ESR 5000 SERIES
MAINTENANCE MANUAL



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WARNING

Tipovers can result in fatal accidents
A truck tipover can result in fatal injuries.

- *Make sure the towing truck has sufficient capacity. Information on the capacity required can be found on the truck data plate under "Truck Weight Less Battery" and "Battery Weight".*
- *Make sure the drive and castor wheels of the broken down truck do not get damaged by the forks of the towing truck.*
- *Make sure the broken down truck does not slide off the forks of the towing truck.*

CAUTION

Avoid damaging the drive wheel
When the truck is de-energised the brakes are applied to the drive wheel. If the drive wheel drags along the ground while the truck is being towed it will get damaged.

- *Make sure the drive wheel does not touch the ground as the truck is being towed.*

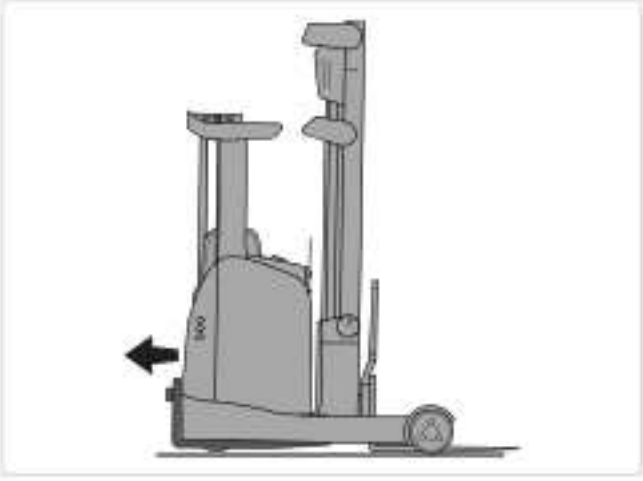


Fig. 4 Pulling the truck with a forklift truck

1. Position the forks of the towing truck underneath the truck.
2. Raise only the front of the truck approx. 20 mm; the load wheels will remain on the ground.
3. Pull the truck slowly and in a forward direction only (see arrow).

Note: If there is no truck with sufficient lifting capacity available, the de-energised truck can only be towed when the brakes have been released by an authorised engineer.

WARNING

Risk of accidents
Long stopping distances and excessive tow loads can result in accidents and serious injury.

- *Connect the truck to the tow truck (e.g. with a tow bar) to prevent it from rolling automatically.*
- *Bear in mind that the brakes of the tow truck also have to stop the truck that is being towed.*

Jacking up the Truck

WARNING

Tipovers can result in fatal accidents

- *Make sure the jack has sufficient capacity. Information on the capacity required can be found on the truck data plate under "Truck Weight Less Battery" and "Battery Weight".*

WARNING

Incorrect jacking procedures can cause fatal accidents
Improper handling of the truck or the tools can result in fatal accidents.

- *Never place your hands or other parts of your body under the truck before it has been supported.*
- *Always support a raised truck with wooden blocks or other suitable equipment to relieve the jack.*
- *Only jack up the truck so far as to raise the wheels off the ground. Any further lifting will increase the risk of tipover.*

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Event Code 325

Display: **LOW TEMP. TMOT**

Explanation: Too low temperature in traction motor (t < -30 °C)

Effect:
- The display shows: LOW TEMP. TMOT

Possible Causes:
- Truck has been parked for too long in a cold environment.

Remedy:

Check the application conditions

1. Check the application conditions.
   - ⇨ If the truck has been parked in temperatures below -30 °C, proceed to step 2
   - ⇨ If the truck has been parked in temperatures above 0 °C, proceed to step 3

Instruct the operator

2. Inform the operator that the truck must never be parked in temperatures below 0 °C.

Monitor the frequency of the event

3. Monitor the frequency of the event.

Note: If the truck works after restarting, monitor the frequency of the fault (see Log Events Menu, page 158). If the event occurs frequently, contact the Crown service department.

Event Code 330

Display: **ERROR CANBUS TM**

Explanation: Communication error on the CAN Bus between the main module (VCM) and the traction module (TCM).

Effect:
- Main contactor ED1 de-energised

Possible Causes:
- Wiring error
- Error in main module (VCM)
- Error in steer module (SCM)

Remedy:

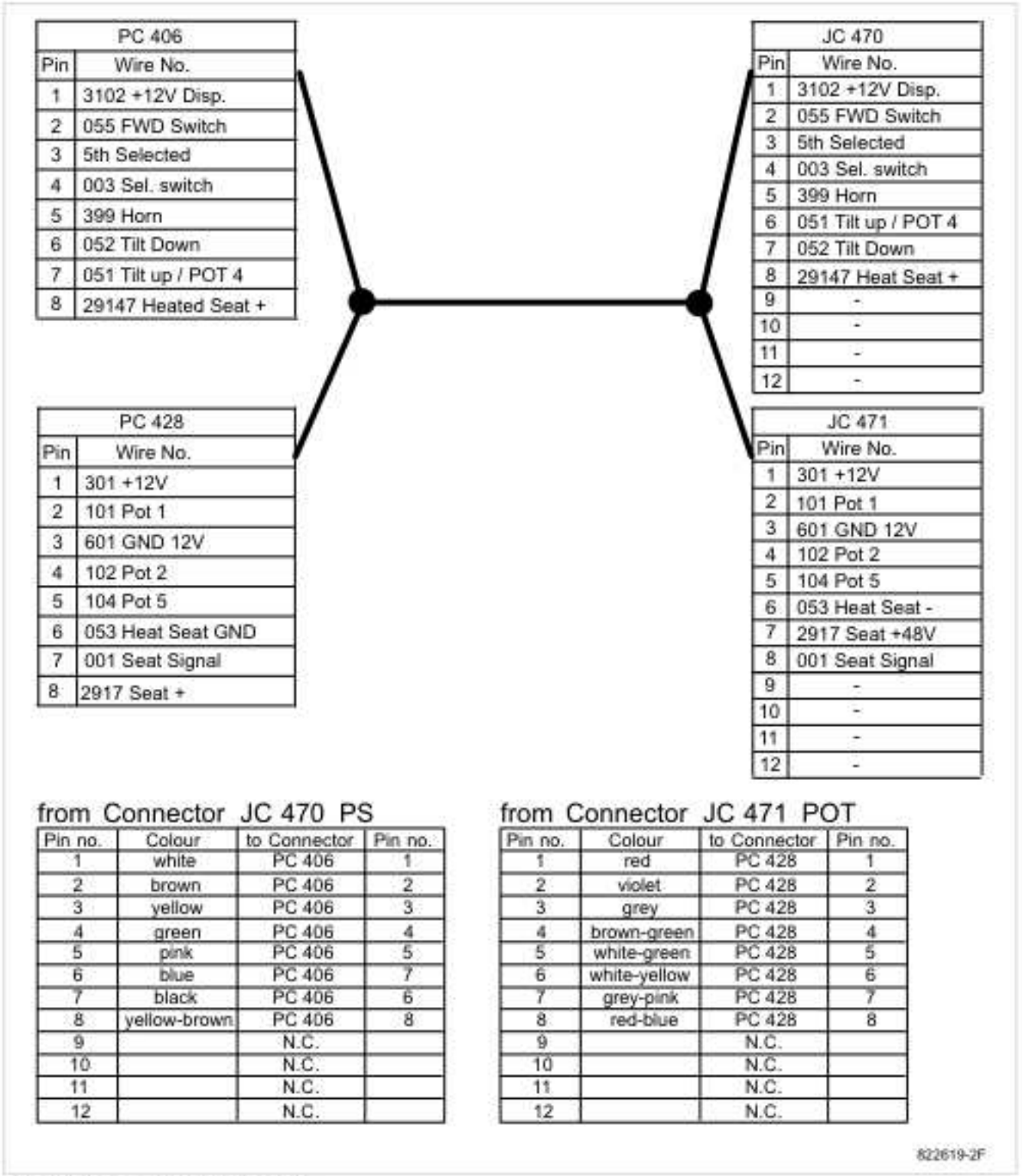
Measure the load resistance of the CAN Bus wiring between the main module and the traction module

1. Measure the resistance between PC416-1 and -2.
   - ⇨ If the resistance is 60 Ω, the main and traction modules are ok.

Note: If the truck works after restarting, monitor the frequency of the fault (see Log Events Menu, page 158). If the event occurs frequently, contact the Crown service department.
   - ⇨ If the resistance is 120 Ω, then either the main module or traction module is faulty. Proceed to step 2.

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Harness, ESR 5000 Armrest



PC 406	
Pin	Wire No.
1	3102 +12V Disp.
2	055 FWD Switch
3	5th Selected
4	003 Sel. switch
5	399 Horn
6	052 Tilt Down
7	051 Tilt up / POT 4
8	29147 Heated Seat +

JC 470	
Pin	Wire No.
1	3102 +12V Disp.
2	055 FWD Switch
3	5th Selected
4	003 Sel. switch
5	399 Horn
6	051 Tilt up / POT 4
7	052 Tilt Down
8	29147 Heat Seat +
9	-
10	-
11	-
12	-

PC 428	
Pin	Wire No.
1	301 +12V
2	101 Pot 1
3	601 GND 12V
4	102 Pot 2
5	104 Pot 5
6	053 Heat Seat GND
7	001 Seat Signal
8	2917 Seat +

JC 471	
Pin	Wire No.
1	301 +12V
2	101 Pot 1
3	601 GND 12V
4	102 Pot 2
5	104 Pot 5
6	053 Heat Seat -
7	2917 Seat +48V
8	001 Seat Signal
9	-
10	-
11	-
12	-

from Connector JC 470 PS

Pin no.	Colour	to Connector	Pin no.
1	white	PC 406	1
2	brown	PC 406	2
3	yellow	PC 406	3
4	green	PC 406	4
5	pink	PC 406	5
6	blue	PC 406	7
7	black	PC 406	6
8	yellow-brown	PC 406	8
9		N.C.	
10		N.C.	
11		N.C.	
12		N.C.	

from Connector JC 471 POT

Pin no.	Colour	to Connector	Pin no.
1	red	PC 428	1
2	violet	PC 428	2
3	grey	PC 428	3
4	brown-green	PC 428	4
5	white-green	PC 428	5
6	white-yellow	PC 428	6
7	grey-pink	PC 428	7
8	red-blue	PC 428	8
9		N.C.	
10		N.C.	
11		N.C.	
12		N.C.	

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Fig. 169 Harness, ESR 5000 armrest

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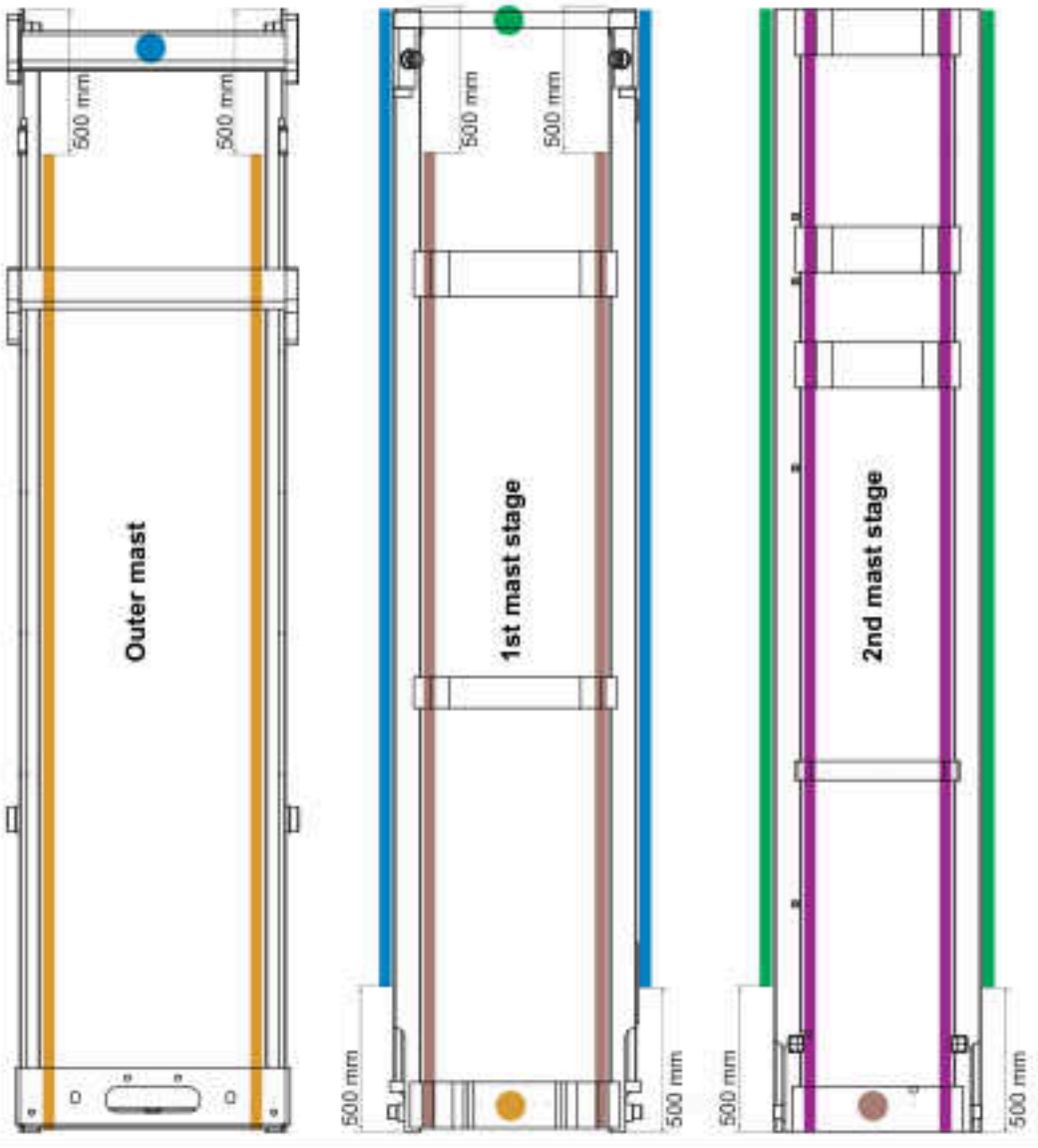
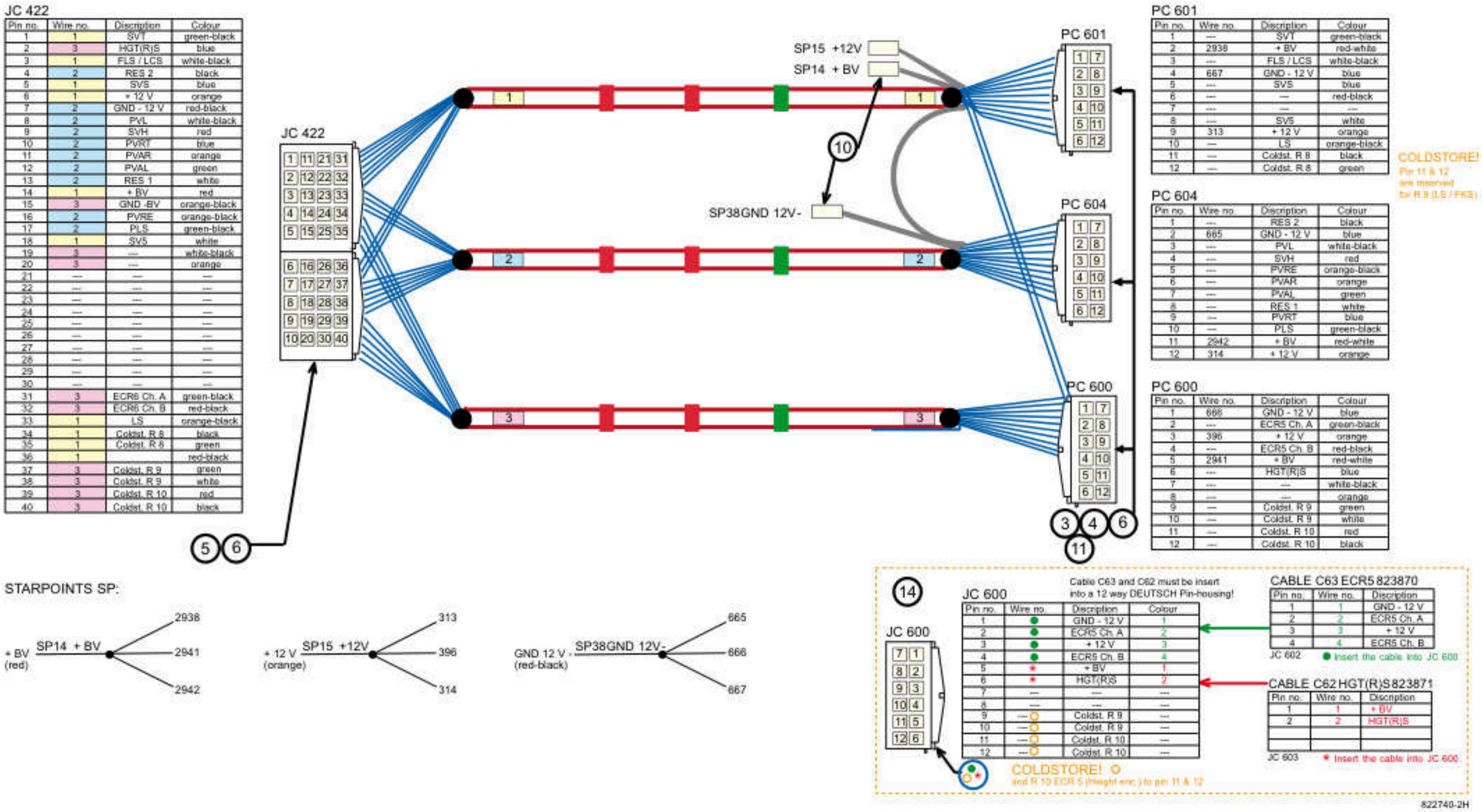


Fig. 113 Mast roller - running areas

	Indicates the assembled position of the bottom mast rollers of the 1st mast stage and their running area.
	Indicates the assembled position of the top mast rollers of the outer mast and their running area.
	Indicates the assembled position of the top mast rollers of the 1st mast stage and their running area.
	Indicates the assembled position of the bottom mast rollers of the 2nd mast stage and their running area.
	Indicates the running area of all mast rollers on the fork carriage.

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Wire Harness: Terminal to Reach Carriage



JC 422			
Pin no.	Wire no.	Discription	Colour
1	1	SVT	green-black
2	3	HGT(R)S	blue
3	1	FLS / LCS	white-black
4	2	RES 2	black
5	1	SV5	blue
6	1	+ 12 V	orange
7	2	GND - 12 V	red-black
8	2	PVL	white-black
9	2	SVH	red
10	2	PVRT	blue
11	2	PVAR	orange
12	2	PVAL	green
13	2	RES 1	white
14	1	+ BV	red
15	3	GND -BV	orange-black
16	2	PVRE	orange-black
17	2	PLS	green-black
18	1	SV5	white
19	3	---	white-black
20	3	---	orange
21	---	---	---
22	---	---	---
23	---	---	---
24	---	---	---
25	---	---	---
26	---	---	---
27	---	---	---
28	---	---	---
29	---	---	---
30	---	---	---
31	3	ECR6 Ch. A	green-black
32	3	ECR6 Ch. B	red-black
33	1	LS	orange-black
34	1	Coldst. R 8	black
35	1	Coldst. R 8	green
36	1		red-black
37	3	Coldst. R 9	green
38	3	Coldst. R 9	white
39	3	Coldst. R 10	red
40	3	Coldst. R 10	black

PC 601			
Pin no.	Wire no.	Discription	Colour
1	---	SVT	green-black
2	2938	+ BV	red-white
3	---	FLS / LCS	white-black
4	667	GND - 12 V	blue
5	---	SV5	blue
6	---	---	red-black
7	---	---	---
8	---	SV5	white
9	313	+ 12 V	orange
10	---	LS	orange-black
11	---	Coldst. R 8	black
12	---	Coldst. R 8	green

PC 604			
Pin no.	Wire no.	Discription	Colour
1	---	RES 2	black
2	665	GND - 12 V	blue
3	---	PVL	white-black
4	---	SVH	red
5	---	PVRE	orange-black
6	---	PVAR	orange
7	---	PVAL	green
8	---	RES 1	white
9	---	PVRT	blue
10	---	PLS	green-black
11	2942	+ BV	red-white
12	314	+ 12 V	orange

PC 600			
Pin no.	Wire no.	Discription	Colour
1	666	GND - 12 V	blue
2	---	ECR5 Ch. A	green-black
3	396	+ 12 V	orange
4	---	ECR5 Ch. B	red-black
5	2941	+ BV	red-white
6	---	HGT(R)S	blue
7	---	---	white-black
8	---	---	orange
9	---	Coldst. R 9	green
10	---	Coldst. R 9	white
11	---	Coldst. R 10	red
12	---	Coldst. R 10	black

JC 600			
Pin no.	Wire no.	Discription	Colour
1	●	GND - 12 V	1
2	●	ECR5 Ch. A	2
3	●	+ 12 V	3
4	●	ECR5 Ch. B	4
5	*	+ BV	1
6	*	HGT(R)S	2
7	---	---	---
8	---	---	---
9	—○	Coldst. R 9	---
10	—○	Coldst. R 9	---
11	—○	Coldst. R 10	---
12	—○	Coldst. R 10	---

CABLE C63 ECR5 823870		
Pin no.	Wire no.	Discription
1	1	GND - 12 V
2	2	ECR5 Ch. A
3	3	+ 12 V
4	4	ECR5 Ch. B

CABLE C62 HGT(R)S 823871		
Pin no.	Wire no.	Discription
1	1	+ BV
2	2	HGT(R)S

STARPOINTS SP:

+ BV (red) — SP14 + BV — 2938, 2941, 2942

+ 12 V (orange) — SP15 +12V — 313, 396, 314

GND 12 V - (red-black) — SP38GND 12V- — 665, 666, 667

Fig. 171 Wire Harness: Terminal to Reach Carriage

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