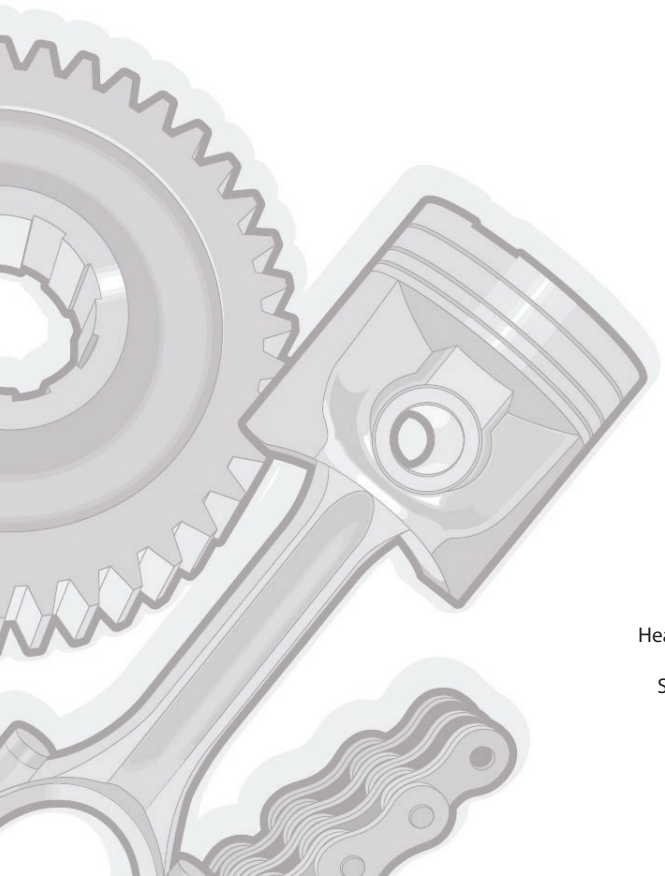
REPAIR MANUAL
MANUEL DE RÉPARATION
REPARATURANLEITUNG
MANUAL DE REPARACIÓN
MANUALE RIPARAZIONE



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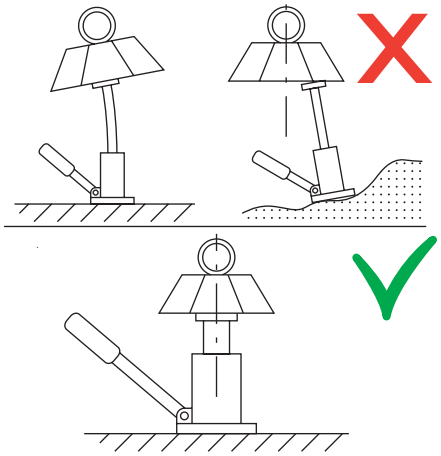
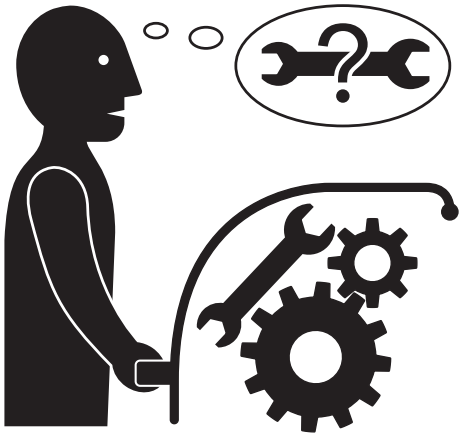


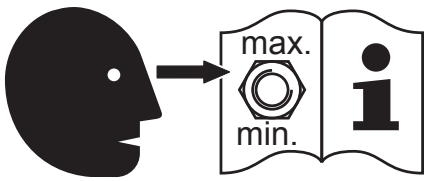
When lifting or shoring a component of the machine, make sure the equipment used is suitable for at least the load for which it is subjected by the component and that it meets the national standards for lifting devices.

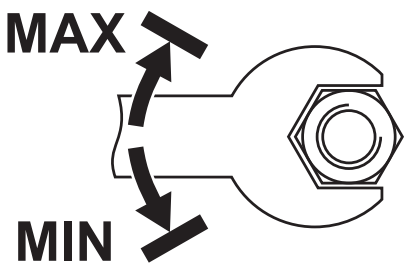
When using a jack, make sure it is used on a flat, uniform surface, is sturdy enough to support the load, that its lifting capacity is sufficient and that it is correctly placed and positioned under the machine.



Make sure no object or tool which could cause an accident is left in the machine.

Never control any leaks using a hand.





Never adjust a component to over the maximum capacity indicated by the manufacturer.

STANDARD TIGHTENING TORQUES

Standard tightening torque to be used when not otherwise indicated in the removal and refitting operations:

- The following tightening torques are given for hexagon head screws without flanges and cylinder head hexagon socket screws.
- The torques are given for a friction coefficient μ = 0,20 corresponding to dry-fitted zinc-plated fasteners and for torque tools having a ± 20 % class C tightening torque accuracy (equivalent to pneumatic screwdrivers).

1 - Tightening torque in N.m (±20%) for screw / nut connection (NF E 25-030-1):

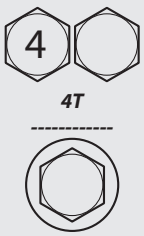
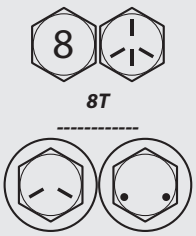
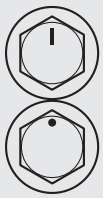
Ø x "coarse" pitch	*Grade 8.8*	*Grade 10.9*	*Ø x "fine" pitch*	*Grade 8.8*	*Grade 10.9*
M6 x 1	8,2	12,1	-	-	-
M8 x 1,25	20	30	M8 x 1	22	32
M10 x 1,5	40	59	M10 x 1,25	43	63
			M10 x 1	46	68
M12 x 1,75	69	102	M12 x 1,5	74	108
			M12 x 1,25	78	115
M14 x 2	111	163	M14 x 1,5	123	181
M16 x 2	175	256	M16 x 1,5	190	279
M18 x 2,5	240	352	M18 x 1,5	279	410
M20 x 2,5	341	501	M20 x 1,5	391	574
M22 x 2,5	470	691	M22 x 1,5	531	780
M24 x 3	588	864	M24 x 2	659	967
M27 x 3	874	1284	M27 x 2	965	1418
M30 x 3,5	1181	1735	M30 x 2	1351	1984
M33 x 3,5	1614	2371	M33 x 2	1821	2674
M36 x 4	2068	3037	-	-	-

For hexagon screws with flanges (NF E 25-030-1) : Apply an increased torque of +10%.

Where washers are used, the following coefficient is to be applied (FD E 25-502) :

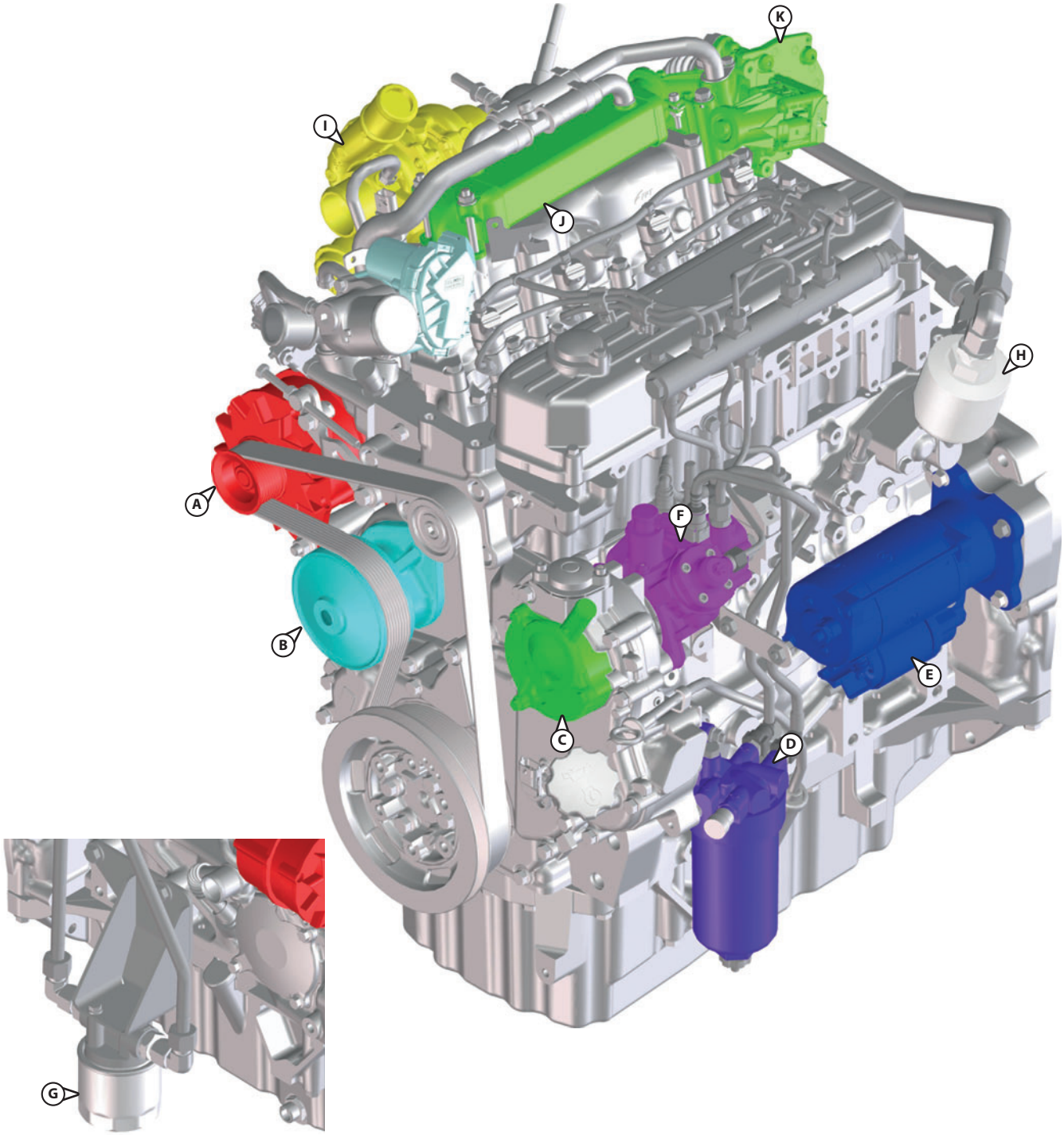
- ***Smooth tapered washer (CL): +5%***
- ***Spring (or Grower) washer without jaws (W) : +10%***
- ***Conical, internal teeth (CDJ-JZC) : +15%.***

2 - Tightening torque in N.m (±20%) for screw / nut connection (with marking) :

Ø x Pitch	 (flange : 4.8T)		 (flange : 6.8T)		 (flange : 8.8T)	 (flange : 10.9T)	 (flange : 11.9T)
M6 x 1	**5.4** (5.5)	**6.5**	**7.8** (7.5)	**11**	**12** (12)	(15.5)	(17.5)
M8 x 1,25	**13** (13)	**16**	**19** (19)	**25**	**29** (29)	(38)	(42)
M10 x 1,25	**25** (27)	**32**	**39** (39)	**52**	**61** (61)	(80)	(89)
M12 x 1,25	**47** (50)	**59**	**72** (71)	**95**	**108** (110)	(145)	(160)
M14 x 1.5	**75** (78)	**91**	**108** (110)	**147**	**172** (175)	(230)	(260)
M16 x 1.5	**113** (120)	**137**	**172** (170)	**226**	**265** (270)	(360)	(400)

use the upper class where spring (or Grower) washers are used.

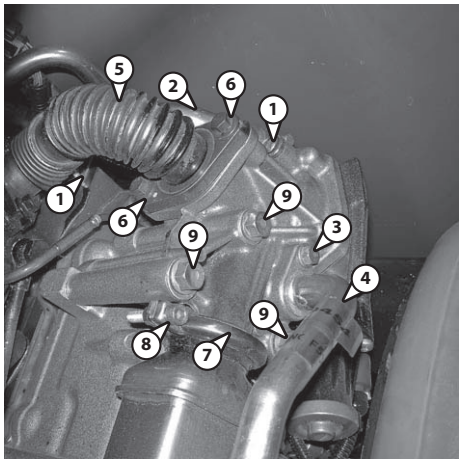
ENGINE ELEMENTS

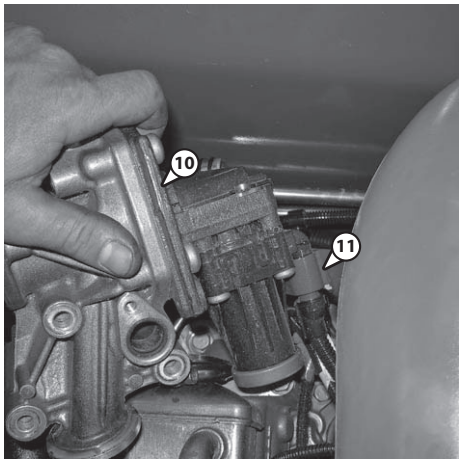


ENGINE ELEMENTS

Key:

A - Alternator
B - Water pump
C - Crankcase breather
D - Fuel filter
E - Starter
F - Injection pump
G - Oil filter
H - Oil filter head
I - Turbocharger
J - EGR cooler
K - EGR valves





C – EGR VALVE REMOVAL

Remove the screws (Item 1) from the tube retainer (Item 2) 10 mm wrench.

Remove the screw (Item 3) of the tube retainer (Item 4), 10 mm wrench.

Remove the two screws (Item 5) of the concertina tube retainer (Item 6), 10 mm wrench.

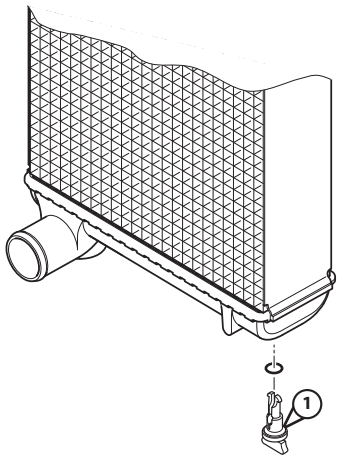
Undo the retaining ring (Item 7), unscrew the screw (Item 8), 5 mm Allen key.

Remove the three fastening screws (Item 9) from the EGR valve, 13 mm wrench.

Remove the valve (Item 10) and disconnect the connector (Item 11).

Remove the EGR valve.

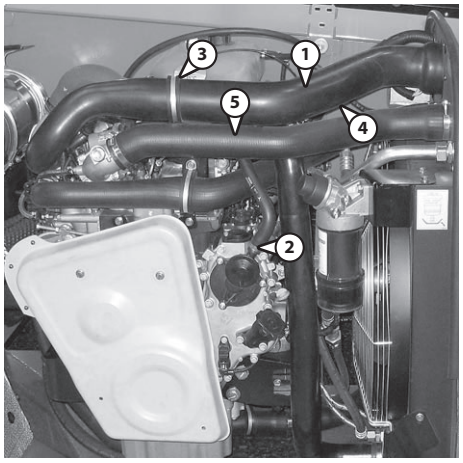
For the refit, check that the O-rings are in place. Perform the removal operations in the opposite order.



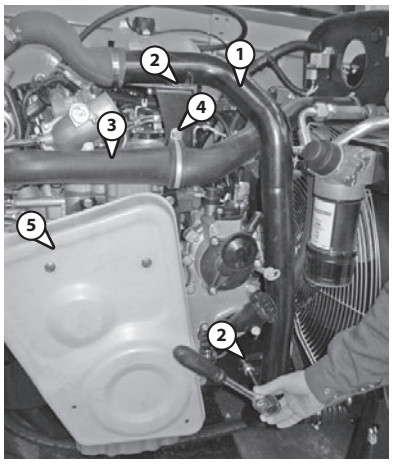
3 – Remove the hoses

Open the expansion tank.

Unscrew the drain plug (Item 1) under the radiator (it remains attached).



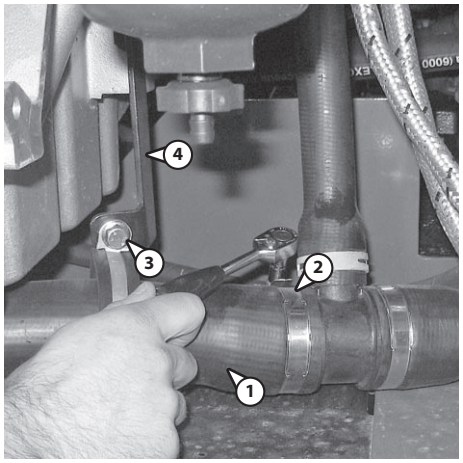
Remove the air turbo intake hose (Item 1): unscrew the 2 retaining rings at each end + 1 retaining ring on the vent hose (Item 2) (7 mm spanner), remove the retaining clamp (Item 3) (13 mm spanner), disconnect the air intake temperature sensor (Item 4). Remove the engine air intake hose (Item 5) : unscrew the 2 clamps at each end (7 mm wrench).



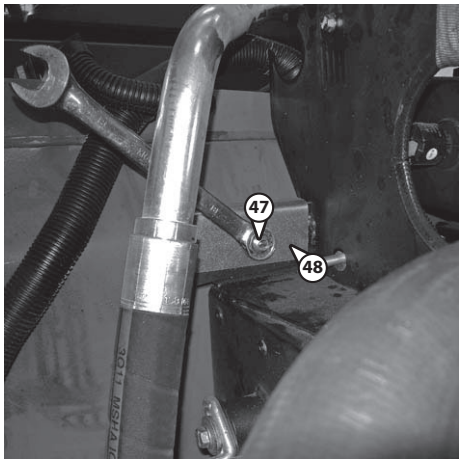
Remove the engine air outlet pipe (Item 1): unscrew the 2 clamps at each end (7 mm wrench), the fastening lugs on the engine crankcase and on the expansion tank support bracket (Item 2) (13 mm wrench).

Remove the engine water outlet hose (Item 3): unscrew the 2 clamps on each end (7 mm wrench), remove the retaining clamp (Item 4) (13 mm wrench).

Remove the drive belt cover (Item 5), 4 screws (13 mm wrench).

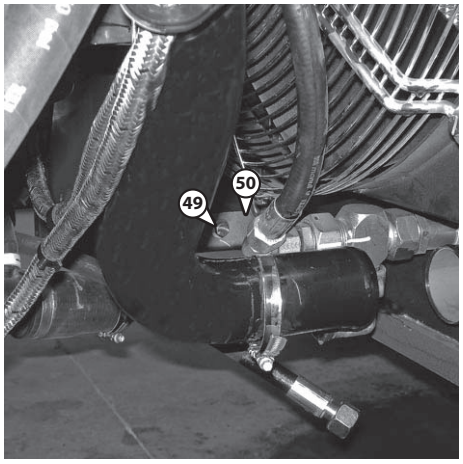


Remove the engine water inlet hose (Item 1): unscrew the collar (Item 2) (7 mm wrench), remove the retaining collar (Item 3) (13 mm wrench) of the lug (Item 4).



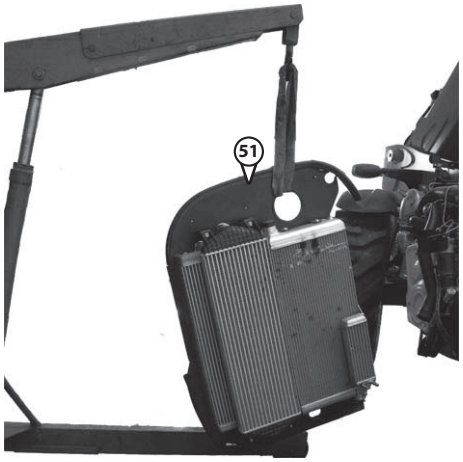
Remove the fastening screw (Item 47) between the top of the radiator and the frame, 18 mm spanner.

Pay attention to the chocks (Item 48) and rubber seals.

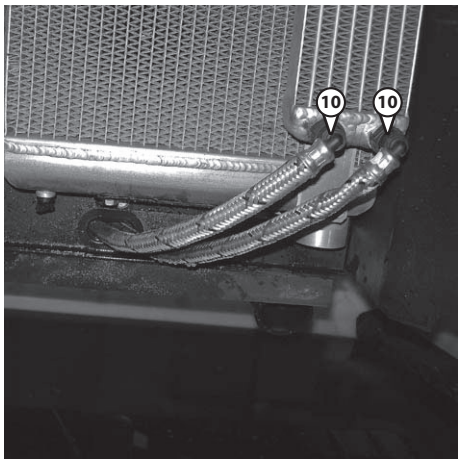


Remove the fastening screws (Item 49) between the bottom of the radiator and the frame, 16 mm spanner.

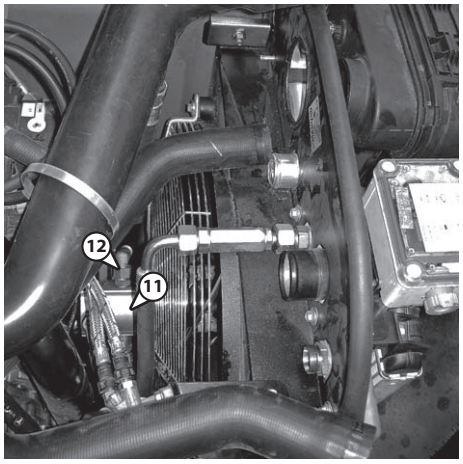
Pay attention to the chocks (Item 50) and rubber seals.



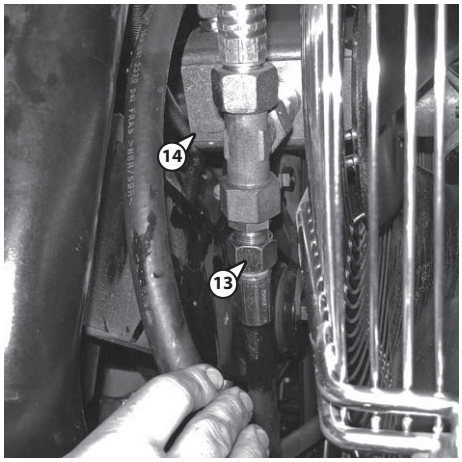
Remove the radiator (Item 51) by backing out the crane.



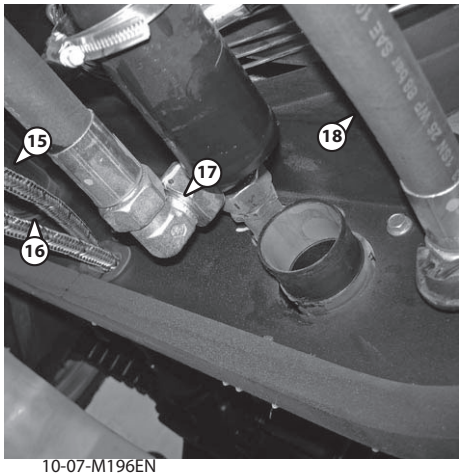
Undo the diesel line (Item 10), and pass them in front of the cooler to connect them to their location.



Connect the line (Item 11) under the engine fan (Item 12), 30 mm spanner.



Connect the line (Item 13) to the engine fan fitting (Item 14)



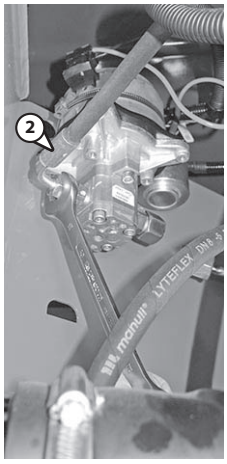
Position the hose (Item 15) and attach the retaining ring (Item 16), 7 mm spanner.

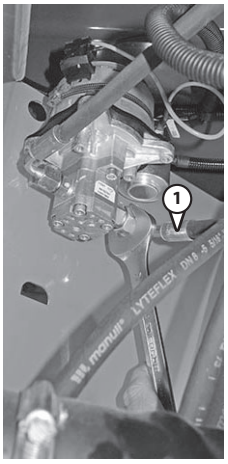
Position and attach the hydraulic oil return line (Item 17), 41 mm spanner.

Position and attach the transmission oil return line (Item 18), 41 mm spanner.

TABLE OF LOGICAL DIAGRAM CONDITIONS

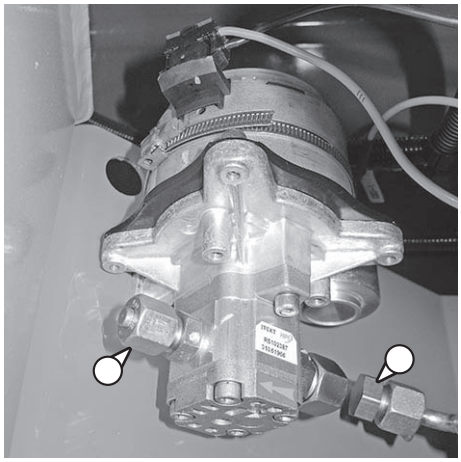
"Safety conditions (for restarting)" ①			
• Stop & Go function activated • Engine bonnet closed • Cab door is closed • Engine speed = 0 rpm for more than 3 seconds • No safety fault detected • (emergency stop engaged or safety fault detected in one of the computers) • No DTC3 active by default on the engine ECM • No "waiting to start the lamp" activated (cold starting)	AND		Safety conditions satisfied
"User presence detected (for restarting)" ②			
• hydraulic control by JSM, radio control or console (lifting, descent, telescope extension and retraction, tilt, slope compensation, stabilizer extension and retraction) • Demand for increase in engine speed (control on accelerator pedal) • Appearance of a transmission request	OR		User presence detected
Hydraulic starting conditions (of the engine) ③			
• Pressure in the hydraulic accumulator > 180 bars • Coolant temperature > 60°C • Engine stopped for less than 60 min	AND		Hydraulic starting conditions satisfied
Automatic stopping (of the engine) conditions ④			
• Stop & Go function activated • No DPF regeneration or DPF regeneration is in progress • No hydraulic demand or demand for an increase in engine power for more than 30 seconds • Transmission in neutral for more than 30 seconds • Vehicle speed = 0 km/h • Pressure in the hydraulic accumulator > 180 bars • Engine functions for more than 2 minutes • Coolant temperature between 65°C and 100°C • Estimated battery voltage drop > 7,5V • No DTC3 active by default on the engine ECM • RC not in accelerated position • Fan Drive reversal deactivated	AND		
Conditions for driving the electric pump ⑤			
• Stop & Go function activated • No electric pump fault detected • Pressure in the hydraulic accumulator < 180 bars		AND	Conditions for driving the electric pump
• Engine stopped for more than 1 second • Engine OPERATION for more than 3 seconds	OR		



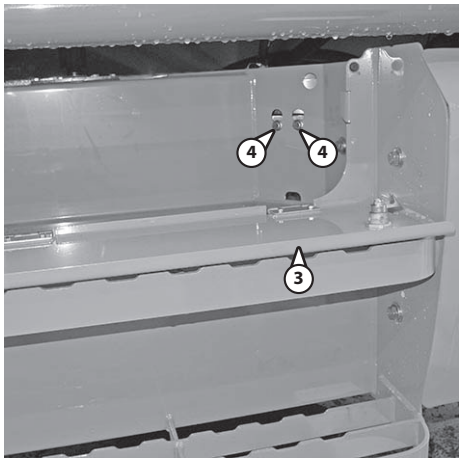


ELECTRICALLY DRIVEN PUMP REMOVAL

Located under the cab in front of the oil reservoir.
Remove the suction hoses (Item 1), discharge hoses (Item 2).



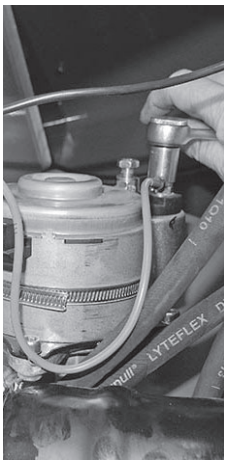
Block the orifices on the pump and the hoses.

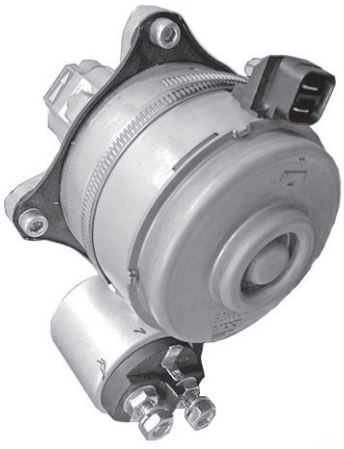


Open the trap (Item 3) under the cab by the step
Unscrew the 2 screws (Item 4)

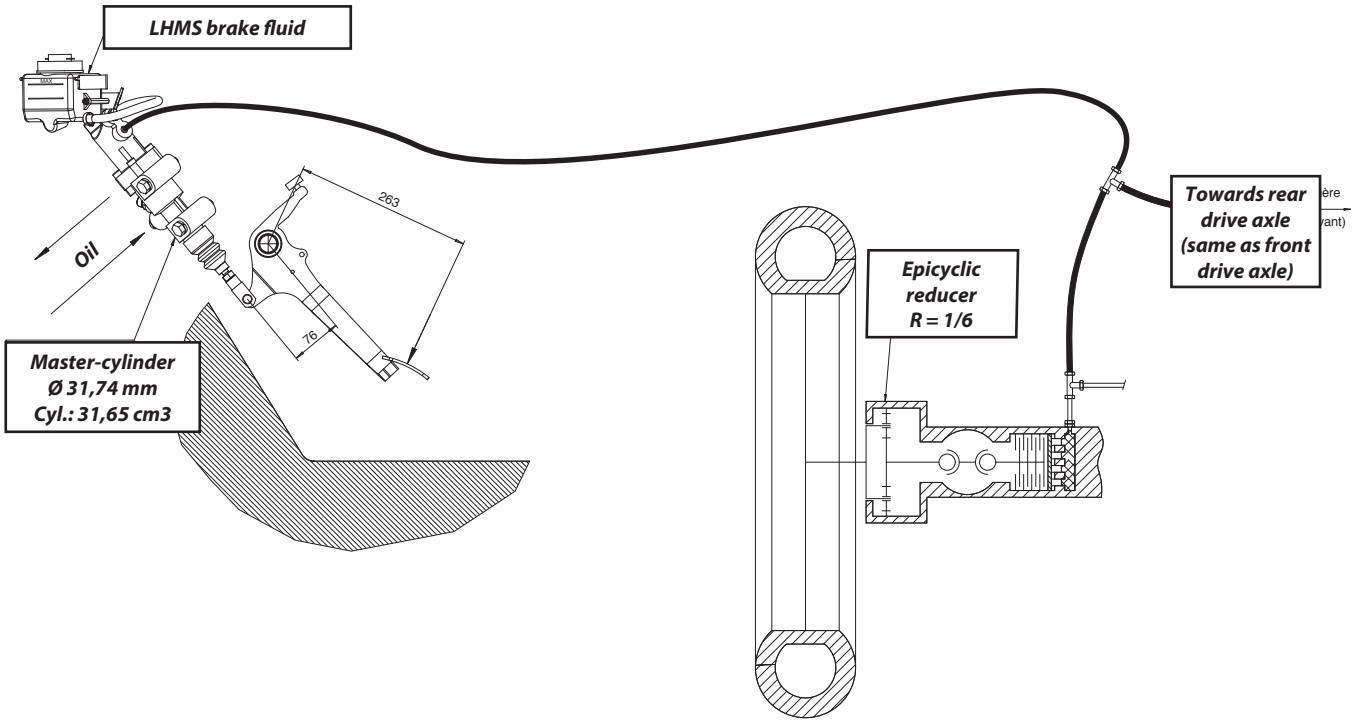
Unscrew the wires marking them and remove the electric pump.

For reassembly, perform the operations in reverse order.





SERVICE BRAKE



Oil back brake disc:	
Number of discs per wheel	4
Braking surface per disc side	146,85 cm2
Pressure of use advised	70 to 80 bar
Friction material	Paper N266
Disc diameter	201,5 mm
Disc thickness	4,75 – 4,85 mm
Scope of action	88 mm
Number of receiver cylinders	1
Wear compensation	Auto
Track width	26,75 mm

PURGING PROCEDURE

Place on flat floor.
Secure the FR and RR wheels.

– Start the truck to charge the accumulator.

– Stop the truck.

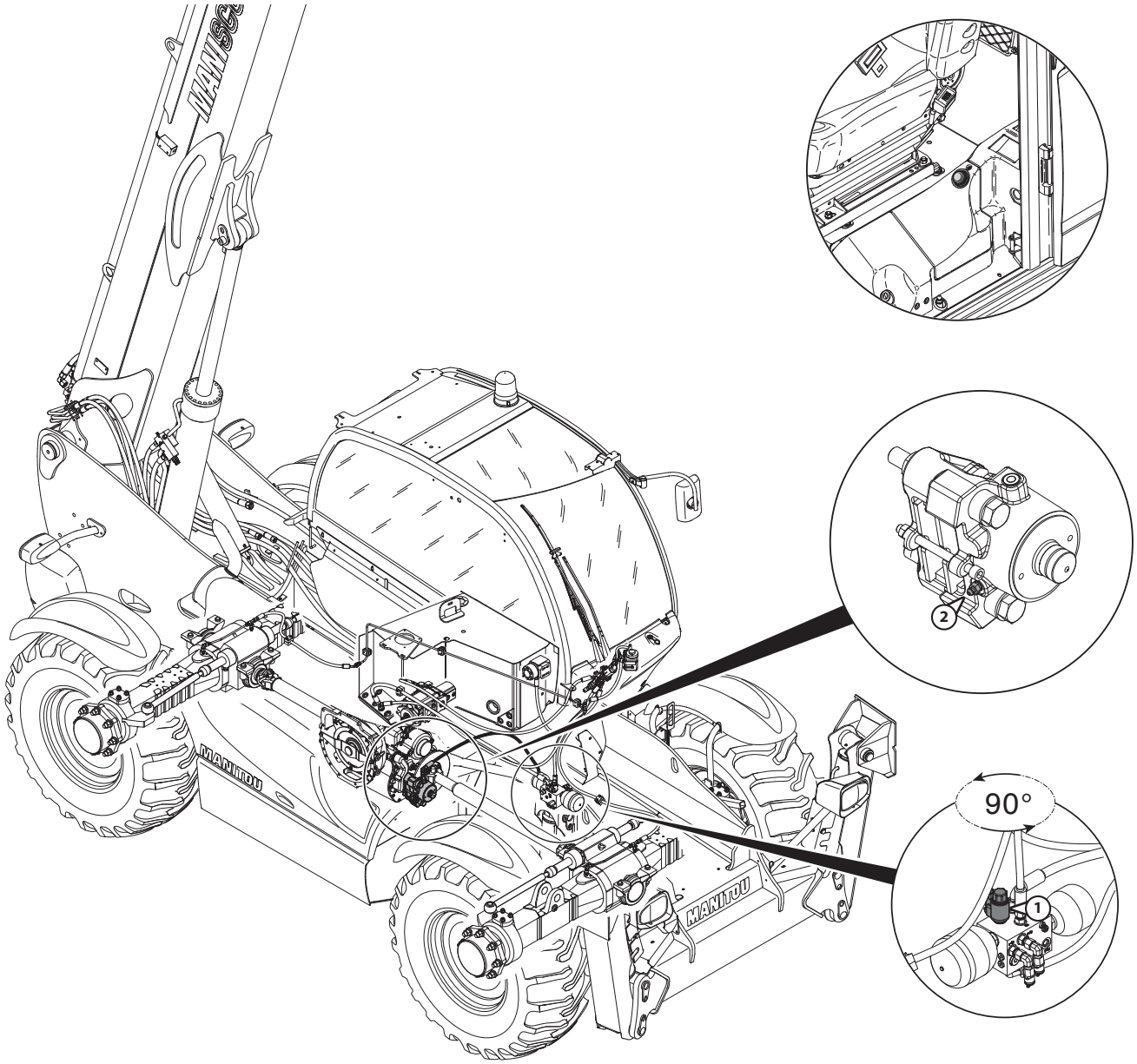
– Switch the ignition on again.

– Connect up cable (Ref. 265865) between parking brake solenoid valve (Item 1) and cigarette lighter.

– Open the vent screw (Item 2).

– Close the vent screw (Item 2) when flow rate is constant (no air bubbles).

– Take out cable (Ref. 265865).



TRIPLEX (MT 14 METERS)

Consisting of 3 components:

- 1 fixed
- 2 mobile

Deployment:

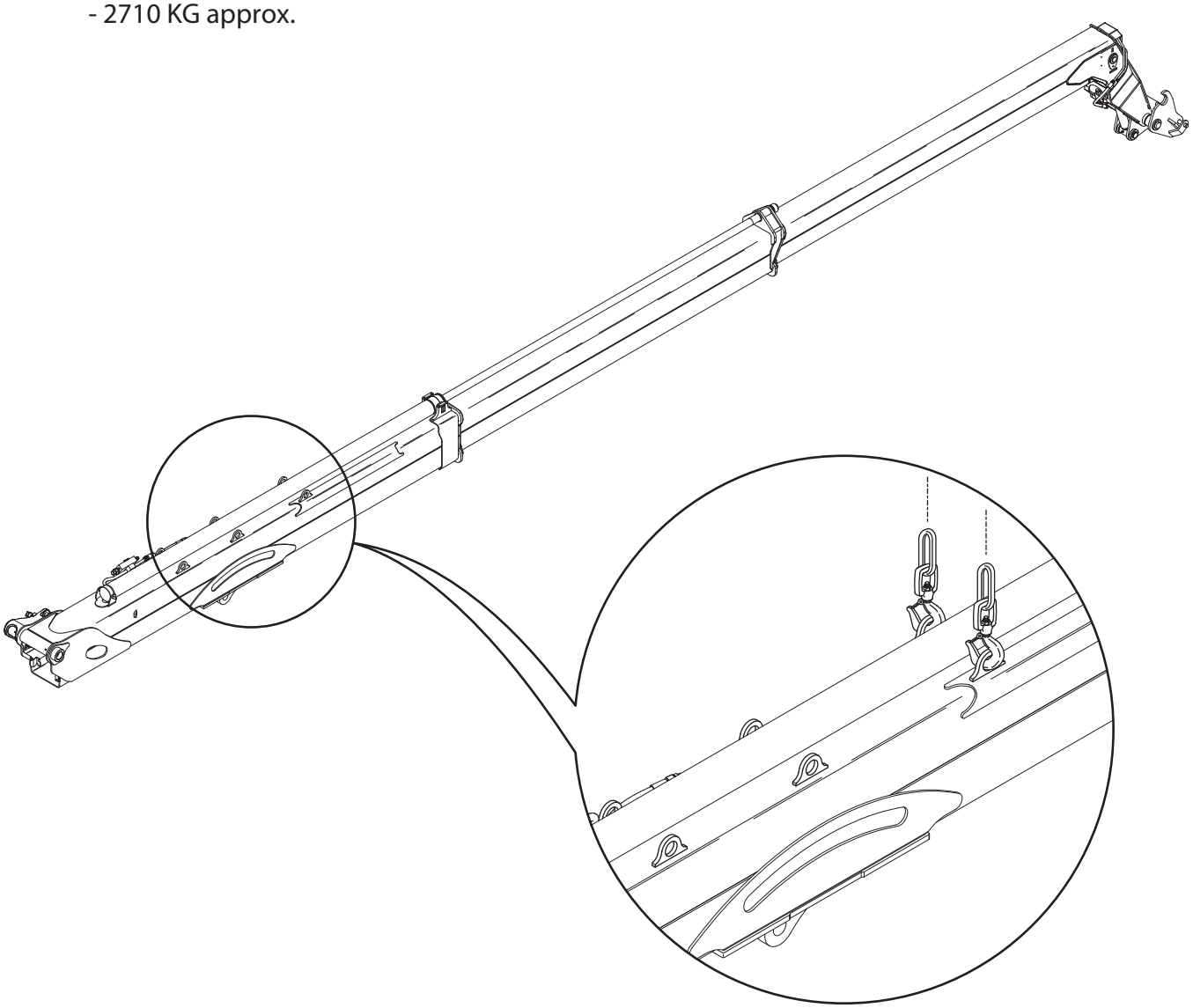
Deployment of the Triplex boom is controlled simultaneously.
⇒ T1 and T2 extend at same time.

Machines equipped with a Triplex boom:

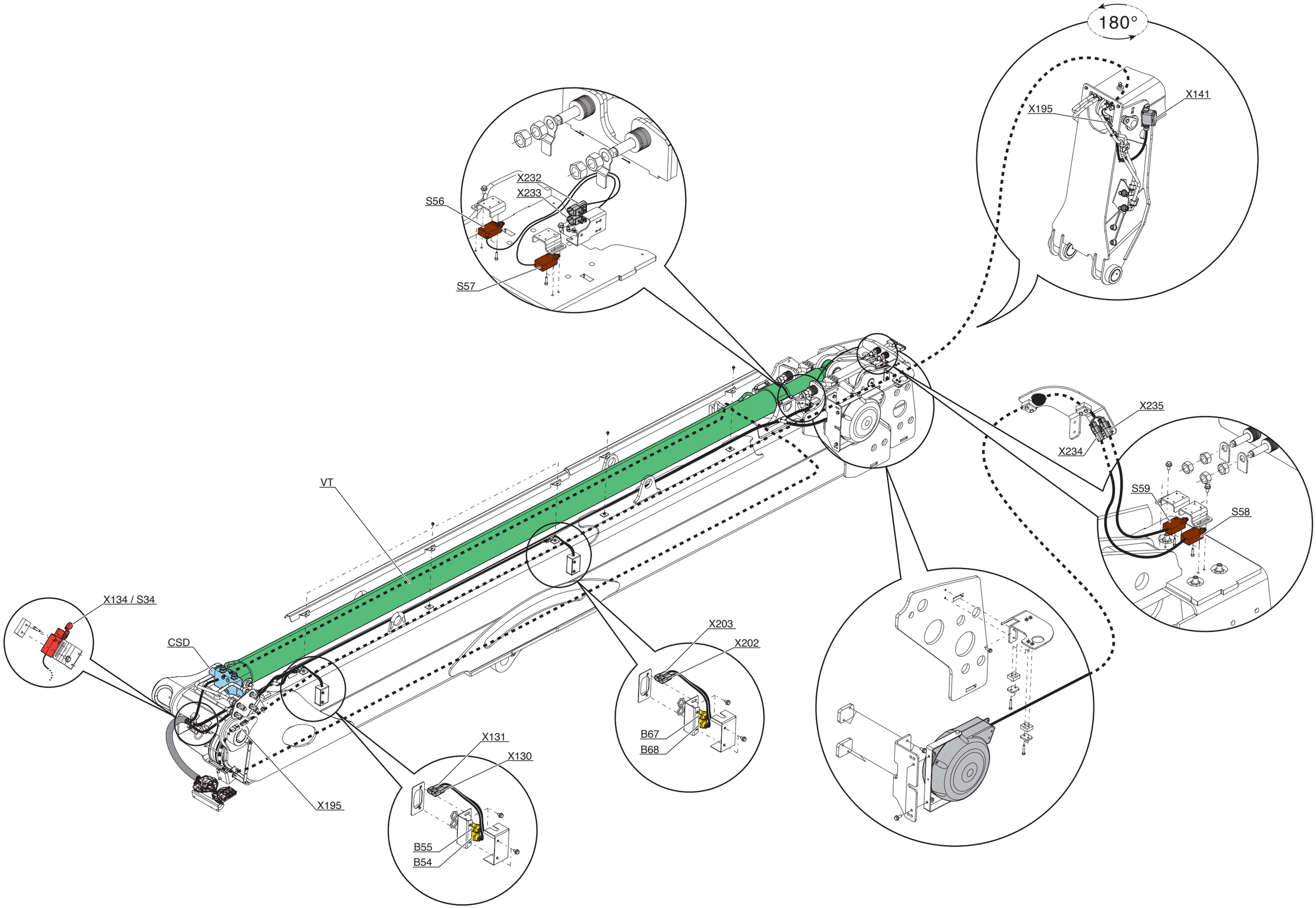
- MT 1440
- MT 1440 A
- MT 1440 H
- MT 1440 HA

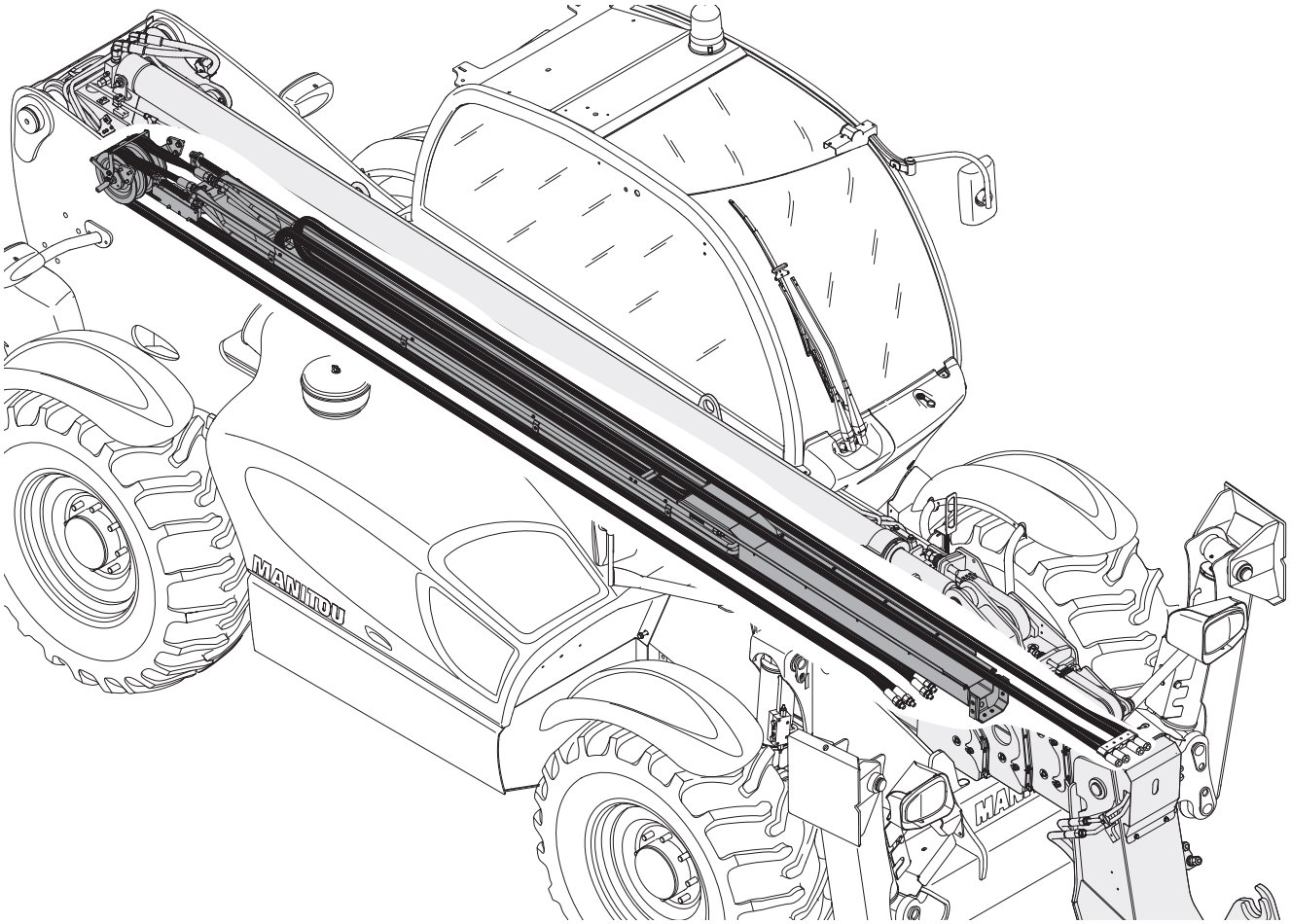
Boom weight:

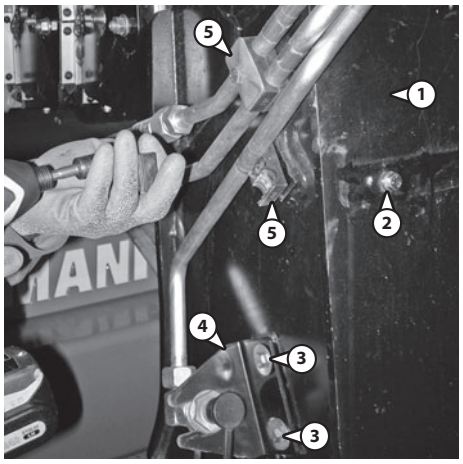
- 2710 KG approx.



QX BOOM MAIN COMPONENT LOCATION (4 ELEMENTS)





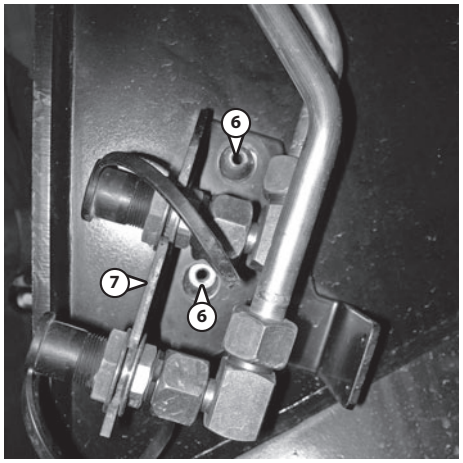


"HYDRAULIC KIT" REMOVAL

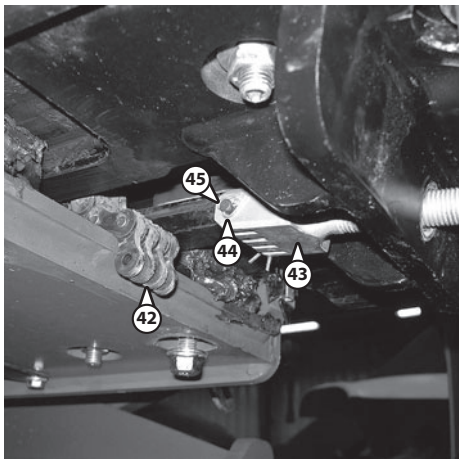
Remove protection cover (Item 1) by undoing 4 screws (Item 2).

Undo two screws (Item 3) from the "accessory hydraulic tube support bracket" (Item 4) on the right side of the boom head.

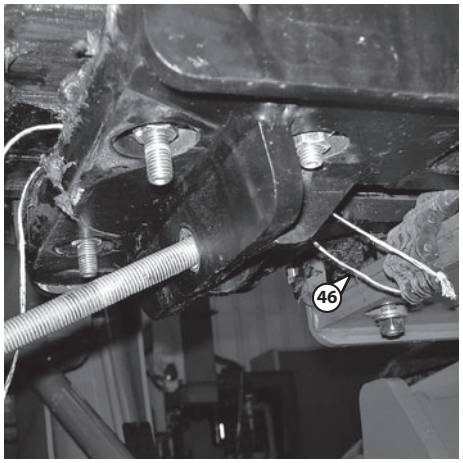
Take out two hydraulic tube flanges (Item 5).



Undo the two screws (Item 6) that hold the two hydraulic tubes support bracket (Item 7) on the left side of the boom head.

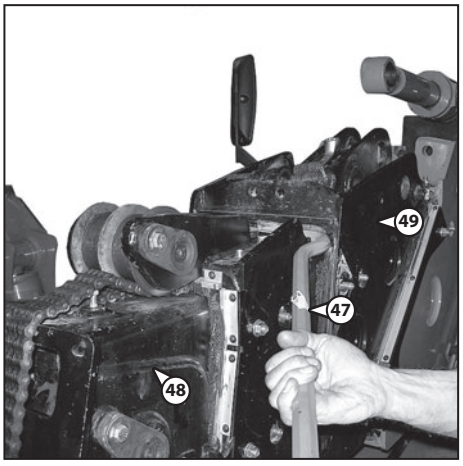


Separate “T3 retraction chain” (Item 42) from its tensioner (Item 43) by taking out pin (Item 44) and its hinge pin (Item 45).

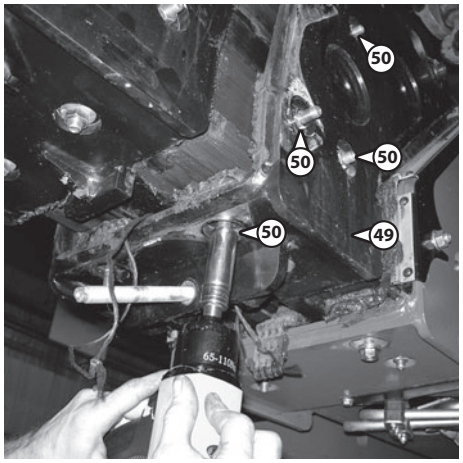


Place a cord (Item 46) around the links at the end of the chain.

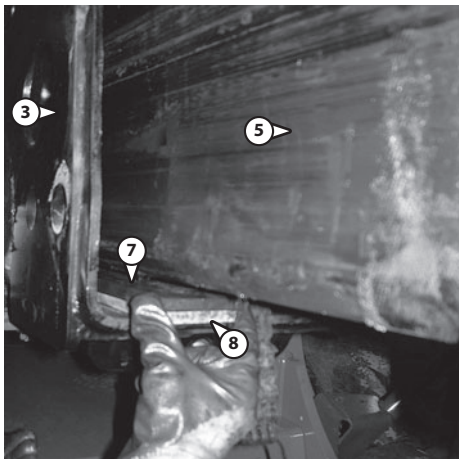
This operation is necessary so that the chain can be tensioned during T2 + T3 assembly extraction to avoid any possible kinking.



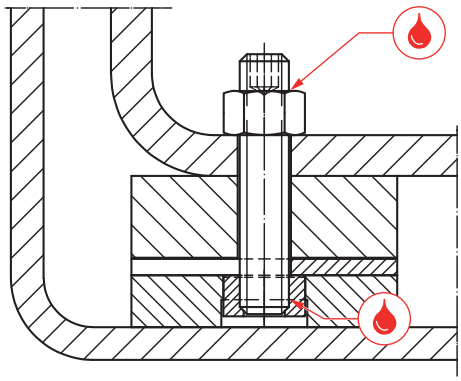
Use a presser foot tool (Item 47) to slightly move the T2+T3 assembly (Item 48) of T1 telescope (Item 49).



Use 19 mm socket wrench to undo sixteen T1 telescope (Item 49) pad nuts (Item 50). Then loosen screws and take out pads + shims.

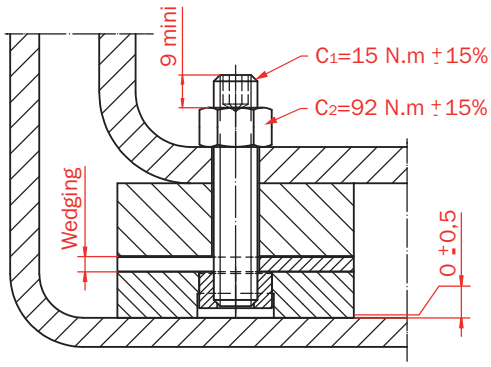


Insert 2 pads (Item 7) + 2 shims (Item 8) between T1 (Item 3) and T2 (Item 5) telescopes.



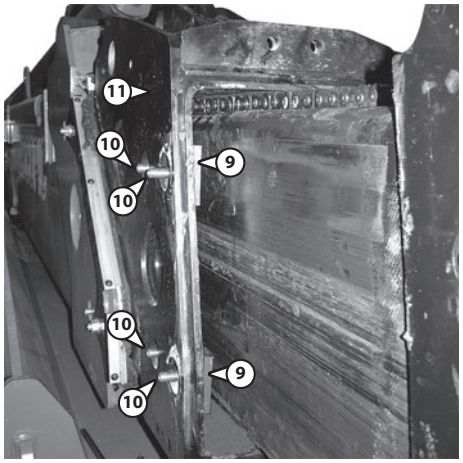
Tighten up their rods + position rings + nuts.

Apply "Loctite 243 normal thread lock" to all screw/ insert and nut/screw interfaces only on boom inside.



Observe tightening torques and assembly recommendations.

C_1 = 15 N.m ± 15%
C_2 = 92 N.m ± 15%



Insert 2 pads (Item 9) + rods (Item 10) into T1 telescope left side (Item 11).

Carry out same operation on T1 telescope right side.

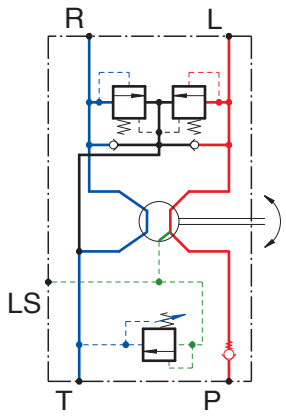
Note: Where there is a difference in tensioner length on a pair of chains, keep the difference, do not adjust the tensioners to the same dimensions.

5) Tighten up lock nuts for each “chain tensioner” once all chain tensioner settings have been done. Apply tightening torque to locknuts:

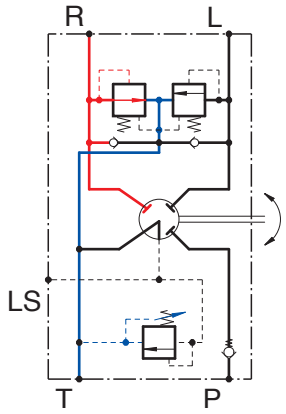
C = 85 N.m

6) Refit split pins to each “chain tensioner”.

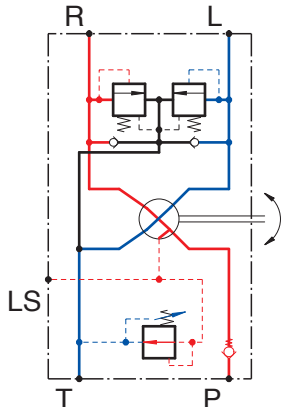
Values for information purposes only.



When the driver turns the steering wheel towards the right, he passes the flowrate from P to R and sends pilot pressure towards the divisor to get priority.



When there is an impact on a wheel, the pressure increases in the line. This pressure opens the valve which enables the resulting pressure to be evacuated and therefore protects the hydraulic and mechanical steering components.



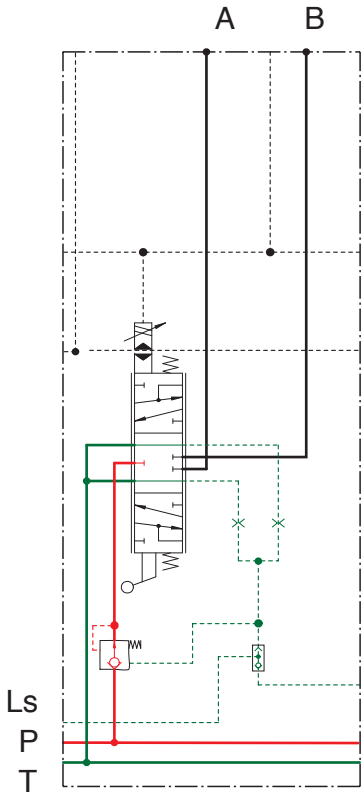
When the wheels are locked to a maximum, the steering circuit increases in pressure, the LS line activates the relief valve and enables flow to the tank.

What use do the two valves that are located opposite each other on the top part of the diagram have?

What is the maximum pressure permitted in the steering circuit?

What is the LS line, without actions, connected to on the steering wheel?

Values for information purposes only.



Hydraulic pressure arrives at P.

No movement = idle pressure in the P line.

The Ls line is connected to the tank.

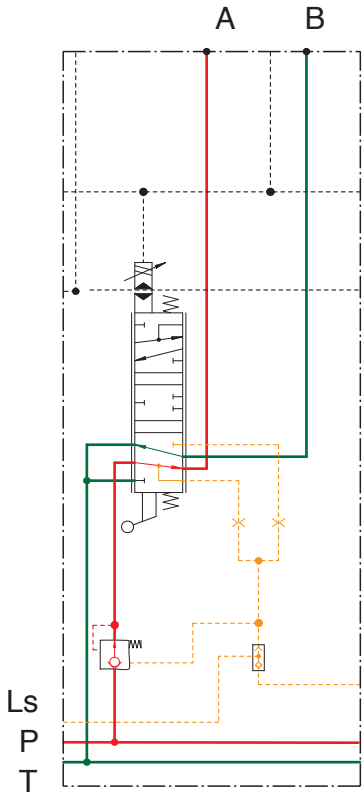
The B line is closed.

Hydraulic pressure arrives at P.

Movement (P towards A) = Pressure increase according to receptor requirements.

Simultaneously, pressure increases in line Ls (Pressure Ls = Pressure required by the receptor).

Max. pressure in Ls = Max. pressure in A
= Max pressure in P – Idle pressure.



What is the max. pressure in line B if the main relief valve is calibrated at 200 bar?

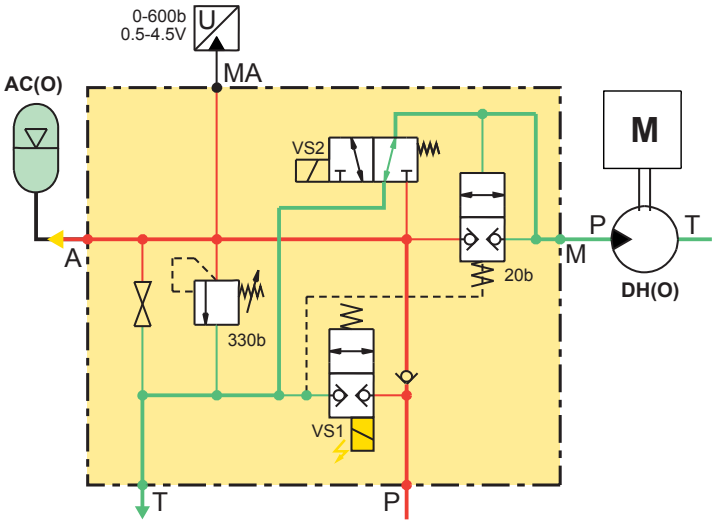
What is the role of mark 2 pressure balance?

Values for information purposes only

Operation

Key:
Circuit pressurized
Circuit without pressure

Charged accumulator

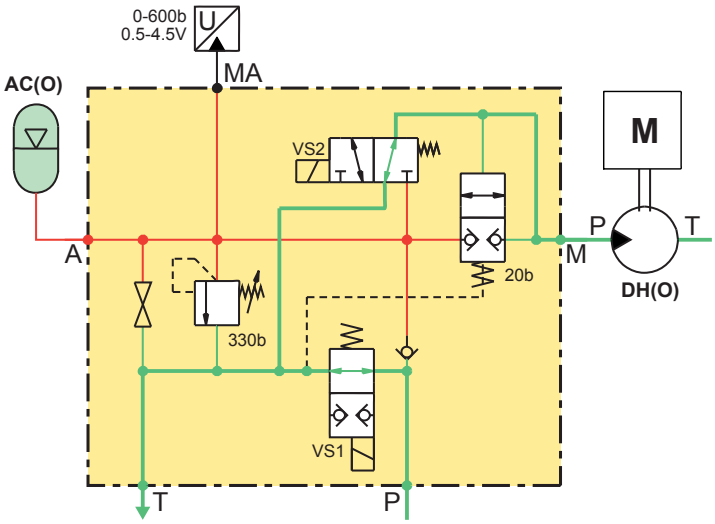


Note: Starting of the hydraulic pump before activation of VS1.

- Valve VS1: Activated
- Valve VS2: Deactivated

Charging the accumulator:
Pmax = 250 bars

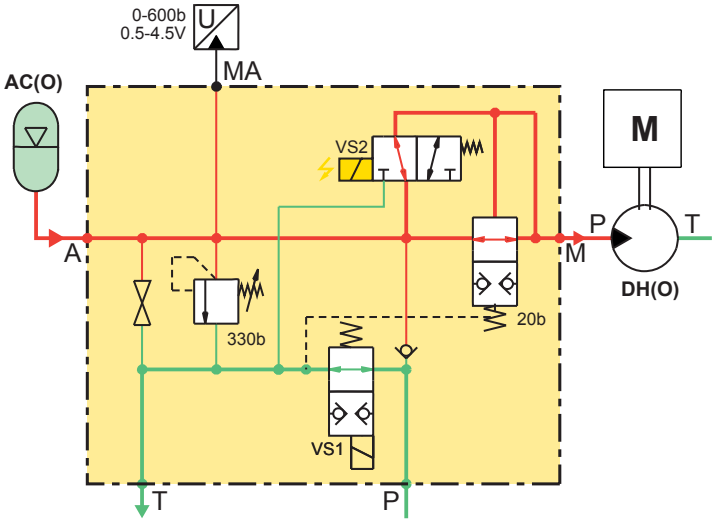
Accumulator charged



- Valve VS1: Deactivated
- Valve VS2: Deactivated

Accumulator charged:
A = 250 bars max

Accumulator discharged (Starting of the heat engine)



- Valve VS1: Deactivated
- Valve VS2: Activated

Discharge of the accumulator in the hydraulic starter.

Note: Once the heat engine starts return to the "Accumulator charged" status.

Part No.	Designation	Position on diagram				Characteristics (Options)
		MT 1440	MT 1840	MT 1440 A	MT 1840 A	
MRR(O)	ADJUSTED COOLER MOTOR	M11		S16		STOP&GO OPTION
N	LEVEL	S8		S5		
P	HYDRAULIC PUMP	Q11		Q11		
PAAV	FRONT ATTACHMENT CONNECTOR			E25		
PAAV(O)	FRONT ATTACHMENT CONNECTOR	A24/E19/G19/A26/A32		A30/A32/A38		OPTION
PAAR(O)	REAR ATTACHMENT PLUG	C29		C36		OPTION
PD	STEERING PUMP	E10		C10		
Pp	PRESSURE TEST PORT	S41/G37/G35/A7/Q20/ M5/M3/K6/M2		Q38/S27/Q37/A8/K5/K3/ I6/K1/K24/K23		
PRES	PRESSURE SWITCH	A1		K7/G36		
PRF(O)	LEAKAGE RETURN CONNECTOR	G19		E25		OPTION
PS	ORH EMERGENCY MANUAL HYDRAULIC CIRCUIT PUMP			S21		
R	HYDRAULIC TANK	S19		S6		
RDU	UNIDIRECTIONAL FLOW REDUCER	G5		G5		
RF	OIL COOLER	I15		O20		
RLF	BRAKE FLUID TANK	C6		C6		
VAI(O)	ISOLATION VALVE	C22/A30/A24		C28/A37/A30		OPTION
VBE	AXLE LOCK CYLINDER			I15		SE 70 C163
VC	COMPENSATING CYLINDER	I36		K24		DE 110x55 C 485
VCD	SLOPE COMPENSATION CYLINDER	M40		G41		DE 120x55 C 158
VDar	REAR STEERING CYLINDER	E14		C15		
VDav	FRONT STEERING CYLINDER	E4		C4		
VD	DISCHARGE VALVE			K12		
VDA	ACCUMULATOR DISCHARGE VALVE			K31		
VDL	LIFTING DISCHARGE VALVE			I30		
VI	TILTING CYLINDER	E31		I19		DE 150x75 C 355
VIC	COMPENSATING ISOLATION VALVE	I34		K21		
VL	LIFTING CYLINDER	I34		G27		DE 170x85 C1100
VLP	PRESSURE LIMITING VALVE			K30		
VRD	FLOW REDUCTION VALVE	M34				
VS	SAFETY VALVE *	Q38		Q25		
VSD	RIGHT-HAND STABILIZER CYLINDER	I41		I39		DE 125x60 C 486
VSG	LEFT-HAND STABILIZER CYLINDER	I36		I34		DE 125x60 C 486
VT	TELESCOPE CYLINDER		I22		A22	DE 115x75 C3730
VT1	TELESCOPE CYLINDER 1	K22		C23		DE 120x65 C3766
VT2	TELESCOPE CYLINDER 2	I22		A23		DE 100x60 C3834
VTSDL(O)	SINGLE SIDE-SHIFT CARRIAGE CYLINDER	A19/A34		A25/A40		OPTION
VVT(O)	CARRIAGE LOCKING CYLINDER	C19/A28/A22		C25/A34/A28		DE 60x45 C 183 - OPTION

Note:

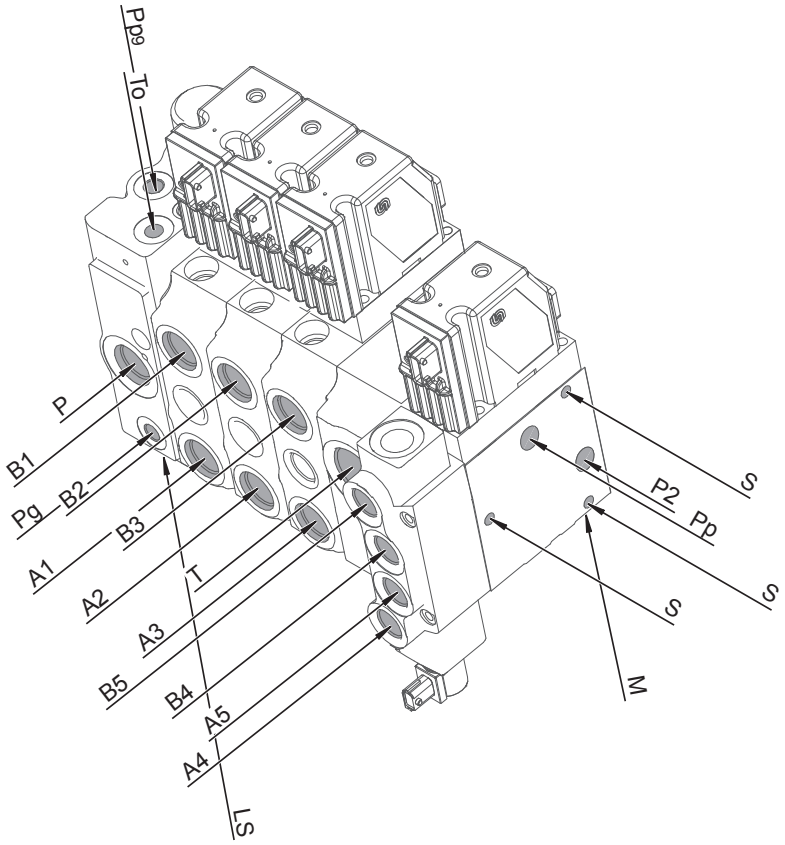
- The calibration pressures of the main relief valves on the inlet elements are given for maximum engine speed.
- The calibration pressures of the secondary relief valves are at an engine speed of 1000 rpm.
- The pressure relief valves should be adjusted at an oil temperature of 50°C.

KEY

Part No.	Designation	Electrical code equivalence
AC	ACCUMULATOR (35 bar)	
AD	DECOMPRESSION ACCUMULATOR (7 bars)	
BA	FEED BLOCK + ACCUMULATOR	
CA	SUCTION STRAINER	
CPD	DOUBLE COUNTERBALANCE VALVE (Leveling cylinder)	
CPD	DOUBLE COUNTERBALANCE VALVE (Right-hand and left-hand stabilizer cylinders)	
CSD	DOUBLE SAFETY VALVE (VT)	
CSP3	COUNTERBALANCE VALVE (lifting cylinder)	
CSP2	COUNTERBALANCE VALVE (tilting cylinder)	
D1	4-ELEMENT DISTRIBUTOR	
D3	3-POSITION STEERING DISTRIBUTOR	
DBE	AXLE LOCKING VALVE	
FR	RETURN FILTER	
JSM	HYDRAULIC CONTROL LEVER	
MC	MASTER CYLINDER	
P	HYDRAULIC PUMP	
PD	STEERING PUMP	
R	HYDRAULIC TANK	
RLF	BRAKE FLUID RESERVOIR	
VBE	AXLE LOCK CYLINDER	
VC	COMPENSATING CYLINDER	
VCD	SLOPE COMPENSATION CYLINDER	
VD	DISCHARGE VALVE	
VDA	ACCUMULATOR DISCHARGE VALVE	
Vdar	REAR STEERING CYLINDER	
Vdav	FRONT STEERING CYLINDER	
VI	TILTING CYLINDER	
VIC	COMPENSATING ISOLATION VALVE	
VL	LIFTING CYLINDER	
VSD	RIGHT-HAND STABILIZER CYLINDER	
VSG	LEFT-HAND STABILIZER CYLINDER	
VT	TELESCOPE CYLINDER	

MAIN DISTRIBUTOR (MT 1440 A / MT 1840 A)

Part No.	Distributor / Connector (N.m)
A1	110
A2	100
A3	110
A4	80
A5	80
B1	110
B2	100
B3	110
B4	80
B5	80
LS	60
M	35
P	160
P2	35
Pg	/
Pp9	/
Pp	35
S	22^{+5}_{0}
T	210
To	60

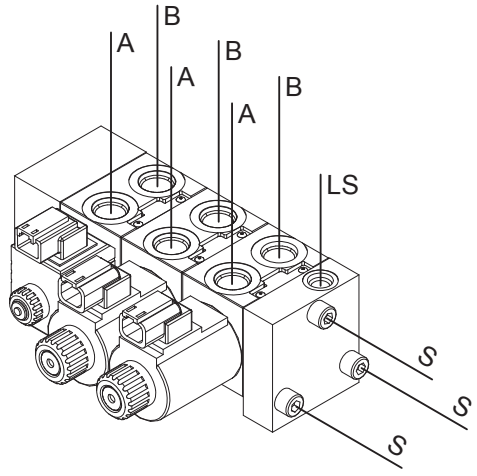


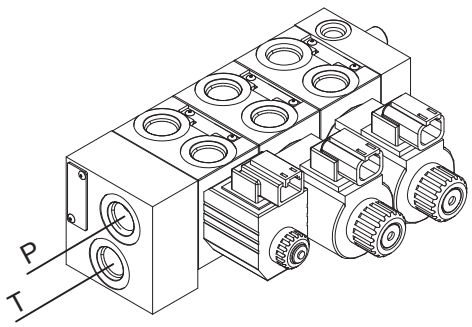
70

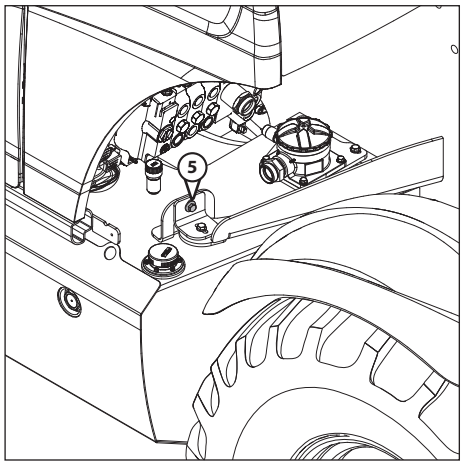
SLOPE COMPENSATION/STABILIZER DISTRIBUTOR

(MT 1440 A / MT 1840 A)

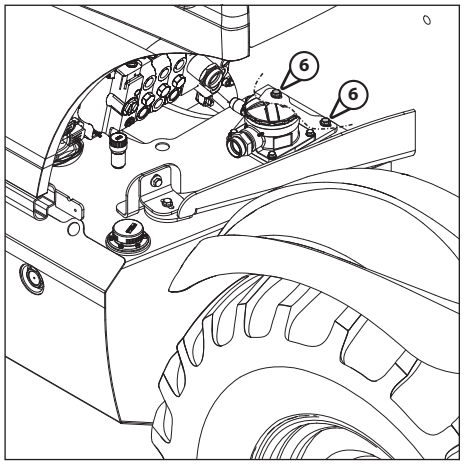
Part No.	Distributor / Connector (N.m)
A	70^{+5}_{0}
B	70^{+5}_{0}
LS	35^{+5}_{0}
P	70^{+5}_{0}
S	20/21
T	70^{+5}_{0}



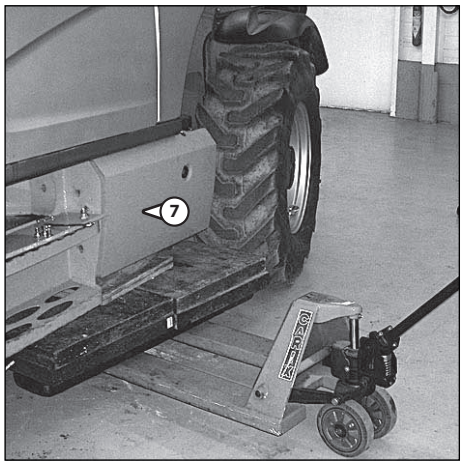




Undo screw (Item 5).

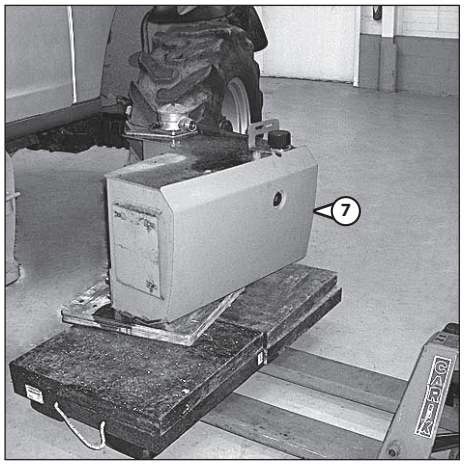


Undo two screws (Item 6).



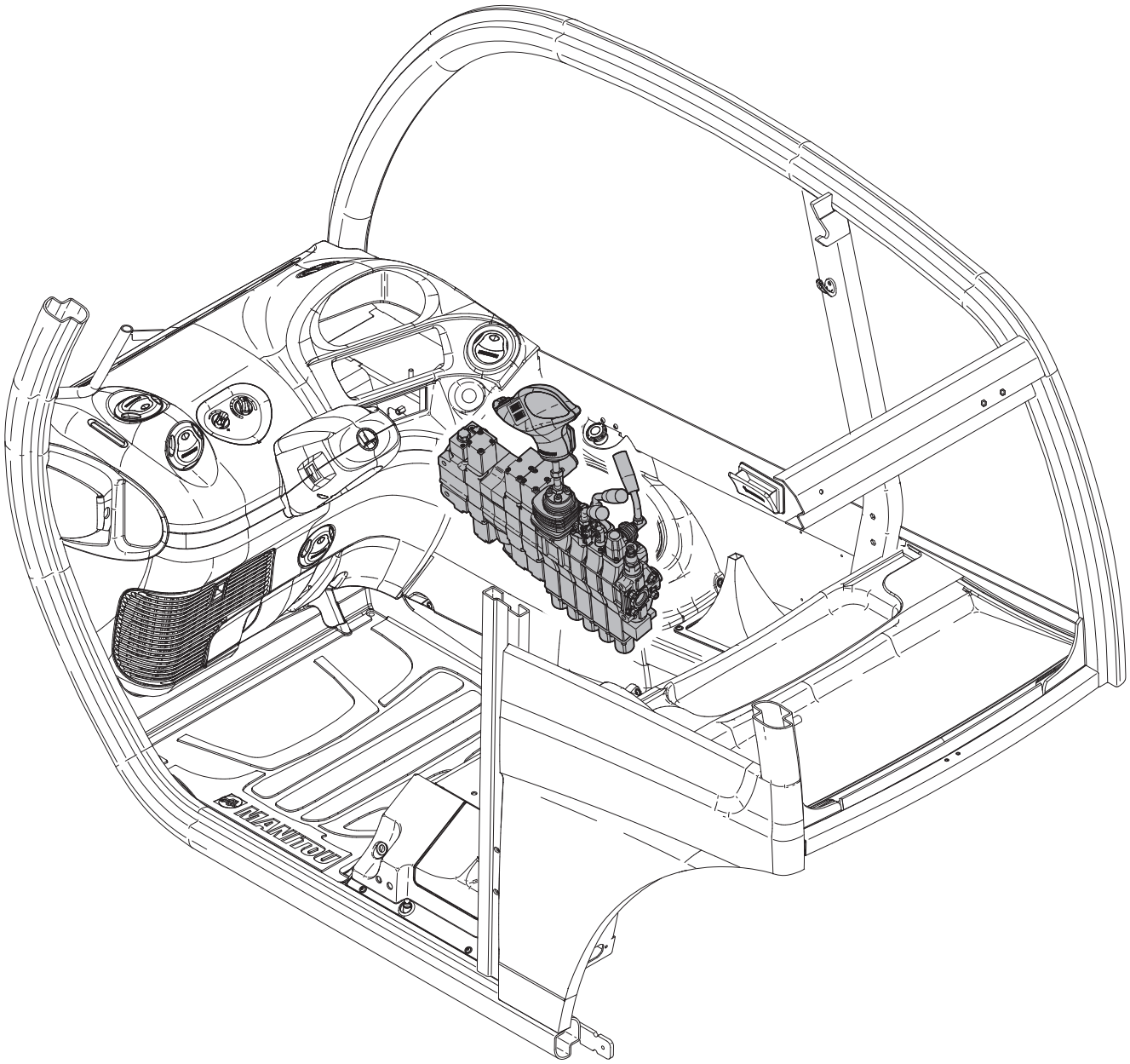
Place palette truck under oil tank (Item 7).

Remove all screws.



Take out oil tank (Item7).

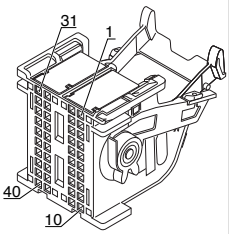
MECHANICALLY CONTROLLED VALVE



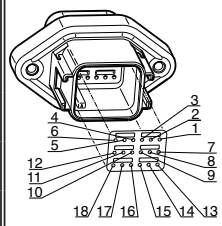
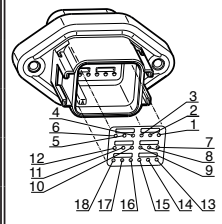
PREPARATION AND SAFETY INSTRUCTIONS

- Stabilise machine on horizontal floor.
- Lift boom and secure it in upper position (anti- fall – strut).
- All the hydraulic elements are decompressed.
- Deactivate battery power supply using a battery cut-off.

Wiring connectors

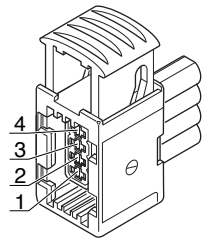
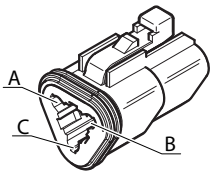
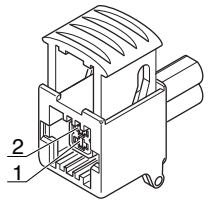
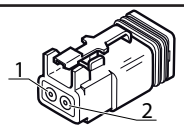
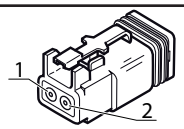
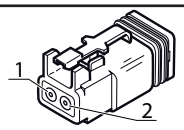
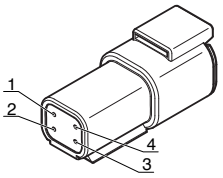
Part No.	Pos.	MT1440 / 1840			MT1440 / 1840 A			MT 1440 / 1840 Inch			MT 1440 / 1840 Inch A			Diagram
		Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To	
X13	1	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			CAN A	CAN Red	X115/6	
	3										CAN A	CAN Drain	Ep.16	
	4										14	Grey	BF3 Mod.3 F9	
	5										49	Grey	X23/11	
	6										137	Grey	S17/9	
	8										136	Grey	BF3 Mod.2 K2	
	9										154	Black	M1 Cab	
	10										35	Grey	BF3 Mod.4 F22	
	11										CAN A	CAN Green	X115/14	
	18										87	Grey	S19/1	
	20										36	Grey	BF3 Mod.4 F22	
	21										134	Grey	X138/4	
	24										143	Grey	X110/7	
	25										124	Grey	X118/10	
	26										125	Grey	X118/11	
	27										138	Grey	X63	
	28										131	Grey	X11/9	
	29										123	Grey	X118/9	
	30										122	Grey	Ep.5	
	31										135	Grey	X64/1	
	32										155	Black	M1 Cab	
	34										53	Grey	X23/7	
	35										139	Grey	X22/1	
	36										62	Grey	S17/1	
	38										107	Grey	X110/9	
	39										118	Grey	X45/1	
	40										63	Grey	S17/7	

Wiring connectors

Part No.	Pos.	MT1440 / 1840			MT1440 / 1840 A			MT 1440 / 1840 Inch			MT 1440 / 1840 Inch A			Diagram
		Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To	
X112 Cab	1	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			91	Yellow	BF3 Mod.1 K11	
	2										90	Grey	BF3 Mod.1 K11	
	3										92	Yellow	BF3 Mod.1 K11	
	4										93	Grey	BF3 Mod.2 K1	
	5										358	Green	BF3 Mod.2 K1	
	6										95	Grey	BF3 Mod.2 K4	
	7										96	Green	BF3 Mod.2 K4	
	8	Ditto MT 1440 / MT 1840 Inch						85	Yellow	S36/1				
	9	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			86	Yellow	S18/1	
	10										359	Green	BF3 Mod.3 F14	
	11	Ditto MT 1440 / MT 1840 Inch A						Ditto MT 1440 / MT 1840 Inch A						
	12	360	Green	BF3 Mod.3 F14										
	13													
	14	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			83	Yellow	X15/7	
											536	Yellow	Ep.73	
	15	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			84	Yellow	X15/8	
	16										20	Yellow	BF3 Mod.4 F37	
											336	Yellow	Ep.80	
	17	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A						23	Yellow	BF3 Mod.4 F35	
											525	Green	X195/6	
	18	Ditto MT 1440 / MT 1840 Inch A						Ditto MT 1440 / MT 1840 Inch A			37	Yellow	BF3 Mod.4 F23	
X112 Frame	4	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			93 (2)	Grey (2)	X302/08 (2)	
	5										~~94~~ (1)	~~Yellow~~ (1)	~~BF3 Mod.2 K1~~ (1)	
											358 (2)	Green (2)	X302/09 (2)	
	6										549	Grey	X148/65	
	7										550	Green	X294/1	
	8										253	Yellow	X106/1	
	9										~~251~~ (1)	~~Yellow~~ (1)	~~X109/1~~ (1)	
											374 (2)	Green (2)	X302/10 (2)	
	10										359 (2)	Green (2)	X302/07 (2)	
	12										360 (2)	Green (2)	X302/06 (2)	
	14										536	Yellow	Ep.73	
	16										336	Yellow	Ep.80	
	17				Ditto MT 1440 / MT 1840 Inch A						525	Green	X195/6	
	18	Ditto MT 1440 / MT 1840 Inch A									361 (2)	Green (2)	X302/04 (2)	

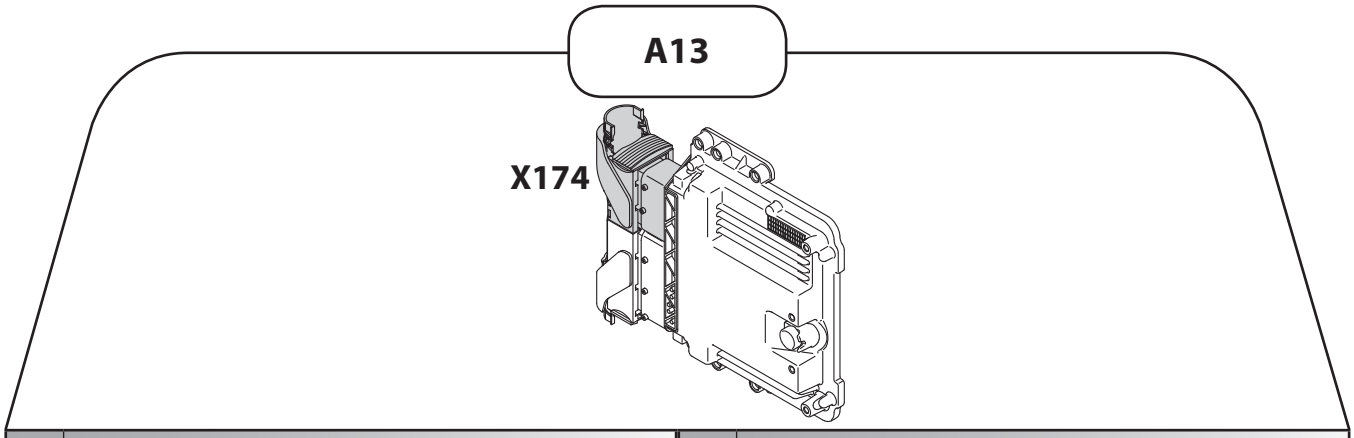
(1) Up to machine ⟶⋈ No. 940813
(2) From machine ⊢⟶ No. 940814

Wiring connectors

Part No.	Pos.	MT1440 / 1840			MT1440 / 1840 A			MT 1440 / 1840 Inch			MT 1440 / 1840 Inch A			Diagram
		Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To	
X159	1				Ditto MT 1440 / MT 1840 Inch A						401	Grey	X151/26	
	2										400	Grey	X151/53	
	3										403	Grey	X151/13	
	4										402	Grey	X150/27	
X160	1				Ditto MT 1440 / MT 1840 Inch A						404	Green	X148/61	
	2										405	Green	X149/58	
X161	1				Ditto MT 1440 / MT 1840 Inch A						406	Green	X150/65	
	2										407	Black	M3 Frame	
X162	1				Ditto MT 1440 / MT 1840 Inch A						420	Green	X151/72	
	2										421	Black	M1 Frame	
X163	1				Ditto MT 1440 / MT 1840 Inch A						422	Green	X151/74	
	2										423	Black	M1 Frame	
X164	1				Ditto MT 1440 / MT 1840 Inch A						424	Green	X151/73	
	2										425	Black	M1 Frame	
X173	1	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			922	C A N Green	Ep.97	
	2										923	C A N Drain	Ep.98	
	3										921	CAN Red	Ep.96	
	4										29	Grey	X258/1	
											284	Grey	X149/57	

GROUNDS												
Part No.	MT 1440 / 1840			MT 1440 / 1840 A			MT 1440 / 1840 Inch			MT 1440 / 1840 Inch A		
	Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To	Wire No.	Color	To
Frame Ground M1	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			8	BLACK	X92/2
										128	BLACK	X96/1
	Ditto MT 1440 / MT 1840 Inch						151	BLACK	X80/2			
							153	BLACK	X79/2			
							155	BLACK	X78/2			
							157	BLACK	X77/2			
							159	BLACK	X84/2			
							161	BLACK	X83/2			
							163	BLACK	X82/2			
							165	BLACK	X81/2			
							167	BLACK	X86/2			
							169	BLACK	X85/2			
	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			171	BLACK	X60/2
	Ditto MT 1440 / MT 1840 Inch						185	BLACK	X76/2			
	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A			225	BLACK	X70/2
										228	BLACK	X132/2
				Ditto MT 1440 / MT 1840 Inch A						421	BLACK	X162/2
										423	BLACK	X163/2
										425	BLACK	X164/2
Frame Ground M2	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch			118	BLACK	X36/1			
	Ditto MT 1440 / MT 1840 A			110	BLACK	X53/2						
				112	BLACK	X57/2						
	Ditto MT 1440 / MT 1840 Inch A			Ditto MT 1440 / MT 1840 Inch A						118	BLACK	X36/1
							Ditto MT 1440 / MT 1840 Inch A			124	BLACK	X87/1
										126	BLACK	X88/1
										130	BLACK	X97/1
										131	BLACK	X35/1
										190	BLACK	X148/15
										191	BLACK	X148/45
										192	BLACK	X148/75
										193	BLACK	X150/15
										194	BLACK	X150/75
										195	BLACK	X150/45
	Ditto MT 1440 / MT 1840 Inch A						Ditto MT 1440 / MT 1840 Inch A			203	BLACK	X21/2
										509	BLACK	X191/2
	Ditto MT 1440 / MT 1840 Inch A						Ditto MT 1440 / MT 1840 Inch A			551	BLACK	X294/2

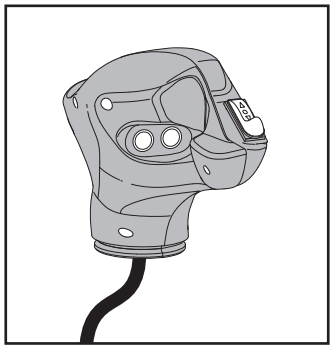
ENGINE ECU INPUTS / OUTPUTS

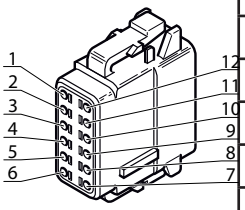


Pin N°	Designation	Pin N°	Designation
1	Injector cylinder 3 supply	34	Throttle return
2	Injector cylinder 2 supply	35	EGR valve return
		37	Throttle valve position sensor ground
4	Turbo return valve	38	Fuel temperature signal
		39	EGR position sensor signal
6	Oil pressure switch	40	Intake manifold pressure sensor signal
		41	Fuel rail sensor signal
8	Throttle valve position sensor supply (+5V)		
9	EGR position sensor power supply (+5V)	43	Exhaust gas pressure sensor signal
10	Intake manifold sensor power supply (+5V)	44	Crankshaft speed sensor return
11	Fuel rail pressure sensor supply (+5V)		
12	Exhaust gas pressure sensor supply (+5V)	46	Injector cylinder 2 return
13	Camshaft speed sensor supply (+5V)		
14	Camshaft sensor speed signal	48	Injector cylinder 4 return
15	Fuel metering electrovalve supply	49	Throttle valve supply
16	Injector cylinder 1 power supply	50	EGR valve supply
17	Injector cylinder 4 power supply		
		53	Throttle position sensor signal
23	Fuel temperature sensor ground		
24	EGR position sensor ground	55	Intake manifold temperature sensor signal
25	Engine < 55kW: Intake manifold air pressure sensor ground Engine > 55kW: Intake manifold air pressure & temperature sensor ground		
		57	Coolant liquid temperature sensor signal
26	Fuel rail pressure sensor ground	58	Engine < 55kW: Coolant liquid temperature sensor ground, camshaft speed sensor shielding, intake manifold air temperature sensor Engine > 55kW: Coolant liquid temperature sensor ground, camshaft speed sensor shielding
27	Exhaust gas pressure sensor ground		
28	Camshaft speed sensor ground		
31	Injector cylinder 3 return	59	Crankshaft speed sensor supply
32	Injector cylinder 1 return	60	Fuel metering electrovalve return

* If the data passes through the CAN, the PIN cannot be used. Check the electrical diagram ⫷ 80 - ELECTRICAL SCHEMATIC DIAGRAMS

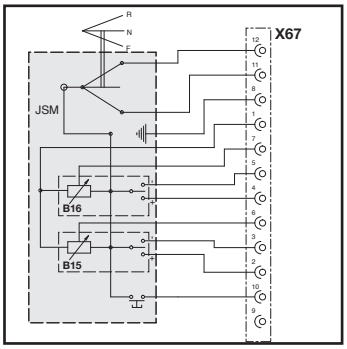
A12 JSM joystick





PIN	Function
1	5 V JSM Power supply
2	Roller 1 direction +
3	Roller 1 direction -
4	Roller 2 direction +
5	Roller 2 direction -
6	Signal Roller 1
7	Signal Roller 2
8	JSM ground
9	Stabilizer or slope control
10	Option boom head electrovalve
11	Forward gear
12	Reverse gear

Corresponding connector

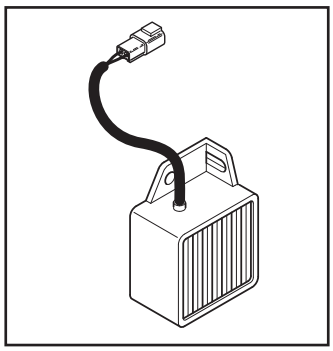


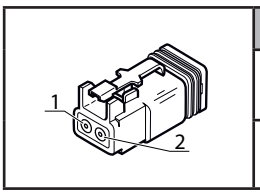
Diagram

	PIN	Minimum	Typical	Max
Current in potentiometer at 5 V ± 10%		/	1 mA	2 mA
Outlet voltage		0,5 V	/	4,5 V

Notes: _____

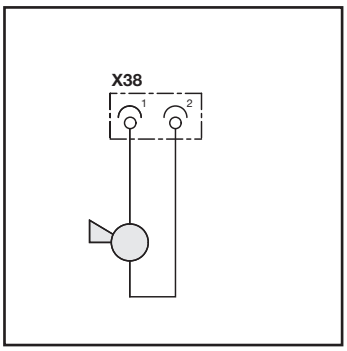
B1 Reverse buzzer





PIN	Function
1	Buzzer Power supply
2	M3 chassis ground

Corresponding connector

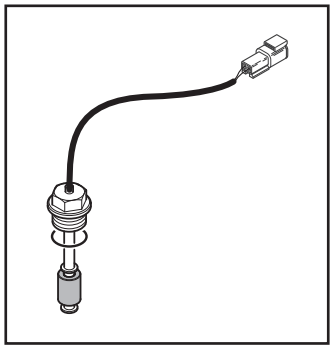


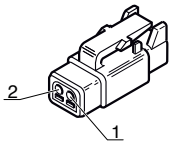
Diagram

	PIN	Minimum	Typical	Max
Resistance (10%)		19,5 Ω	21,7 Ω	/
Average current		/	0,60 A	0,75 A
Voltage		/	12 V	/

Notes: _____

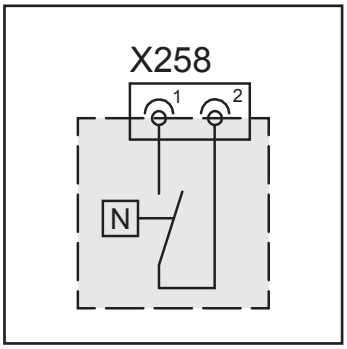
B74 Radiator minimum water level sensor





Corresponding connector

PIN	Function
1	Fuel level info
2	Engine ground



Diagram

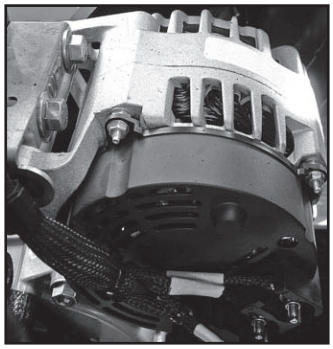
	PIN	Minimum	Typical	Max
Current		/	/	0,5 A
Power		/	/	10 W

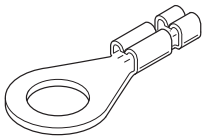
Notes: _____

_____

_____

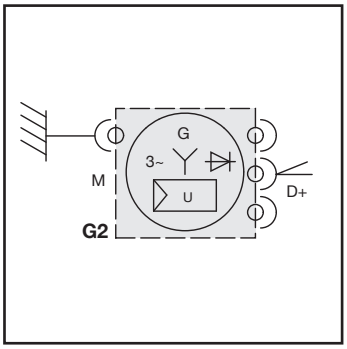
D+ Alternator input





Corresponding connector

PIN	Function
D+	Battery charge signal light



Diagram

	PIN	Minimum	Typical	Max
Power consumed		0,8 W	1,2 W	1,4 W
Outlet logic		Engine running : D+ = 12 V Engine not running : D+ = 0 V		

Notes: _____

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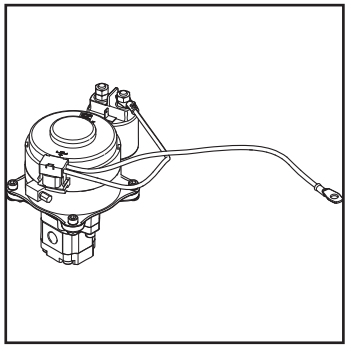
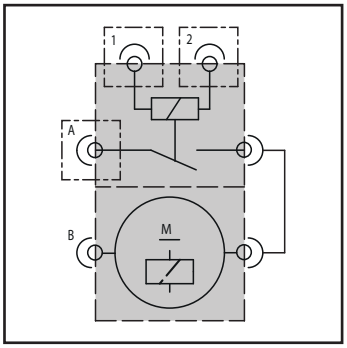
K30 / M17 ELECTRICALLY DRIVEN PUMPS (STOP&GO OPTION) X303 / X307



Connector	PIN	Function
	1	Power supply relays
	2	Ground relays
	A	Pump power supply
	B	Pump ground

Corresponding connector



Diagram

	PIN	Min.	Typical	Max.
Supply voltage	A		12V	
Supply voltage	1	8,4V	12V	14,4V
Power			30 W	
Coil temperature				120°

Comments:

The electric pump is used to recharge the accumulator as soon as this discharges.

Notes: _____

_____

_____

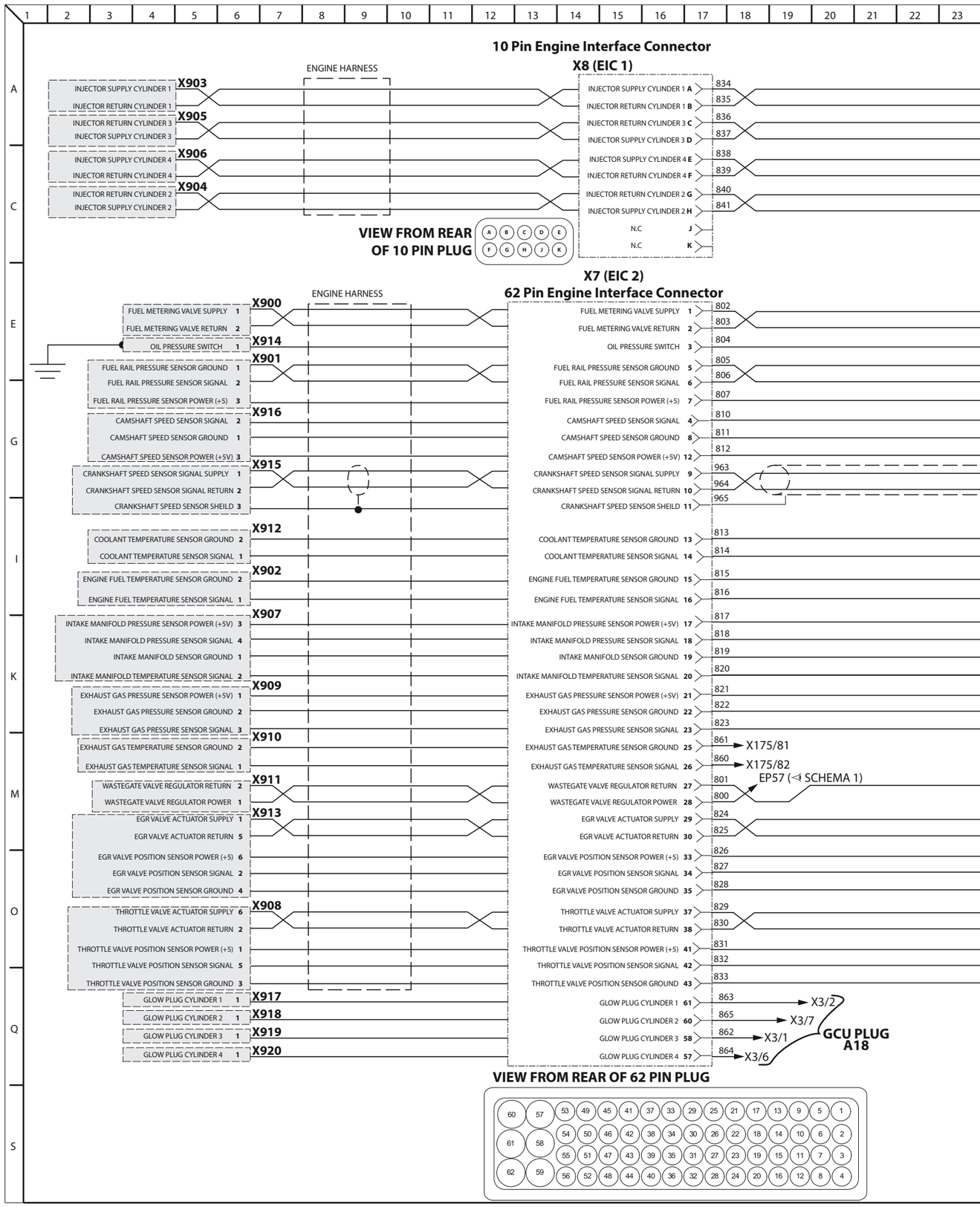
Item	Diag. 1	Diag. 2	Diag. 3	Diag. 4	Diag. 5	Diag. 6	Diag. 7	Diag. 8	Diag. 9	Diag. 10	Diag. 11	Diag. 12
X118	C23									C24		
X119					A4							
X120					A9							
X121					K6/M5						O3	
X123				S15								
X124					O38							
X130					O37							
X131					O38							
X132					I33							
X133					C36							
X134					I29							
X138	C36											
X139					C14							
X140		O3										
X148										E36		
X149									I14		K10	
X153									M24			
X154									O23			
X155									Q11			
X166											Q10	
X173		K22			C18	E54						
X174	Q34					A36						
X175	O33	K18				A44						
X176						G56						
X177						G51						
X178		I18										
X179	C16											
X181						M52						
X201	K1	A4			C2		A7	G7	C9/E4			
X204								G18				
X205								G19				
X254												K14
X258						G63						
X260				M15								
X263		K24										
X268	Q34					S43						
X289												M15
X293												M15
X294										G38		
X295										G39		
X296							Q30					
X297							Q33					
X298	G22											
X299	K33											
X300												Q10
X301												E10
X302												E9/C15
X303	Q19											Q14
X303	Q19											Q14
X304												O15
X305												I11
X307	S18											S16
X307	S18											S16
X308												E15
X309												E12
X900						E6						
X901						G6						
X902						I6						
X903						A4						
X904						C4						

CONNECTORS					
Wiring harness type	**Item**	**Name of component**	**Designation**	**Position on diagram**	**Hydraulic correspondence**
Engine	X3	A18	Preheat	O54	
Engine	X7		62 pin carriage engine connector	E14	
Engine	X8		10 pin carriage engine connector	A14	
Engine	X17		DPF inlet pressure sensor	K49	
Engine	X18		DPF inlet temperature sensor	K51	
Engine/Cab 1	X23		Engine/cab interface	M47	
Engine	X61	B34	Water in diesel sensor	M57	
Engine/Frame	X173		Frame/Engine Interface	E50	
Engine	X174	A13	60 pin engine computer	A34	
Engine	X175	A13	94 pin engine computer	A41	
Engine	X176		Air intake temperature sensor	G52	
Engine	X177		Lambda sensor	G47	
Engine	X178		Diagnostic plug	C56	
Engine	X181	B48	Accelerator pedal potentiometer	M48	
Engine	X258	B74	Radiator min. water level sensor	E58	
Engine	X268	A13	Engine computer ground	Q40	
Engine 2	X900		Fuel metering valve	E6	
Engine 2	X901		Fuel rail pressure sensor	E6	
Engine 2	X902		Engine fuel temperature sensor	I6	
Engine 2	X903		Injector cylinder 1	A5	
Engine 2	X904		Injector cylinder 2	C5	
Engine 2	X905		Injector cylinder 3	A5	
Engine 2	X906		Injector cylinder 4	C5	
Engine 2	X907		Intake manifold pressure & temperature sensor	I6	
Engine 2	X908		Throttle valve position sensor & actuator	O6	
Engine 2	X909		Exhaust gas pressure sensor	K6	
Engine 2	X910		Exhaust gas temperature sensor	M6	
Engine 2	X911		Wastegate valve regulator (turbo)	M6	
Engine 2	X912		Coolant temperature sensor	I6	
Engine 2	X913		EGR valve position sensor & actuator	M6	
Engine 2	X914		Oil pressure switch	E6	
Engine 2	X915		Crankshaft speed sensor	G6	
Engine 2	X916		Camshaft speed sensor	G6	
Engine	X917		Glow plug cylinder 1	Q6	
Engine	X918		Glow plug cylinder 2	Q6	
Engine	X919		Glow plug cylinder 3	Q6	
Engine	X920		Glow plug cylinder 4	Q6	

COMPONENTS			
Part No.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
A13	Engine ECU	A39	
A18	Preheating module	O55	
B34	Water in fuel filter sensor	M57	
B48	Accelerator pedal potentiometer	M49	
B74	Minimum radiator water level sensor	G59	

SPLICES	
Part No.	**Position on diagram**
Ep.89	I29
Ep.93	O49
Ep.94	A46
Ep.95	C48

SPLICES	
Part No.	**Position on diagram**
Ep.96	E48
Ep.97	E48
Ep.98	C49



(4/16/2014)

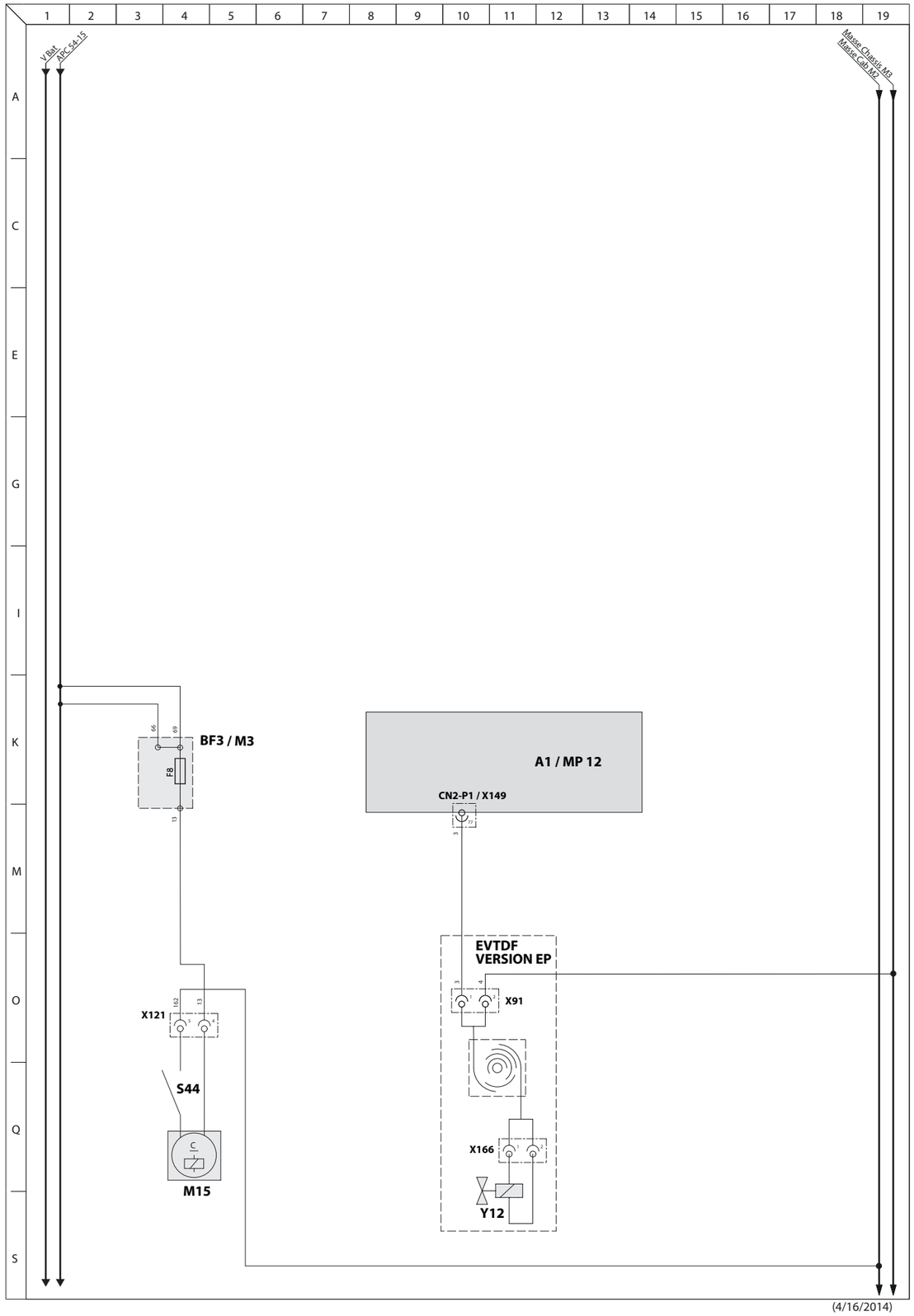
CONNECTORS					
Wiring harness type	**Item**	**Name of component**	**Designation**	**Position on diagram**	**Hydraulic correspondence**
Frame	X 91		Telescope head electrovalve	O11	
Cab 1	X121	M15	Pneumatic seat pump	Q6/O7/O4	
Frame	X149	A1	Manimux Power CN2-P1	K10	
Option	X166	Y12	Telescope head electrovalve connector	Q10	

COMPONENTS			
Part No.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
A 1	Manimux Power MP12	K12	
M15	Pneumatic seat pump	S4	
S44	Pneumatic seat switch	Q4	
Y12	Boom head electrovalve	S10	

FUSES AND RELAYS		
Item	**Designation**	**Position on diagram**
	BF3/M3	
F8	Pneumatic seat (10A)	K4

DIAGRAM 11 – EVTDF/PNEUMATIC SEAT OPTION

MT 1440 / 1840



2 – CAN H-L/OBD PLUG (DIAGNOSTICS)

MT 1440 A / 1840 A

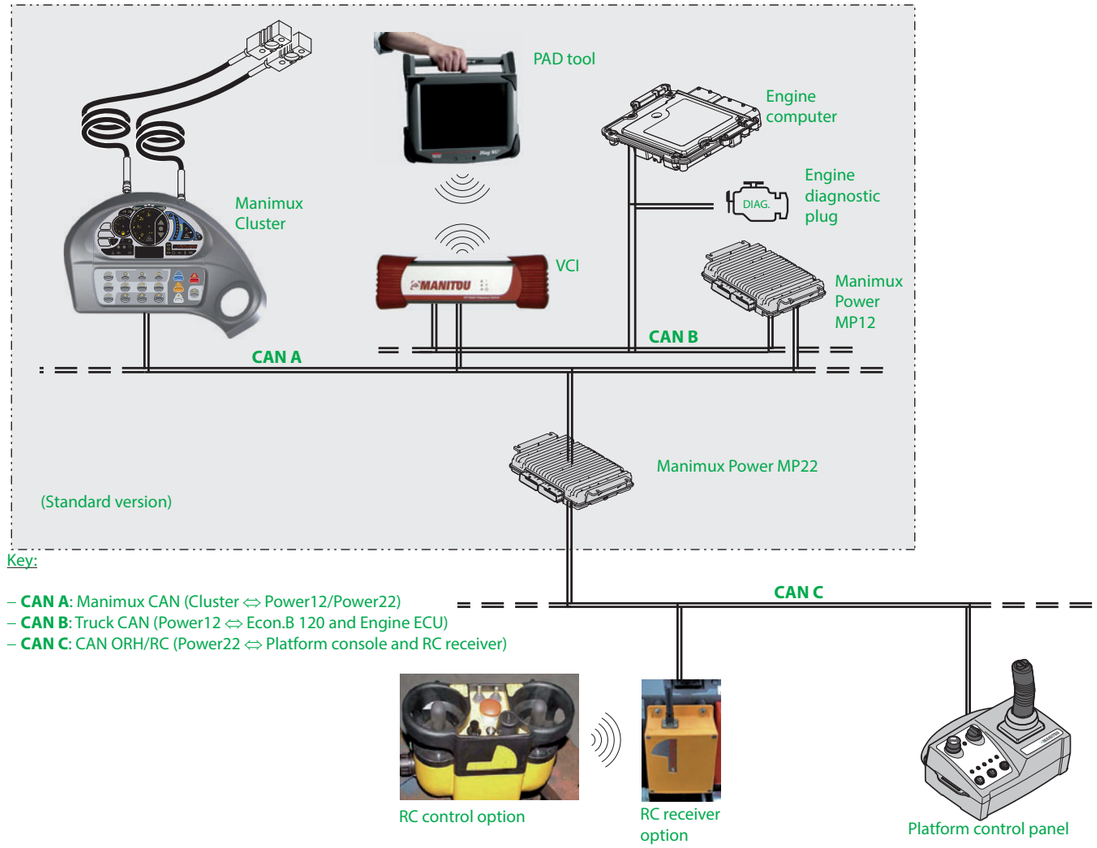
CONNECTORS					
Wiring harness type	**Item**	**Name of component**	**Designation**	**Position on diagram**	**Hydraulic correspondence**
Cab 1	X 13	A9	Cluster	G7	
Option	X 51	S51	RC receiver connector	S8	
Frame/Cab 1	X110		Frame/cab Interface	O20	
Frame/Cab 1	X111		Frame/cab Interface	Q9	
Frame/Cab 1	X112		Frame/cab Interface	A16	
Cab 1	X115		OBD diagnostic plug	M4	
Frame	X116		Manimux Power supply engine/frame interface	C7	
Cab 1	X140	R4	Option Inching resistance	O4	
Frame	X148	A1	Manimux Power CN1-P1	G7	
Frame	X149	A1	Manimux Power CN2-P1	G7	
Frame	X150	A2	Manimux Power CN1-P2	G31	
Frame	X151	A2	Manimux Power CN2-P2	G38	
Frame/Engine	X173		Frame/Engine Interface	K18	
Engine	X175	A13	Engine computer	K13	
Engine	X178		Engine diagnostic plug	I13	
Frame/ORH	X195		Access retractor plug	K32	
Cab 1/ORH	X197		RC Receiver	S7	
Engine	X201	BF1/M1	Engine compartment fusebox BF1	A5	
Frame	X263	B50	Vishay CAN gage	K20	

SPLICES	
Part no.	**Position on diagram**
Ep.5	E16
Ep.6	E27
Ep.9	A8
Ep.15	O13
Ep.16	K7
Ep.27	I27
Ep.28	I16
Ep.29	O15
Ep.30	I29
Ep.31	I26
Ep.32	M33
Ep.67	I26
Ep.68	I26
Ep.69	I26
Ep.96	M20
Ep.97	M20
Ep.98	M22

COMPONENTS			
Part No.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
A 1	Manimux Power MP1	G14	
A 2	Manimux Power MP2	G25	
A 5	Control Radio Receiver	S10	
A 9	Manimux Cluster MC2	G5	
A 13	Engine ECU	K11	
B50	Vishay CAN gage	K20	
D 3	Diode D3	C37	
R 4	Resistance 120 ohm 1/2 W	O4	
R 6	Resistance 120 ohm 1/2 W	S10	
R 7	Resistance 120 ohm 1/2 W	S7	
RC	Radio control	S12	
S51	Emergency stop on radio control	S10	

FUSES AND RELAYS		
Item	**Designation**	**Position on diagram**
	BF3/M1	
F9	Cluster power supply + APC (2A)	E5
	BF3/M4	
F22	Power supply cluster + Vbat (3A)	A14
F23	RC Battery charger	A14
F28	OBD diagnostic plug + Vbat (5A)	C14
F33	OBD diagnostic plug + APC (5A)	C14
	BF3/M5	
F42	Manimux Power 22 (20A)	A6
F44	Manimux Power 12 (40A)	C6

CAN Network



Key:

– **CAN A**: Manimux CAN (Cluster ⇔ Power12/Power22)
– **CAN B**: Truck CAN (Power12 ⇔ Econ.B 120 and Engine ECU)
– **CAN C**: CAN ORH/RC (Power22 ⇔ Platform console and RC receiver)

COMPONENTS			
Part no.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
S34	Retracted boom sensor	K28	
S56	Chain tension switch 1	A24	
S57	Chain tension switch 2	A26	
S58	Chain tension switch 3	A29	
S59	Chain tension switch 4	A31	
S60	Seat driver presence sensor	M6	
S61	Seat driver presence sensor	M7	
Y36	Motion direction electrovalve	G22	
Y37	Snail speed electrovalve	G20	
Y38	Gear 1 electrovalve	G17	
Y39	Gear 2 electrovalve	G19	

FUSES AND RELAYS		
Item	**Designation**	**Position on diagram**
BF3/M4		
F21	Roof light and door contact (3A)	G3

SPLICES	
Part No.	**Position on diagram**
Ep.1	Q3
Ep.9	E3
Ep.14	O3
Ep.20	G39
Ep.40	M18 (MT1840)
Ep.61	M34 (MT1840)
Ep.72	O20
Ep.91	G38

11 – CRC/EVTDF/PNEUMATIC SEAT/ERVV OPTION

MT 1440 A / 1840 A

CONNECTORS					
Wiring harness type	***Item***	***Name of component***	***Designation***	***Position on diagram***	***Hydraulic correspondence***
Frame	X 91		Telescope head electrovalve	O11	
Cab 1	X121	M15	Pneumatic seat pump	O3	
Frame	X135		Telescope Suspension Connector	E8	
Frame	X149	A1	Manimux Power CN2-P1	K10	
Frame	X150	A2	Manimux Power CN1-P2	A8	
Frame	X151	A2	Manimux Power CN2-P2	A10	
Option	X166	Y12	Telescope head electrovalve connector	Q10	
Option	X167	Y10	Telescope suspension electrovalve 1	G8	
Option	X168	Y11	Telescope suspension electrovalve 2	G10	
Option	X169	B25	Telescope suspension cylinder valve pressure switch 1	G12	
Option	X170	B26	Telescope suspension cylinder valve pressure switch 2	G15	
Option	X254		Fan regulator valve	I5	
Option	X287		Fan regulation option	G4	
Option	X293		Air temperature fan regulation sensor	I4	

COMPONENTS			
Part No.	***Designation***	***Position on diagram***	***Hydraulic correspondence***
A 1	Manimux Power MP1	K12	
A 2	Manimux Power MP2	A13	
B25	Telescope suspension cylinder valve pressure switch 1	I13	
B26	Telescope suspension cylinder valve pressure switch 2	I16	
B79	Air intake temperature sensor	I4	
M15	Pneumatic seat pump	S4	
S44	Pneumatic seat switch	Q4	
Y10	Boom suspension electrovalve 1	I9	
Y11	Boom suspension electrovalve 2	I11	
Y12	Boom head electrovalve	S10	
Y61	Fan speed control electrovalve	I5	

FUSES AND RELAYS		
Item	***Designation***	***Position on diagram***
	BF3/M3	
F8	Pneumatic seat (10A)	K4

SPLICES	
Part No.	***Position on diagram***

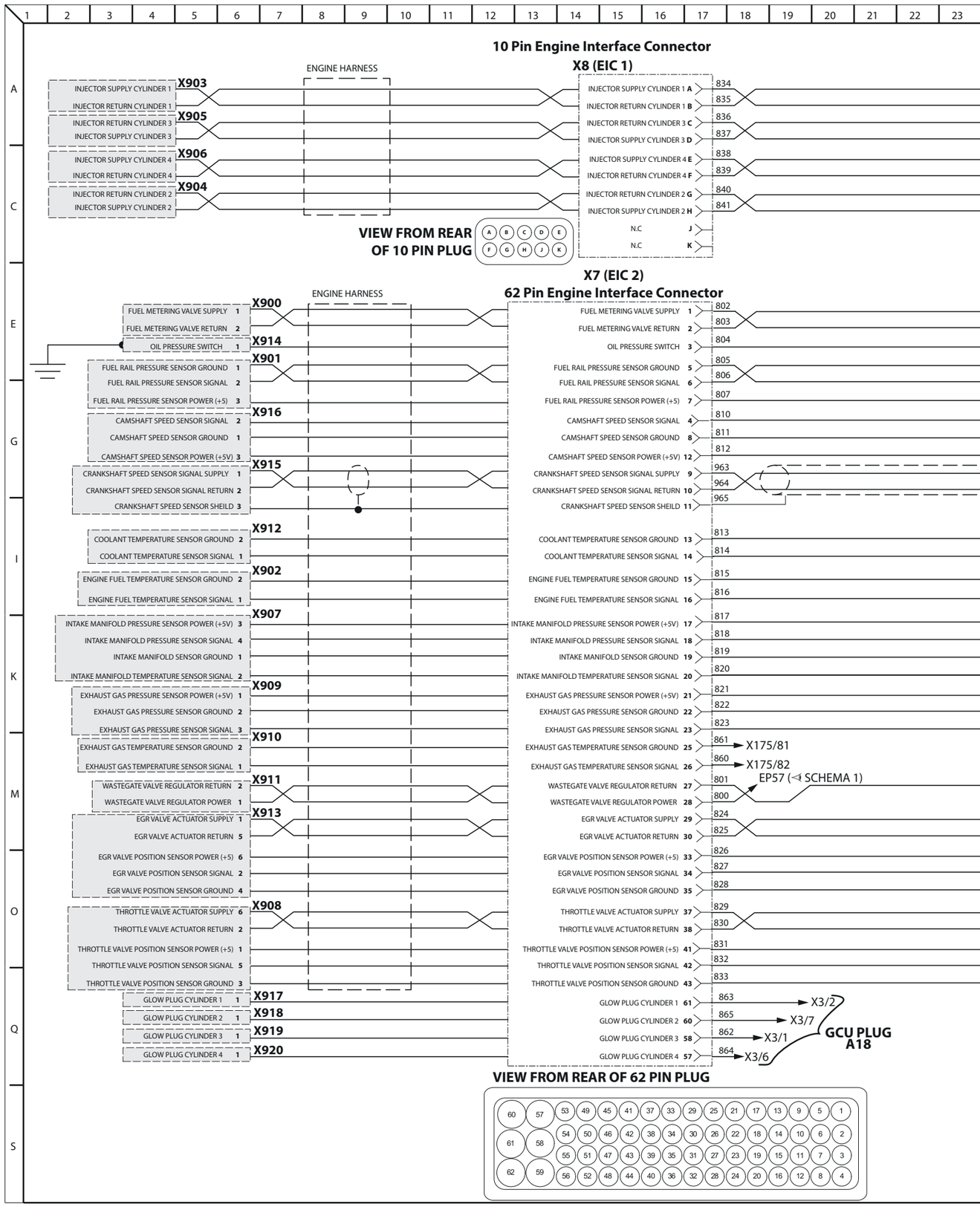
Item	Diag. 1	Diag. 2	Diag. 3	Diag. 4	Diag. 5	Diag. 6	Diag. 7	Diag. 8	Diag. 9	Diag. 10	Diag. 11	Diag. 12
X70					C38							
X71				O15								
X72				Q15								
X73					E11							
X75				M15								
X76					C31							
X77					O31							
X78					O33							
X79					O35							
X80					A20							
X81					A26							
X82					A28							
X83					A22							
X84					A24							
X85					A29							
X86					A31							
X87					G29							
X88					I32							
X91											O11	
X92			C10									
X93								A16				
X94								A23				
X95									012/M24			
X96					I29							
X97					G25							
X100					I37							
X101								Q24				
X102								Q21				
X103								Q28				
X104								Q27				
X105								O28				
X106										K36		
X107								Q9				
X108								Q4				
X109										G38		
X110		Q13			I25/O5		M14		K12			
X110		Q13			I25/O5		M14		K12			
X110		Q13			I25/O5		M14		K12			
X110		Q13			I25/O5		M14		K12			
X111					A14							
X112		A15	E11					M27		I34		
X112		A15	E11					M27		I34		
X112		A15	E11					M27		I34		
X112		A15	E11					M27		I34		
X115		M4										
X116		A7										
X118										C26		
X119					A4							
X120					A9							
X121					K6/M5						O3	
X121					K6/M5						O3	
X123				S15								
X124					O38							
X130					O37							
X131					O38							
X132					I33							
X133					C36							
X134					I28							
X138	C36											

CONNECTORS					
Wiring harness type	**Item**	**Name of component**	**Designation**	**Position on diagram**	**Hydraulic correspondence**
Engine	X3	A18	Preheat	O54	
Engine	X7		62 pin carriage engine connector	E14	
Engine	X8		10 pin carriage engine connector	A14	
Engine	X17		DPF inlet pressure sensor	K49	
Engine	X18		DPF inlet temperature sensor	K51	
Engine/Cab 1	X23		Engine/cab interface	M47	
Engine	X61	B34	Water in diesel sensor	M57	
Engine/Frame	X173		Frame/Engine Interface	E50	
Engine	X174	A13	60 pin engine computer	A34	
Engine	X175	A13	94 pin engine computer	A41	
Engine	X176		Air intake temperature sensor	G52	
Engine	X177		Lambda sensor	G47	
Engine	X178		Diagnostic plug	C56	
Engine	X181	B48	Accelerator pedal potentiometer	M48	
Engine	X258	B74	Minimum radiator water level sensor	E58	
Engine	X268	A13	Engine computer ground	Q40	
Engine 2	X900		Fuel metering valve	E6	
Engine 2	X901		Fuel rail pressure sensor	E6	
Engine 2	X902		Engine fuel temperature sensor	I6	
Engine 2	X903		Injector cylinder 1	A5	
Engine 2	X904		Injector cylinder 2	C5	
Engine 2	X905		Injector cylinder 3	A5	
Engine 2	X906		Injector cylinder 4	C5	
Engine 2	X907		Intake manifold pressure & temperature sensor	I6	
Engine 2	X908		Throttle valve position sensor & actuator	O6	
Engine 2	X909		Exhaust gas pressure sensor	K6	
Engine 2	X910		Exhaust gas temperature sensor	M6	
Engine 2	X911		Wastegate valve regulator (turbo)	M6	
Engine 2	X912		Coolant temperature sensor	I6	
Engine 2	X913		EGR valve position sensor & actuator	M6	
Engine 2	X914		Oil pressure switch	E6	
Engine 2	X915		Crankshaft speed sensor	G6	
Engine 2	X916		Camshaft position sensor	G6	
Engine	X917		Glow plug cylinder 1	Q6	
Engine	X918		Glow plug cylinder 2	Q6	
Engine	X919		Glow plug cylinder 3	Q6	
Engine	X920		Glow plug cylinder 4	Q6	

COMPONENTS			
Part No.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
A13	Engine ECU	A39	
A18	Preheating module	O55	
B34	Water in fuel filter sensor	M57	
B48	Accelerator pedal potentiometer	M49	
B74	Minimum radiator water level sensor	G59	

SPLICES	
Part No.	**Position on diagram**
Ep.89	I29
Ep.93	O49
Ep.94	A46
Ep.95	C48

SPLICES	
Part No.	**Position on diagram**
Ep.96	E48
Ep.97	E48
Ep.98	C49



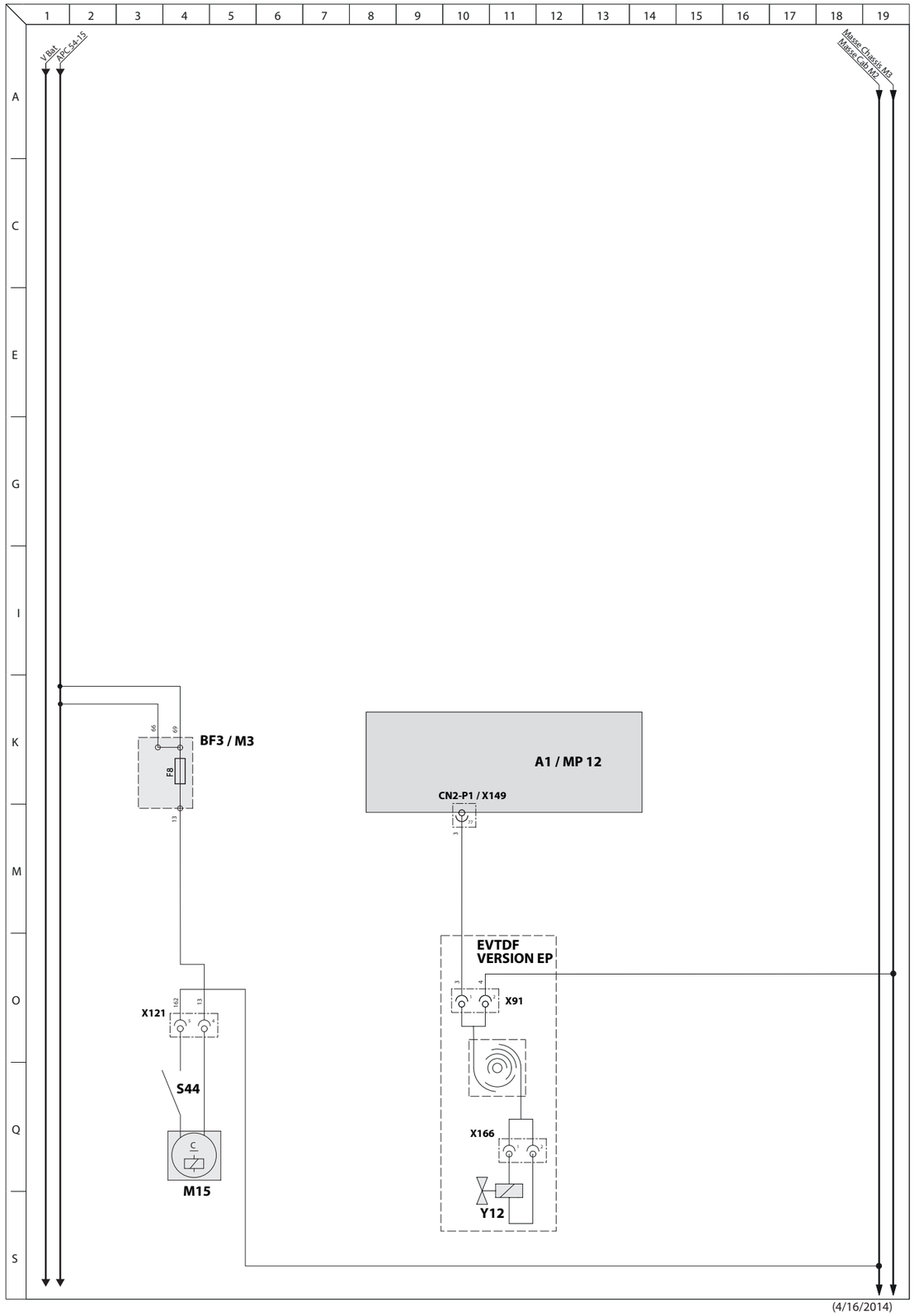
CONNECTORS					
Wiring harness type	**Item**	**Name of component**	**Designation**	**Position on diagram**	**Hydraulic correspondence**
Frame	X 91		Telescope head electrovalve	O11	
Cab 1	X121	M15	Pneumatic seat pump	Q6/O7/O4	
Frame	X149	A1	Manimux Power CN2-P1	K10	
Option	X166	Y12	Telescope head electrovalve connector	Q10	

COMPONENTS			
Part No.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
A 1	Manimux Power MP1	K12	
M15	Pneumatic seat pump	S4	
S44	Pneumatic seat switch	Q4	
Y12	Boom head electrovalve	S10	

FUSES AND RELAYS		
Item	**Designation**	**Position on diagram**
	BF3/M1	
F8	Pneumatic seat (10A)	K4

DIAGRAM 11 – EVTDF/PNEUMATIC SEAT OPTION

MT 1440 INCHING / MT 1840 INCHING



CONNECTORS					
Wiring harness type	**Item**	**Name of component**	**Designation**	**Position on diagram**	**Hydraulic correspondence**
Cab 1	X 13	A9	Cluster	G7/I4	
Option	X 51	S51	RC receiver connector	S8	
Frame/Cab 1	X110		Frame/cab Interface	O13	
Frame/Cab 1	X111		Frame/cab Interface	Q9	
Frame/Cab 1	X112		Frame/cab Interface	A16	
Cab 1	X115		OBD diagnostic plug	M4	
Frame	X116		Manimux Power supply engine/frame interface	A7	
Cab 1	X140	R4	Option Inching resistance	O4	
Frame	X148	A1	Manimux Power CN1-P1	G7	
Frame	X149	A1	Manimux Power CN2-P1	G18	
Frame	X150	A2	Manimux Power CN1-P2	G32	
Frame	X151	A2	Manimux Power CN2-P2	G39	
Frame/Engine	X173		Frame/Engine Interface	K19	
Engine	X175	A13	Engine computer	K13	
Engine	X178		Engine diagnostic plug	I14	
Option	X185		DIAG RS232 - APC120	E30	
Option	X186		ECU APC120 (inching)	C26	
Frame/ORH	X195		Access retractor plug	K33	
Cab 1/ORH	X197		RC Receiver	S7	
Engine	X201	BF1/M1	Engine compartment fusebox BF1	A5	
Frame	X263	B50	Vishay CAN gage	K21	

COMPONENTS			
Part No.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
A 1	Manimux Power MP1	G21	
A 2	Manimux Power MP2	G32	
A 5	Control Radio Receiver	S10	
A 9	Manimux Cluster MC2	G5	
B50	Vishay CAN gage	K21	
D 3	Diode D3	C37	
R 4	Resistance 120 ohm 1/2 W	O4	
R 6	Resistance 120 ohm 1/2 W	S10	
R 7	Resistance 120 ohm 1/2 W	S7	
RC	Radio control	S12	
S51	Emergency stop on radio control	S10	

FUSES AND RELAYS		
Item	**Designation**	**Position on diagram**
	BF1/M5	
F42	Manimux Power 2 (20A)	A6
F44	Manimux Power 1 (40A)	C6
	BF3/M4	
F22	Power supply cluster + Vbat (3A)	A14
F23	RC battery charger + Econ.B 120 (2A) supply	A14
F28	OBD diagnostic plug + Vbat (5A)	C14
F33	OBD diagnostic plug + APC (5A)	C14
	BF3/M3	
F9	Cluster power supply + APC (2A)	E5
F12	Front windscreen wiper and windscreen washer (15A)	E4

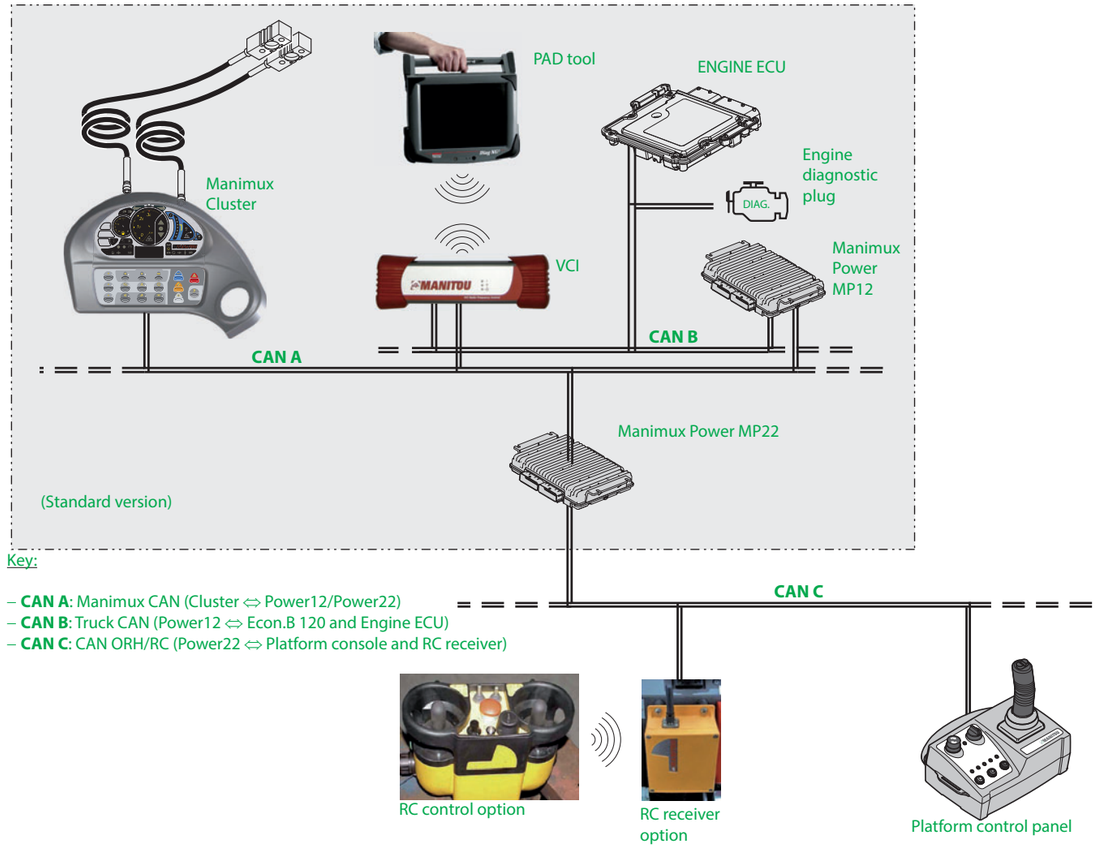
2 – CAN H-L/OBD PLUG (DIAGNOSTICS)

MT 1440 A INCHING / 1840 A INCHING

SPLICES	
Part No.	**Position on diagram**
Ep.5	E16
Ep.6	E35
Ep.15	O13
Ep.16	K7
Ep.27	I35
Ep.28	I23
Ep.29	O15
Ep.30	I36
Ep.31	I33
Ep.32	M41

SPLICES	
Part No.	**Position on diagram**
Ep.67	I22
Ep.68	I22
Ep.69	I23
Ep.81	C31
Ep.82	I24
Ep.83	I25
Ep.96	M15
Ep.97	M15
Ep.98	M16

CAN Network



Key:

– **CAN A**: Manimux CAN (Cluster ⇔ Power12/Power22)
– **CAN B**: Truck CAN (Power12 ⇔ Econ.B 120 and Engine ECU)
– **CAN C**: CAN ORH/RC (Power22 ⇔ Platform console and RC receiver)

COMPONENTS			
Part No.	**Designation**	**Position on diagram**	**Hydraulic correspondence**
A 1	Manimux Power MP1	E31	
A 2	Manimux Power MP2	I18	
A 9	Manimux Cluster MC2	C9	
B 6	Engine air filter clogging pressure switch	G4	
B 7	Hydraulic filter clogging pressure switch	K25	
B 8	Brake master cylinder pressure switch	I11	
B 9	Front wheel alignment sensor	C33	
B10	Rear wheel alignment sensor	C35	
B13	Transmission oil pressure switch	C32	
B14	Gear box output speed sensor	G35	
B17	Servo brake circuit fault pressure switch	E39	
B18	Right stabilizer pressure switch 1	I29	
B19	Right stabilizer pressure switch 2	K32	
B20	Left stabilizer pressure switch 1	K29	
B21	Left stabilizer pressure switch 2	I25	
B23	Boom angle sensor	I37	
B24	Gear box oil temperature sensor	A31	
B25	Telescope suspension cylinder valve pressure switch 1	S14	
B26	Telescope suspension cylinder valve pressure switch 2	S15	
B29	Negative brake fault pressure switch	C36	
B30	Servo steering circuit fault pressure switch	K34	
B32	Strain gage 1	A7	
B33	Strain gage 2	A11	
B54	QX boom extension inductive sensor C1	Q37	
B55	QX boom extension inductive sensor C2	Q38	
B60	Gear 1 or 2 engaged sensor	E16	
B67	Intermediate boom extend sensor 1	Q20	
B68	Intermediate boom extend sensor 2	Q19	
B78	Hydraulic oil temperature sensor	C19	
D 3	Diode D3	M7	
R 2	Fuel level sensor	E10	
S 9	Closed cab door switch on cluster NF (Wake-up)	K5	
S10	Closed cab door switch on power NO	O38	
S11	Brake fluid level switch	I10	
S17	Particle filter regeneration switch	M12	
S34	Retracted boom sensor	K28	
S56	Chain tension switch 1	A22	
S57	Chain tension switch 2	A25	
S58	Chain tension switch 3	A27	
S59	Chain tension switch 4	A29	
S60	Seat driver presence sensor	M6	
S61	Seat driver presence sensor	M7	
Y36	Motion direction electrovalve	G22	
Y37	Snail speed electrovalve	G20	
Y38	Gear 1 electrovalve	G17	
Y39	Gear 2 electrovalve	G19	

FUSES AND RELAYS		
Item	**Designation**	**Position on diagram**
	BF3/M4	
F21	Roof light and door contact (3A)	G3

SPLICES	
Part No.	**Position on diagram**
Ep.20	G39
Ep.61	O36 (MT1840)
Ep.72	O20
Ep.91	G38

11 – CRC/EVTDF/PNEUMATIC SEAT/ERVV OPTION

MT 1440 A INCHING / 1840 A INCHING

CONNECTORS					
Wiring harness type	***Item***	***Name of component***	***Designation***	***Position on diagram***	***Hydraulic correspondence***
Frame	X 91		Telescope head electrovalve	O11	
Cab 1	X121	M15	Pneumatic seat pump	O4	
Frame	X135		Telescope Suspension Connector	E8	
Frame	X149	A1	Manimux Power CN2-P1	K10	
Frame	X150	A2	Manimux Power CN1-P2	A7	
Frame	X151	A2	Manimux Power CN2-P2	A10	
Option	X166	Y12	Telescope head electrovalve connector	Q10	
Option	X167	Y10	Telescope suspension electrovalve 1	G8	
Option	X168	Y11	Telescope suspension electrovalve 2	G10	
Option	X169	B25	Telescope suspension cylinder valve pressure switch 1	G12	
Option	X170	B26	Telescope suspension cylinder valve pressure switch 2	G14	
Option	X254		Fan regulator valve	I5	
Option	X287		Fan regulation option	G4	
Option	X293		Air temperature fan regulation sensor	I4	

COMPONENTS			
Part No.	***Designation***	***Position on diagram***	***Hydraulic correspondence***
A 1	Manimux Power MP1	K12	
A 2	Manimux Power MP2	A11	
B25	Telescope suspension cylinder valve pressure switch 1	I11	
B26	Telescope suspension cylinder valve pressure switch 2	I14	
B79		I4	
M15	Pneumatic seat pump	S4	
S44	Pneumatic seat switch	Q4	
Y10	Telescope suspension electrovalve 1	I7	
Y11	Telescope suspension electrovalve 2	I9	
Y12	Boom head electrovalve	S10	
Y61		I5	

FUSES AND RELAYS		
Item	***Designation***	***Position on diagram***
	BF3/M3	
F8	Pneumatic seat (10A)	K4

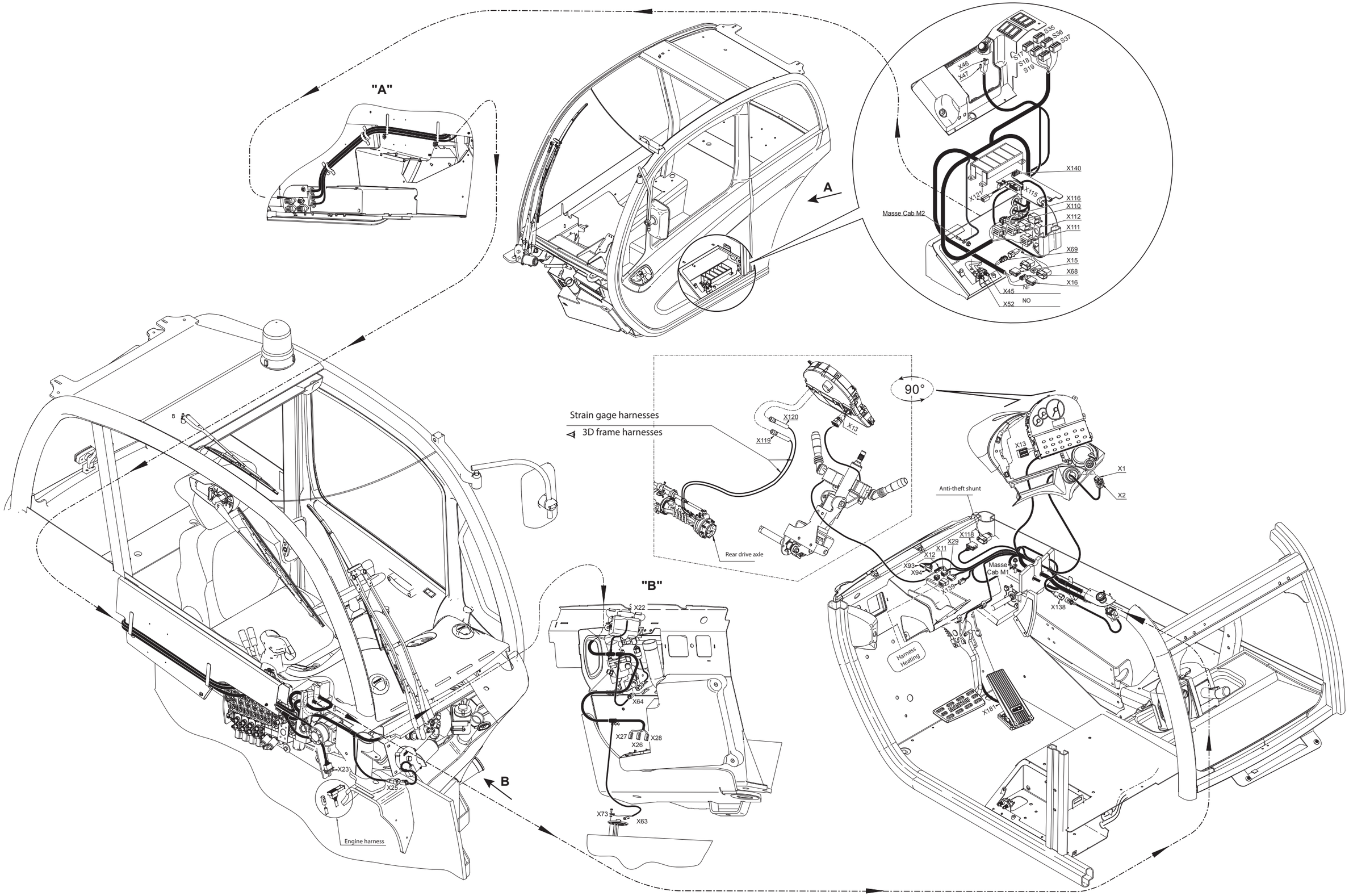
SPLICES	
Part No.	***Position on diagram***

CONNECTORS

Wiring harness type	Item	Designation	Position on harness layout				Comments
			Assembly	Frame	Cab	Engine	
Engine	B+	Alternator power supply	Q16			I4	
Engine	D+	Alternator excitation	Q17			I6	
Cab 2	S6	Window up switch	G21		E18		
Cab 2	S8	Roof light control switch					
Cab 1	S17	Particle filter regeneration control switch	I23		C18		
Cab 1	S18	Dual path hydraulic switch	I23		C18		
Cab 1	S19	Override Switch	I24		A19		
Cab 1	S35	Option switch	I25		A22		
Cab 1	S36	Boom head electrical plug switch (O)	I24		C23		
Cab 1	S37	Option switch	I24		C23		
Cab 2	S38	Rear working light switch	E11		I4		
Cab 2	S39	Rear windscreen defrost switch	E11		I4		
Cab 2	S40	Roof windscreen wiper switch	E9		I4		
Cab 2	S41	Side windscreen wiper switch	E10		I4		
Cab 2	S42	Telescope working light switch	E12		G5		
Cab 2	S43	Option switch	E13		G5		
Engine	W	Alternator	Q18			I7	
Engine	X0	Battery cut-off	See "Engine harness" 3D location				
Cab 1	X1	Ignition switch (4 way)	I29		O29		
Cab 1	X2	Ignition switch (6 way)	I29		O30		
Engine	X3	Preheat	Q21			E17	
Engine	X4	Starter electrovalve	O24			K31	
Engine	X5	Fuel heater	O27			E36	
Cab 2	X6	Rotating beacon light	A11		C14		
Engine	X7	Engine/carriage connection	O24			I31	
Engine	X8	Engine/carriage connection	Q21			C19	
Cab 1	X11	Wiper commutator switch	I29		K34		
Cab 1	X12	Wiping reset	I30		K36		
Cab 1	X13	Manimux cluster	K33		M32/ S40		
Cluster	X14	Light stalk switch			S37		
Cab 1	X15	Cab high/low connection	I24		G13		
Cab 2	X15A	Cab high/low connection	C15		E13		
Cab 1	X16	Cab high/low connection	G24		G11		
Cab 2	X16A	Cab high/low connection	C15		E11		
Engine	X17	DPF inlet pressure sensor	Q22			C17	
Engine	X18	DPF inlet temperature sensor				I9	
Engine	X19	DOC inlet temperature sensor					
Engine	X20	Air filter clogging	Q15			G3	
Frame	X21	Hydraulic filter sensor	I16	E27			
Cab 1	X22	Brake fluid level	I27		K26		
Engine/ Cab 1	X23	Cab/engine connection	O24			Q28	
Cab 1	X25	Front windscreen wiper	G27		K28		
Cab 1	X26	Top & side glass wash pump	G30		I23		
Cab 1	X27	Front windscreen washer pump	G29		I23		
Cab 1	X28	Rear glass wash pump	I29		K23		
Cab 1	X29	Heating	I28		K32		
Engine	X30	Air-conditioning compressor	Q15			I3	
Frame	X31	Rear left headlight	I5	C11			

CAB HARNESS 1

MT 1440 / MT 1840



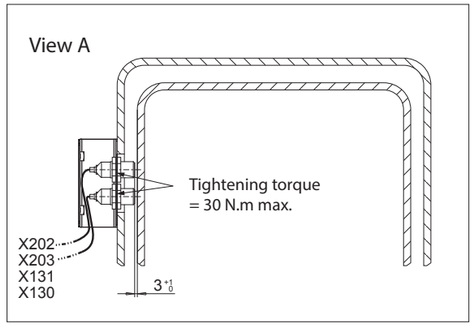
GROUNDS

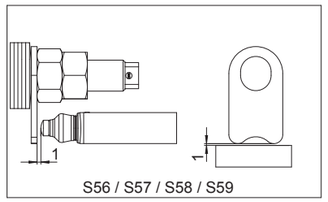
Wiring harness type	Item	Designation	Position on harness layout				Comments
			Assembly	Frame	Cab	Engine	
Engine	Engine ground	Engine ground	O22			E22	
Frame	Frame ground M1	Frame ground M1	K28	M22			
Cab 1	Cab Ground M1	Cab Ground M1	I29		M34		
Frame	Frame ground M2	Frame ground M2	M22	M17			
Cab 1	Cab ground M2	Cab ground M2	I20		K14		
Frame	Frame ground M3	Frame ground M3	M5	C15			
Frame	Frame ground M4	Frame ground M4	See "Engine harness" 3D location				
Cab 2	X011	Cab ground M2	A15		E10		

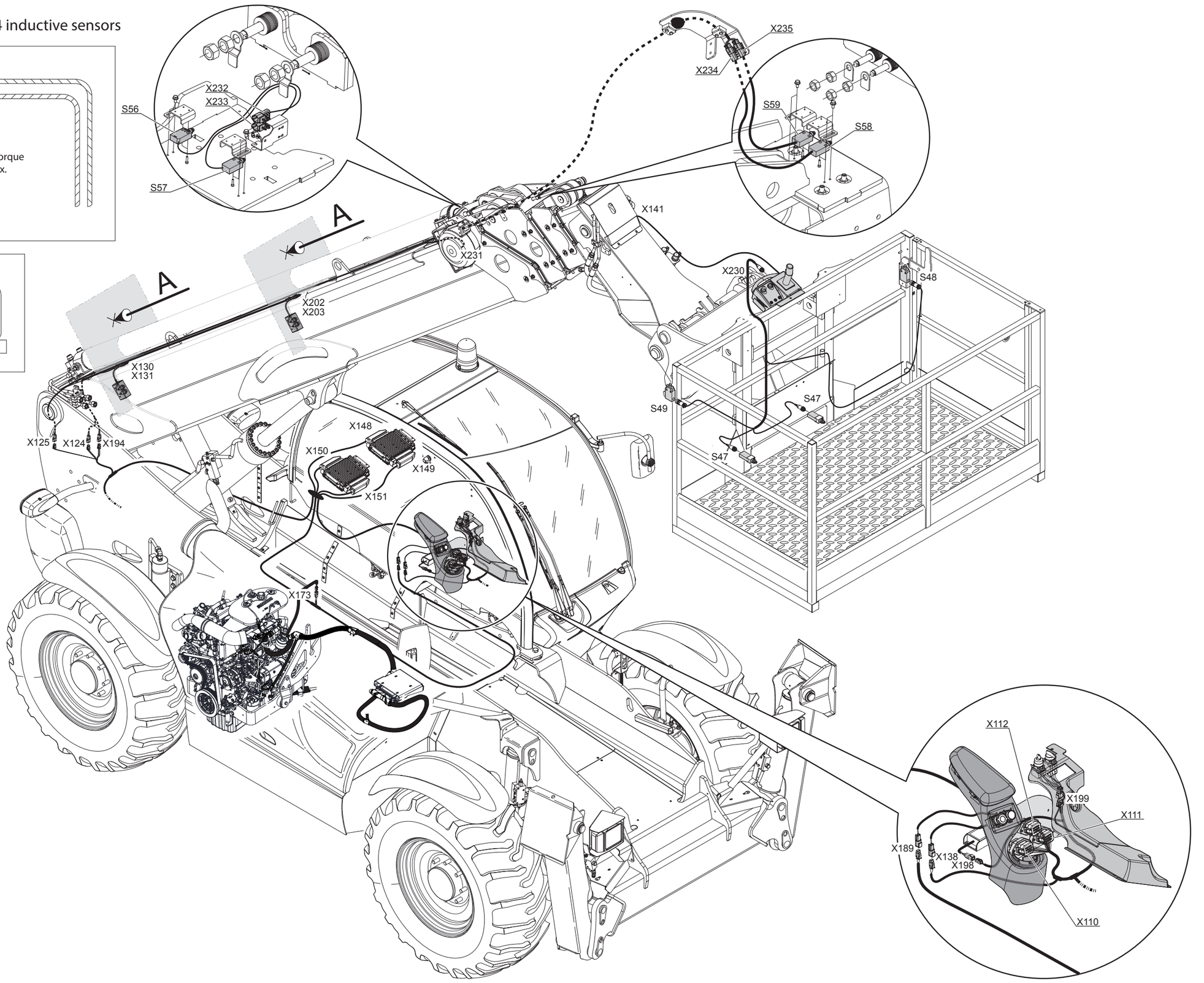
DIODES AND SPLICES

Wiring harness type	Item	Designation	Position on harness layout				Comments
			Assembly	Frame	Cab	Engine	
Cab 1	D2	Diode D2	I30		K34		
Cab 1	D3	Diode D3	I19		K14		
Engine	EP.1	Splice	Q23			G25	
Cab 2	EP.1	Splice	C8		A5		
Cab 2	EP.1	Splice	G21		G18		
Cab 2	EP.2	Splice	G22		G18		
Cab 2	EP.2	Splice	A8		A11		
Cab 2	EP.3	Splice	A8		A10		
Cab 1	EP.4	Splice	K26		M24		
Cab 2	EP.4	Splice	C8		C3		
Frame	EP.5	Splice	M13	G21			
Cab 1	EP.5	Splice	I27		M31		
Cab 2	EP.5	Splice	C9		E3		
Frame	EP.6	Splice	M13	G21			
Cab 2	EP.6	Splice	C8		C3		
Cab 1	EP.7	Splice	K26		M25		
Cab 2	EP.7	Splice	C8		C4		
Cab 2	EP.8	Splice	C8		A3		
Cab 1	EP.9	Splice	O29		O25		
Cab 2	EP.9	Splice	C8		A3		
Cab 1	EP.10	Splice	K26		M26		
Cab 2	EP.10	Splice	A9		A11		
Cab 1	EP.11	Splice	I18		M18		
Cab 2	EP.11	Splice	C10		E3		
Cab 1	EP.15	Splice	G16		K9		
Cab 1	EP.16	Splice	I21		G25		
Frame	EP.20	Splice	O2	G8			
Frame	EP.29	Splice	I15	E31			
Frame	EP.32	Splice	I15	E30			
Frame	EP.61	Splice	M2	C7			
Frame	EP.64	Splice	G15	E32			
Frame	EP.65	Splice	G15	E32			
Frame	EP.71	Splice	M4	E9			
Frame	EP.72	Splice	M3	E7			
Frame	EP.73	Splice	K5	E13			
Frame	EP.90	Splice	M30	O21			
Frame	EP.91	Splice	O2	G8			

Details of settings for the 4 inductive sensors





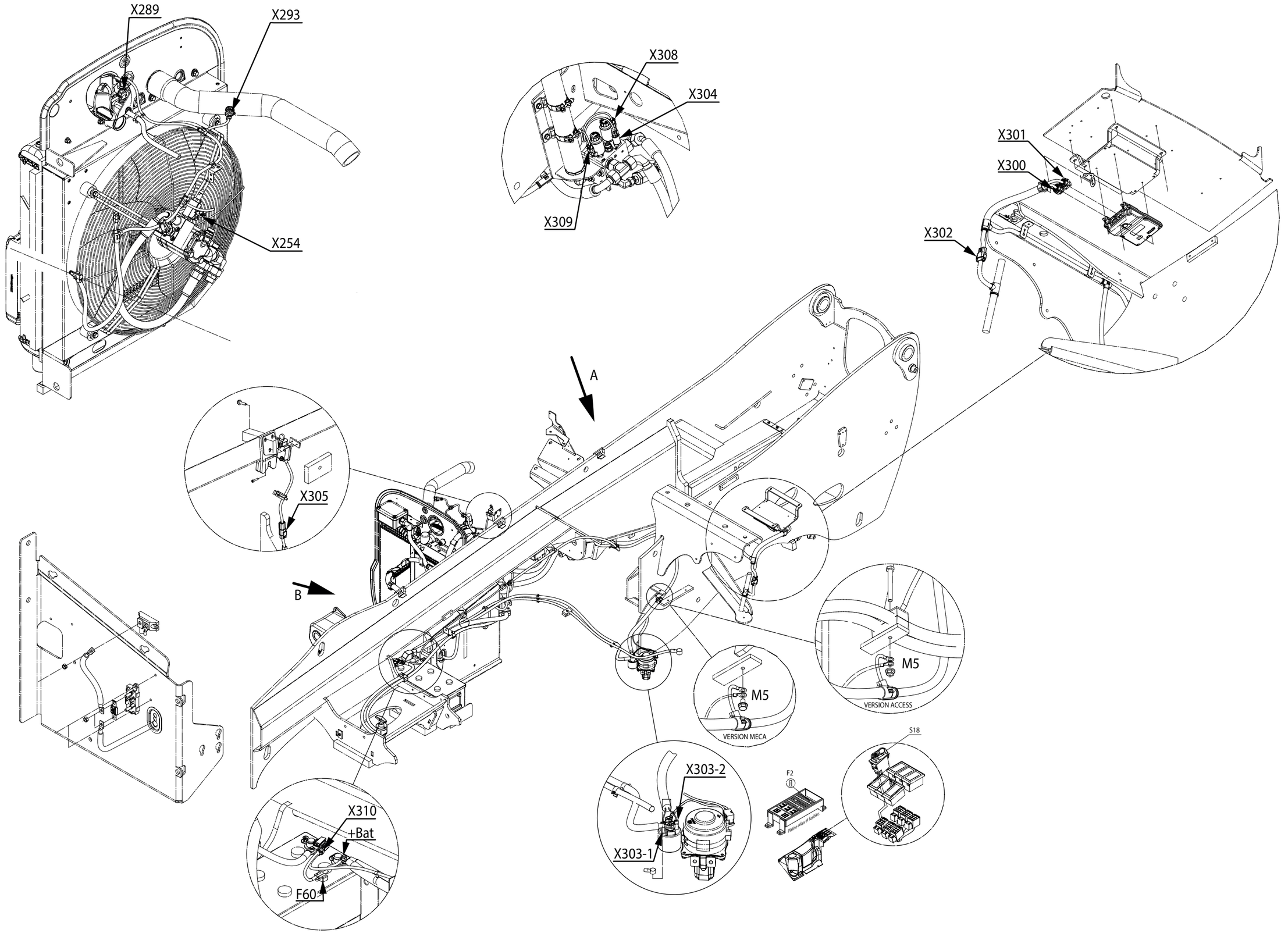


CONNECTOR KEY

Wiring harness type	Item	Designation	Position on 2D Frame harness	Comments
Frame	X21	Hydraulic filter sensor	E23	
Frame	X31	Rear left headlight	C11	
Frame	X32	Rear right headlight	I6	
Frame	X35	Front left headlight	K31	
Frame	X36	Front right headlight	K31	
Frame	X37	Rear license plate light	E4	
Frame	X38	Reverse buzzer	I8	
Frame	X39	Main horn	K27	
Frame	X40	Trailer socket	G3	
Frame	X53	Forward motion electrovalve	M10	
Frame	X54	Reverse electrovalve	M9	
Frame	X55	Forward motion pressure sensor	O10	
Frame	X56	Reverse motion pressure sensor	O10	
Frame	X57	Front clutch pressure	K7	
Frame	X58	Gear box temperature probe	O9	
Frame	X60	Gear lever transmission cut-off	K8	
Frame	X62	Gear box output speed sensor	M13	
Frame	X65	Front wheel alignment sensor	K21	
Frame	X66	Rear wheel alignment sensor	Q6	
Frame	X67	JSM plug	Q33	
Frame	X70	Assist brake circuit pressure switch	Q19	
Frame	X87	Right stabilizer low level pressure switch	M31	
Frame	X88	Right stabilizer high pressure switch	M32	
Frame	X91	Telescope head electrovalve option	A10	
Frame	X92	Negative brake electrovalve	Q21	
Frame	X96	Left stabilizer high level pressure switch	I32	
Frame	X97	Left stabilizer low level pressure switch	I31	
Frame	X100	Boom angle sensor	G10	
Frame	X105	Boom working light (option predisposition connector)	A12	
Frame	X106	Boom electric connector (option)	A11	
Frame	X109	Rear dual path hydraulics electrovalve	E16	
Frame	X110	Frame/cab connection	E33 / M36	
Frame	X111	Frame/cab interface	G33 / M35	
Frame	X112	Frame/cab interface	E33 / M35	
Frame	X116	Manimux Power 1 (MP1) and Manimux Power 2 (MP2) power supply motor connection	O14	
Frame	X124	C1 and C2 QX boom inductive sensor connector	A9	
Frame	X125	Chain tension/boom contactor connector	A6	
Frame	X132	Servo steering circuit fault pressure switch (TUV)	S20	
Frame	X133	ON/OFF negative brake pressure switch	Q20	
Frame	X134	Retracted boom sensor	A5	
Frame	X135	Telescope suspension connector	A8	
Frame	X148	Manimux Power 1 (MP1)	A19	
Frame	X149	Manimux Power 1 (MP1)	A21	
Frame	X150	Manimux Power 2 (MP2)	C19	
Frame	X151	Manimux Power 2 (MP2)	C21	

3D LOCATION

STOP & GO OPTION WIRING HARNESS



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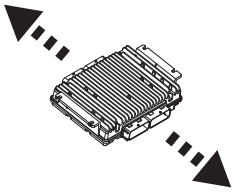
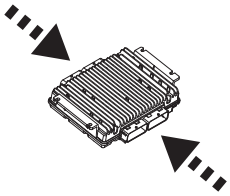


MC

MP1

MP2

Component description	Line N°	Column N°	PIN	Page	Inlet type	Status	Consequence
/	1	1	1.01	1/1			
CAN gauge power supply	1	2	1.31	1/1	TOR (All or nothing)	0	
						1	
/	1	3	1.35	1/1			
/	1	4	1.65	1/1			
APC120 computer unit micro supply	1	5	2.84	1/1	TOR (All or nothing)	0	
						1	
/	1	6	2.82	1/1			
/	1	7	2.54	1/1			
/	1	8	2.23	1/1			
Negative brake control 1	2	1	2.83	1/1	TOR (All or nothing)	0	Activated
						1	Deactivated
Cab lighting control	2	2	2.53	1/1	TOR (All or nothing)	0	Deactivated
						1	Activated
Roller power supply voltage	2	3	1.34	1/1	TOR (All or nothing)	0	Supplied
						1	Not supplied
Box pressure sensor power supply voltage	2	4	1.02 1.03 1.32	1/1	TOR (All or nothing)	0	Supplied
						1	Not supplied
Accelerator pedal power supply voltage	2	5	2.01 2.02	1/1	TOR (All or nothing)	0	
						1	
Wheel alignment sensor power supply voltage	2	6	2.18 2.49	1/1	TOR (All or nothing)	0	Not supplied
						1	Supplied
Box temperature sensor power supply voltage SAHR pressure switch power supply voltage Chain boom sensor power supply voltage	2	7	2.19 2.20 2.50 2.80	1/1	TOR (All or nothing)	0	Not supplied
						1	Supplied
Boom angle sensor power supply voltage	2	8	2.21	1/1	TOR (All or nothing)	0	Not supplied
						1	Supplied
/	3	1	2.51	1/1			



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MC

MP1

MP2

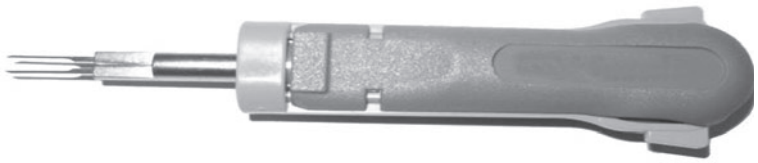
Component description	Line N°	Column N°	PIN	Page
XL1 joystick	1	1	1.19	1/3
XT1 joystick	2	1	1.49	1/3
/	3	1	1.79	1/3
Tilting meter X signal	4	1	1.20	1/3
XL2 joystick	1	1	1.50	2/3
XT2 joystick	2	1	1.80	2/3
Tilting Y signal	3	1	1.21	2/3
/	4	1	1.51	2/3
LSS signal	1	1	2.24	3/3

Engine ECU					
Code on PAD or on machine screen		Code on machine screen		COMPONENT	PROBLEMS
Hexadécimal		Decimal			
Error code	Fault type	Error code	Fault type		
0129D	04	4765	4	Aftertreatment #1 Diesel Oxidation Catalyst Intake Gas Temperature	Voltage Below Normal, or Shorted to High Source
013BF	11	5055	17	Engine Oil Viscosity	Data Valid but Below Normal Range: Least Severe Level
013BF	12	5055	18	Engine Oil Viscosity	Data Valid but Below Normal Range: Moderately Severe Level
013EB	06	5099	6	Engine Oil Pressure Low Lamp Data	Current Above Normal, or Grounded Circuit
014C7	1F	5319	31	Aftertreatment 1 Diesel Particulate Filter Incomplete Regeneration	Condition Exists
014CC	07	5324	7	Engine Glow Plug 1	Mechanical System not Responding or Out of Adjustment
014CD	07	5325	7	Engine Glow Plug 2	Mechanical System not Responding or Out of Adjustment
014CE	07	5326	7	Engine Glow Plug 3	Mechanical System not Responding or Out of Adjustment
014CF	07	5327	7	Engine Glow Plug 4	Mechanical System not Responding or Out of Adjustment
0152B	05	5419	5	Engine Throttle Actuator #1	Current Below Normal, or Open Circuit
0152B	06	5419	6	Engine Throttle Actuator #1	Current Above Normal, or Grounded Circuit
0152B	07	5419	7	Engine Throttle Actuator #1	Mechanical System not Responding or Out of Adjustment
015C3	02	5571	2	High Pressure Common Rail Fuel Pressure Relief Valve	Data Erratic, Intermittent or Incorrect (rationality)
015C3	07	5571	7	High Pressure Common Rail Fuel Pressure Relief Valve	Mechanical System not Responding or Out of Adjustment
015C3	0A	5571	10	High Pressure Common Rail Fuel Pressure Relief Valve	Abnormal Rate of Change
015C3	0E	5571	14	High Pressure Common Rail Fuel Pressure Relief Valve	Special Instruction
015C3	10	5571	16	High Pressure Common Rail Fuel Pressure Relief Valve	Data Valid but Above Normal Range: Moderately Severe Level
016C2	10	5826	16	Emission Control System Operator Inducement Severity	Data Valid but Above Normal Range: Moderately Severe Level

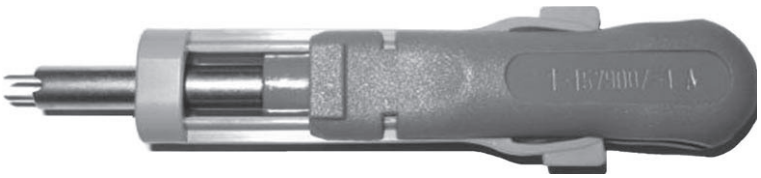
PIN EXTRACTION TOOL: PERKINS 854 ENGINE

Manitou reference :

797379 (for connector X908 and X913)



797380 (for connector X909)



797381 (for connector X8)

797382 (for connector X900 to X907, X910 to X912, X915 and X916)

798595 (for connector X914)

798596 (for connector X917 to X920)