J1 – FRONT POWER TAKE-OFF

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CLAAS

DPS ENGINE

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GEARBOX B41 AND CLUTCH LUK DT 310 - 310 G

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FRONT AXLE

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Technical support	Chapter D
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E1 – HYDRAULICS

E2 – REAR LIFT

E3 – STEERING

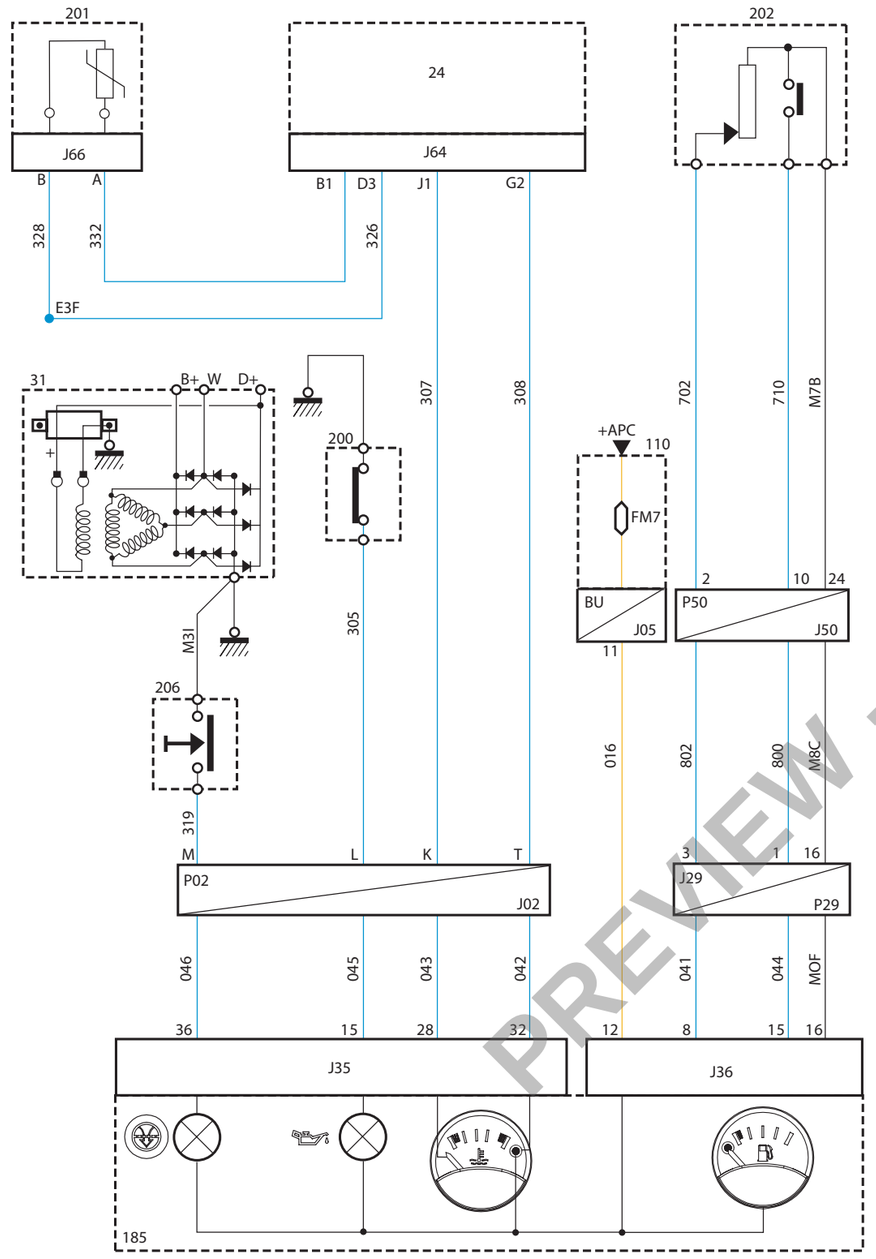
E4 – AUXILIARY SPOOL VALVES

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Technical support	Chapter E
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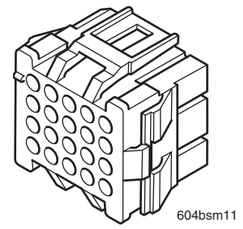
Fuel/air filter clogging/temperature/engine oil pressure indicator (Electronic injection)



Ref	Item
24	Engine computer
31	Alternator
110	Relay and fuse panel
185	Instrument panel
200	Oil pressure switch
201	Engine temperature thermistor
202	Fuel gauge
206	Air filter clogging valve

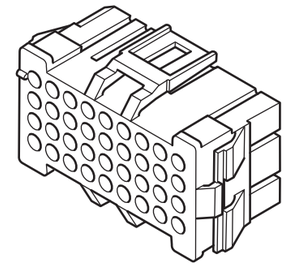
	Wire identification	2	J36	Ending	
8	041	0,6	Fuel level	P29	3
12	016	0,6	+ APC control panel	J05	11
15	044	0,6	Rear work lights controls	P29	1
16	M0F	0,6	Fuel level earth	P29	16

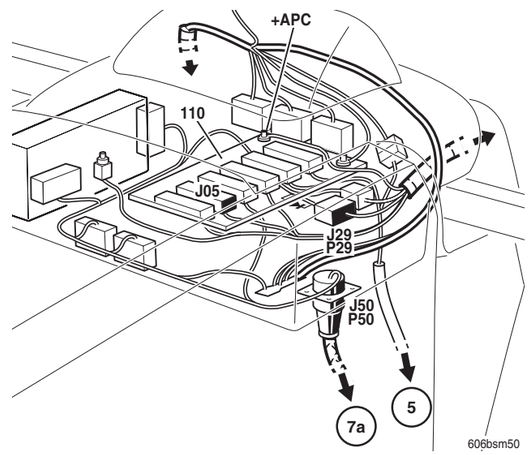
1	5	9	13	17
058	052	051	050	022
015		040		056
	071	053	044	057
	041	016	M0F	M0B
4	8	12	16	20



	Wire identification	2	J35	Ending	
15	045	1	Engine oil pressure	J02	L
25	043	1	Engine water temperature	J02	K
32	042	1	Engine water temperature alert	J02	T
36	046	1	Air filter blocked	J02	M

1	5	9	13	17	21	25	29	33
009	069	078	048	073				065
M0G	070	047		028			066	101
055	054	012	045				074	
			102	059	024	043	042	046
4	8	12	16	20	24	28	32	36





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Front power take-off

Technical specifications

	Front power take-off box
PTO (type)	Mono-gear
Clutch	Multidisc
Control	Electrohydraulic with graduality
Direction of rotation	Clockwise or counterclockwise
Rotation speed	2200 rpm (engine) = 1100 rpm (PTO)
Output shaft	1" 3/8 - 6 splines
Transmissible continuous power	88,3 kW 120" *2
Oil type	API GL 4 - GIMA M 1143 - ISO HV 68
Capacity (reducer)	0,95. L
Housing boost pressure	20 to 25 bar

Measurement and checking points

Test conditions:

– Engine at nominal speed.

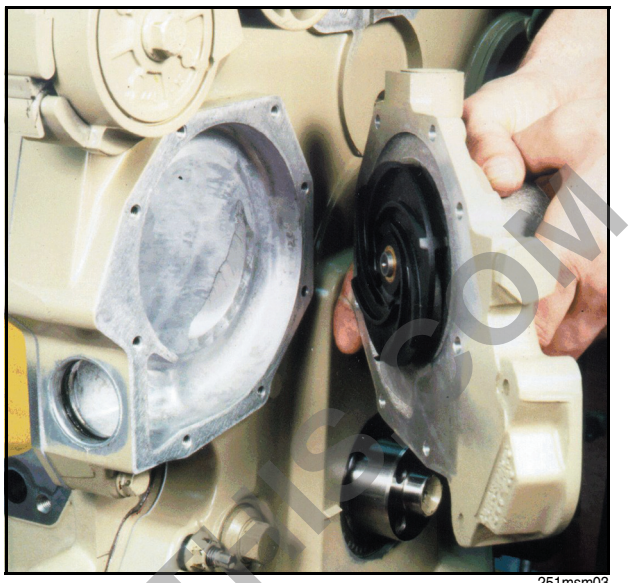
– Oil temperature at 60°C.

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Water pump

The water pump is fitted under the accessory gear train cover and uses the cavity in the cover as the pump body.



251msm03

Degraded modes

Coolant temperature too high

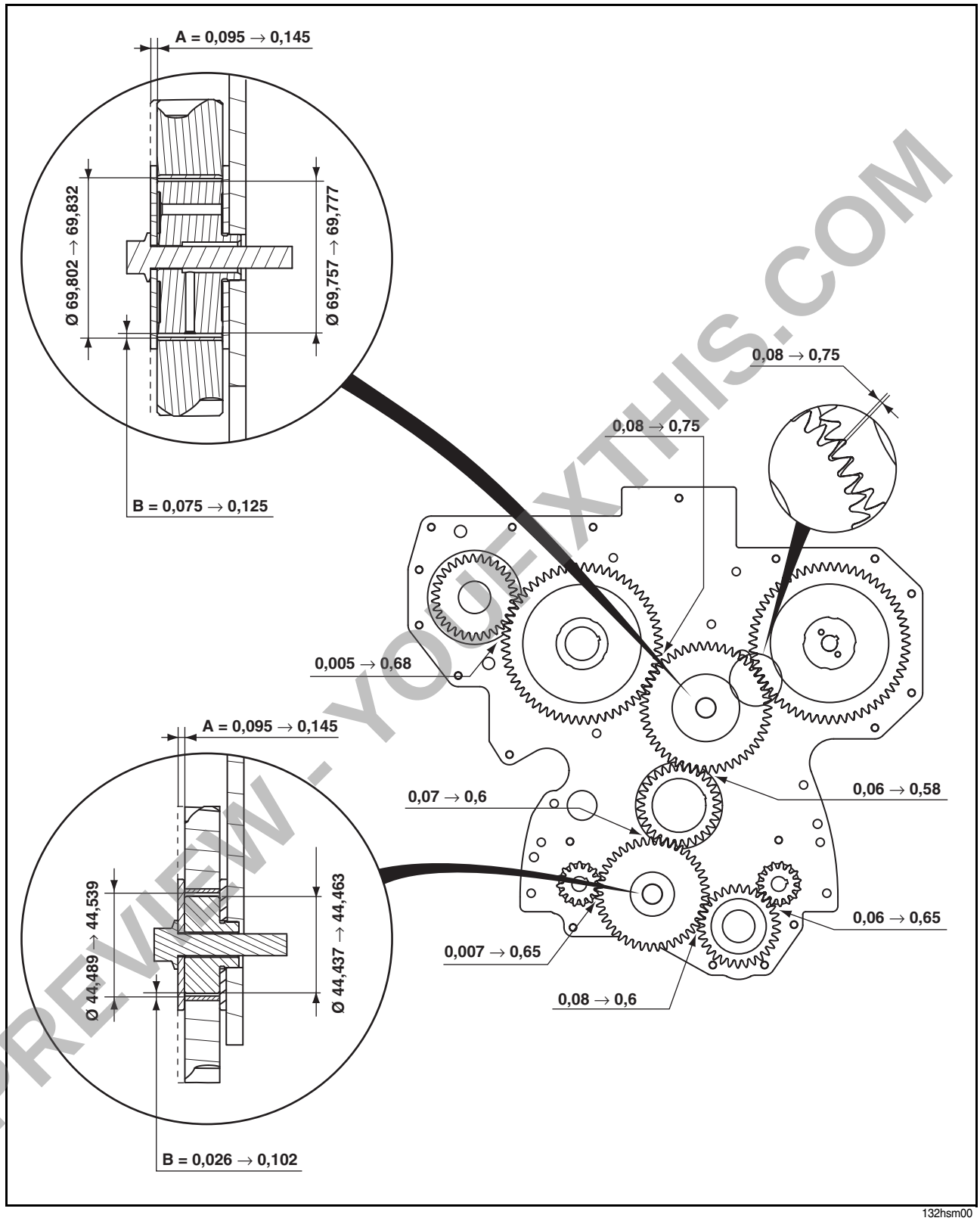
First check coolant quality and level. Check for leaks from external engine system components.

1.	**FAULTY** Go to 2. **GOOD** Go to 4.
2. CHECK FOR THE PRESENCE OF OIL IN THE COOLANT HEADER TANK.	**YES** Check the cylinder head and the cylinder head gasket. See: Head gasket failure - investigation procedure. **NO** Go to 3.
3. DRAIN THE COOLANT. – Refill to the correct level. Does the problem remain ?	**YES** Go to 4. **NO** Problem solved.
4. CHECK THE RADIATOR: – Dirt ; – Leaks ; – Blockage. Repair or replace the defective components. Does the problem remain ?	**YES** Go to 5. **NO** Problem solved.

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Accessory gear train



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Help with servicing

Ingredients

Standard ingredients

Refer to the tightness and attachment products at the beginning of the document.

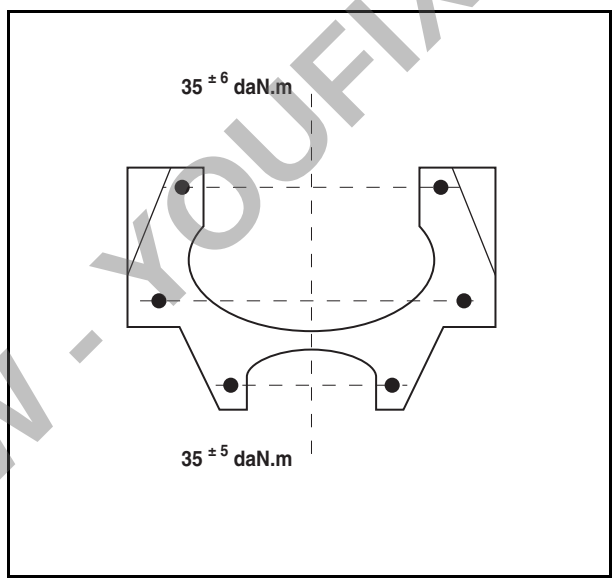
Torque settings

Standard tightening torque

Refer to "Tightening torques" at the beginning of this chapter.

Specific tightening torque

front chassis / engine link



101msm33

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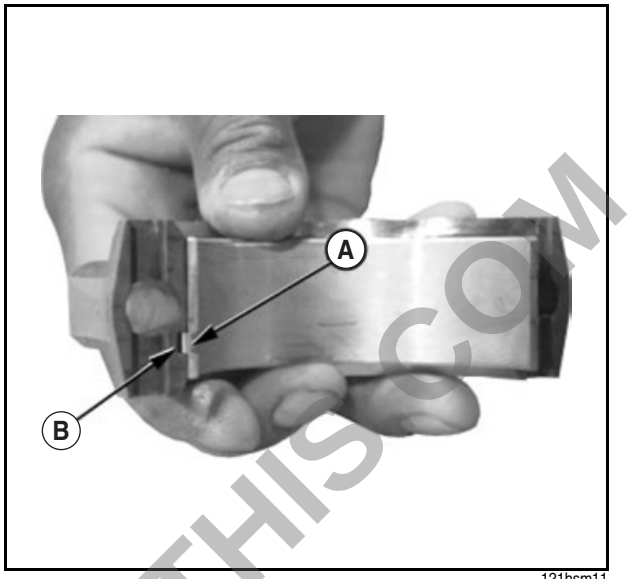
Refitting:Power measurement (kW)Bearing cap on the connecting rod

– Smear the half-bearings with clean engine oil, then assemble the cap onto the connecting rod with the pins (A) (B) on the same side.

IMPORTANT: Ensure that the cap is correctly aligned on the connecting rod with the junction surfaces perfectly coupled.

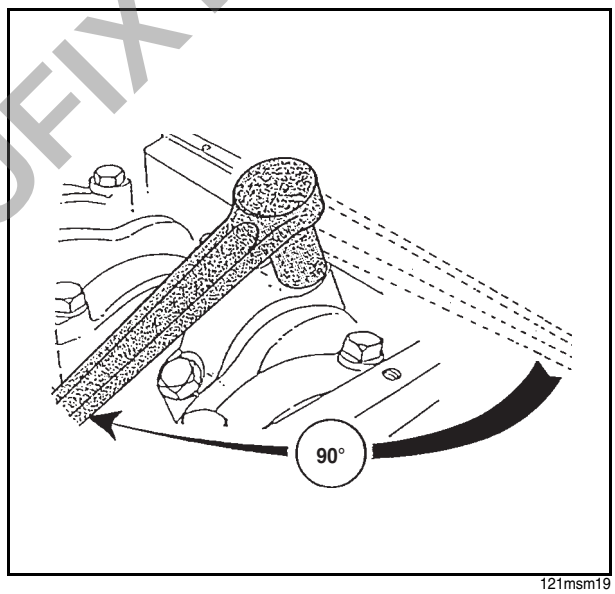
– Dip the connecting rod screws in clean engine oil and fit them.

IMPORTANT: Never use the connecting rod screws more than once for the final assembly of the engine. When connecting rod screws have been tightened at final torque, do not reuse them.



121hsm11

– Tighten the screws alternately to a torque of 5,8 daN.m.
– Tighten each screw a further 90 to 100 degrees.



121msm19

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Name	Pin N°	Type	Specification	Comment
AN1	30	Input	Analog or binary: 12 V	Monitoring of available power to solenoid valves
AN2	16	Input	Analog or binary: 12 V	REVERSHIFT lever in forward position
AN3	31	Input	Analog or binary: 12 V	Progressivity switch control
AN4	17	Input	Analog or binary: 12 V	Gearbox engaged contactor
AN5	32	Input	Analog or binary: 12 V	Control doubler + (accelerate)
AN6	18	Input	Analog or binary: 12 V	Control doubler - (accelerate)
AN7	33	Input	Analog or binary: 12 V	Transmission oil pressure switch
AN8	19	Input	Analog or binary: 12 V	The reverser lever REVERSHIFT in neutral
AN9	34	Input	Analog or binary: 12 V	Clutch pedal position information
AN10	20	Input	Analog or binary: 12 V	REVERSHIFT lever in rear position
AN11	35	Input	Analog or binary: 12 V	
AN12	21	Input	Analog or binary: 0 V	Transmission oil temperature
FREQ1	38	Input	Binary or frequency	REVERSHIFT output speed
FREQ2	37	Input	Binary or frequency	Vehicle speed
FREQ3	36	Input	Binary or frequency	Engine speed
HSD1	5	Output	4 A (from pin 1), Power supply of proportional solenoid valve	Forward drive solenoid valve
HSD2	6	Output	4 A (from pin 1), Power supply of proportional solenoid valve	Reverse solenoid valve
HSD1cs	4	Output	4 A, proportional solenoid feedback	Forward drive solenoid valve return
HSD2cs	3	Output	4 A, proportional solenoid feedback	Return solenoid valve of reverse
HSD3	7	Input/output	Binary if input 2 A if output (from + AVC 30, pin 29)	
HSD4	8	Input/output	Binary if input 2 A if output (from + AVC 30, pin 29)	
HSD5	22	Input/output	Binary if input 2 A if output (from + APC 15, pin 14 - 42)	

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Dismantling:Power measurement (kW)Hydraulic dual range unit

Dismantling the dual range unit clutch

– Remove the (6) HM screws from the front cover (2) to release it.

– Extract the clutch assembly.

– Extract circlip (16) and withdraw the friction plates and backplates, circlip (13) to remove the Belleville washers (12).

Dismantling the dual range unit brake

– Compress the Belleville washers using the dummy piston tool n° 60 05 006 151.

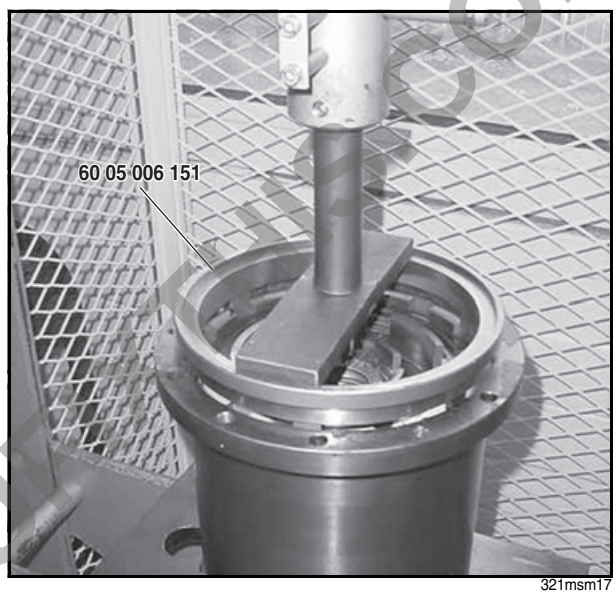
Note: Tool n° 60 05 006 151 may be used with tool n° 60 05 006 105 fitted upside down.

– Remove the circlip, the backplates and the disks.

Note: Mark the piston in relation to the cover before removing it.

– Remove the piston.

Note: Change the O-rings, applying grease when fitting.



321msm17

Dismantling the dual range unit planet gears

– xtract the unit (20) and the needle roller/thrust ball bearings (17) as well as washer (18).

– Recover the foil washers (27).

– Extract the pins (37).

– Then remove the double pinion assembly.

– Extract the needle roller/thrust ball bearings and the satellite pinions.

Refitting:Power measurement (kW)Dual range unit planet gears

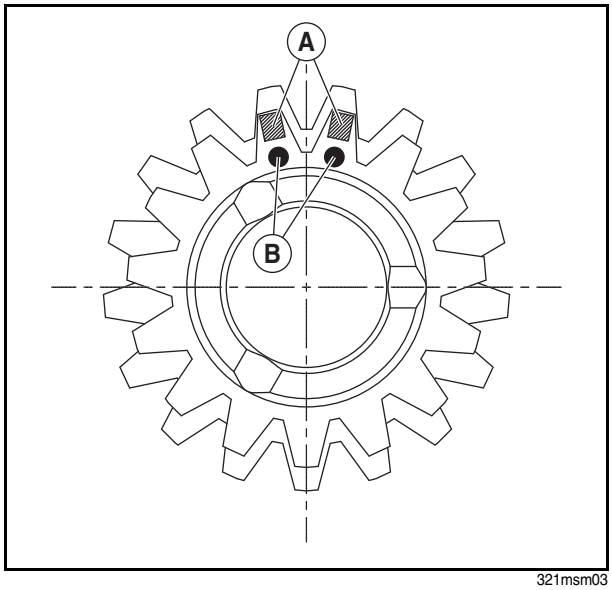
– All parts must be oiled before reinstallation.

– All seals must be replaced

– Fit the needle roller/thrust ball bearing (28), followed by the washer (29).

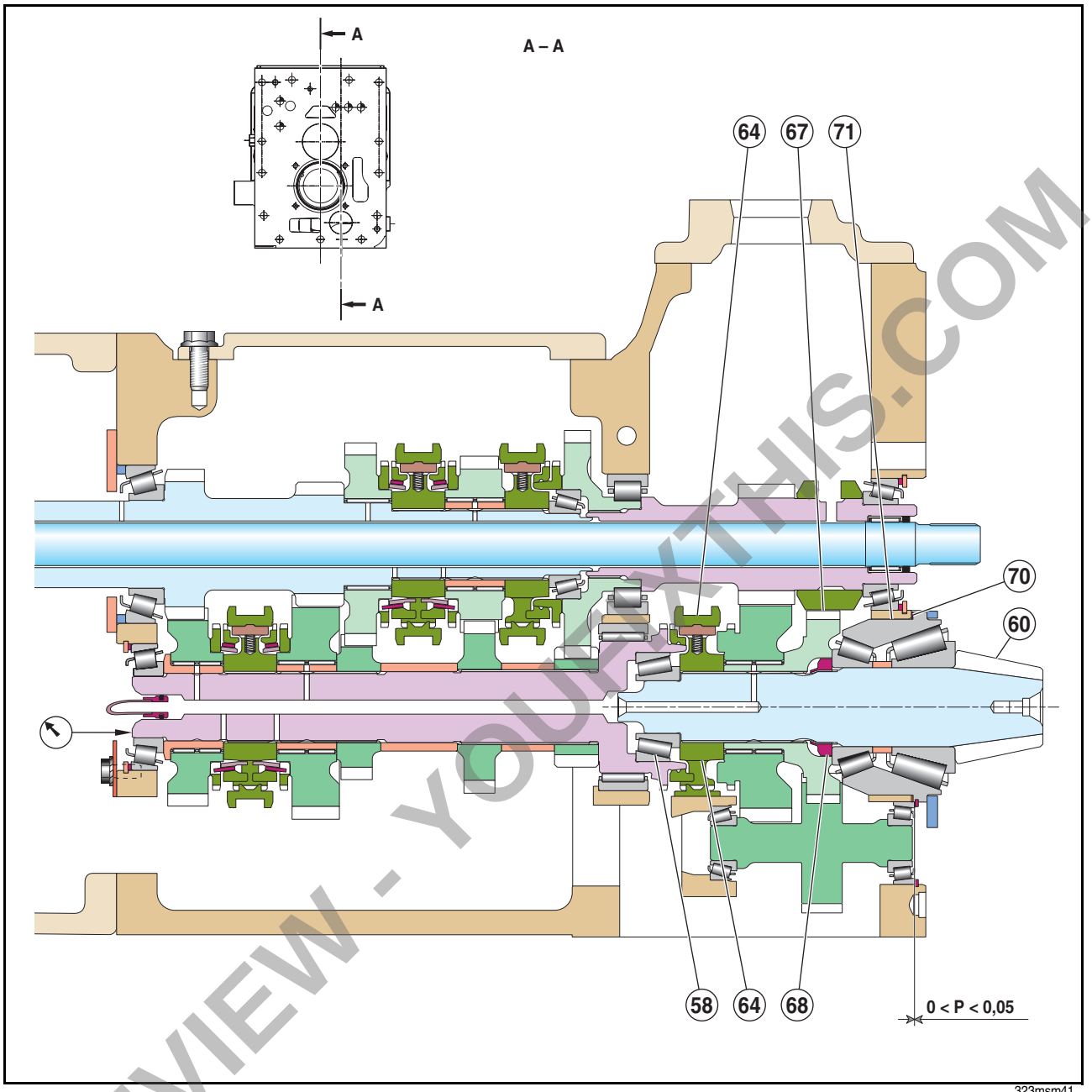
– Take care to line up the holes in the washers (27) when refitting them.

Note: Use paint to mark (A) the two teeth on which there are "punch marks" (B), to facillitate satellite synchronisation.



321msm03

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Refitting:Power measurement (kW)Secondary shaft

– Carry out refitting in the opposite order of removal.

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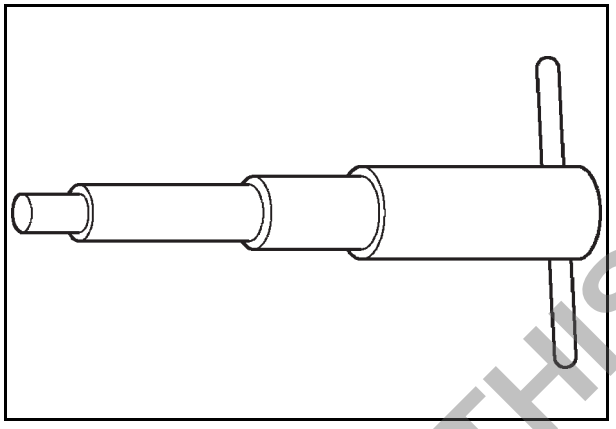
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Special tool

Reference:Power measurement (kW)77 01 388 435

Designation:Power measurement (kW)Centering spindle

Scene:



Ingredients

Standard ingredients

Refer to the tightness and attachment products at the beginning of the document.

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CONTENTS

RECONDITIONING:POWER MEASUREMENT (KW)WHEEL HUBS AND KINGPINS 1

RECONDITIONING:POWER MEASUREMENT (KW)FRONT AXLE CROWN WHEEL AND PINION AND DIFFERENTIAL 15

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Refitting:Power measurement (kW)Steering unit

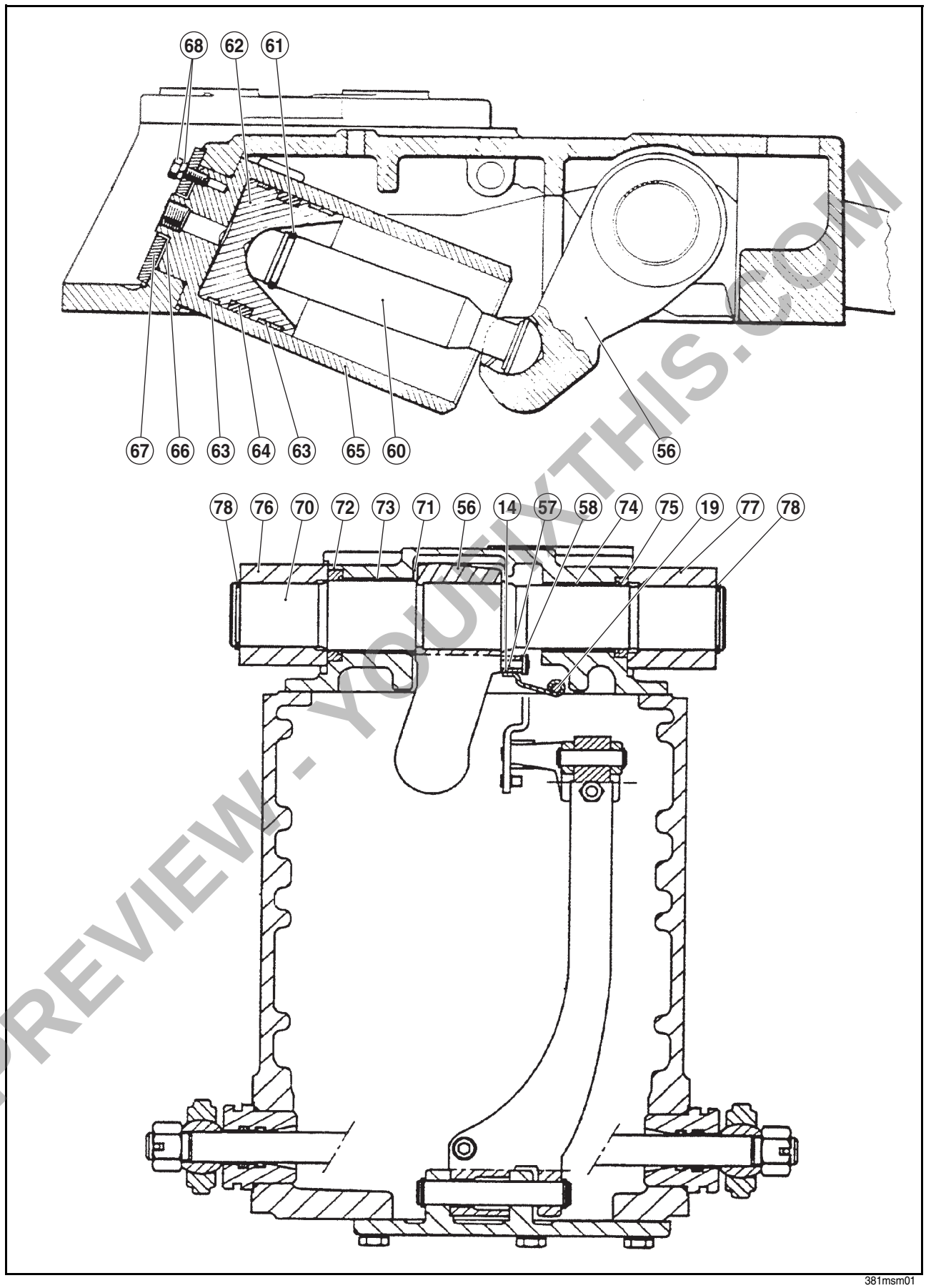
– Proceed in reverse order to dismantling.

Points to remember when reassembling

– Refit the unit, hand tightening the 4 attachment screws.
– Replace the steering column and then tighten the screws.

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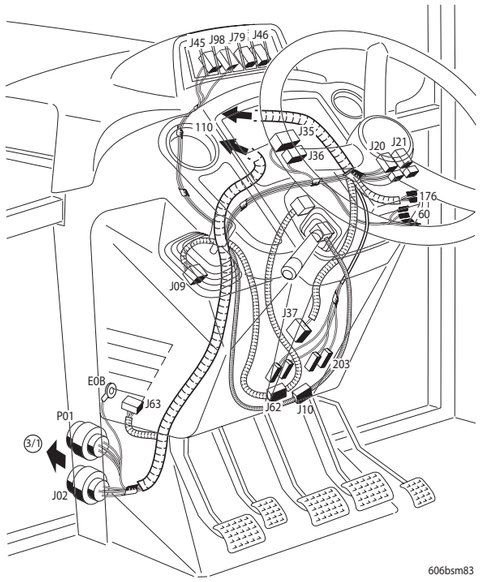


381msm01

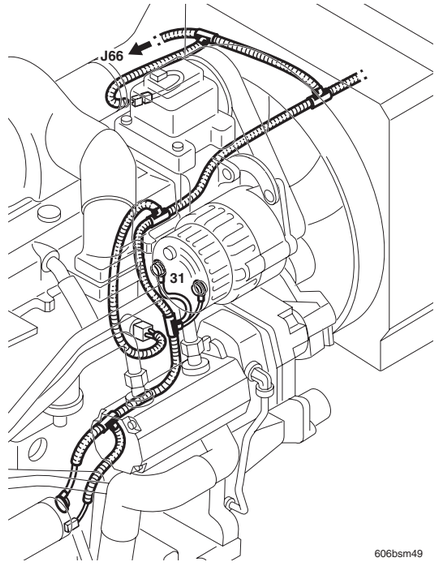
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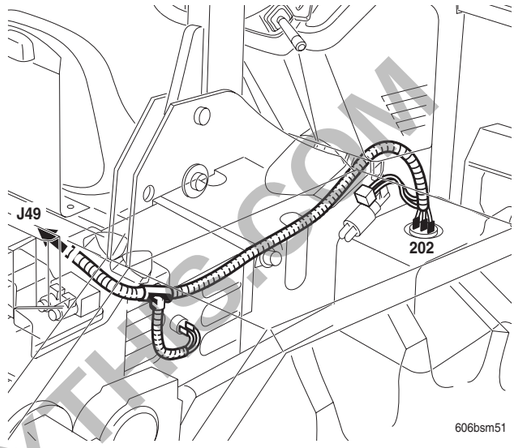
Fuel/air filter clogging/temperature/engine oil pressure indicator (Electronic injection)



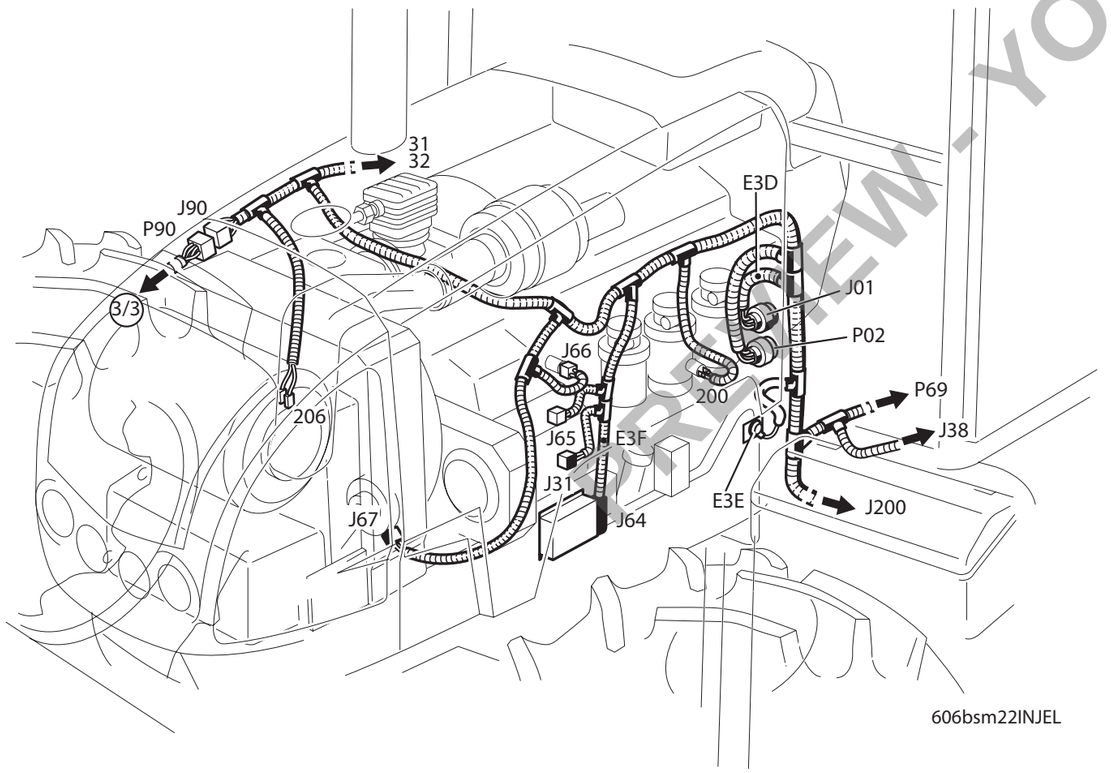
606bsm83



606bsm49



606bsm51



606bsm22INJEL

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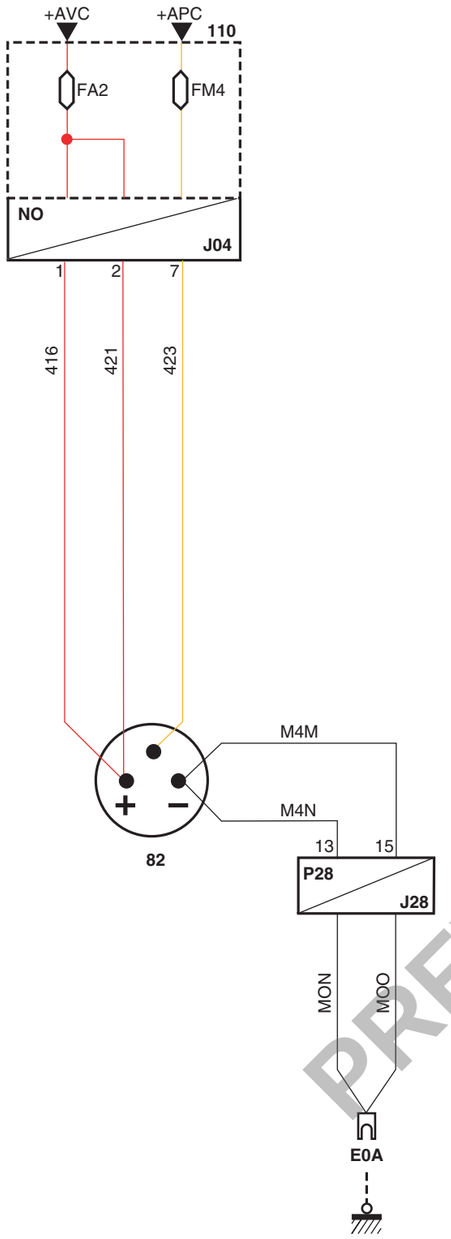
Harness and connector paths

Connectors	Pages
JA	F.94
JA	F.95
JB	F.94
JB	F.95
J01	F.85
J01	F.89
J02	F.76
J02	F.77
J03	F.76
J03	F.77
J04	F.76
J04	F.77
J05	F.76
J05	F.77
J06	F.76
J06	F.77
J07	F.76
J07	F.78
J08	F.76
J08	F.78
J09	F.76
J09	F.78
J1	F.103
J1	F.104
J10	F.83
J11	F.76
J11	F.78
J12	F.76
J12	F.78
J13	F.76
J13	F.78
J14	F.76
J14	F.78
J15	F.83
J16	F.76
J16	F.82
J17	F.76
J17	F.79
J20	F.76
J20	F.79
J21	F.76
J21	F.79
J22	F.85
J22	F.89
J23	F.76
J23	F.79
J24	F.76
J24	F.79
J25	F.76
J25	F.79
J26	F.94
J26	F.95
J27	F.76
J27	F.79
J28	F.76
J28	F.79
J29	F.103
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J32	F.94
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J34	F.89
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J35	F.80
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J37	F.76
J37	F.80
J38	F.85
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J109	F.114
J110	F.112
J110	F.114
J111	F.115
J111	F.116
J112	F.115
J112	F.116
J113	F.115
J113	F.116
J114	F.115
J114	F.116
J115	F.76
J115	F.82

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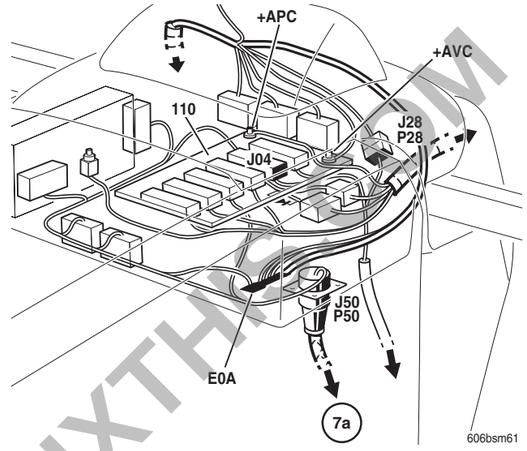
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25 A power socket

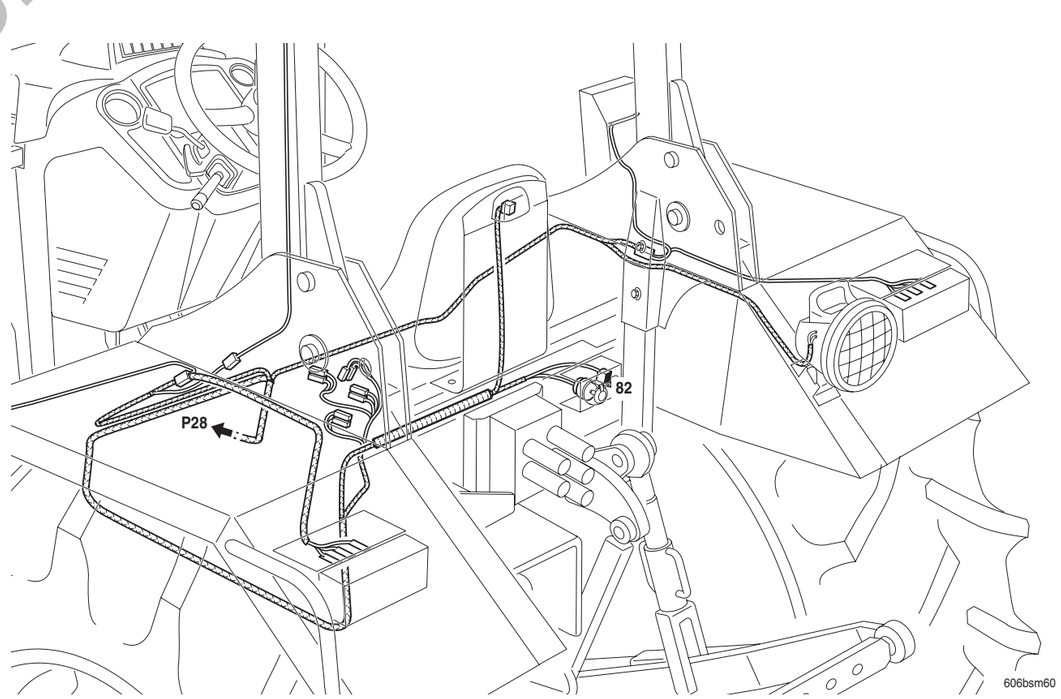


605bsm12

Ref	Item
82	25 A power socket
110	Relay and fuse panel



606bsm61



606bsm60

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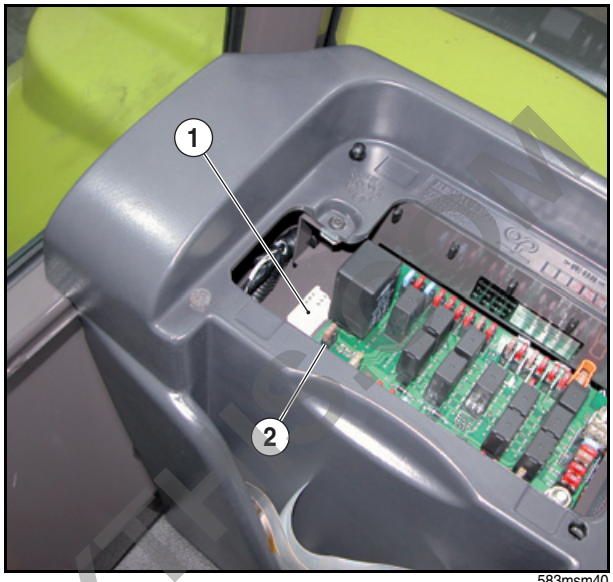
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CONNECTIONS METADIAG 2007©

OPERATION

The diagnostic socket (1) is located in the fuse box.

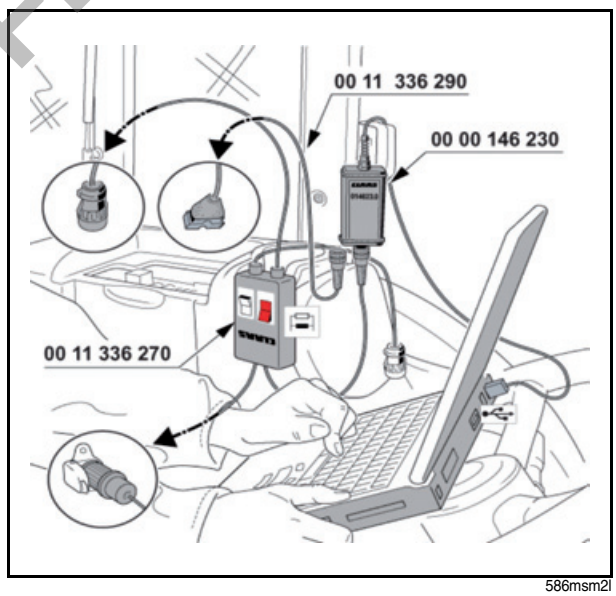
IMPORTANT: During the diagnostic process TCE 9 remove the fuse (2). Remember to replace it when diagnosis complete.



583msm40

APPLICATION TO REVERSHIFT AND ENGINE (MODELS FITTED WITH CAB)

– Connect the unit 00 00 146 230 to the computer.
– Depending on the type of diagnostic socket fitted to the tractor:
– Install the harness 00 11 336 290.
– Connect he interface 00 11 336 270 as shown.



586msm2l

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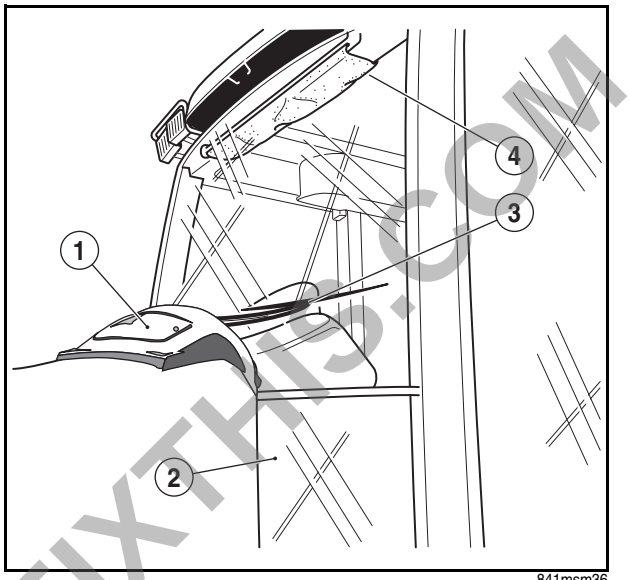
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Main operations

Removal:Power measurement (kW)Windscreen

– Remove:
  – Air filter lining (1).
  – Underside of instrument panel lining (2).
  – Windscreen wiper blade (3) and its motor.
  – Sun blind (4).



841msm36

IMPORTANT: Wear cut-resistant protective gloves and safety goggles.

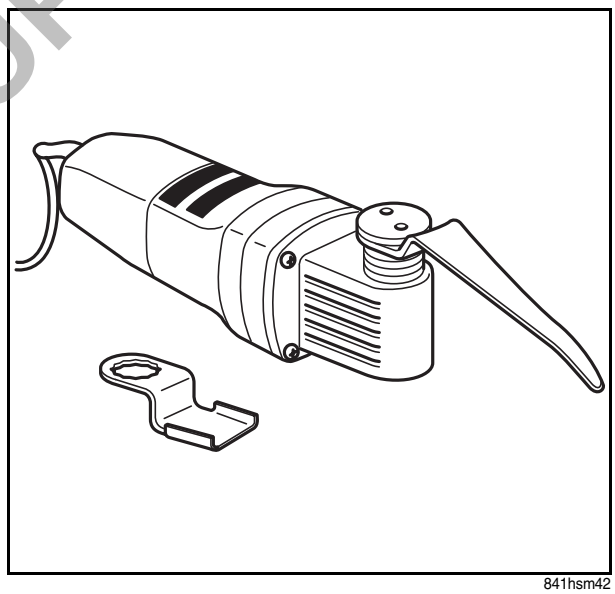
– Protect the air conditioning unit from glass particles (cover with cloth or rag).

– Use the specified vibrating knife with the appropriate blade (shovel blade).

– Sharpen the large vibrating knife blade correctly.

– From the inside, cut away the seal around the perimeter while dipping the blade frequently into a little soapy water (makes the job easier).

IMPORTANT: While preparing to bond another windscreen, clean the rebate carefully to remove all traces of soap.


841hsm42

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