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WHEELBASE																
A		A		A		B		B		C		C		D		
VERSION		WHEELBASE		VERSION		WHEELBASE		VERSION		WHEELBASE		VERSION		WHEELBASE		
T 6 × 2 C		3800		T 4 × 2		3650						T 6 × 4		2800		I
												T 6 × 4 C 6 × 2 P		3200		2
												C 6 × 2 P T 4 × 2 C 6 × 4 C 4 × 2		3800		3
												C 6 × 4 6 × 2 P C 4 × 2		4200		4
												C 4 × 2 C 6 × 4 6 × 2 P		4500		5
												C 4 × 2 6 × 2 P		4800		6
												C 4 × 2 6 × 2 P		5100		7
												C 4 × 2		5500		L
												C 4 × 2 6 × 2 P		5700		8
								C 4 × 2 6300				6 × 2 P		6050		9
												C 4 × 2		6700		M

Selecting the main and big end bearing shells

NOTE To obtain the required assembly clearances, the main and big end bearing shells need to be selected as described hereunder.

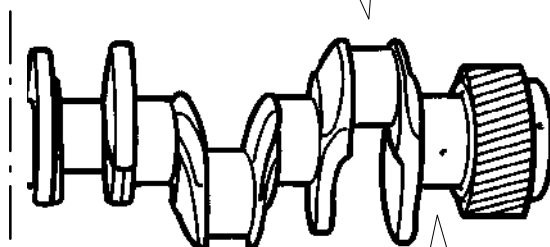
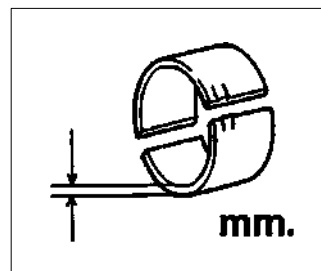
This operation makes it possible to identify the most suitable bearing shells for each of the journals (the bearing shells, if necessary, can have different classes from one journal to another).

Depending on the thickness, the bearing shells are selected in classes of tolerance marked by a coloured sign (red-green – red/black – green/black).

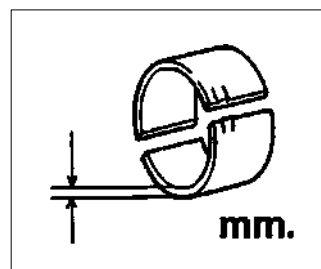
The following tables give the specifications of the main and big end bearing shells available as spares in the standard sizes (STD) and in the permissible oversizes (+0.127, +0.254, +0.508).

Figure 80

	STD	+0.127	+0.254	+0.508
red	1.970 to 1.980		2.097 to 2.107	2.224 to 2.234
red/black		2.033 to 2.043		
green	1.981 to 1.990		2.108 to 2.117	2.235 to 2.244
green/black		2.044 to 2.053		
yellow*	1.991 to 2.000			
yellow/black*		2.054 to 2.063		



	STD	+0.127	+0.254	+0.508
red	2.965 to 2.974		2.097 to 2.107	2.224 to 2.234
red/black		3.028 to 3.037		
green	2.975 to 2.984		2.108 to 2.117	2.235 to 2.244
green/black		3.038 to 3.047		
yellow*	2.985 to 2.995			
yellow/black*		3.048 to 3.058		



* Fitted in production only and not supplied as spares

SELECTING THE BIG END BEARING SHELLS (JOURNALS WITH NOMINAL DIAMETER)

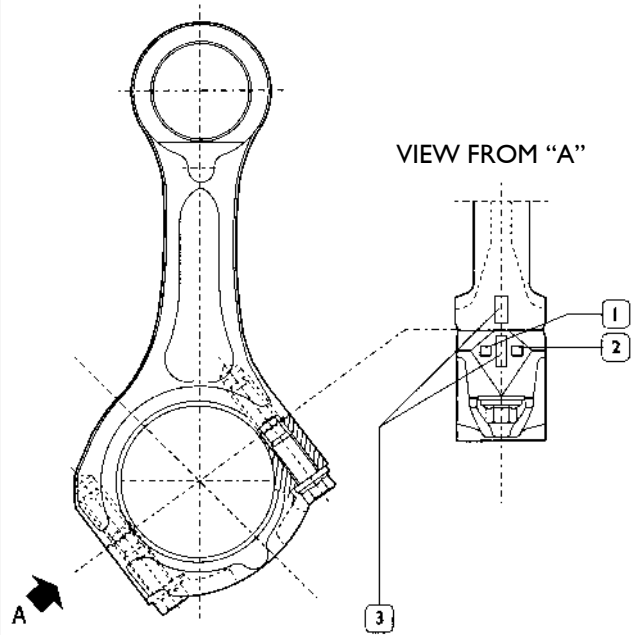
There are three markings on the body of the connecting rod in the position indicated as "A":

- 1 Letter indicating the class of weight:
 - A = 4741 to 4780 g.
 - B = 4781 to 4820 g.
 - C = 4821 to 4860 g.
- 2 Number indicating the selection of the diameter of the big end bearing seat:
 - 1 = 94.000 to 94.010 mm
 - 2 = 94.011 to 94.020 mm
 - 3 = 94.021 to 94.030 mm
- 3 Numbers identifying the cap-connecting rod coupling.

The number, indicating the class of diameter of the bearing shell seat may be **1, 2 o 3**.

Determine the type of big end bearing to fit on each journal by following the indications in the table (Figure 92).

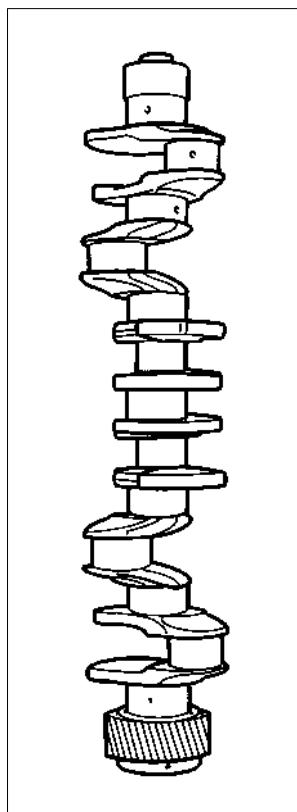
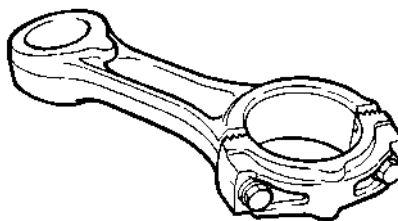
Figure 91



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Figure 92

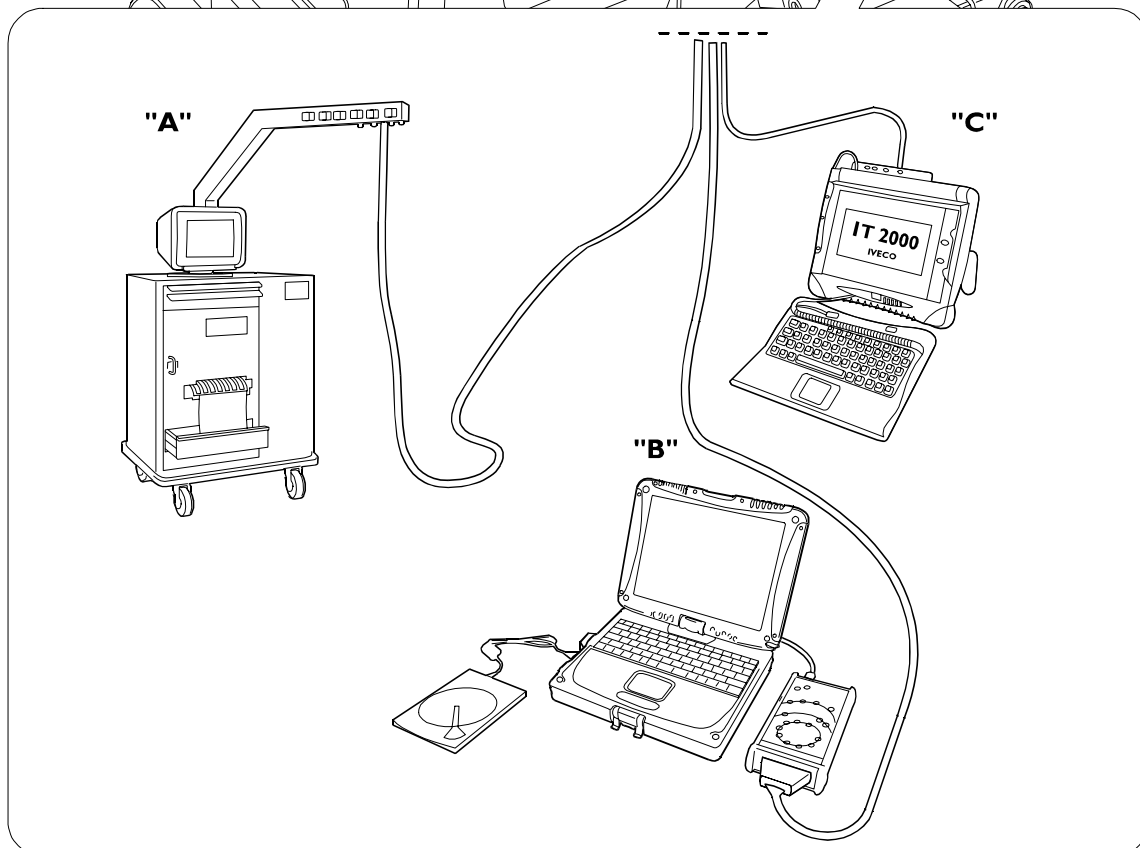
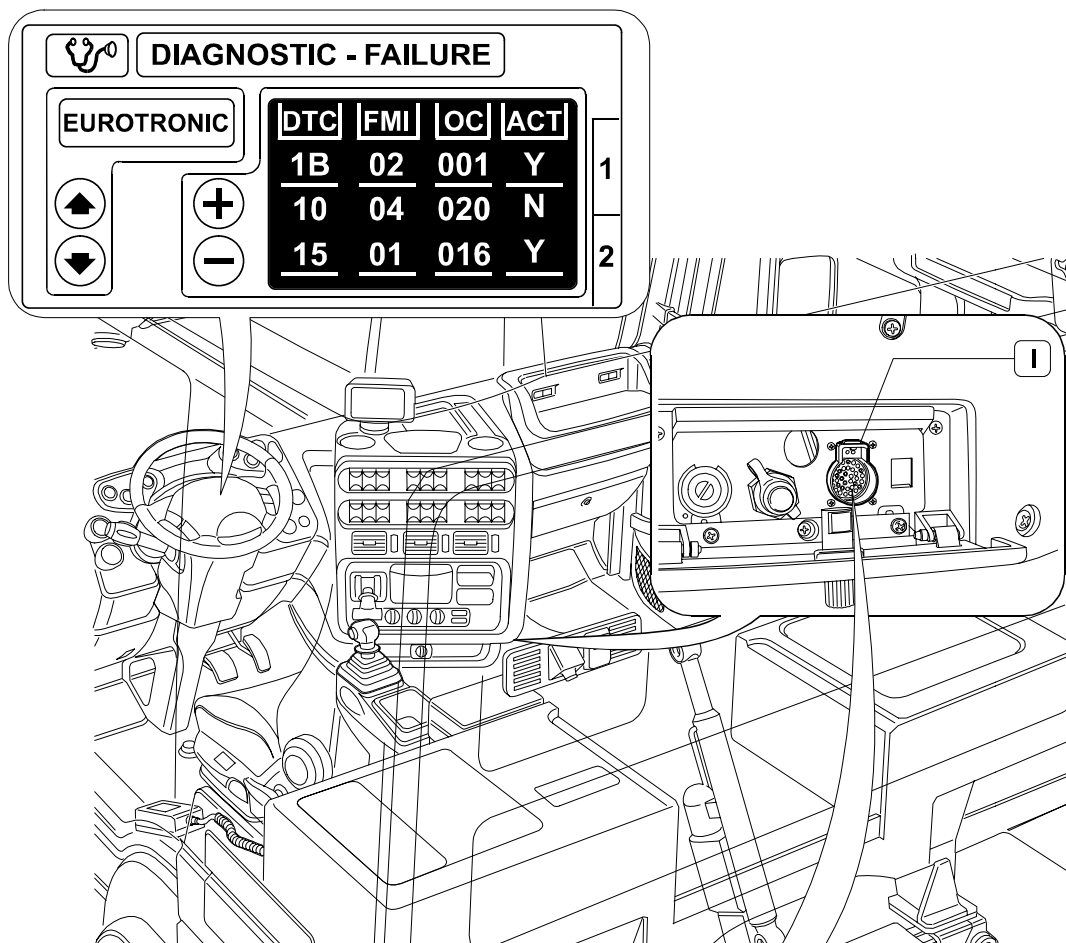
STD.



CLASS	1	2	3
1	green	green	green
	green	green	green
2	red	green	green
	red	green	green
3	red	red	green
	red	red	green

DTC	FMI	Failing component	Type of Failure	Visible failure	Possible Cause	Repair action	Checks to be performed	Measuring conditions	Values to be detected	Remarks
141		CRANK-SHAFT SPEED		No reaction noticeable on behalf of the driver.	Signal interrupted or wiring problem. Sensor installation may not be correct.	Check wiring and installation. Replace sensor if necessary.				
142		ENGINE WORKING ONLY WITH CAM-SHAFT SENSOR		No reaction perceivable by the driver.	Signal interrupted or wiring problem. Sensor installation may not be correct.	Check wiring and installation. Replace sensor if necessary.				
143		CAM-SHAFT SENSOR		No reaction perceivable by the driver.	Signal interrupted or wiring problem. Sensor installation may not be correct.	Check wiring and installation. Replace sensor if necessary.				
144		FAULT BETWEEN FLY-WHEEL SENSOR AND CAM-SHAFT		No reaction noticeable on behalf of the driver.	Signal interrupted or wiring problem. Flywheel and timing sensor installation may be incorrect.	Check wiring and installation of both sensors.				
145		FAN RELAY		No reaction perceivable by the driver. Fan off.	Short circuit or fan actuator faulty.	Check the wiring and the fan actuator. Replace the actuator if necessary.				
148		AIR-CONDITIONER COMPRESSOR RELAY		Air conditioner permanently off.	Wiring or relay short-circuited.	Check the wiring. Replace relay if necessary.				

Figure I

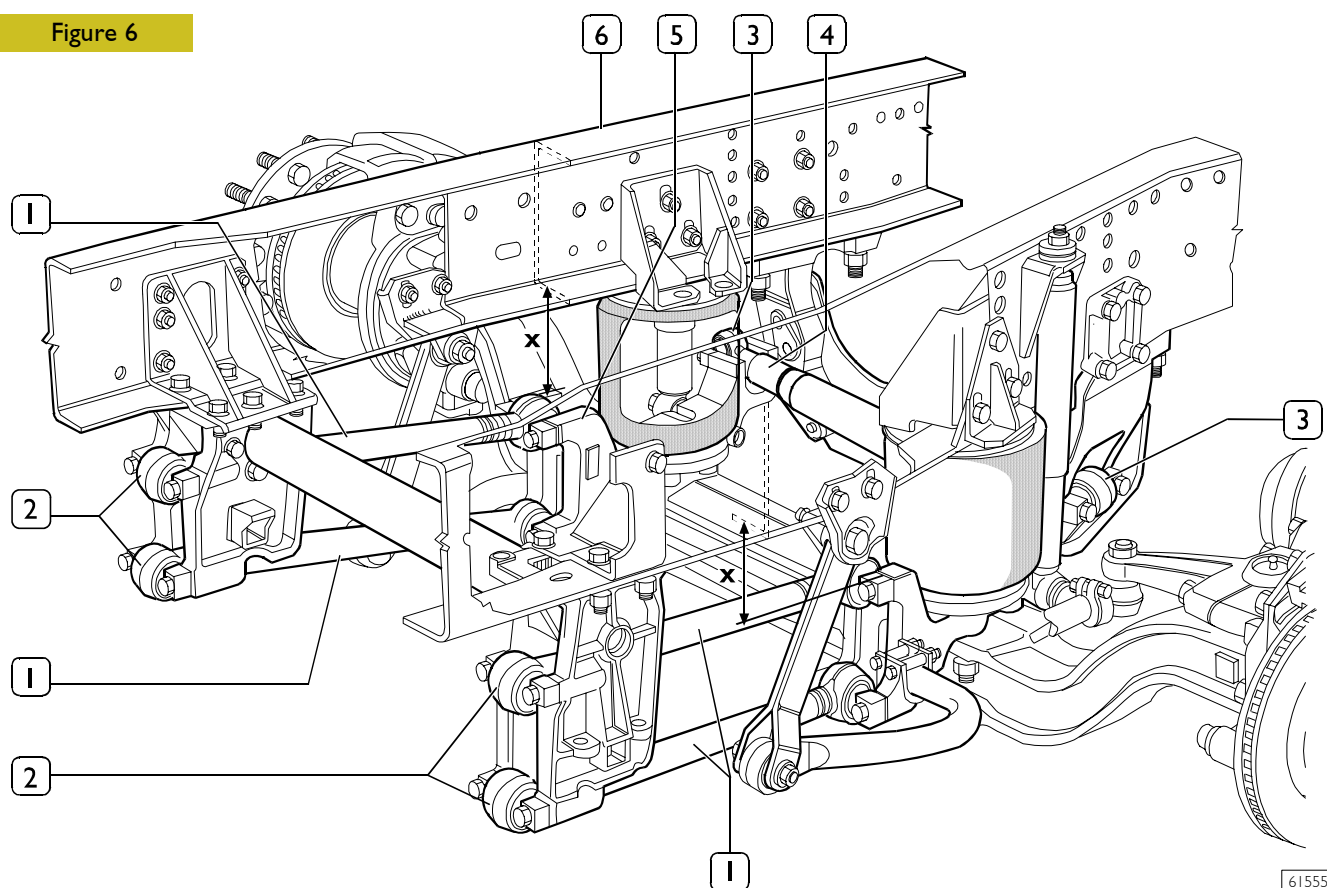


I.Diagnosis socket - A. MODUS - B. E.A.S.Y. - C. IT 2000

106512

DTC	FMI	Failing component	Type of Failure	Visible failure	Possible Cause	Repair action	Checks to be performed	Measuring conditions	Values to be detected	Remarks
9B	00	SHIFTING ACTUATOR - CONTROL CYLINDERS - GEAR ENGAGED	DOES NOT ENGAGE	Vehicle moving: T/m stays on neutral. Another gear selection can be set with the selector lever; if the system comes out of the neutral position, but the gear is not engaged within a certain time, the system goes back into neutral. Vehicle stationary: T/m stays on neutral. When a gear is engaged the clutch is engaged. If the clutch travel is too long, T/m goes back into the neutral position. Another gear selection can be set with the selector lever.		First of all remove possible failures due to interruptions or short-circuit on sensors and solenoid valves				
9B	00	SHIFTING ACTUATOR - CONTROL CYLINDERS - GEAR ENGAGED	DOES NOT ENGAGE			Try to engage gears with the vehicle at rest and check if the failure is still present.				

Figure 6



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Refitting



For refitting, carry out the steps described for removal in reverse order while observing the following:

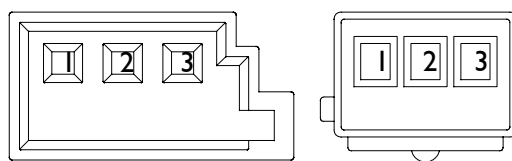
The connection of the swivel head shanks (2) of the longitudinal rods (1) to the mounts of the chassis frame and of the axle has to be made when there is a distance X between the mounts (5) and structural members (6) of $X = 154$ mm.

The connection of the swivel head shanks (3) of the Panhard bar (4) has to be made when there is a distance X between the mounts (5) and structural members (6) of $X = 224.5$ mm.

- ☐ Tighten the nuts or the screws to the required torque.
- ☐ The self-locking nuts must not be reused.
- ☐ Check the state of the flexible pads, and change them if they have deteriorated (operation 500417).
- ☐ Using a hydraulic jack fitted with the mount 99370628, lift the axle so that the leaf spring mating pins go into the holes made on the leaf supporting surfaces on the axle.
- ☐ Check and if necessary adjust the geometry of the front wheels.

DTC	FMI	Failing component	Type of Failure	Visible failure	Possible Cause	Repair action	Checks to be performed	Measuring conditions	Values to be detected	Remarks
03	03	ELECTRO-VALVES - REAR RIGHT	SHORT CIRCUIT TO POSITIVE	Rear axles automatic controls deactivated.	RH engine axle solenoid valve locked closed.	Check wiring and connectors on RH engine axle frame control solenoid valve. Check: Check isolation from - battery pin I3 - X2 / 7 - I0 - XI Measuring conditions: Connectors connected to control unit. Key on START. Comparable values: 22 - 26 V				
03	05	ELECTRO-VALVES - REAR RIGHT	OPEN CIRCUIT	Rear axles automatic controls deactivated.	RH engine axle solenoid valve locked closed.	Check wiring and connectors on RH engine axle frame control solenoid valve. Check: Check continuity pins 4 - I3 / X2 Measuring conditions: Connectors connected to control unit. Key on STOP. Comparable values: 70 - 90 Ohm				
03	06	ELECTRO-VALVES - REAR RIGHT	SHORT CIRCUIT TO GROUND	RH side engine axle automatically lowered.	RH engine axle solenoid valve locked open.	Check wiring and connectors on RH engine axle frame control solenoid valve. Check: Check isolation from - battery pin I3 - X2 / I2 - XI Measuring conditions: Connectors connected to control unit. Key on STOP. Comparable values: > 1 Mohm				

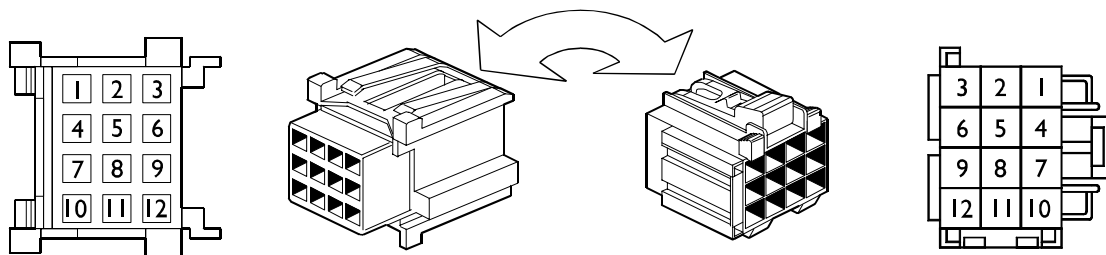
DTC	FMI	Failing component	Type of Failure	Visible failure	Possible Cause	Repair action	Checks to be performed	Measuring conditions	Values to be detected	Remarks
04	0C	SPEED SENSORS OFF WHEEL / PHONIC WHEELS - REAR RIGHT SENSOR	ECU INTERNAL COMPONENT FAULTY	A) Front and/or rear axle wheels tend to lock. Rear axle wheels skid and no engine limitation. B) No trailer and front axle braking optimization. C) No rear axle braking.	A) ABS/ASR totally disabled. B) Electronic control of trailer and front axle braking pressure disabled. C) Electronic control of the rear axle braking pressure disabled.	Check control unit configuration. Replace EBS (CBU) control unit. Check: Verify correct control unit configuration.				If the error persists to contact the help desk for the eventual substitution of the CBU.
04	0E	SPEED SENSORS OFF WHEEL / PHONIC WHEELS - REAR RIGHT PHONIC WHEEL	WOBBLE	Incorrect braking of the RH rear wheel. RH rear wheel tends to block.	RH rear axle ABS disabled. ASR totally disabled.	Check wobble of phonic wheel. Check bearing clearance.				
07	03	ABS ELECTROVALVES - FRONT LEFT	SHORT CIRCUIT TO POSITIVE	Front axle wheels tend to lock.	RH/LH front axle ABS disabled.	Check connector wiring and components.	1- Measure type: Voltage (V) Measure point 1: Connector X2 Pin: 9 Measure point 2: Connector X2 Pin: 15 Measure type: Voltage (V) Measure point 1: Connector X2 Pin: 11 Measure point 2: Connector X2 Pin: 15	1- Connector Not connected; Key +15 ON; 2- Connector Not connected; Key +15 ON;	1- Max. value: 1 V; 2- Max. value: 1 V;	

Junction connector ST01 (black) - turn on key**Figure 29**

KEY SIDE CONNECTOR VIEW

107169

Pin	Function	Cable colour coding
1	Commutator ground	0000
2	Terminal 15 key switch	0987
3	Terminal 50 key switch	0900

ST02 (green) - connection for steering column**Figure 30**

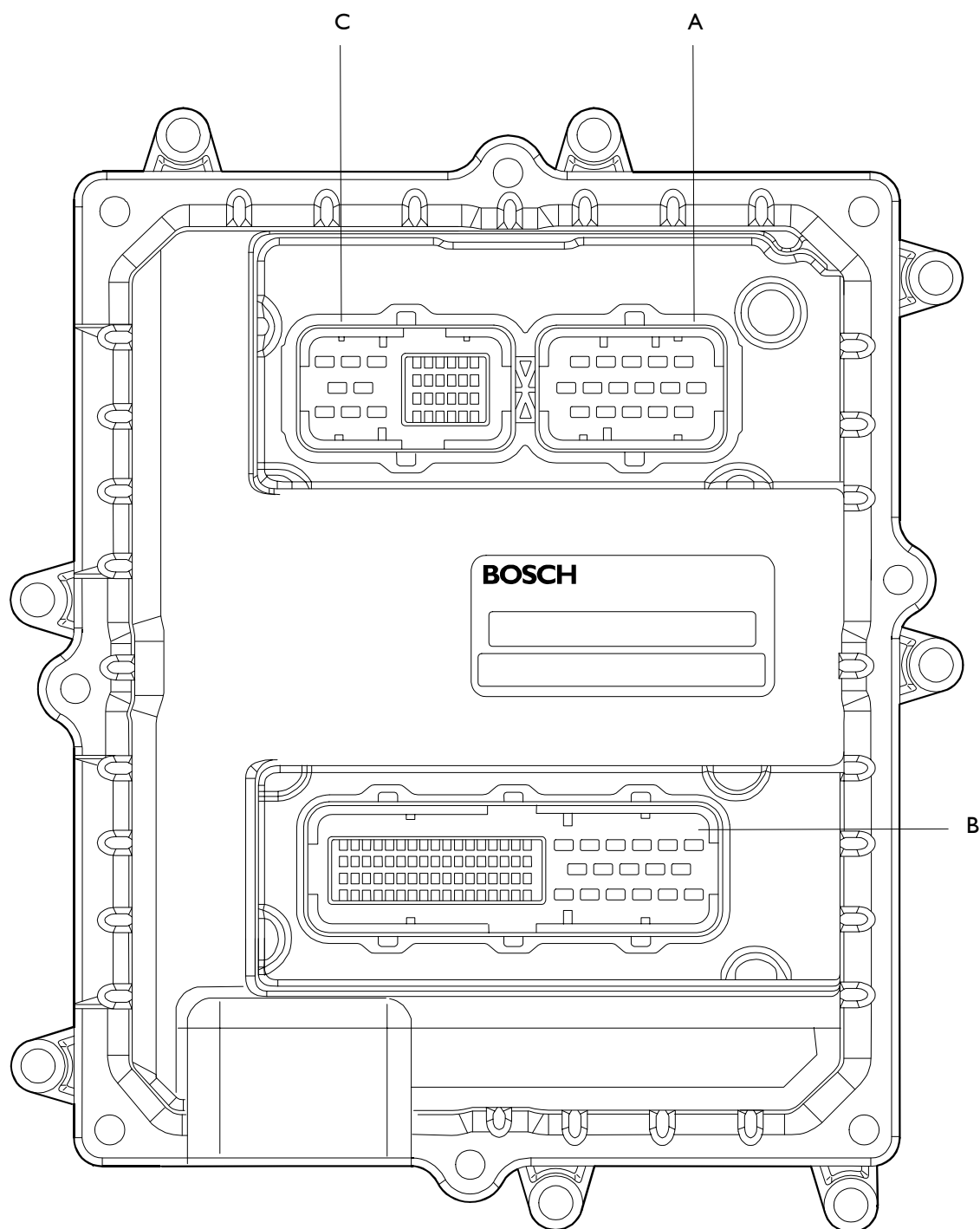
KEY SIDE CONNECTOR VIEW

107538

Pin	Function	Cable colour coding
1	CAN L line (ICB)	Green
2	CAN H line (ICB)	White
3	Earth	0000
4	Negative for warning horn	1116
5	Negative from the key switch (15) - ST 1/2	0987
6	Positive for steering column switch unit symbols lighting	4442
7	Positive (+30)	7906
8	Negative from the key switch (50) - ST 1/3	0900
9	Speed limiter signal	9968
10	Earth	0000
11	-	-
12	-	-

EDC (ECM) SYSTEMS

EDC 7 UC3I electronic control unit

Figure 178

102373

A. Injector connector - B. Chassis connector - C. Sensor connector

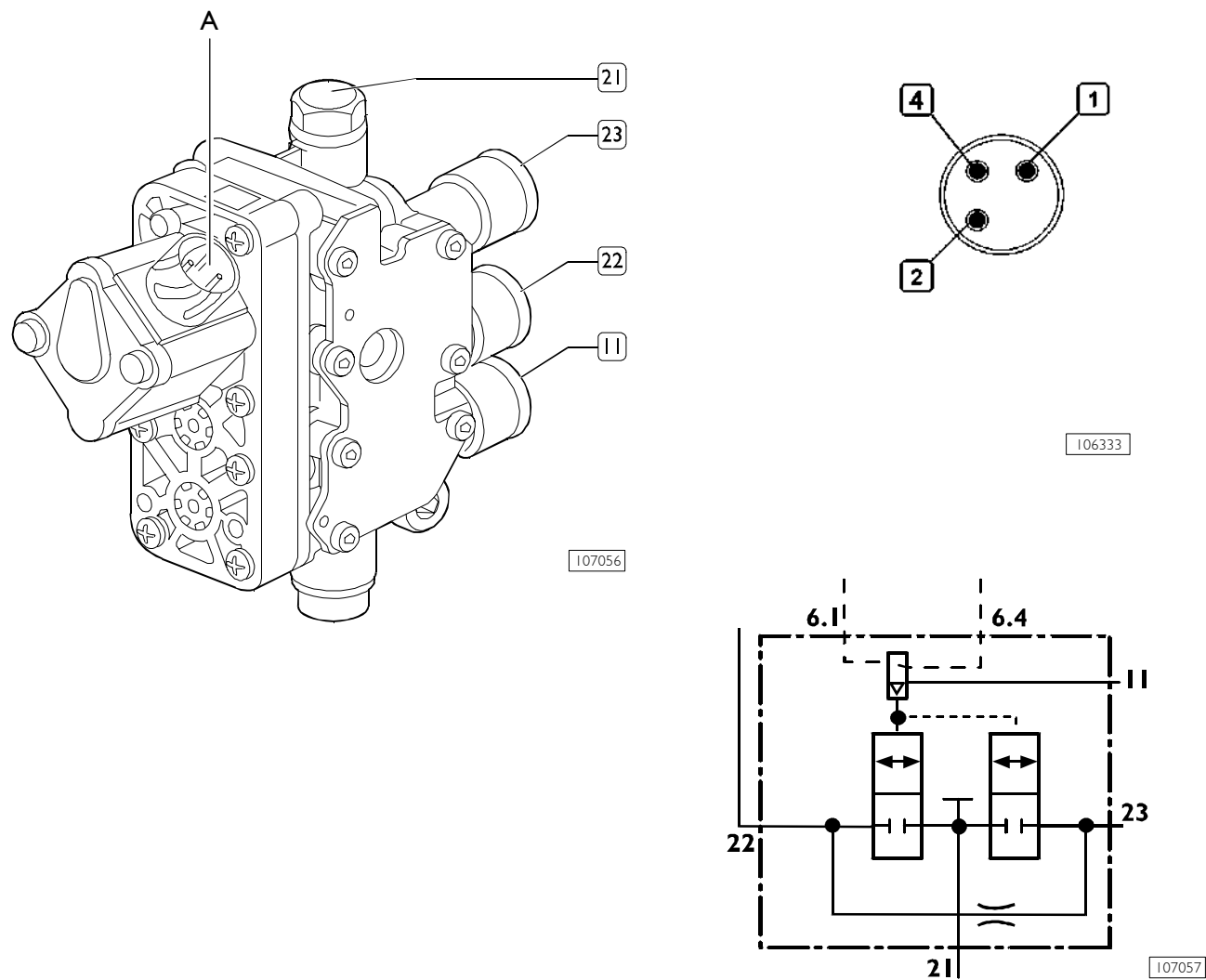
Electro-pneumatic axle distributor for 4x2 – 6x2 – FP tractors

This component is used on all integral suspension vehicles. It consists of a control electro valve and two compressed air distributors for managing both axles sides.

A calibrated hole is provided to prevent pressure overflow between the air springs and consequently stabilize the axles on the internal connection between the two outputs.

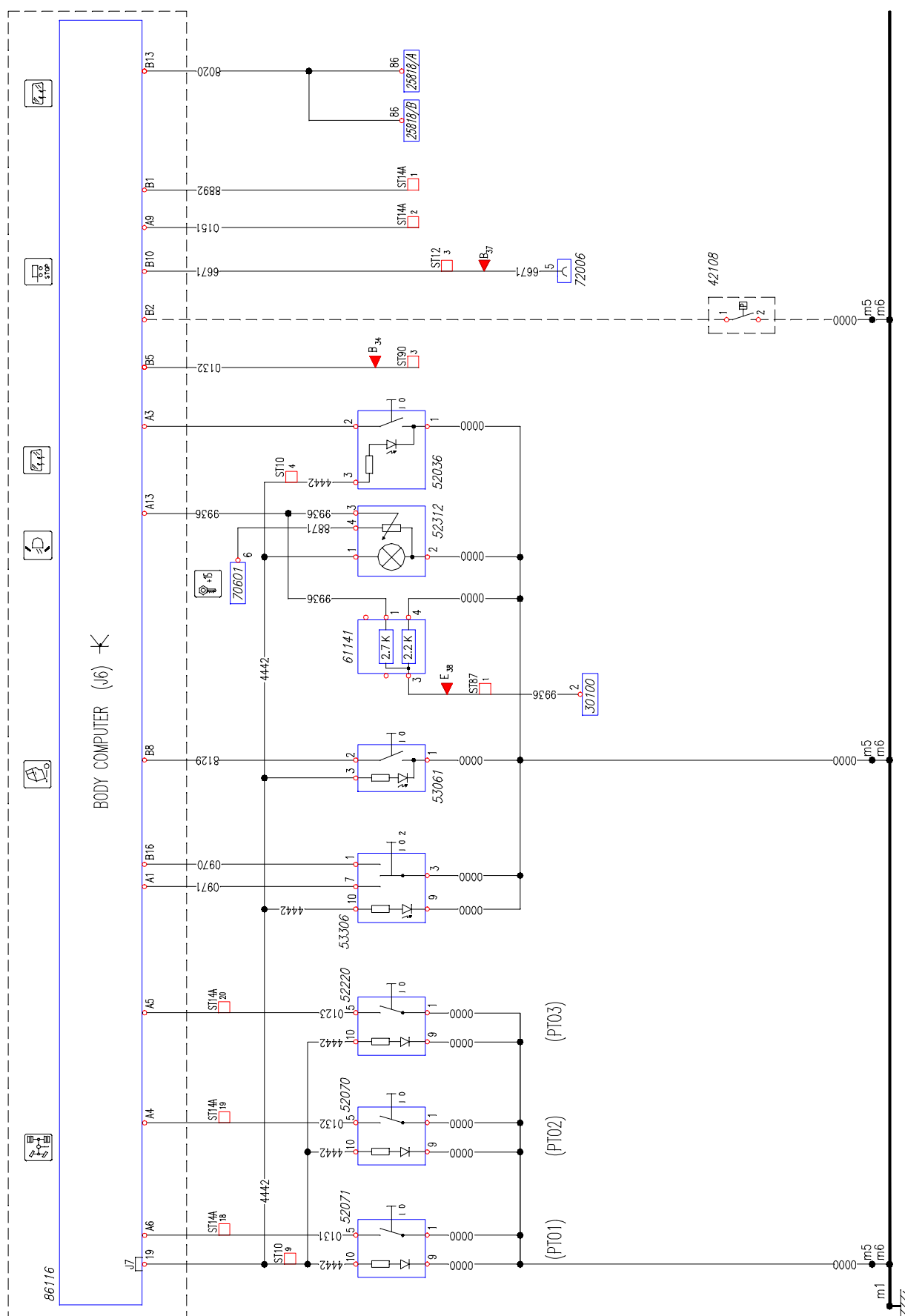
The distributor is connected to the system via a 3-pole connector (A).

Figure 257



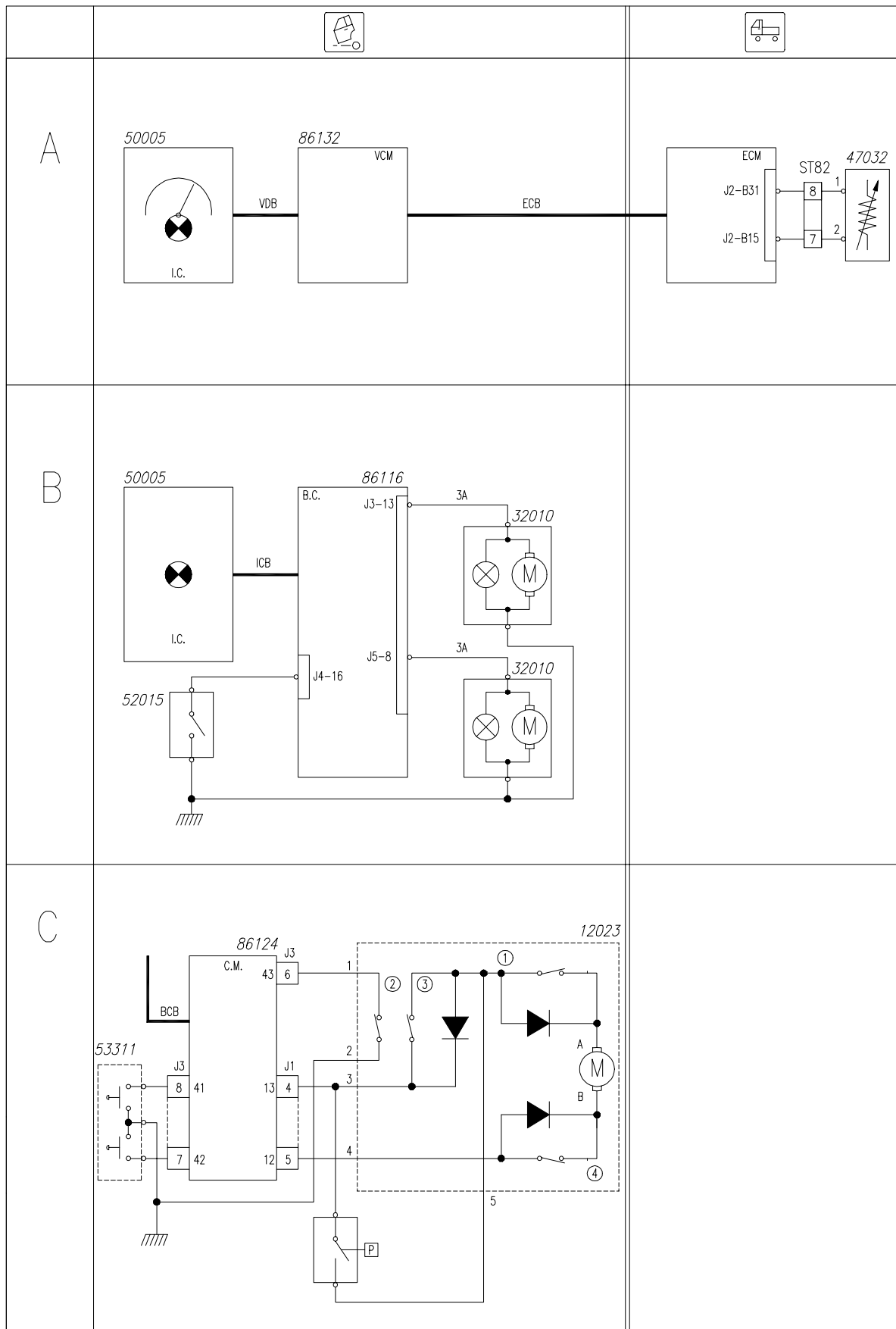
Connector	Description
1	Electro valve control negative (6.1)
2	Positive (6.4)
4	---

Card 8 Body Computer (BC)



113224

Diagram 26: A. Engine oil temperature signal
B. Rotary lamp control
C. Sun visor control



112273