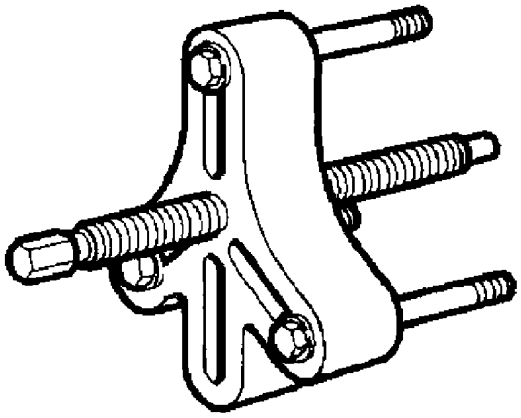
- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use, and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

Helpful hints

- Avoid filling tanks using cans or inappropriate pressurized fuel delivery systems that may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil, but should be collected and disposed of properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your NEW HOLLAND AGRICULTURE dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system properly.
- Repair any leaks or defects in the engine cooling or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of oils, coolant, etc.

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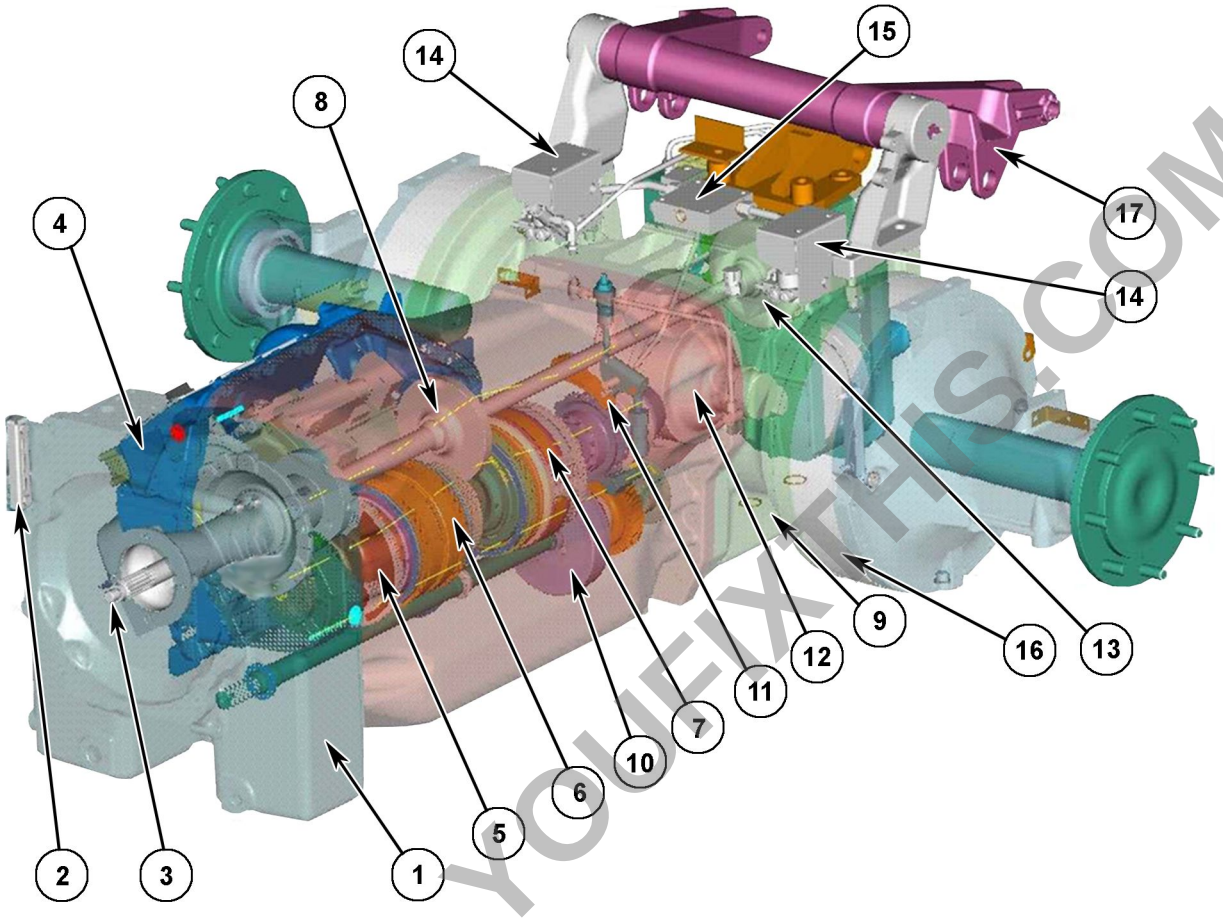
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Valve spring clamping lever  SS06J608 7 1 x 380000008 (1TSW 014)	Extractor  SS06J607 8 1 x 1TSW 662 (available from your dealer)
Cylinder bush extractor  SS06J609 9 1 x 1TSW 510 (available from your dealer)	Extraction plate  SS06J610 10 1 x 380000011 (1TSW 508)
Dial gauge and holder  SS06J611 11 1 x 380000364 (1TSW 5610) holder 1 x 380000228 (1TSW 17049-6) dial gauge	Three-armed extractor  SS06J613 12 1 x 380000329

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Continuously Variable Transmission (CVT) - Overview Transmission assembly



SS00B088 1

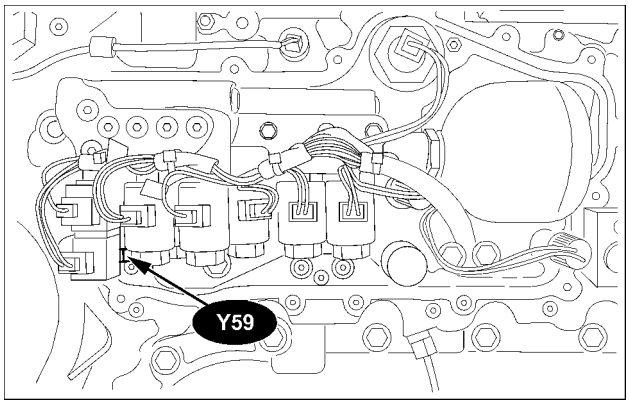
1. Hydraulic tank
2. Hydraulic oil sight glass
3. Input shaft (vibration damper)
4. Transmission module (cartridge)
5. Summing planetaries P1 and P2
6. Planetary train P3 and P4
7. Planetary train Forwards / Reverse V/R
8. Drive shaft for hydraulic pumps and PTO shaft
9. Rear axle
10. All-wheel drive disc clutch
11. Park latch
12. Crown gear adjustment with 100% disc lock
13. PTO disc clutch
14. Wheel braking cylinder
15. Brake cooling oil distributor, ring gear lubrication oil
16. Planetary gear with own oil supply.
17. Rockshaft with lift arm

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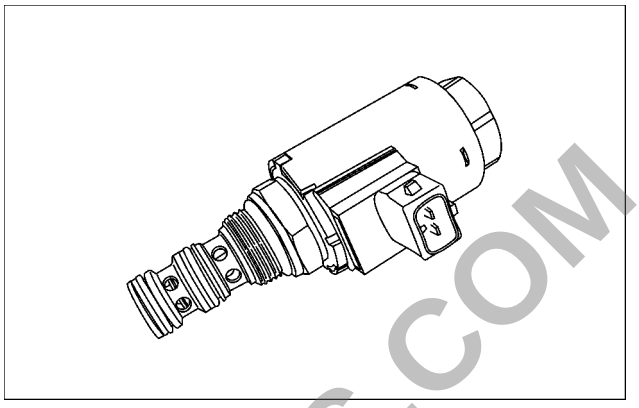
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Front-Wheel Drive (FWD) control valve - Overview

[→ZASx0xxxx]



SS12D194 1

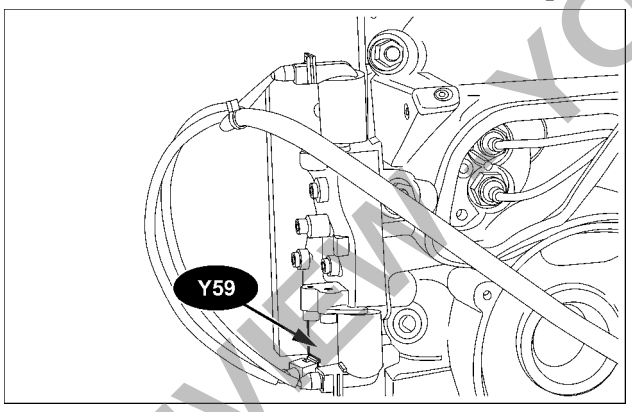


SS12D188 2

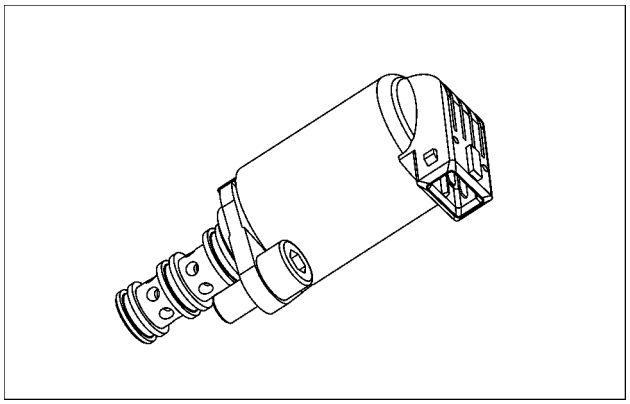
Solenoid valve Y59

Supply (timed)	from SGR
Speed	**200 Hz**
Voltage (measured with DMM)	**7,1 V**
Internal resistance	**2,5 ±0,06 Ω**
Duty cycle	**100 %**
Insulation resistance	> **100 k Ω**
Current draw	**2,8 A**
Tightening torque	**30 Nm** (**22 lb ft**)

[ZASx0xxxx→]



SS12D193 3



SS12D214 4

Solenoid valve Y59

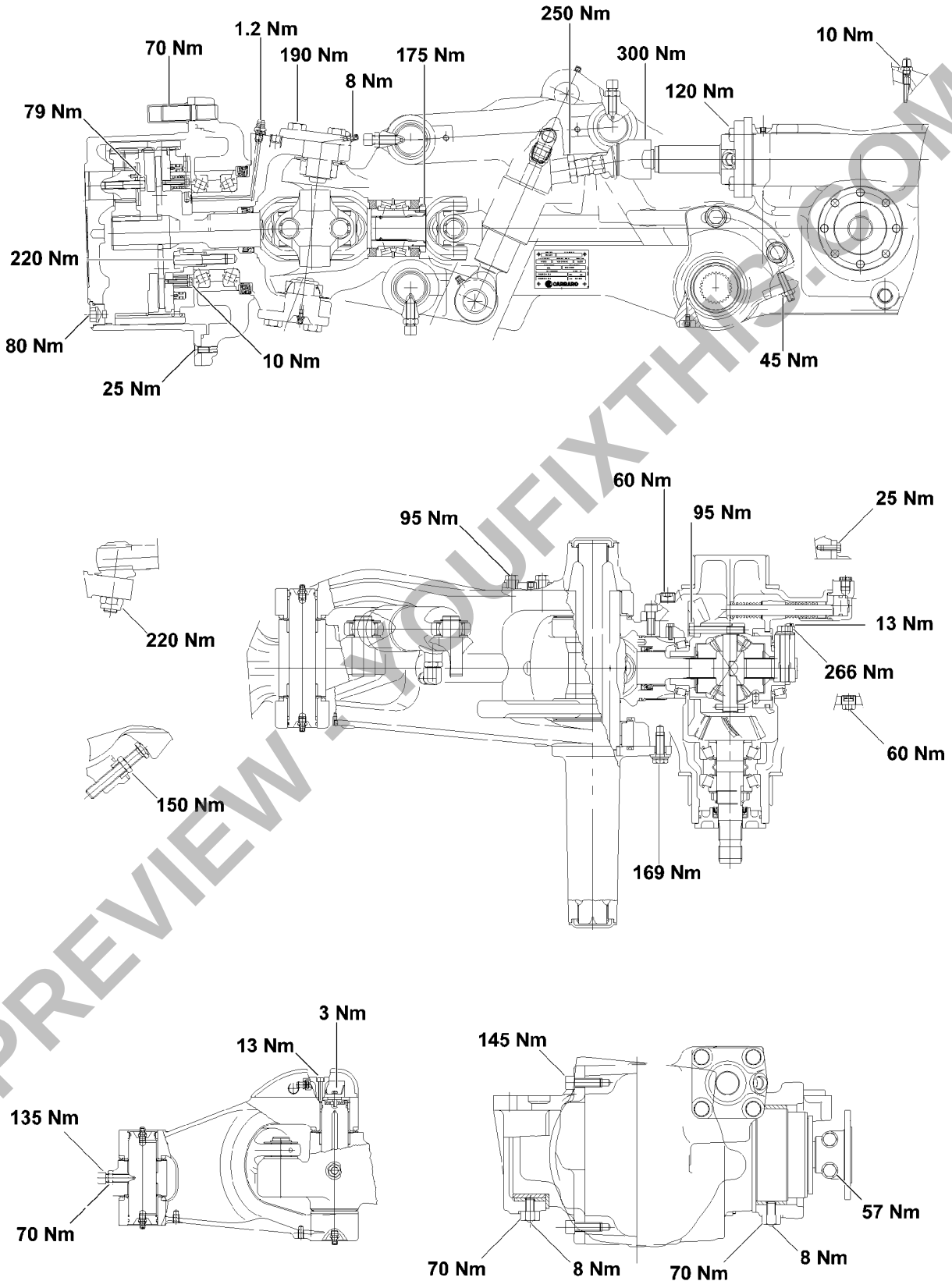
Design	3/2 slip-in valve
Rated voltage	**12 V**
Supply Voltage	**10.5 - 14.5 V**
Rated resistance (**20 °C** (**68 °F**))	**7.2 Ω**
Duty cycle	**100 %**
Rated current	**1 A**
Rated output	**20 W**
Oil temperature	**-30 - 90 °C** (**-86 - 194 °F**)
Max. Input pressure	**50 bar** (**725 psi**)
Operating pressure	**20 bar** (**290 psi**)
Ambient air temperature	**-30 - 90 °C** (**-86 - 194 °F**)
Insulation resistance	**> 100 k Ω**
Tightening torque	**10 Nm** (**7.4 lb ft**)

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Powered front axle - Torque

T7510 Vorderachse 20.25S, T7520 Vorderachse 20.25S, T7530 Vorderachse 20.25S



SS04M022 1

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Rear axle - Remove

⚠ WARNING

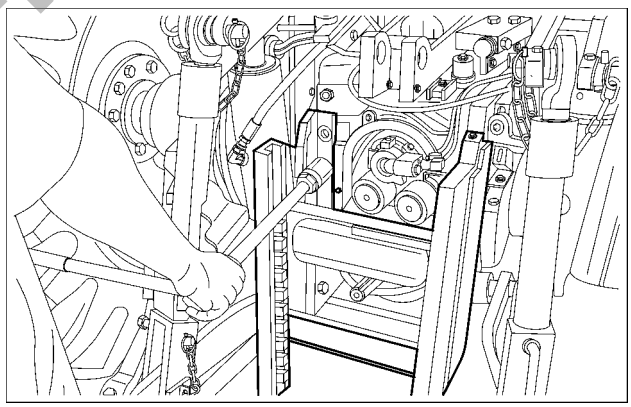
Jack stands can slip or fall over. Dropping, tipping, or slipping of machine or its components is possible.
DO NOT work under a vehicle supported by jack stands only. Park machine on a level surface. Block wheels. Support machine with safety stands.
Failure to comply could result in death or serious injury.

W0069A

Before you start to remove the rear axle, please note the following points:

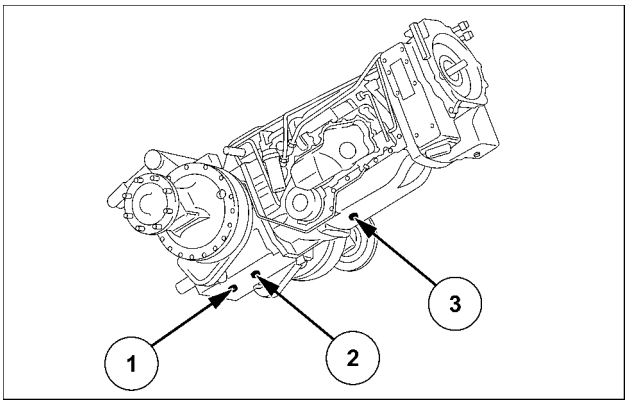
- Clean the tractor carefully, especially the areas around the rear axle.
- Park the tractor on solid, even ground, apply the parking brake and lower the front-axle with independent single-wheel suspension (if present) until it rests against the lower mechanical stops. Turn off the engine and remove the key from the ignition.
- Position stop-blocks beneath the front and rear wheels.
- Block the front axle oscillating bearing using wooden blocks.

1. Remove the height-adjustable trailer coupling and hitch trailer coupling (if present).



SS12B127 1

2. Drain the gear oil at drain plugs **(1)**, **(2)** and **(3)** into a suitable container (min. **70 l** (**18.5 US gal**) capacity).

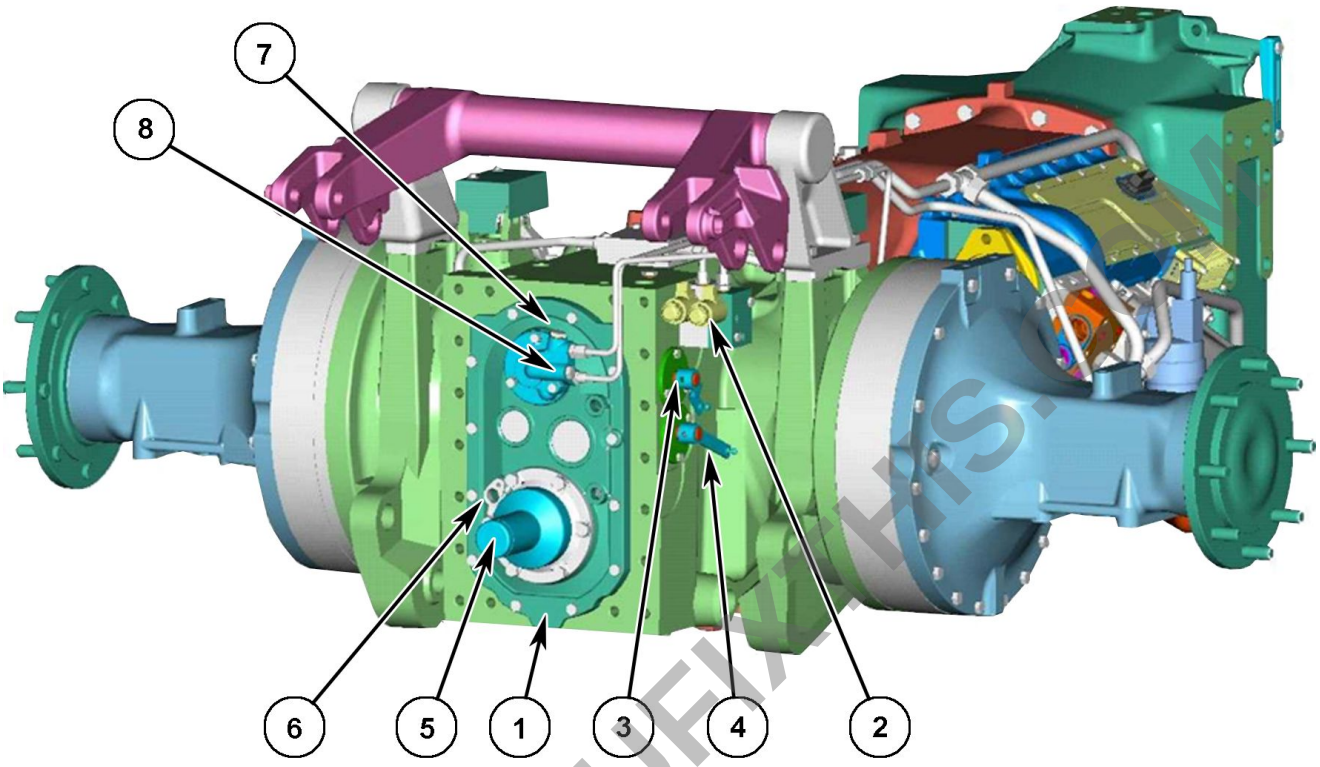


SS12B128 2

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Rear electro-hydraulic control - Overview



SS07D424 1

1. PTO transmission module
2. PTO 3/2 control valve
3. Selector lever ECO / Normal
4. Selector lever 540 / 1000
5. PTO base (inter-changeable when dry)
6. PTO speed sensor
7. PTO lubrication slide
8. Lubrication oil line

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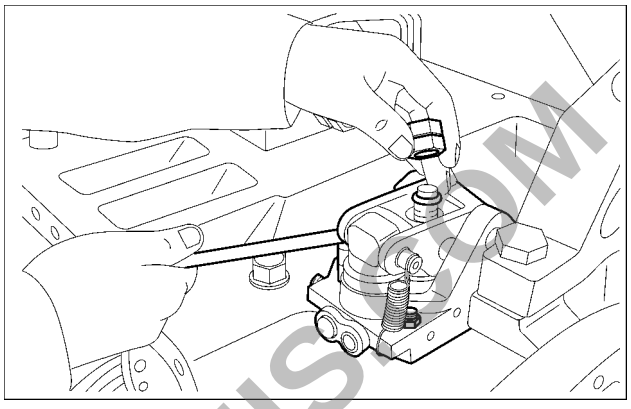
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Brakes - Disassemble

Prior operation:
Remove the axle trumpet housing — see **Planetary and final drives - Disassemble (27.120)**.

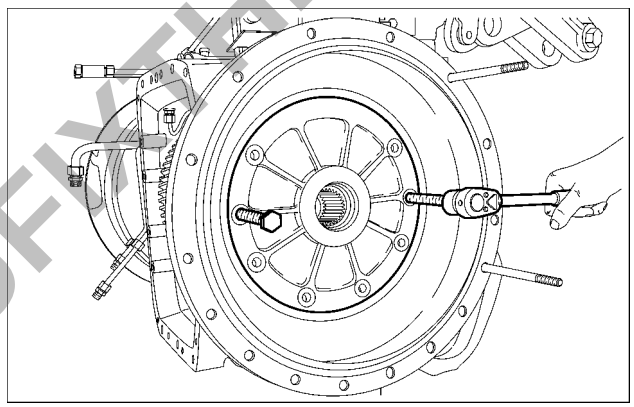
1. Remove the brake line.
   Remove the two nuts and washer from the drawbar.
   Undo the screws and remove the brake cylinder.

ATTENTION: *No further dismantling of the actuation unit is permitted (safety component). The actuation unit is supplied as a complete component.*



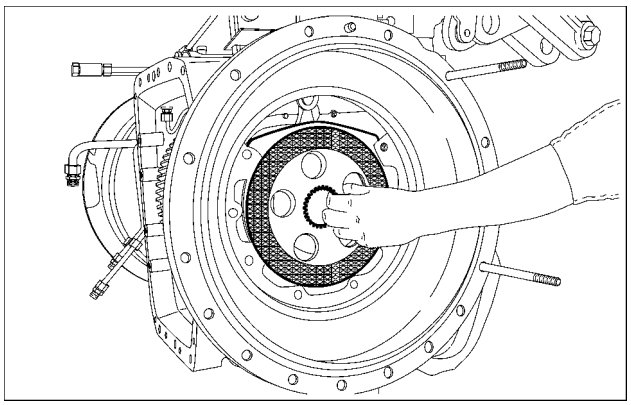
SS12E352 1

2. Pull out the pinion shaft and undo the bolts.
   Then pull the brake plate from the rear axle housing complete with two M16 bolts.



SS12E353 2

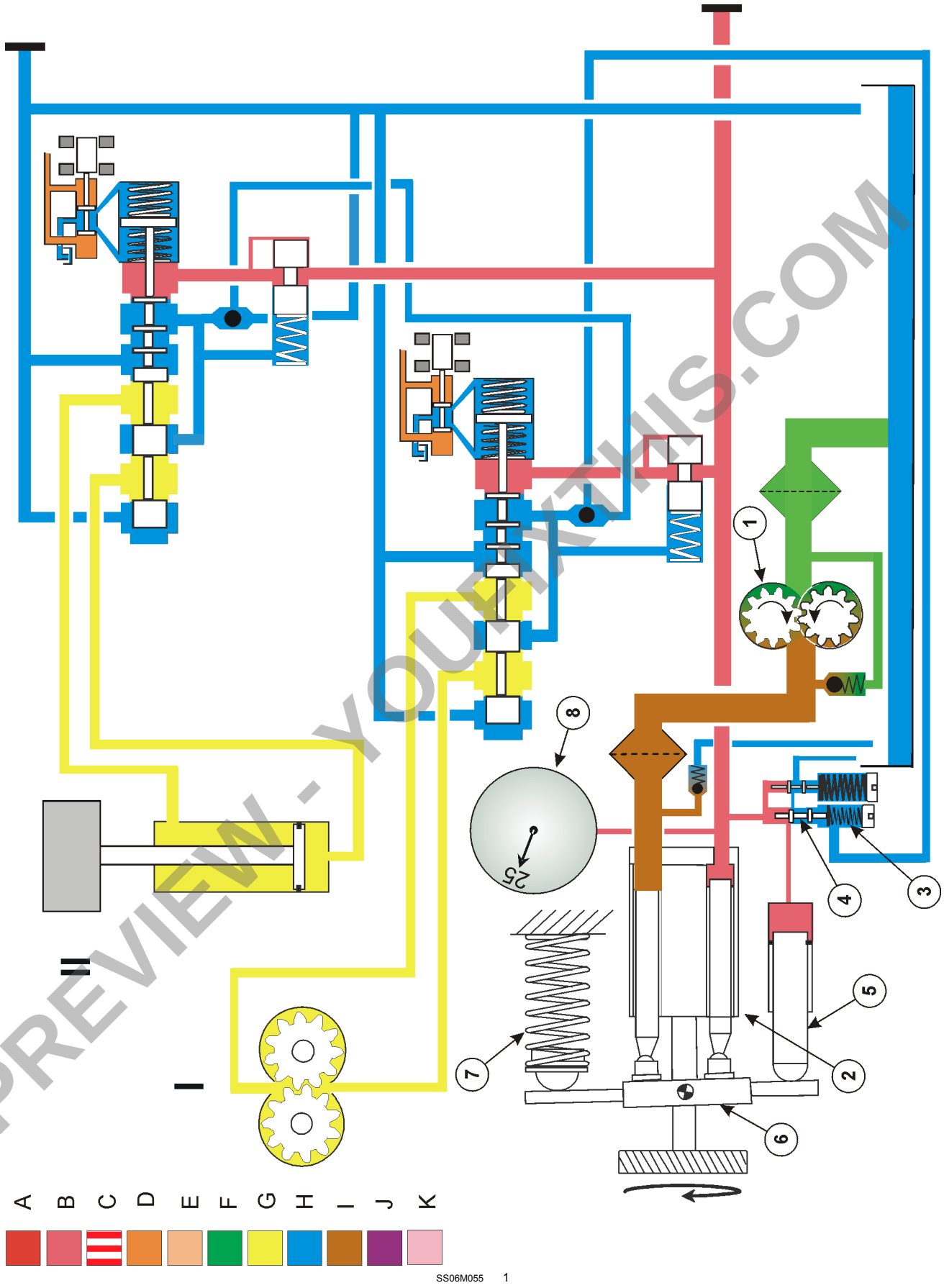
3. Remove the outer disc set.



SS12E354 3

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SS06M055 1

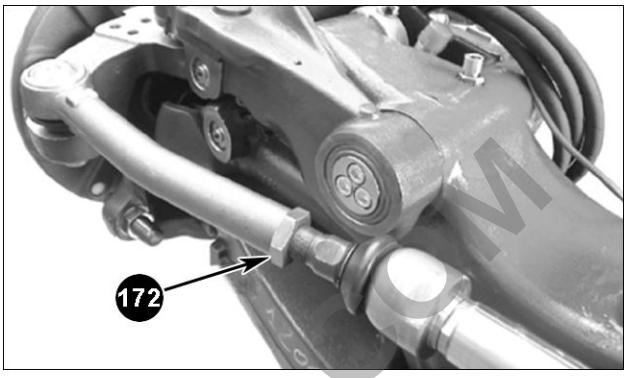
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Steering cylinder - Remove

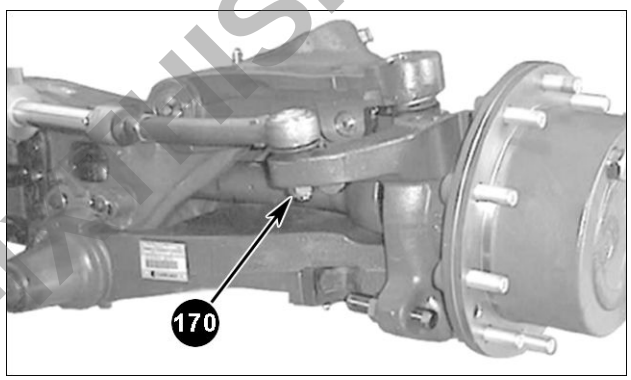
T7540, T7550

1. Loosen lock nut **(172)**.



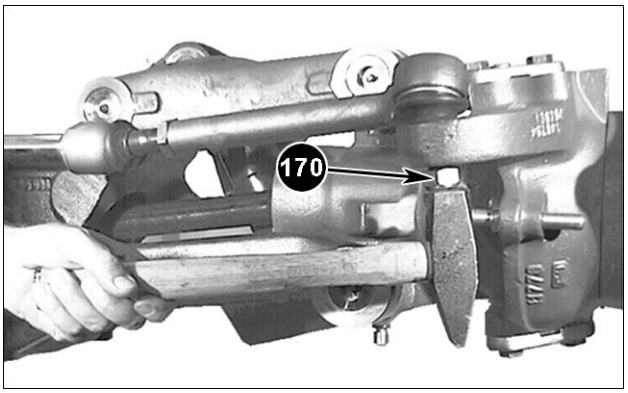
SD01M012 1

2. Loosen **(170)** nut.



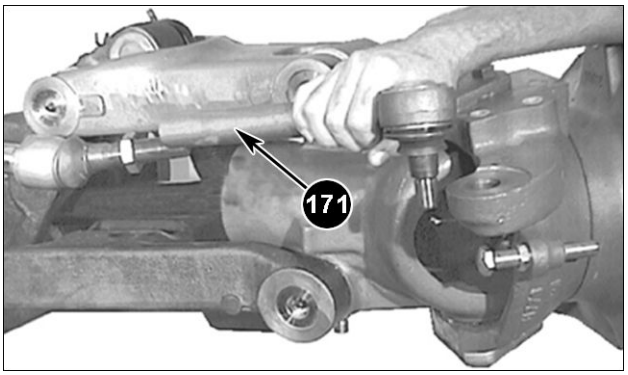
SD01M013 2

3. Align nut **(170)** with journal of tie rod joint. Use a soft hammer to separate the tie rod joint from the steering knuckle housing.



SD01M014 3

4. Unscrew tie rod **(171)**.



SD01M015 4

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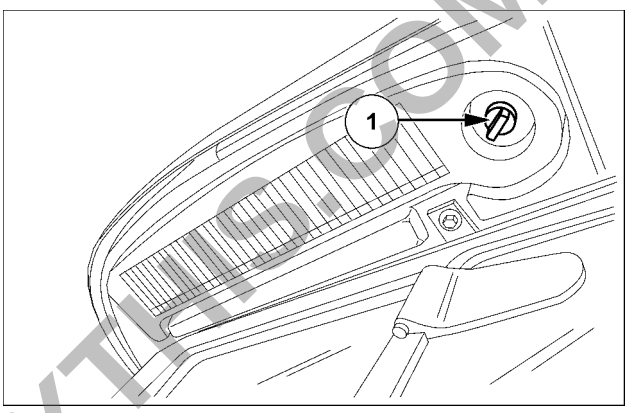
Air filter - Cleaning

Before servicing the air filters, switch off the blower. Close all the windows and a door. Slam the other door firmly shut. The resultant counter pressure will release most of the dirt on the bottom of the filter.

NOTICE: *Never remove the filter by the paper layers as this will damage the filter.*

Fresh air filter

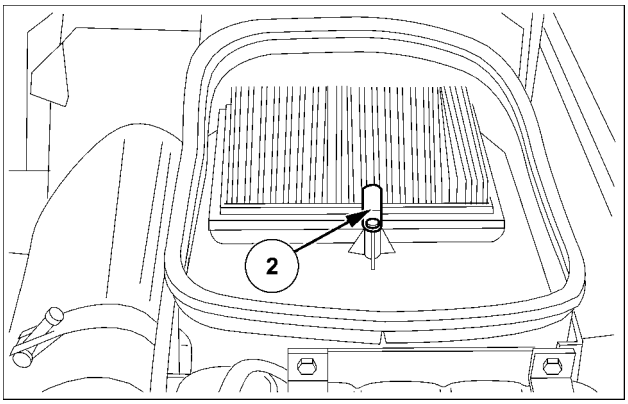
1. Loosen screw plug **(1)** and remove the fresh air filter.



SS12K103 1

Heating filter

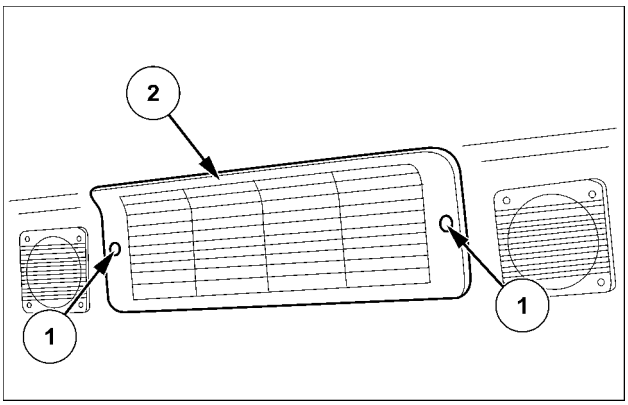
2. Raise the hood. Raise the bracket and remove the heating filter.



SS12K104 2

Recirculation Filters

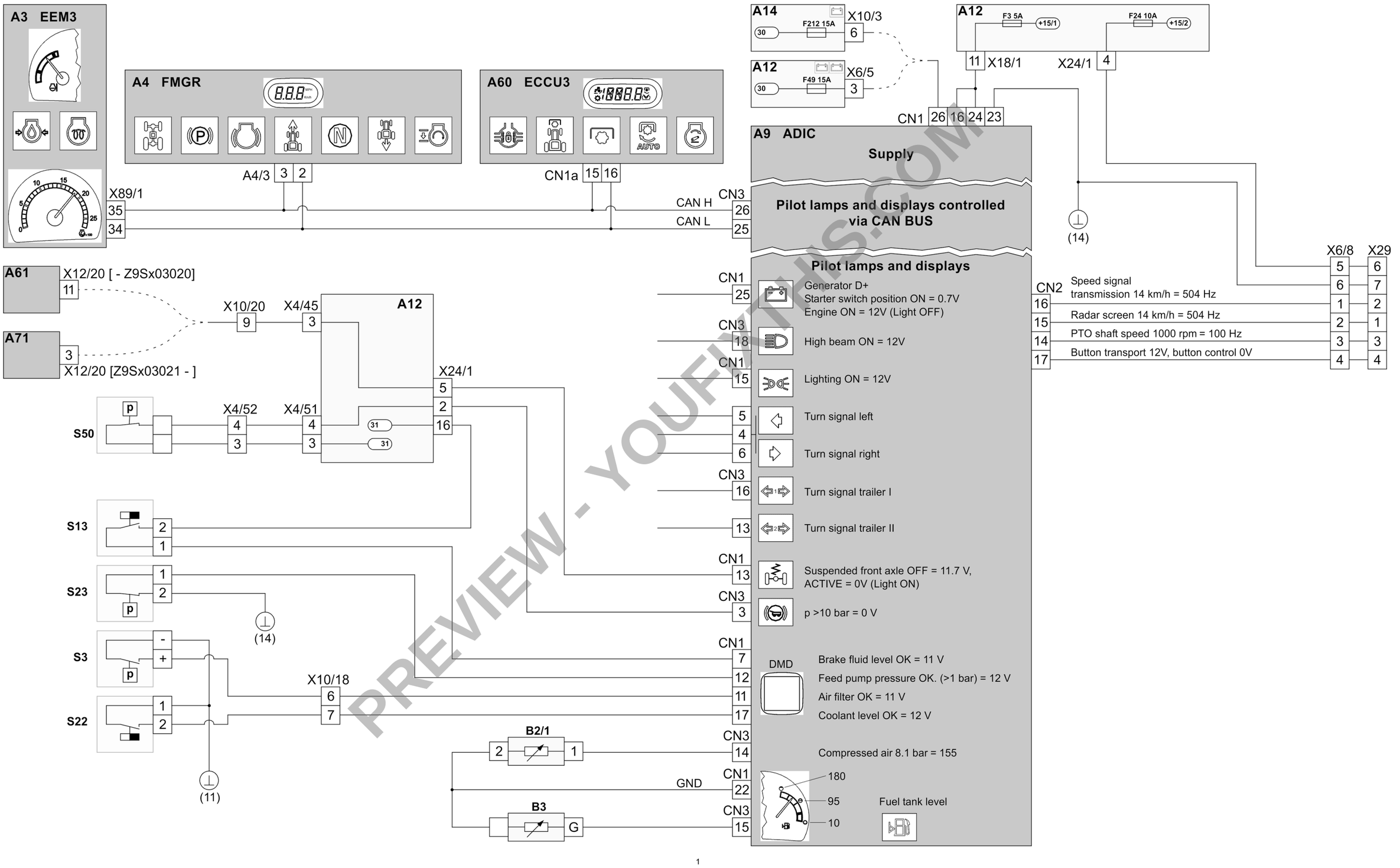
3. Undo screws **(1)** and remove filter cover **(2)**. Remove the recirculation filter.



SS12K105 3

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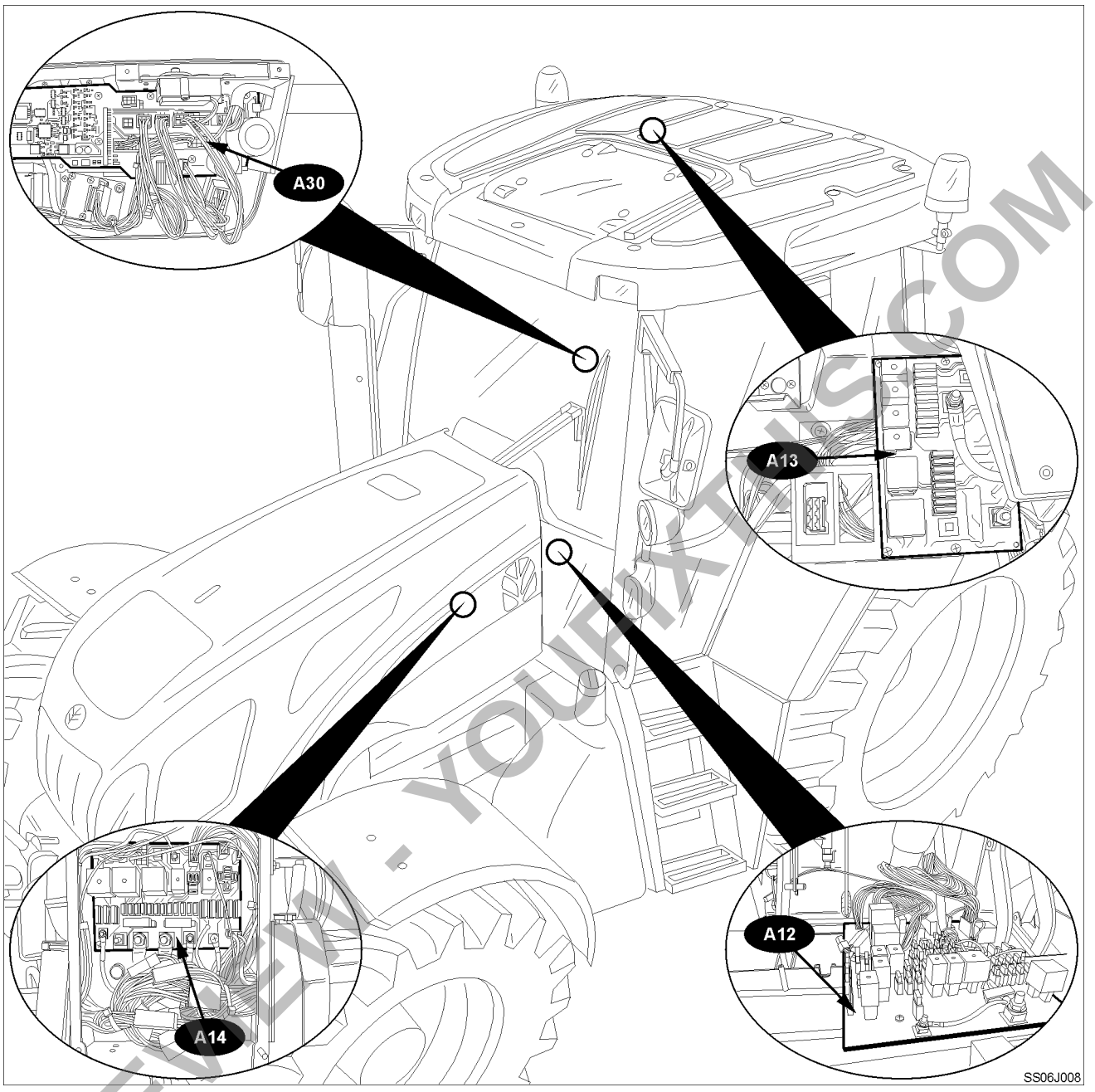
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Fuse and relay box - Overview PCBs



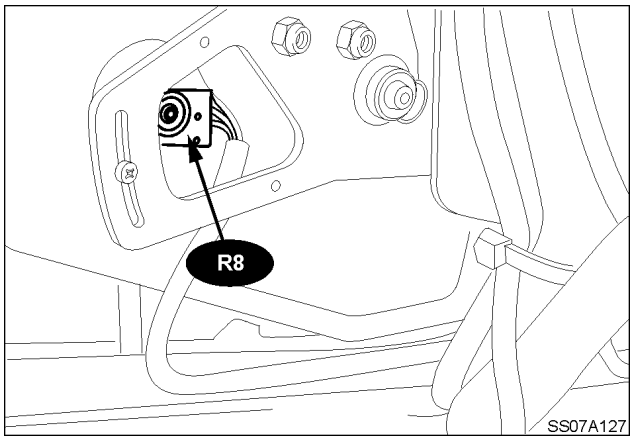
SS06J008 1

A12	Central PCB	**Fuse and relay box - Overview (55.100)**
A13	Roof PCB	**Fuse and relay box - Overview (55.100)**
A14	Engine PCB	**Fuse and relay box - Overview (55.100)**
A30	PCB ARU	**Fuse and relay box - Overview (55.100)**

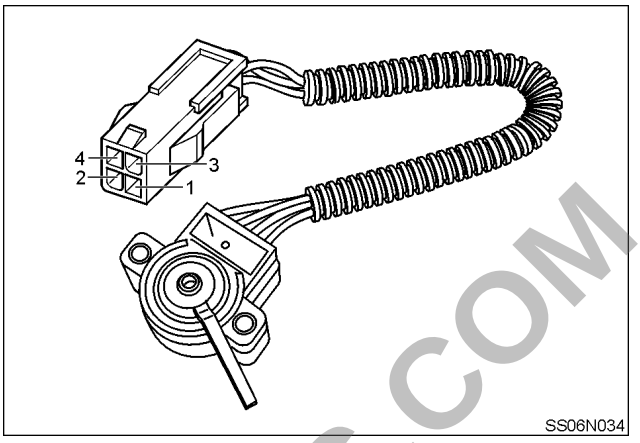
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Accelerator potentiometer - Overview



SS07A127 1



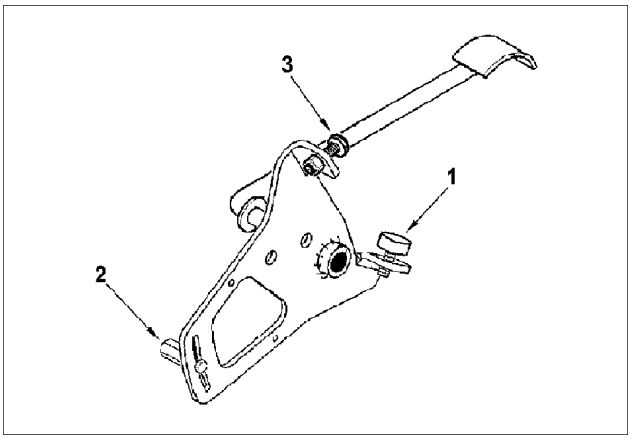
SS06N034 2

Accelerator pedal potentiometer R8 (double potentiometer)

PIN 2 (supply from FMGR box)	**5 - 6,5 V**
PIN 1 (supply from FMGR box)	Earth
PIN 3 (signal decreasing to FMGR box)	**4,4 - 0,8 V**
PIN 4 (signal increasing to FMGR box and EEM3)	**0,8 - 4,4 V**
Total resistance 2x	**4000 Ω ± 20 %**
Signal, protective resistance 2x	**1700 Ω ± 20 %**
Signal current	**> 100 µ A**
Resistor (PIN 1-2)	**2000 Ω ± 20 %**
Resistor (PIN 1-3)	**3700 - 1700 Ω ± 20 %**
Resistor (PIN 1-4)	**1700 - 3700 Ω ± 20 %**
Setting regulation for external voltage source of **5 V**	
Accelerator pedal position “0”	**0,8 V**
Accelerator pedal position max.	**4,2 V**

Components for basic setting, accelerator pedal potentiometer

1. Rubber buffer
2. Stop bolt
3. Stop screw

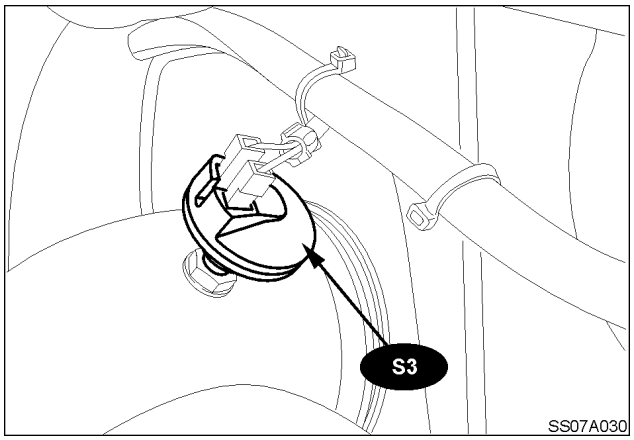


SS07A134 3

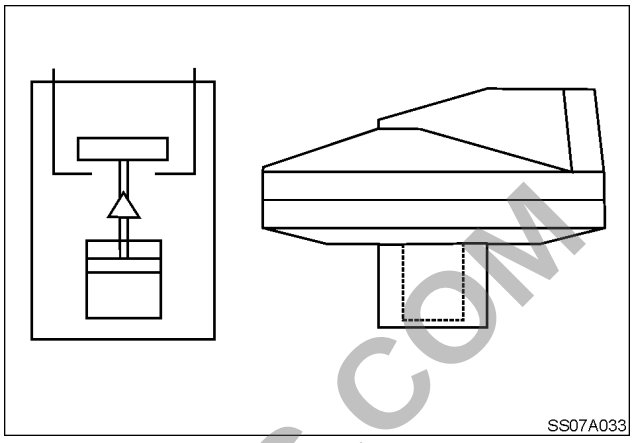
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Air cleaner restriction sensor - Overview



SS07A030 1



SS07A033 2

Test switch, air filter S3

Type of contact	Make contact
Switching point	> 65 ±3 mbar vacuum

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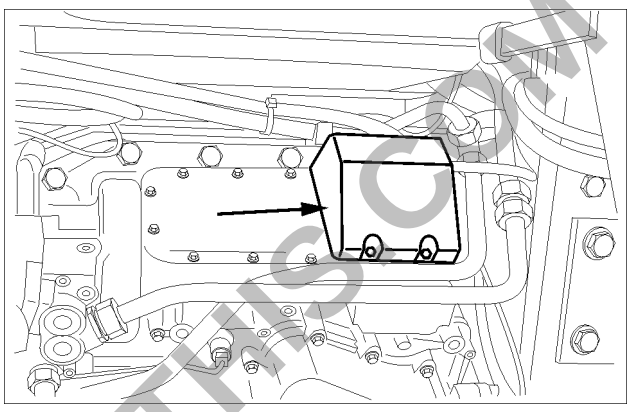
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Transmission electronic control module S-matic (SGR) - Replace (TCU)

Prior operation:
Conducting preparation work - see **Continuously Variable Transmission (CVT) - Prepare (21.504)**.

Disassembly

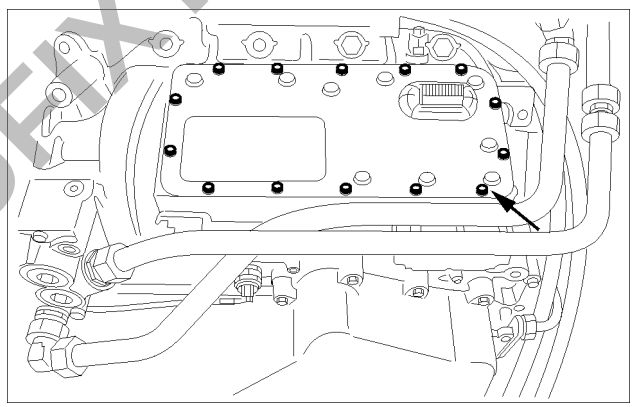
1. Remove the protective cap and disconnect the central connector.



SS09E038 1

2. Unscrew the transmission control unit (TCU). To lift, begin at the bottom right (arrow) with small levering movements and evenly loosen all around.

ATTENTION: *The control module must not be bent. The upper aluminium plate must not under any circumstances be separately disassembled.*

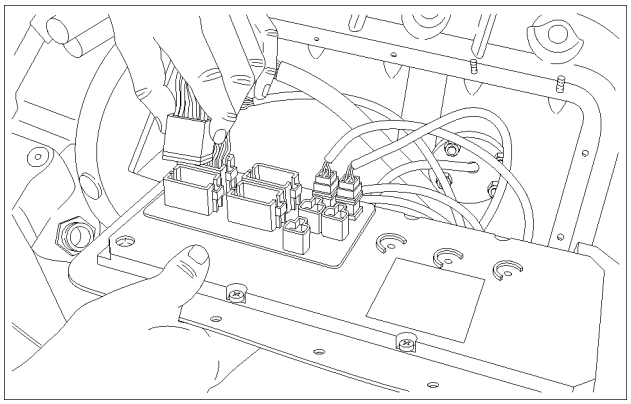


SS09E039 2

3. Release the lock by pressing down and remove connectors.

NOTICE: *The contacts of the open plug-in connections must not be touched.*

NOTE: *Check that the seals are seated properly and there is no damage, replace if necessary.*



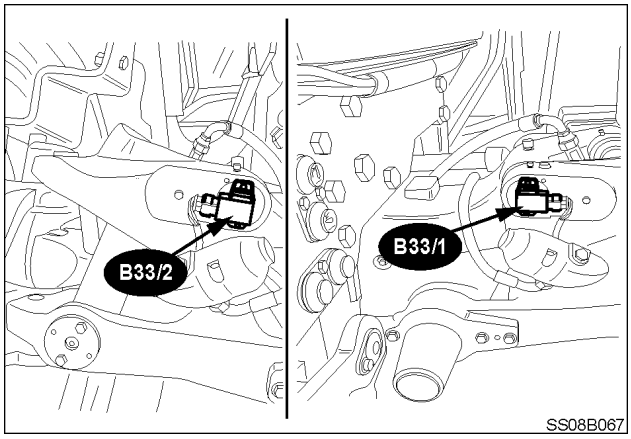
SS09E045 3

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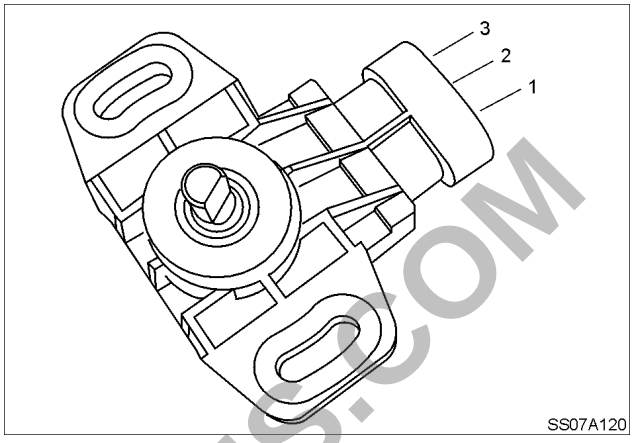
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Suspended axle sensor Suspension position sensor - Overview

T7510 Vorderachse 20.25S, T7520 Vorderachse 20.25S, T7530 Vorderachse 20.25S, T7540, T7550



SS08B067 1



SS07A120 2

Angle of rotation sensor B33/1, B33/2

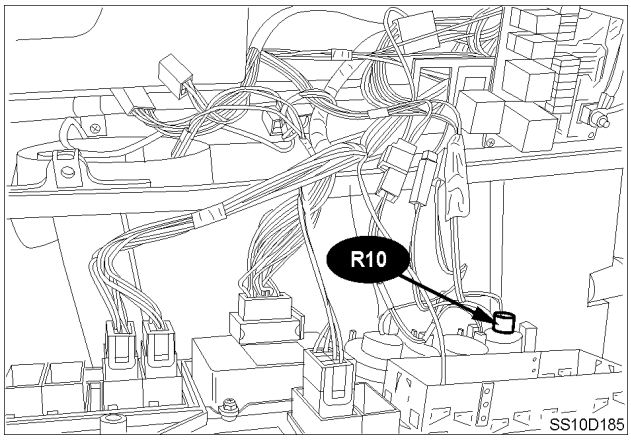
PIN 2 (E-Box supply)	**12 V**
PIN 1 (E-Box supply)	Ground
PIN 3	Signal (mA)
Signal, axle 20.25S	
Vehicle lowered	**6,0 ±0,5 mA**
Vehicle raised	**16,0 ±0,5 mA**
Signal, axle 20.29S	
Vehicle lowered	**8,0 ±0,5 mA**
Vehicle raised	**16,0 ±0,5 mA**

NOTE: *The adjustment is made by turning the sensor.*

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Air-conditioning system control Temperature control potentiometer - Overview



SS10D185 1

IMAGE NOT AVAILABLE

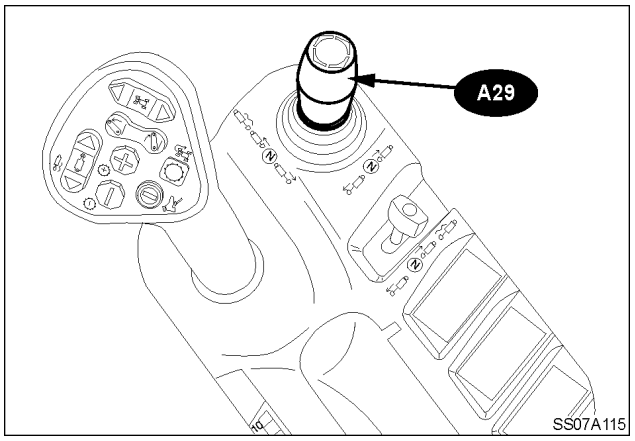
INA 2

Potentiometer / air conditioning switch - temperature R10

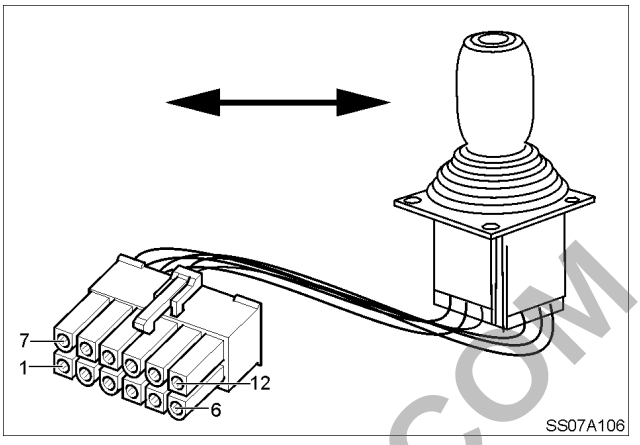
Switch contact open (X40/7 PIN 1 to PIN 2)	max. turn left
Potentiometer R (X40/8 PIN 1 to PIN 2)	**0 - 50 k Ω +/- 20 %**

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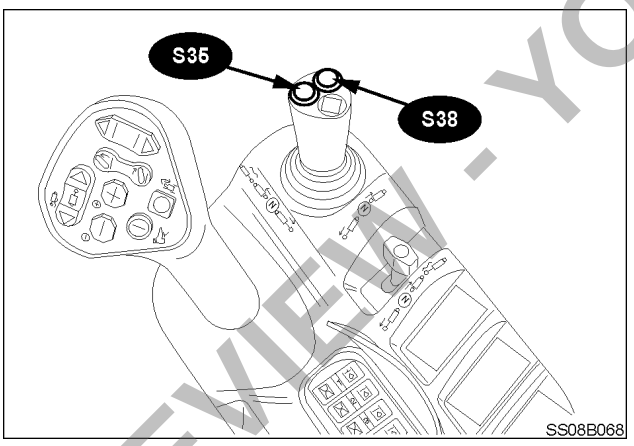
SS07A115 3



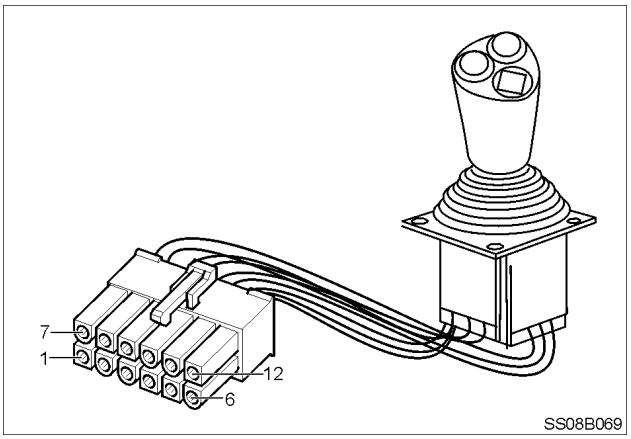
SS07A106 4

Measurements for Hall element B31 (in transverse direction)

PIN 7 (supply)	**5 V**
PIN 9 (supply)	Earth
PIN 8 (supply)	
Line interrupt/short circuit	**0 - 0,2 V**
Lower max.	**0,2 - 0,5 V**
Lower/ proportional	**0,5 - 2,33 V**
Neutral	**2,33 - 2,67 V**
Raise/ proportional	**2,67 - 4,5 V**
Raise max.	**4,5 - 4,8 V**
Short circuit +	**4,8 - 5,0 V**
Load resistance	> **20 k Ω**



SS08B068 5



SS08B069 6

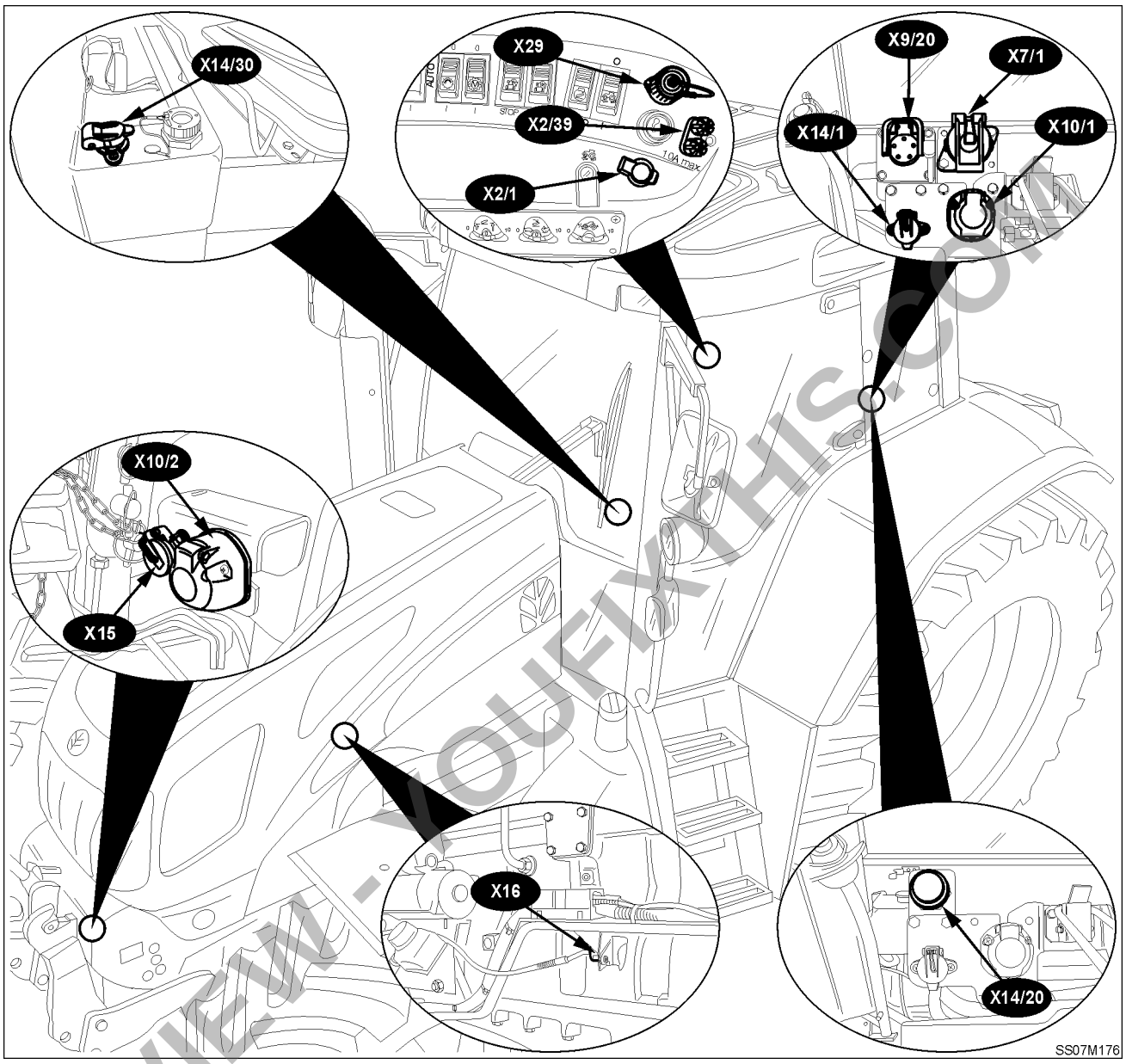
Pushbutton S35 and pushbutton S38

PIN 4 (supply)	**5 V**
PIN 10 (signal S35)	**5 V**
PIN 11 (signal S38)	**5 V**

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Auxiliary power plugs and sockets - Overview



SS07M176 1

X2/1	Socket, cab 2-pole potential 30/31	Figure **2**
X2/39	Clamping bushing red/black, control panel right	
X7/1	Socket, ABS	Figure **3**
X9/20	Socket, ISO-BUS	Figure **4**
X10/1	Socket, trailer rear 7-pole	Figure **5**
X10/2	Socket, trailer front 7-pole	Figure **5**
X14/1	Power socket 1 rear 40 A	Figure **6**
X14/20	Power socket 2 rear 60 A	Figure **7**
X14/30	Power socket, cab 20 A	Figure **8**
X15	Power socket, front 40 A	Figure **9**
X16	Socket, front loader	Figure **10**
X29	Socket, normal signal	Figure **11**

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Electrical systems - Fault code index

Message	Description	Controller
11	Flash memory update unsuccessful	A71
21	Left cylinder sensor failed (value too high)	A71
22	Right cylinder sensor failed (value too high)	A71
23	Left cylinder sensor failed (value too low)	A71
24	Right cylinder sensor failed (value too low)	A71
31	Overcurrent in one pilot valve	A71
32	Overcurrent in control valve	A71
33	Overcurrent in control light output	A71
41	Locking procedure unsuccessful	A71
42	Automatic recovery unsuccessful	A71
43	Calibration input failed	A71
44	Calibration procedure unsuccessful	A71
45	Axle levelling unsuccessful	A71
46	Inadequate levelling at switch on	A71
54	Power supply undervoltage	A71
55	Power supply overvoltage	A71
56	Internal power supply undervoltage	A71
57	Internal power supply overvoltage	A71
61	Left lower calibration position too high	A71
62	Left upper calibration position too low	A71
63	Left calibration stroke too small	A71
64	Right lower calibration position too high	A71
65	Right upper calibration position too low	A71
66	Right calibration stroke too small	A71
10	Fuel tank level sensor signal faulty (line interruption or short circuit to +)	ADIC
11	Fuel tank level sensor B2/1 signal faulty (short circuit to earth)	ADIC
1	Processor memory error (EEPROM checksum error)	ADIC
20	Pressure sensor B3 signal faulty (line interruption or short circuit to +12 V)	ADIC
250	CAN Bus OFF	ADIC
10	Receipt message from AUX1 was not obtained correctly following reprogramming from 0 to 1	ARU
11	Receipt message from AUX2 was not obtained correctly following reprogramming from 0 to 2	ARU
12	Receipt message from AUX3 was not obtained correctly following reprogramming from 0 to 3	ARU
13	Receipt message from AUX4 was not obtained correctly following reprogramming from 0 to 4	ARU
14	Receipt message from AUX5 was not obtained correctly following reprogramming from 0 to 5	ARU

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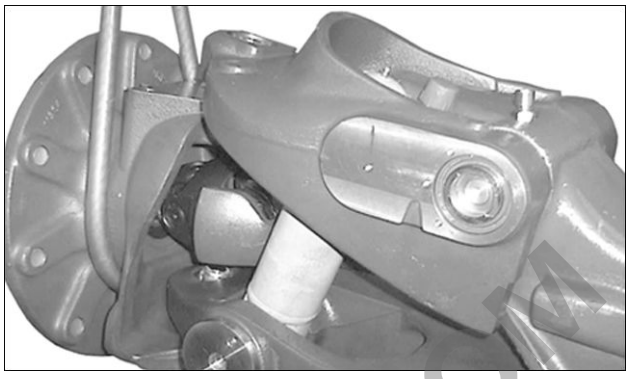
Rear axle system 27
[27.100] Powered rear axle 27.1
[27.106] Rear bevel gear set and differential 27.2
[27.120] Planetary and final drives 27.3
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[31.104] Rear electro-hydraulic control 31.1
[31.119] Four-speed rear Power Take-Off (PTO) 31.2
[31.142] Front Power Take-Off (PTO) control 31.3
[31.146] Front Power Take-Off (PTO) 31.4
Brakes and controls 33
[33.202] Hydraulic service brakes 33.1
[33.110] Parking brake or parking lock 33.2
[33.220] Trailer brake hydraulic control 33.3
[33.204] Front axle brake 33.4
[33.200] Brake cooling 33.5
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[35.106] Variable displacement pump 35.2
[35.359] Main control valve 35.3
[35.204] Remote control valves 35.4
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[41.200] Hydraulic control components 41.1
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[41.432] Autoguidance steering 41.3
Cab climate control 50
[50.104] Ventilation 50.1

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5. If the axle is removed, use hoist to raise steering knuckle housings to the top stop.

NOTE: *The top spring travel stop is reached when the hydraulic cylinder piston is retracted until firmly home.*



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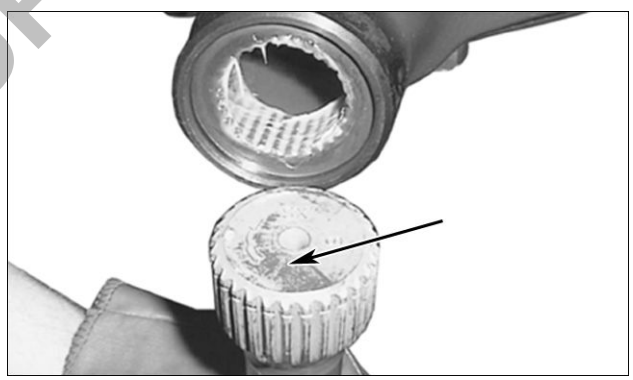
6. Apply grease to profile of front flange.



SD01M115 6

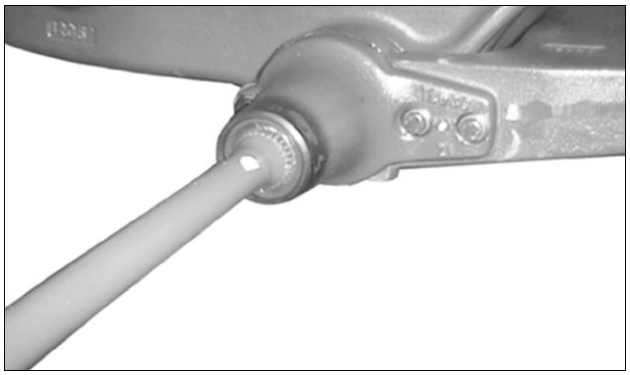
7. Before inserting the torsion bar, note the inscription:
sx = left torsion bar,
dx = right torsion bar. The arrow indicates the direction of rotation in which the torsion bar is preloaded.

NOTICE: *The inscription "dx" or "sx" must be on the side of the pinion shaft (input flange).*



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8. Guide in the torsion bar.



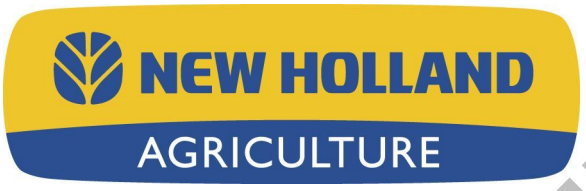
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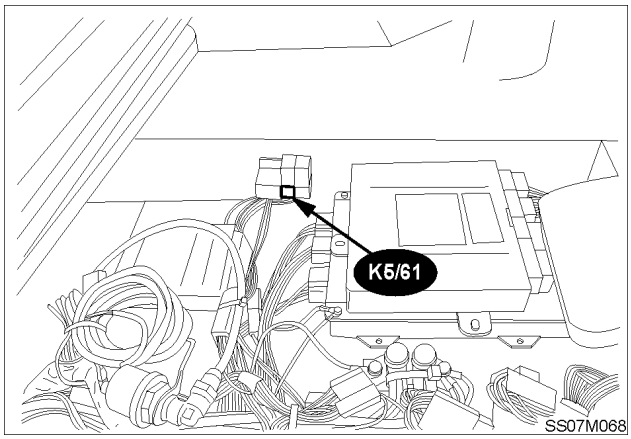
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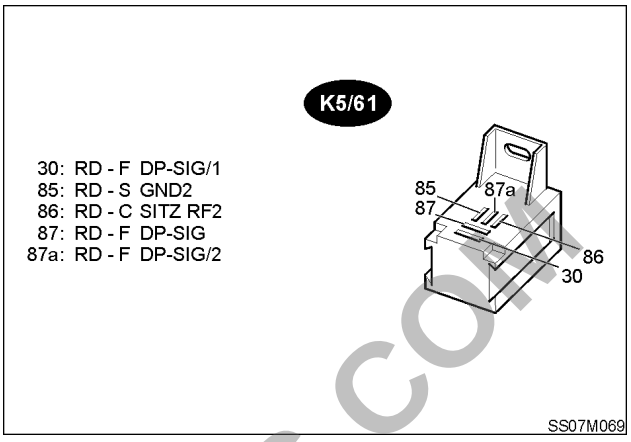
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K5/61 - Base, relay, accelerator pedal, front, reversing unit

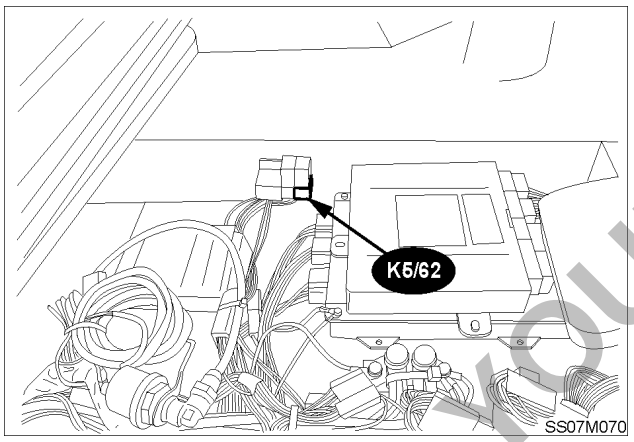


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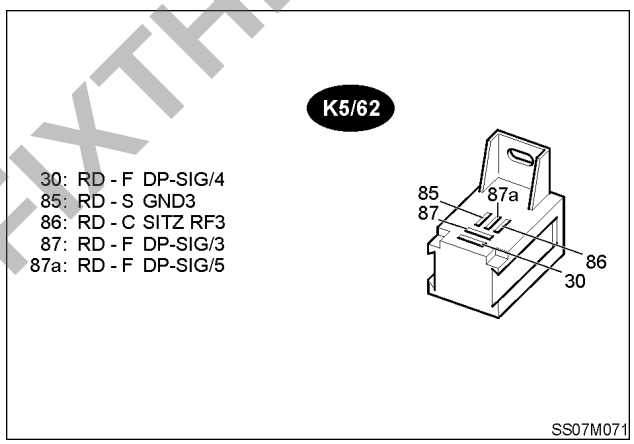


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K5/62 - Base, relay, accelerator pedal, rear, reversing unit

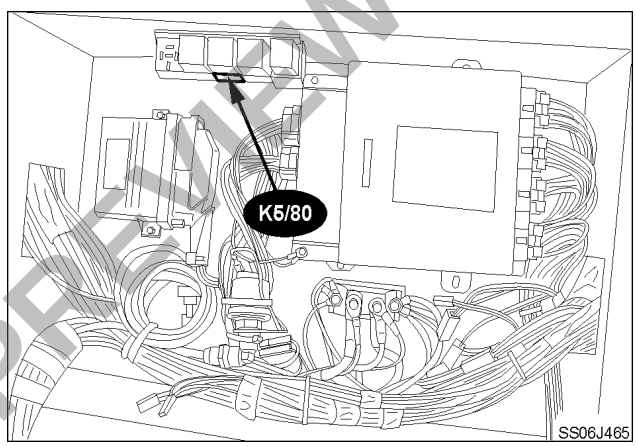


SS07M070 39

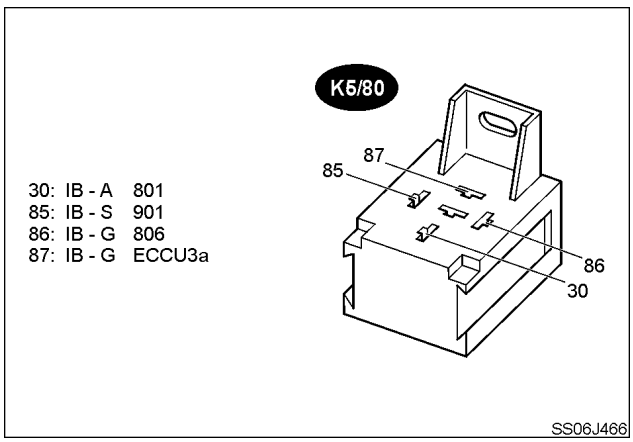


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K5/80 - Base, relay, ISO-BUS, potential 15



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