MITSUBISHI
FORKLIFT TRUCKS

Service manual

PBVSBV

Pub no.: SM19GBPBV,SBVA4

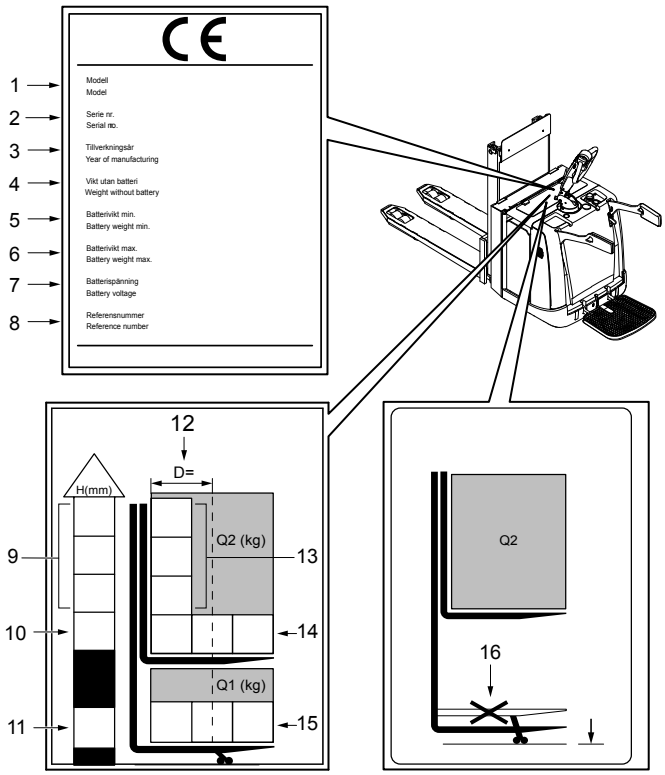


Fig. 3. Example of type plate, PBV

1	Model designation	9	Lift height for truck, H
2	Type Series no./Version (S = Special version)	10	Maximum lifting height for fork carriage with load on straddle legs
3	Year of manufacture	11	Lift height for straddle leg
4	Weight without battery	12	Distance to centre of gravity, D
5	Minimum battery weight	13	Load limit for fork carriage without load on straddle leg
6	Maximum battery weight	14	Load limit for fork carriage with load on straddle leg, Q2
7	Battery voltage	15	Load limit for straddle leg, Q1
8	Reference number (year and month of manufacture)	16	Straddle legs must always be lowered when stacking

Table 18. Weight, SBV 16P (cont'd.)

Weight						
No.	**Description**	**Unit**		**SBV 16P, Duplex**	**SBV 16 P, Duplex with free lift**	**SBV 16 P, Triplex with free lift**
2.3	Max. wheel load, without rated load, front axle/rear axle		kg	860/320	900/350	970/405
-	Max. wheel load, without/with rated load		MPa	4.5/4.8	4.5/4.9	5.5/5.1

Table 19. Wheel and tyre, SBV 16P

Wheel and tyre						
No.	**Description**	**Unit**		**SBV 16P, Duplex**	**SBV 16 P, Duplex with free lift**	**SBV 16 P, Triplex with free lift**
3.1	Wheel type, operator's side/ load side			Vulcollan	Vulcollan	Vulcollan
3.2	Wheel size, operator's side		(m-m)	ø 230x70	ø 230x70	ø 230x70
3.3	Wheel size, load side		(m-m)	ø 85x70	ø 85x70	ø 85x70
3.4	Castor wheel		(m-m)	ø140x60	ø140x60	ø140x60
3.5	Number of wheels, front/rear (x = drive wheel)			2/4	2/4	2/4
3.6	Wheel track, operator's side	b10	(m-m)	501	501	501
3.7	Wheel track, load side	b11	(m-m)	390	390	390

Table 20. Truck dimensions, SBV 16P

Truck dimensions						
No.	**Description**	**Unit**		**SBV 16P, Duplex**	**SBV 16 P, Duplex with free lift**	**SBV 16 P, Triplex with free lift**
4.2	Mast height in lowered position	h1	(m-m)	(h13+h3)/2 +555	(h13+h3)/ 2+550	(h13+h3)/ 2+550
4.3	Full free lift	h2	(m-m)	120	h3/2-40	h3/2-40
4.4	Lifting height	h3	(m-m)	1580-4110	1580-4110	3510-5310
-	Lifting height h13+h3	H	(m-m)	1670-4200	1670-4200	3600-5400
4.5	Mast height in raised position	h4	(m-m)	h13+h3 +500	h13+h3 +500	h13+h3 +512
4.6	Straddle lift	h5	(m-m)	-	-	-
4.7	Height over protective roof	h6	(m-m)	2288	2288	2288
4.8	Standing height	h7	(m-m)	165	165	165

Table 31. Second letter

Code	Designation	Designation (Eng)
B	Brake	Brake
C	Control system	Control system
E	Emergency function	Emergency function
F	Forward	Forward
H	Hour	Hour
K	Key	Key
L	Lower	Lower
M	Manoeuvre	Manoeuvre
P	Pump	Pump
R	Reverse	Reverse
S	Speed	Speed

3.2.4 Lubrication schedule (SBV)

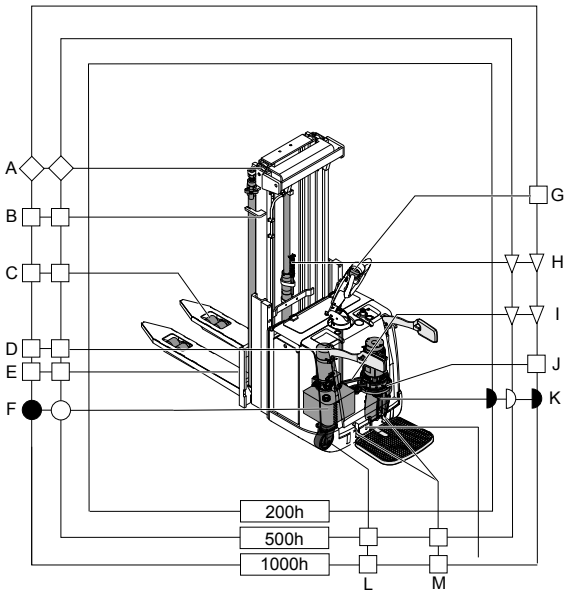


Fig. 7. Lubrication schedule SBV

3.2.5 Components to lubricate (SBV)

Location	Explanation
A	Thrust rollers
B	Mast profile roller surfaces and slide surfaces
C	Bogie wheel
D	Gates, bearing surfaces
E	Fork carriage
F	Hydraulic oil
G	Spring for speed controller
H	Lift chains
I	Steering chain
J	Gearbox bearing, grease nipple
K	Gearbox oil
L	Castor wheel, sliding bearings, 2 grease nipples
M	Platform, 2 grease nipples

3.2.6 Symbol key, lubrication chart

Table 40. Symbols in the lubrication chart

Symbol	Explanation	Symbol	Explanation
○	Hydraulic oil	●	Hydraulic oil and oil filter, air filter, change
◡	Gearbox oil	◒	Gearbox oil, change
□	Grease	▽	Chain spray
◇	Chain spray/oil	✳	Only cold store version

Applicable in general for the symbols:

- Unfilled symbol: Check/lubricate
- Filled symbol: Replacement

4.2.4.2 Adjusting the “friction force” tension

1 Check the spring lengths by measurement. Compare the lengths of the springs with the values in *41. Adjusting the “friction force” spring tension page 47*.

> **NOTE**
> When checking the measurement the truck must be standing unloaded on the floor with the forks lowered.

Table 41. Adjusting the “friction force” spring tension

Spring	Value
Red spring	221 mm
Yellow spring	167 mm

2 Note the differences between the measured results and the values in the table.

3 Lift up the truck to remove the pre-tensioning of the springs.

4 Adjust the tensions by tightening the nuts (pos. B and E) to eliminate the differences.

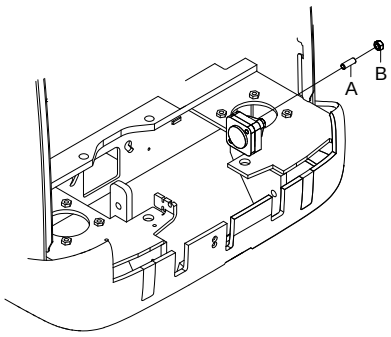
5 Lower the truck down to the floor.

6 Check measurement. Repeat steps 3 - 5 until the correct value is obtained.

7 Lock the adjustment by tightening the nuts (pos. A and F).

4.2.4.3 Adjusting the position of the drive unit housing (PBV)

To achieve a more stable traction the sideways movement of the drive unit housing can be adjusted.



1 Loosen the two locking screws (pos. B) located on either side of the drive unit housing.

2 Tighten the two adjusting screws (pos. A).

3 Tighten the locking nuts.

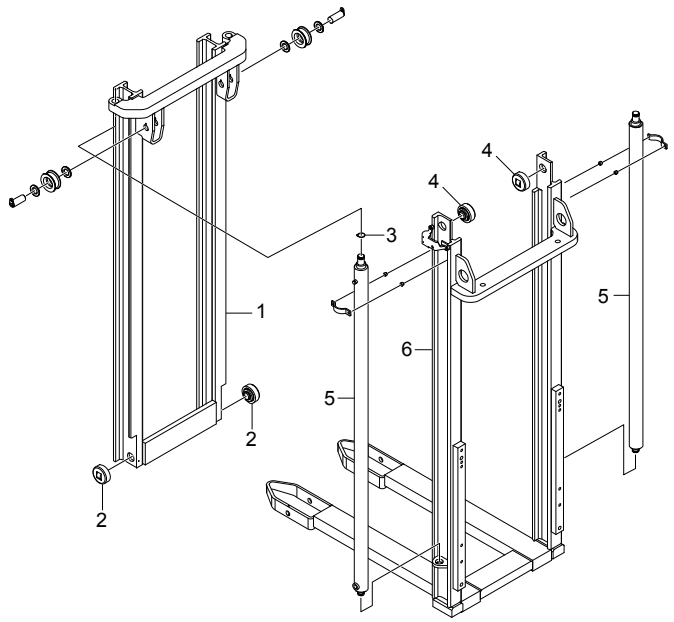
4.2.5 Battery

4.2.5.1 Battery replacement

Work in an area where the old battery can be removed without risk to the environment from battery acid. Wear acid resistant gloves and clothes, plus safety glasses, to protect from burns.

> **WARNING**
> Take care not to splash acid or oxide from the battery.

6.2.2.5 Removal and installation of TV mast (SBV 12P)



1 Dismantling the fork carriage (see *6.2.4.1 Removal and installation of the fork carriage page 78*).

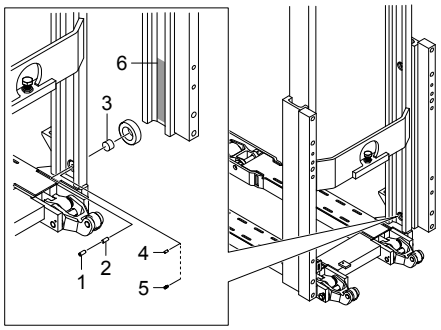
2 Lower the mast to its bottom position.

3 Remove the SGA fuses (pos 3) from the side cylinders (pos 5).

4 Lift the inner mast (pos 1) straight up until the inner mast's lower support roller (pos 2) and the outer mast's (pos 6) upper support roller (pos 4) meet. Then pull the inner mast forward to release it from the outer mast.

5 Install in the reverse order.

2



Remove the stop screws (pos 1) so that the adjusting screws (pos 2) are accessible.

3 Adjust the slide bearings (pos 3) laterally with the adjusting screws, by hand, until they are flush. Make sure that they are equally adjusted on the right and left sides. Then loosen the screws by 90°.

4 Insert the stop screws.

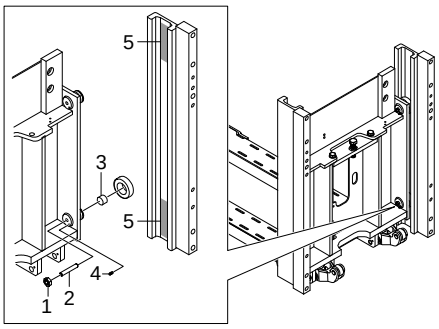
5 Lubricate the bearings, see *6.2.3.5 Straddle leg lift, Lubrication of bearings in roller (SBV 16P) page 78*.

6 Check the function.

6.2.3.4 Adjusting of slide bearing (SBV 12P)

1 Raise the forks to the top so that you reach the outer mast.

2



Remove the nuts (pos 1) so that the adjusting screws (pos 2) are accessible.

3 Adjust the slide bearings (pos 3) laterally with the adjusting screws, by hand, until they are flush. Make sure that they are equally adjusted on the right and left sides. Then loosen the screws by 90°.

4 Install the nuts.

5 Lubricate the bearings, see *6.2.3.6 Straddle leg lift, Lubrication of bearings in roller (PBV, SBV 12P) page 78*.

6 Check the function.

6.2.6.2 Dismounting and installation of the load wheel (Bogie)

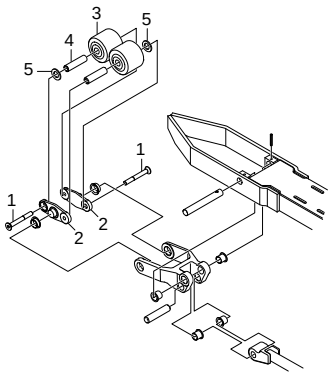


Fig. 42. Load wheel (Bogie)

1 Lift up the truck, and secure it with blocks.

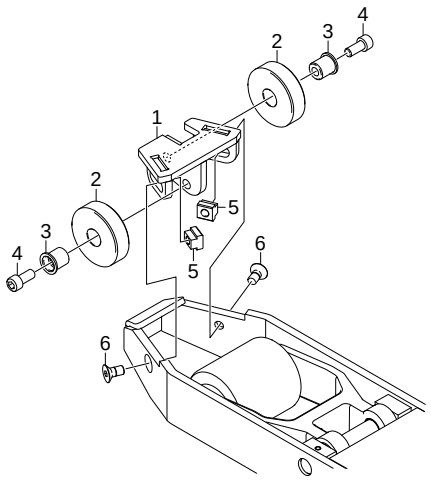
2 Remove the screws (pos. 1) from the wheel ends (pos. 2).

3 Lift off the wheels (pos. 3) with their axles (pos. 4) and washers (pos. 5).

4 Inspect, and replace all damaged parts.

5 Install in the reverse order.

6.2.6.3 Dismounting and installation of the front climbing wheel



1 Remove the countersunk bolts on the straddle legs (item 6).

2 Remove the holder (item 1) with the climbing wheel and secure the assembly in a vice.

3 Remove the bolts (item 4) securing the spacers (item 3).

4 Remove the climbing wheel (item 2).

5 Inspect, and replace all damaged parts.

NOTE
Ensure that accelerator springs are working properly after installation. To achieve this, the wing must be installed at the correct angle relative to the bearing.

7.2.2.4 Installation of the main cabling

Securing the tiller arm main cabling

The cabling is secured by cable clamps to the tiller arm head. The cabling is secured inside the truck by cable ties to the cable strip.

CAUTION
The cabling must have enough slack so that the arm can be lowered to its lowest position without straining the cable. It must also be possible to open the upper part of the tiller head with being restricted by the cabling.

CAUTION
The cabling must not be so long that the programming cable takes the load when the upper part is hanging on the cabling.

Cable routing, standard version

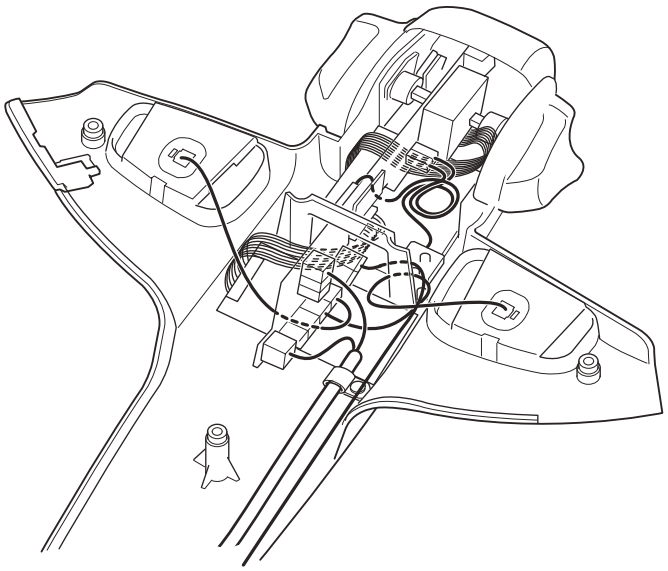


Fig. 48. Cable routing, standard version

8.1 Design and function

8.1.1 General

8.1.1.1 Lift

The operator activates a lift control which starts the lift motor by Combination controller. The electric motor drives the hydraulic pump, which pumps hydraulic oil to the lift cylinders. The hydraulic motor is controlled by speed, so the lifting rate is determined by the motor's rotation speed.

In the hydraulic system there is a pressure limiting valve which limits the maximum hydraulic oil pressure. The pressure of the hydraulic oil increases when the cylinder goes to its end position. The relief valve opens if the maximum system pressure is reached and leads the oil from the pump back to the tank. The opening pressure of the relief valve is set at the factory, so that the machine will be able to handle the load it is designed for.

WARNING
The relief valve must only be adjusted by authorised and trained personnel, since it is a safety part. All work with the hydraulic system must be carried out in a pressureless state, and in a clean environment.

8.1.1.2 Lower

The operator activates the lowering movement by a lowering control.

Between the hydraulic pump and the cylinder there is a proportional valve which regulates the lowering speed in proportion to the control. The maximum lowering speed is determined by a lowering brake valve.

When lowering commences, oil is led from the cylinder through the proportional valve back to the tank and the cylinder is compressed by the weight of the fork carriage.

On certain cylinders there is also a hose rupture valve, which provides protection from accidents during uncontrolled oil discharge.

If the forks or straddle legs are stuck in their raised position, they may need to be lowered by emergency measures, see *8.2.4.4 Lowering the forks/straddle legs (PBV) page 120*.

8.1.2 Hydraulic unit valves

8.1.2.1 Overview

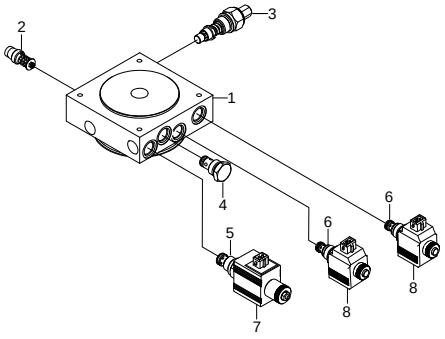


Fig. 56. PBV

1	Valve housing	5	Proportional valve
2	Lowering brake valve	6	Directional valve
3	Pressure relief valve	7	Solenoid valve
4	Check valve	8	Solenoid valve

6 **PBV**: Detach the rear end by removing the two bolts (item 5, *62. Replacing the brushes, PBV page 116*).

SBV: Detach the rear end by removing the four bolts (pos 7, *63. Replacing the brushes, SBV 16P page 116*).

Make sure that the terminals remain in their positions.

7

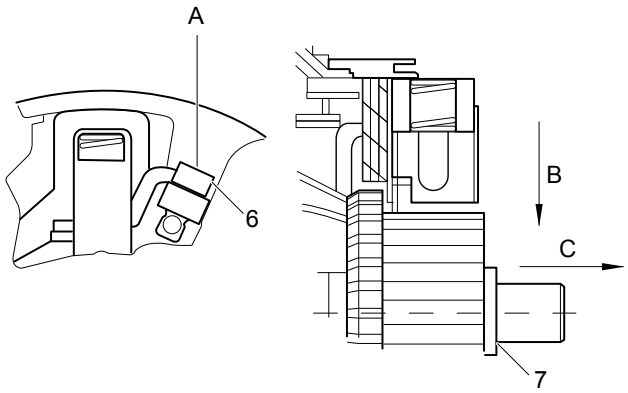


Fig. 64. Replacing the brushes

Disconnect all four carbon brushes by releasing the screws (item 6, *64. Replacing the brushes page 117*) - A. Then press each brush towards the commutator. - B. Remove the brush set from the brush rigging – C. The old brush set is replaced with a new set by the reverse procedure. It is recommended to replace each brush separately to avoid confusion. Make sure that each brush set is replaced with the correct part, i.e. one that has the cable on the correct side. (The service kits consist of two matching pairs of brush sets!)

8

TORQUE
Tighten the screw (pos. 6, 64. Replacing the brushes page 117), to approx. **1.3-1.8 Nm**.

9

TORQUE
Secure the bolts to the rear end. Tighten the bolts to approx. **4.8-6.8 Nm**.

10

TORQUE
Fit and secure the perforated metal ring. Tighten the nuts to approx. **3-4 Nm**.

11

TORQUE
Refit the electric motor into the truck. Tighten the four bolts at the motor end to approx. **16 Nm**.

12 Replace the cables to the motor terminals.

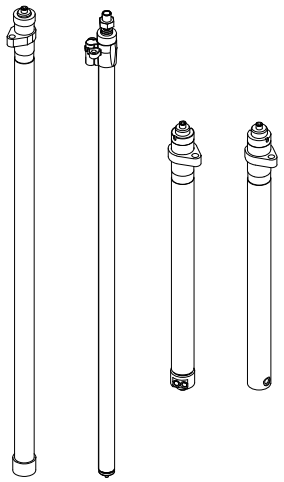


Fig. 73. Lift cylinders, mast (SBV)

Table 56. Sensors (cont'd.)

Designations	Designation	Detects
S33	Top switch, straddle legs	Straddle legs in top position Straddle lift is then switched off. This is so that the "friction force" will not receive overpressure which could lead to the drive wheel lifting the truck.
S34	1,8 m switch	Forks and gates positions. When the forks reach a height of 1.8 m, the side protection gates must be lowered before the forks can be raised any further, if the truck is not equipped with an overhead guard.

Safety functions and logic

For safety reasons, the maximum speed is determined by the positions of the gates, platform and the switch for the forks/straddle legs, see *57. Safety functions and logic page 137*.

Table 57. Safety functions and logic

Safety function	Conditions
Driving speed is limited by	The operator is not standing on the platform (PBV and SBV 16P).
	The side gates are folded down (PBV and SBV 16P).
	The forks are higher than 1.65 m (PBV).
	The forks are higher than 1.8 m (PBV and SBV 16P).
The truck cannot be driven	The platform is lowered but the operator is not standing on it.
	The platform is raised but the side protection gates are raised.
	The platform is lowered, the side gates are raised but the operator is not standing on the platform.
The straddle legs cannot be raised	The straddle legs are already in their uppermost position.
The forks cannot be raised higher than 1.8 m (PBV, SBV)	The side protection gates are raised and the truck does not have an overhead guard. For safety reasons the side protection gates must be lowered so that the operator will have three escape routes if the load tips over.
The truck cannot be driven at 12.5 km/h (option "Extended drive speed PBV")	The forks are not lowered.
	The straddle legs are not lowered.

The sensors generate different values depending on the positions of the gates, platform and the forks/straddle legs switch. Different combinations of values from the sensors limit, for example, the maximum speed and other safety-related functions, see *58. Sensor combinations, safety functions and logic, PBV page 138* *59. Sensor combinations, safety functions and logic, SBV 12P page 138* and *60. Sensor combinations, safety functions and logic, SBV 16P page 139*.

EPS signal connection

Table 64. Connector X26, 8-pole minifit pins, PBV

Position	Cable colour	Description
X26.1	Brown	FB sensor, negative supply
X26.2	Green	FB sensor, positive supply
X26.3	Red/Black	Input for motor temperature switch
X26.4	Red	Motor encoder, positive supply
X26.5	Red/Blue	SP sensor, positive supply
X26.6	Yellow	Signal from the FB sensor
X26.7	White	Motor encoder, channel B
X26.8	Blue	Motor encoder, channel A

Table 65. Connector X26, 8-pole minifit pins, SBV

Position	Cable colour	Description
X26.1	-	FB sensor, negative supply
X26.2	-	FB sensor, positive supply
X26.3	Orange	Input for motor temperature switch
X26.4	Yellow	Motor encoder, positive supply
X26.5	Blue, Red/Blue	SP sensor, positive supply
X26.6	Orange	Signal from the FB sensor
X26.7	Green	Motor encoder, channel B
X26.8	White	Motor encoder, channel A

Table 66. Connector X27, 14-pole minifit pins, PBV

Position	Cable colour	Description
X27.1	Red/White	Drive signal input (+24 V) via X27.5
X27.2	-	-
X27.3	-	-
X27.4	Red/White	Safety relay. Opens in the case of an EPS controller error
X27.5	Red/White	Safety relay
X27.6	Yellow/White	CAN low
X27.7	Red/White	Positive supply in (+24 V) via X27.5
X27.8	Yellow	Signal 1 from the SP sensor
X27.9	Orange	Signal 2 from the SP sensor
X27.10	Green/Brown	SP sensor, negative supply
X27.11	Black	Motor encoder negative supply
X27.12	-	-
X27.13	Blue/White	Motor temperature switch negative supply
X27.14	Brown/White	CAN high

Table 67. Connector X27, 14-pole minifit pins, SBV

Position	Cable colour	Description
X27.1	Red/White	Drive signal input (+24 V) via X27.5
X27.2	-	-
X27.3	-	-
X27.4	Pink/Black	Safety relay. Opens in the case of an EPS controller error
X27.5	Violet, Red/White	Safety relay
X27.6	Yellow/White	CAN low

1 Step to the option that is to be set and press Enter.

```
Lift stop: no
0: 1:yes
```

2 Press the 0 key to turn off the option or 1 to turn it on.

```
Lift stop: yes
New value saved!
```

10.2.7.7 Calibrating the speed controller

Under calibration you can calibrate the speed controller. Do this in the following way:

1 Navigate to **Service menu:→Calibrate→Speed controller**. Then press Enter. The following screen appears:

```
Speed controller to 0
press ENT
```

2 Leave the speed controller in neutral, and press enter. The following screen appears:

```
Give max. signals
press ENT
```

3 Give maximum speed in both directions, without pressing hard to the end position, and then press enter.

The display shows whether the calibration was successful or not.

```
Ok!
Press ENT
```

```
Not accepted
Press ENT
```

Press Enter.

4 The calibration is now finished. A screen is shown where you can test how the speed control reacts. Press enter to end.

```
Signal control:
2.3V Out: 064%
```

NOTE
The speed controller must be calibrated at each service.

10.2.7.8 Calibrating the lifting and lowering controls

1 Navigate to **Service menu:→Calibrate→Lift/Lower**. Then press Enter. The following screen appears:

```
Lift controller to 0
press ENT
```

2 Check that no controllers are activated. Then press Enter. The following display appears:

```
Give full lift
press ENT
```

8 Set the communication parameters as follows:

- Baud Rate (transfer speed): 9600
- Data Bits: 8
- Parity: None
- Stop Bits: 1
- Flow Control: None

9 Activate the function “Capture text” in the “Transfer” menu.

Truck

10 Log on to the Service menu.

11 Select Log and "Downloading".

12 The service information will now be transferred to the PC.

13 Close HyperTerminal and switch off the PC, log off the truck and disconnect the battery plug.

14 Disconnect the PC download cable.

10.2.10 ATC contacts

10.2.10.1 Analogue inputs

There are 4 analogue inputs on the ATC card, of which 2 are used for lifting/lowering the forks/ straddle legs. The other two analogue inputs are not used in these truck models.

The inputs can be read off by navigating to: **Service menu→Test menu→Inputs**

Then activate the various functions.

Contact	Functionality	Menu text
XJ1	Lift/lower forks	`TEST INPUTS: Lift/ lower`
XJ2	Lift/lower straddle legs	`TEST INPUTS: Aux AI 1`

The configuration of the analogue inputs is as follows:

Pin	Configuration
1	+5 V
2	Signal
3	0 V

10.2.10.2 Digital inputs

There are 8 digital inputs on the ATC card, of which 3 are used for the pushbuttons on the tiller arm. The pushbuttons control such functions as the Tiller up drive and horn. The other five digital inputs are not used in these truck models.

The inputs can be read off when logged in by navigating to: **Monitor-menu→In/Out→ATC inputs**

Then activate the various functions.

Contact	Lifting function	Menu text
XJ5	Tiller up drive	`TillerUpD`
XJ8	Horn 1	`Signal`
XJ14	Horn 2	`Signal`

Error code	Indication	Class	Explanation	Check/Procedure
E93	EPS logic error	B	Phase voltage error in standby between U and V	1. Check the motor phases. 2. Check the supply voltage and fuses to the steering servo controller.
E94	EPS logic error	B	Phase voltage error in standby between U and W	1. Check the motor phases. 2. Check the supply voltage and fuses to the steering servo controller.

10.3.1.4 TMC error code indications

Error code	Indication	Class	Explanation	Check/Procedure
E100	CAN error	B	CAN communication error in the TMC during start-up	1. Check that TMC receives supply voltage 2. Check the CAN communication link between the ATC and the CMC to make sure there is no error or short-circuit in the cables. Refer to the wiring diagram. 3. The may be a short-circuit on the ATC, CMC or HVC communication port. Disconnect HVC and see if the error recurs, otherwise change TMC first and ATC as the other unit.
E101	TMC Watchdog	B	TMC monitoring has triggered	Try restarting the truck. If this does not help, change CMC.
E102	TMC logic error 1	B	Positive supply voltage to the logic is outside the range	1. Try restarting 2. Charge the battery if it is becoming discharged. 3. Check that the thick cables between the motor and CMC are properly tightened and that they have a low ohm factor.

NOTE
There may be an error in the display or display cable.

1 Is there voltage between F1.1 and E2.B-?

Yes: *3 page 187*

No: *2 page 187*

2 Check the battery, battery plug, electrical panel plug and their connections.

10 page 187

3 Is there voltage between X1.1 and E2.B-?

Yes: *5 page 187*

No: *4 page 187*

4 Check that there is 24 V at the following locations: X21.1, X21.2 and X45

10 page 187

5 Is there 24 V between X1.1 and X1.5?

Yes: *7 page 187*

No: *6 page 187*

6 Indicates open circuit or poor connection in the blue negative cable between E2.B- and X1.5.

10 page 187

7 Open the steering arm head. Is there 24 V between XJ10.1 and XJ10.5?

Yes: *9 page 187*

No: *8 page 187*

8 Replace the steering arm cabling, or repair.

10 page 187

9 Replace the ATC.

10 page 187

10 Fault trace completed

10.3.2.3 Fuse

The fuse for the traction motor (F1) is defective.

The most likely reason is that the mean current exceeds the rated current of the fuse. In conjunction with the change, carefully check the motor cables and the plus and minus cables to the CMC to make sure they are correctly connected.

Increased friction, increased load, high speed and rapid starting/stopping increase the average current for the controller. The truck may have been driven over its maximum performance.

If the truck has been run with a heavy load and at a high speed and with many stops and starts, or in some other way has exceeded its limitations, try to reduce the speed, load, acceleration and retardation.

1 Replace the fuse (with correct fuse value) and restart.

2 page 188

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Remarks:
				ID not found ! Press '<' key		
		READ LOGS: Damage log ^ v	DAMAGE LOG: Worst ^ vDAMAGE LOG:) Best ^ v	<o>: xxx (mn) <o>: xxx(mn) <o>: xxx (mn) <o>: xxx(mn)		<o> = operator who used the truck immediately before damage was reported. xxx = number of reported damages. List sorted from largest to smallest no. of reported damages.
			DAMAGE LOG: Chrono-logical ^ v	30: [date] [time] <o>: <dc> v v v		List sorted in chronological order. <o> = operator who used the truck immediately before damage was reported. <dc> = damage code (max. two characters long).
				01: [date] [time] <o>: <dc>		
				not implemented yet!		
		READ LOGS: Impact log ^ v	IMPACT LOG: Worst ^ vIMPACT LOG: Best ^ v	<o>: ^xx (mn) IOM: xxx Mn: xxx%<o>: ^xx(mn) IOM:xxx Mn:xxx%		Top = peak impact value; mn = mean impact value for all operators; IOM = number of impacts

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Remarks:
						'xxx' = 'on' or 'off' (currently used) New value 'yyy' replaces the old 'xxx'.
					Input rejec-ted! Press ENT	Screen stays on for 1 s. Displayed if value is out of range.
			Breakp hi: xxx% ^ v	Breakp hi: xxx% New value: ?	Breakp hi: yyy % New value saved!	Defines the output signal level at 70% of the input signal 'xxx' = 'on' or 'off' (currently used) New value 'yyy' replaces the old 'xxx'.
					Input rejec-ted! Press ENT	Screen stays on for 1 s. Displayed if value is out of range.
			Dead-zone: xxx% ^ v	Dead-zone: xxx% New value: ?	Dead-zone: xxx% New value saved!	'xxx' = 'on' or 'off' (currently used) New value 'yyy' replaces the old 'xxx'.
					Input rejec-ted! Press ENT	Screen stays on for 1 s. Displayed if value is out of range.
		TRAC-TION:	Breakp lo: xxx% ^ v	Breakp lo: xxx%	Breakp lo: xxx % New	Defines the output

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Remarks:
					rejec-ted! Press ENT	
		BATTERY: Gel battery ^ v	Gel battery: Stepdown hi ^ v	Stepdown hi: x New value: ?	Step-down hi: y New value saved! Input rejec-ted! Press ENT	
			Gel battery: Stepdown lo ^ v	Stepdown lo: x New value: ?	Step-down lo: y New value saved! Input rejec-ted! Press ENT	
	SET-TINGS: Truck-type ^	TRUCK-TYOE XX				XX = Trucktype
SERVICE MENU: < Tests >	TESTS: Inputs ^ v	TEST INPUTS: Overview ^ v	1112223-3344455-5A 66677BC-DEFGHIJK			Strings of the same digit are bar graphs for analogue/ steering enc inputs. The digit identifies the input, the number of digits represents the input signal level. E.g "1" means: 10%<spd cmd<50%, "11" means: 50%<spd cmd<90%, "111" means: spd cmd>90%. Single letters

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Remarks:
			to lost entries. 0:escape 1:go on			
			Id length: x ^	Id length: x New value: ?	Id lengt-h: x New value saved! Input rejec-ted! Press ENT	
			Code length: x New value saved!	Code length: x New value: ?	Code lengt-h: x New value saved!	
					Input rejec-ted! Press ENT	
	SET ACCESS: Local ^ v	Old code: ??????? New code: ???????				
		Verify new code: ???????	Ok! Press ENT			
			Not success-ful! Press ENT			invalid old code / verified code wrong / no access to E2PROM
	SET ACCESS: Service ^ v	acc to above!				
SERVICE MENU: < Total reset >	Go to Reset menu					