TADANO

SERVICE INSTRUCTION

To:	Classification no:	I-07-913SV
	Issued on:	6. Aug, 2007

Subject: Prevention of counterweight fall off

1. Background:
Refer to recent reports on the counterweight from our markets, it is observed that in the mounting Bolts for the counterweight had a possibility of break down.
This may result in falling off of the counterweight in a worst case situation.

Therefore we would like to ask you to do these improvements in accordance with the "Modification-Instruction".

2. Applicable Model/Serial Number:
ATF65G-4

3. Work procedure:
Refer to the attached "Modification-Instruction".

4. Parts :
To be supplied.

5. Validity :
End of September, 2007
*Your urgent cooperation will be very highly appreciated.

6. Expenditure:
Please make a claim application using a WARRANTY CLAIM APPLICATION FORM.
The following cost shall be borne by TADANO.

Man-hour: 7.0 H with 2 engineers /unit

Completion Report should be attached with Warranty Claim Application.

7. Attached Documents

Modification-Instruction cover page	Total 3 pages
Modification-Instruction	Total 14 pages
Drawing for Drawing to Modification Instruction(1-07-0016-2)	Total 1 page
Drawing for Exchange of bolts(Q1070016-3)	Total 1 page
Drawing for Counterweight Support(99707022890)	Total 1 page

K. Kashihara

K. Kashihara
General Manager
Quality Assurance Dept.

I-07-913SV

To TADANO LTD.

Completion Report

1. Model

Model Name : _____

Serial number : _____

Customer's name : _____

- Mileage _____ km/mile
- Operating hours Upper: _____ Hr
  Lower: _____ Hr

2. Completion date(DD/MM/YYYY) _____

Company name of carried out: _____

Person Name of carried out:: _____

Remarks:

FAUN	Modification- Instruction	To Report-No.: Q1070016-3 Page 1 from 3 Date : 02.08.2007

Modification:

I. Exchange old bolts between 2.0t counterweight and 3.1t counterweight
Exchange of existing supports and pins which fixing 3.1t counterweight with superstructure frame to new ones.

II. Add counterweight-support to have higher safety factor

Defect :

Counterweight 2,0t fell down

Causes :

Bolts of 2,0t counterweight were broken

To exchange:

I. Bolts 99707795159 will be exchanged by 99707008143
Exchange to new pin 99707021322 and new support 99707021318

II. Screwable counterweight – support 99707022890 will be added
If 2.0t counterweight is not screwed to 3.1t counterweight the bolts 99707008143 and the screwable counterweight – support should be put to the crane – equipment.

It is not allowed to have the counterweights fixed together only by bolts or only by support. There has to be used always both.

Necessary parts for exchange:

Modification type A.

Nr.	Name	Faun – number	Quantity
1	Bolt M20x340 10.9	99707008143	4
2	Washer DIN 7349-21,0-300HV-A2K	99708409002	8
3	Nut DIN 934-M20-10-A3P	99700217414	4
4	Securing mean	99708432603	As needed
5	Support	99707021318	4
6	Splint Pin ISO 8752-6x70-A-ST	99700101673	4
7	Washer DIN 7349-21,0-300HV-A2K	99708409002	8
8	Bolt M20x220 10.9	99700620678	4
9	Socket Pin	99707021314	4
10	Shim 5mm	99707795130	3
11	Shim 1mm	99707795131	As needed
12	Shim 5mm	99707021327	1
13	Shim 1mm	99707021328	As needed
14	Bolt M8x40 8.8	99700057026	8
15	Washer DIN 433-2-8,4-300HV-A2k	99707009059	16
16	Nut DIN 934-M8-10-A2P	99707011176	8
17	Splint Pin DIN94-5x45-ST-A2P	99700251995	8

Date / prepared	checked	approved

I-07-913SV

FAUN	Modification- Instruction	To Report-No.: Q1070016-3 Page 2 from 3 Date : 02.08.2007

Necessary parts for exchange:
Modification type B.

This is lock-tight ; TAC prepare by ourself

Nr.	Name	Faun – number	Quantity
(1)	(Bolt M20x360 10.9)	(99707009243)	(8)
(2)	(Washer DIN 7349-210-300HV-A2K)	(99708419902)	(8)
(3)	(Nut DIN 934-M20-10-A3B)	(99700217414)	(8)
4	Securing mean	99708432603	As needed
5	Support	99707021318	4
6	Splint Pin ISO 8752-6x70-A-ST	99700101673	4
9	Socket Pin	~~99707021314~~	2
10	Shim 5mm	99707795130	3
11	Shim 1mm	99707795131	As needed
12	Shim 5mm	99707021327	1
13	Shim 1mm	99707021328	As needed
14	Bolt M8x40 8.8	99700057026	8
15	Washer DIN 433-2-8,4-300HV-A2k	99707009059	16
16	Nut DIN 934-M8-10-A2P	99707011176	8

997-070-21322

Modification type C.

Nr.	Name	Faun – number	Quantity
1	Screwable counterweight – support	99707022890	2

we will have this parts after 1week from germany

Procedure of replacement:
See appendix

New adjustment:
See appendix

Applicable model/serial number:
See next page

Working time :
About 7h, two service engineers.

Remarks:

Applicable model/serial number :

NO	Ser. No.	Country	CW Version	Modification type
1	2031126	USA	0 t CW version	B + C
2	2031132	USA	0 t CW version	B + C
3	2031136	USA	0 t CW version	B + C
4	2031142	USA	0 t CW version	B + C
5	2031146	USA	0 t CW version	B + C
6	2031150	USA	0 t CW version	B + C
7	2031154	Australia	0 t CW version	B + C
8	2031160	USA	0 t CW version	B + C
9	2031166	USA	0 t CW version	B + C
10	2031167	USA	0 t CW version	B + C
11	2031188	USA	0 t CW version	B + C
12	2031189	USA	0 t CW version	B + C
18	2031190	South Africa	Std CW version	A+C
13	2031194	USA	0 t CW version	B + C
14	2031204	Australia	0 t CW version	B + C
15	2031209	USA	0 t CW version	B + C
16	2031218	USA	0 t CW version	B + C
17	2031226	USA	0 t CW version	C
19	2031232	Russia	Std CW version	C

Modification instruction

This description is only for operators, which are working with a screwed together 2.0t and 3.1t counterweight. If these counterweights are not fixed together, then the bolts and the screwable support can be put to crane equipment.

This modification instruction provides two sections:

I. Exchange of existing supports and pins which fixing 3.1t counterweight with the superstructure frame to new ones
---Step 1 to Step 16
Exchange of bolts for fixing 2.0t counterweight with 3.1t counterweight to new bolts
---Step 17 to Step 21

II. Add screwable counterweight- supports for fixing 2.0t counterweight and 3.1t counterweight

It is not allowed to use the counterweight – support without a screwed together counterweight. Alike it is not allowed using the screwed together counterweights without counterweight – support.

I. Exchange of supports and pins for fixing 3.1t counterweight with superstructure ---Step 1 to Step 16

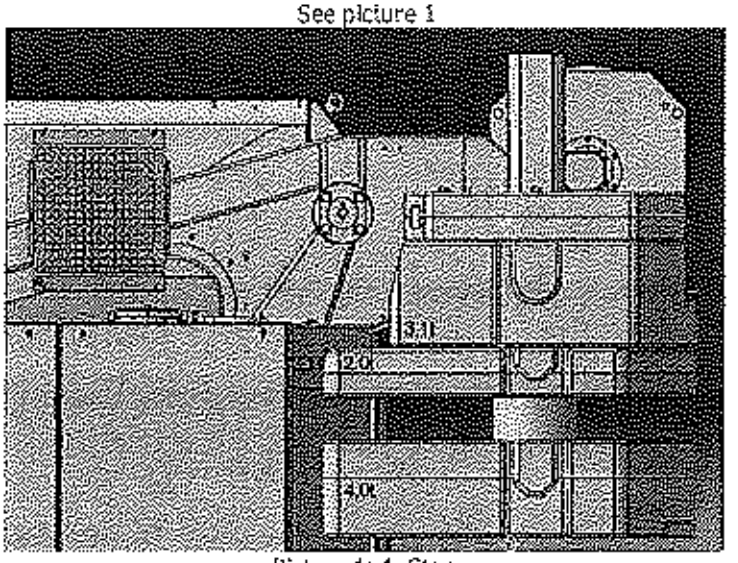
Exchange of bolts for fixing 2.0t counterweight with 3.1t counterweight to new bolts ---Step 17 to Step 21

Precondition

- All counterweight is taken from crane except 4.0t counterweight (standing on carrier) and the counterweight which is mounted on superstructure.
- Counterweight 2.0t must be mounted with bolts on counterweight 3.1t

1. Step

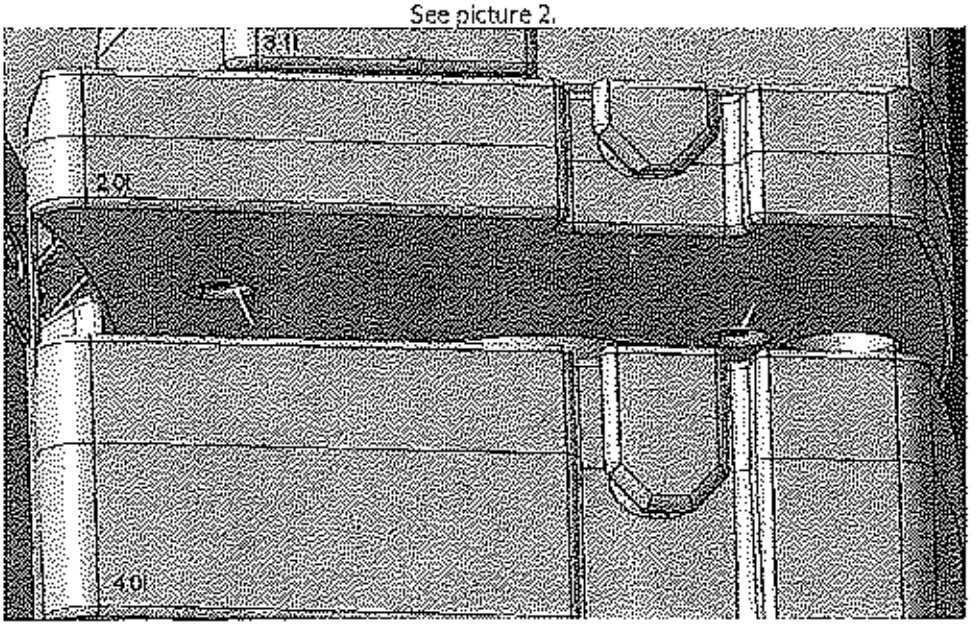
Lift the 4.0t counterweight so that it is having contact to the 2.0t counterweight.
See picture 1



Picture 1: 1. Step

2. Step

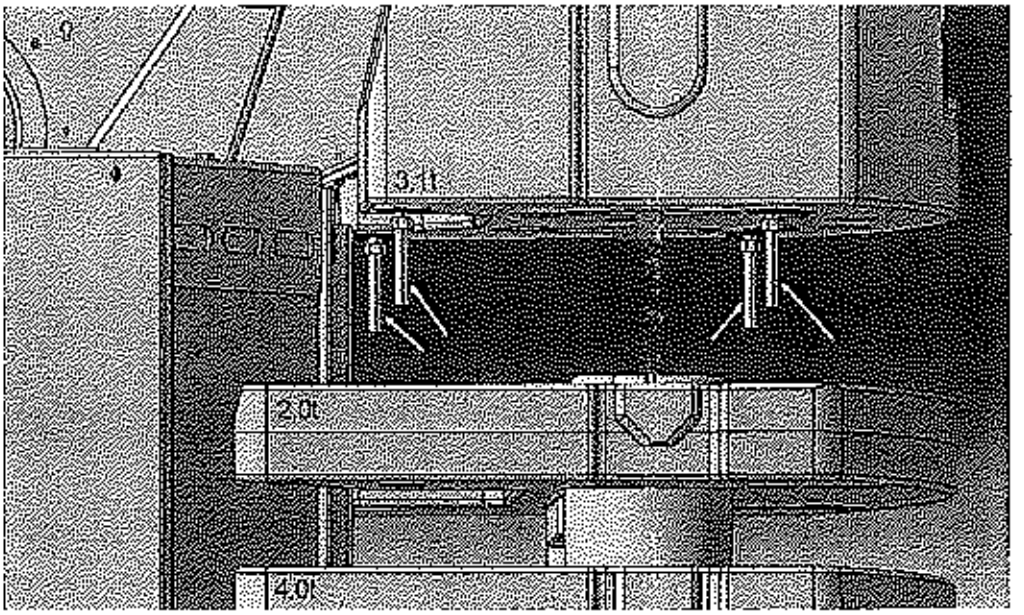
Check for safety, that 3.1 counterweight is having contact with 2.0t counterweight.
Open all four nuts below the 2.0t counterweight.
See picture 2.



Picture 2: 2. Step

3. Step

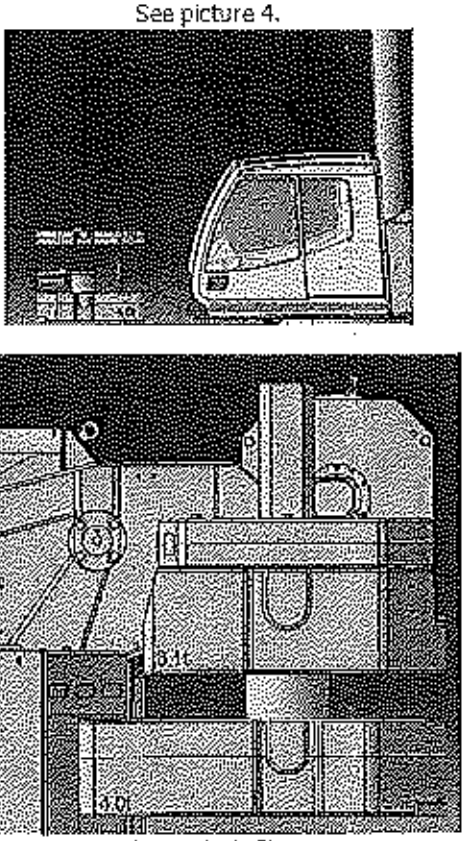
Lower the 4.0t counterweight with the 2.0t counterweight on top until 4.0t counterweight is standing on counterweight rack.
Remove the old four bolts from the 3.1t counterweight
Be careful, 2.0t counterweight is only lying on top of 4.0 t counterweight. Do not step on it or use it as a support while you are working on crane. Draw in counterweight cylinder while you are working.
See picture 3.



Picture 3: 3. Step

4. Step

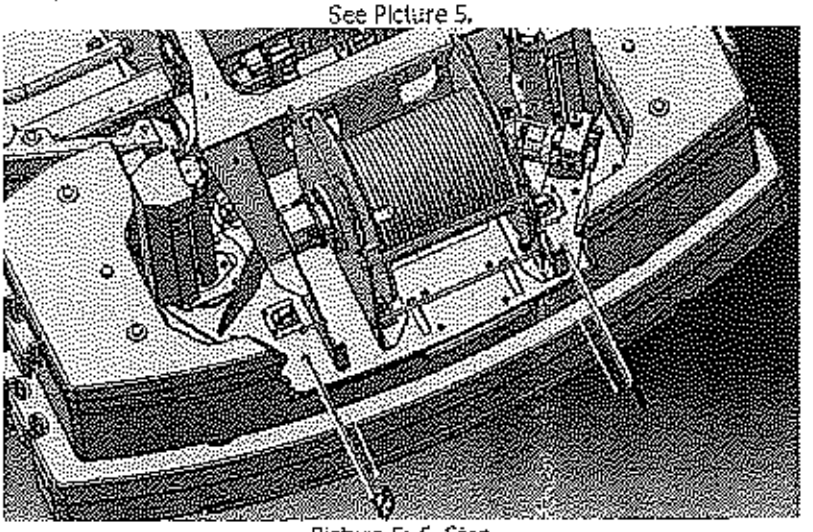
Lift the 2.0t counterweight by using the crane and set it aside.
Lift 4.0t counterweight by using hydraulic cylinder of superstructure, so that counterweight 4.0t is having touch with 3.1t counterweight.
See picture 4.



Picture 4: 4. Step

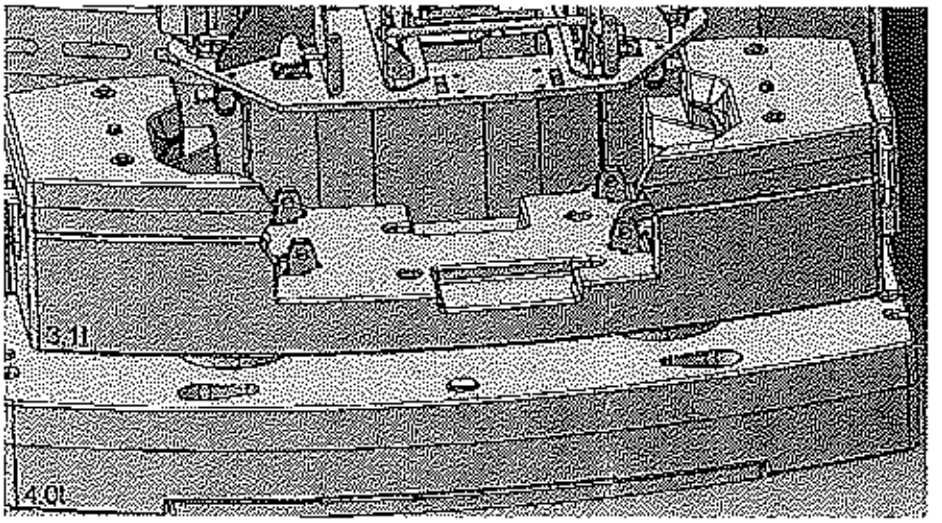
5. Step

Check for safety that counterweight 4.0t is having contact with counterweight 3.1t. Pull out Pin.
See Picture 5.


Picture 5: 5. Step

6. Step

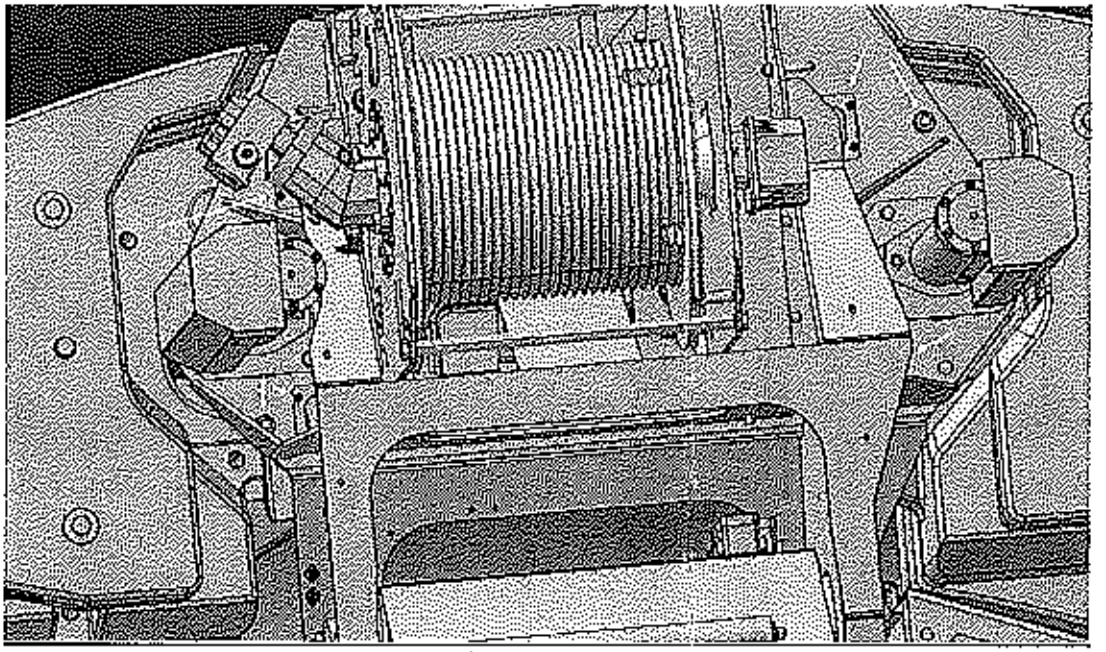
Lower counterweight 4.0t with 3.1t counterweight on top until 4.0t counterweight is standing on counterweight rack. Be careful, 3.1t counterweight is only lying on top of 4.0 t counterweight. Do not step on it or use it as a support while you areworking on crane. Draw in the counterweight cylinders while working.
See picture 6.



Picture 6: 6. Step

7. Step

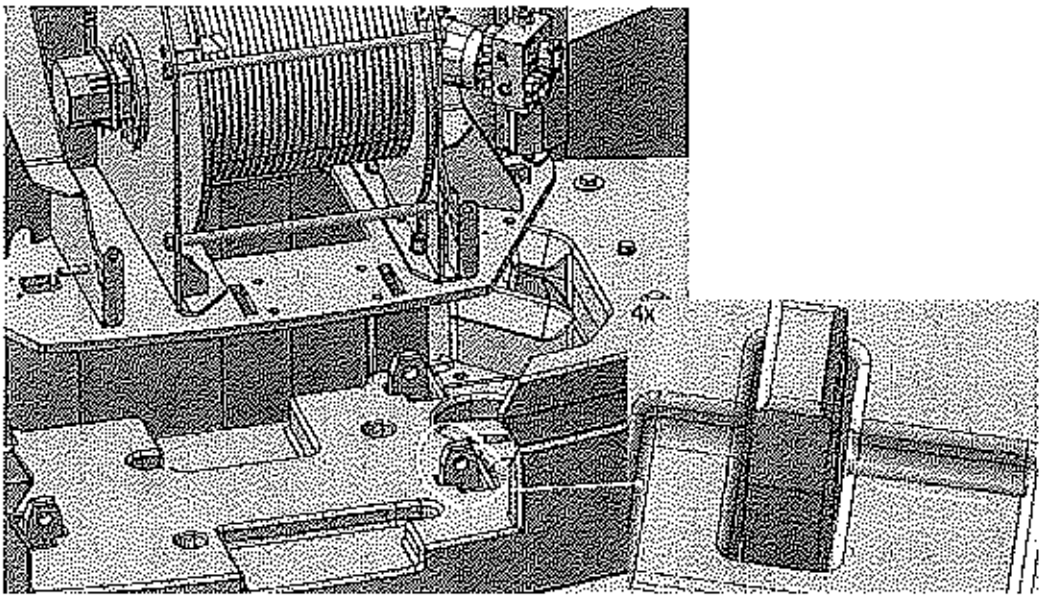
Uninstall old centring for 3.1t counterweight
Uninstall old shims and adequate bolts.
See picture 7.



Picture 7: 7. Step

8. Step

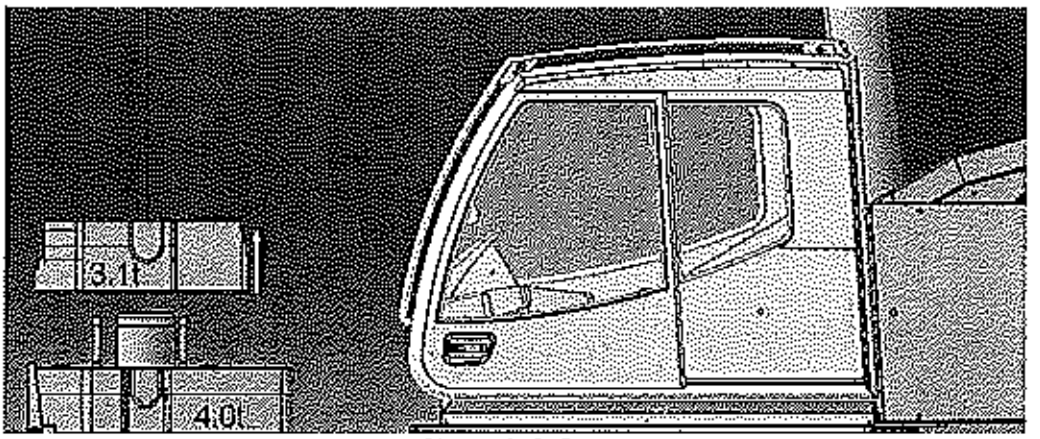
Remove splint pin from all four supports.
Supports will fall out of counterweight 3.1t, if splint pin is removed.
Be careful, 3.1t counterweight is only lying on top of 4.0t counterweight. Do not step on it or use it as a support while you are working on crane.
See picture 8.



Picture 8: 8. Step

9. Step

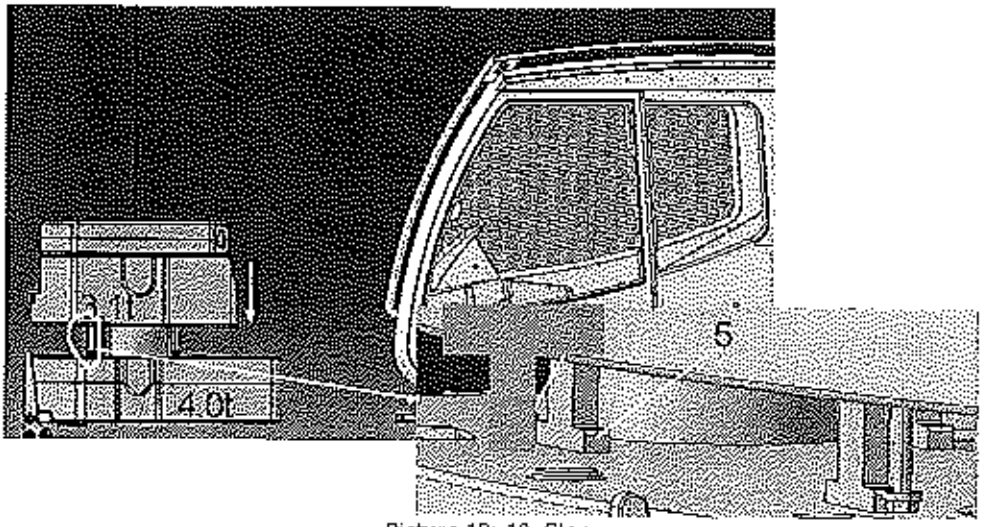
Lift 3.1t counterweight by crane. Remove the four old supports.
See picture 9.



Picture 9: 9. Step

10. Step

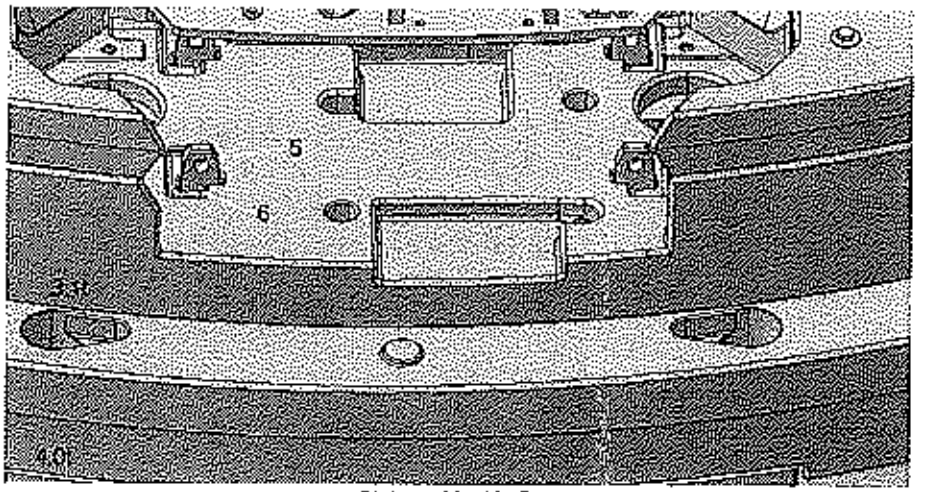
Put the four new supports [5] on 4.0t counterweight.
Lower 3.1t counterweight and take care that supports [5] are slipping into adequate hole.
See picture 10.



Picture 10: 10. Step

11. Step

Lift support [5] by hand and put in new splint pin [6]
See picture 11.

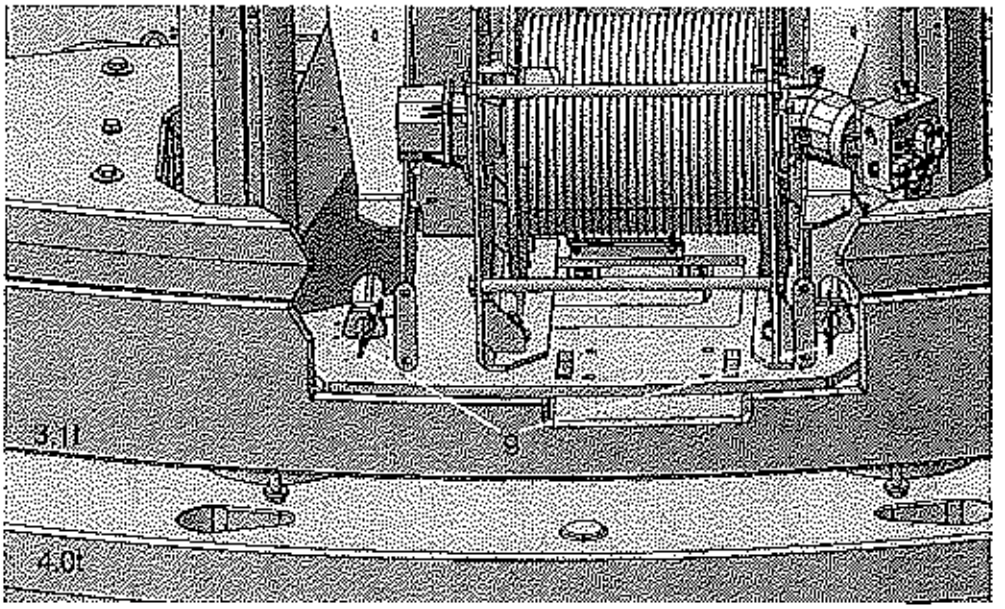


Picture 11: 11. Sep

12. Step

Lift both counterweights (3.1t and 4.0t) by counterweight cylinder and take care that 3.1t counterweight is having contact with superstructure. Be careful that support [5] is not clamping between superstructure and 3.1t counterweight. Put in Pin [9] in support [5].

See picture 12.

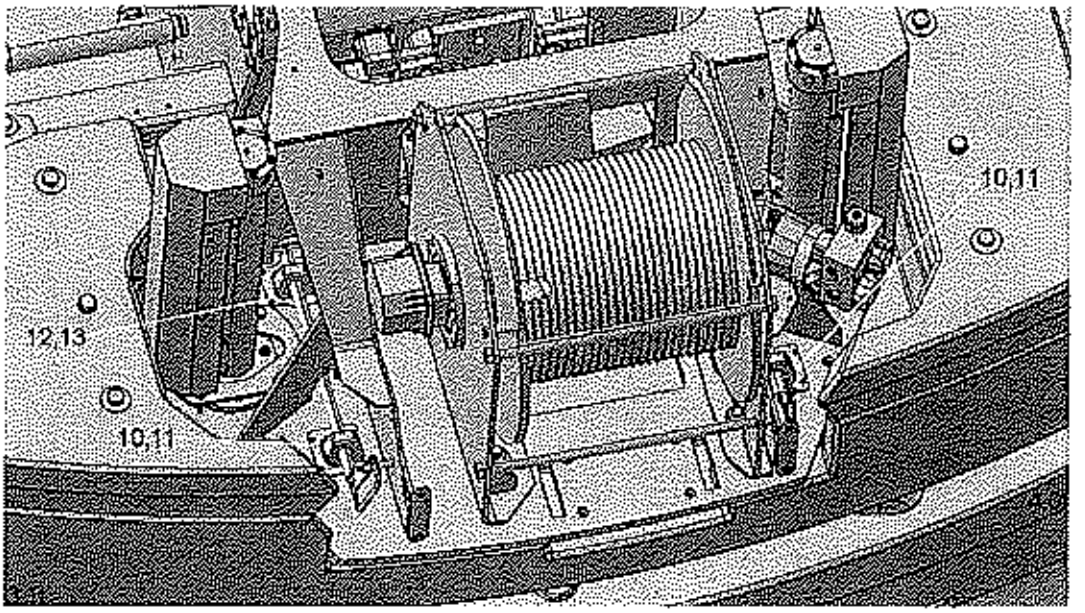


Picture 12: 12. Step

13. Step

Try how many shims [10, 11, 12, 13] fit between superstructure and the Pin [9]. Shims [12, 13] must be put in driving direction on left side in front.

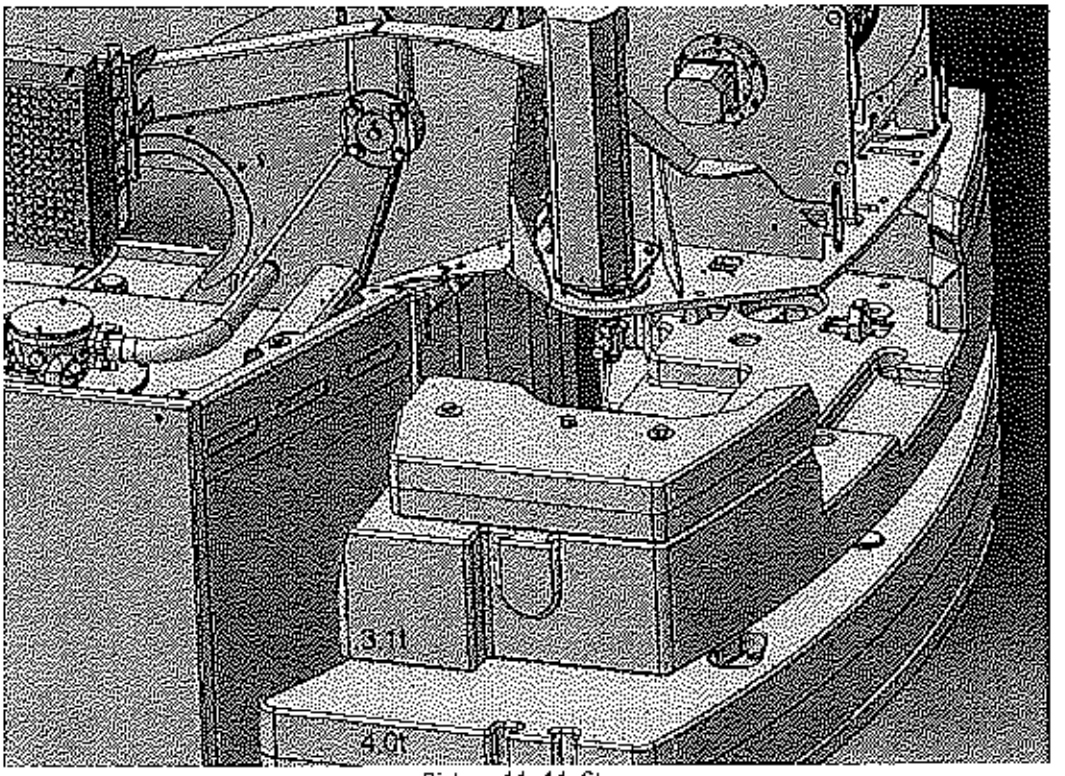
See picture 13.



Picture 13: 13. Step

14. Step

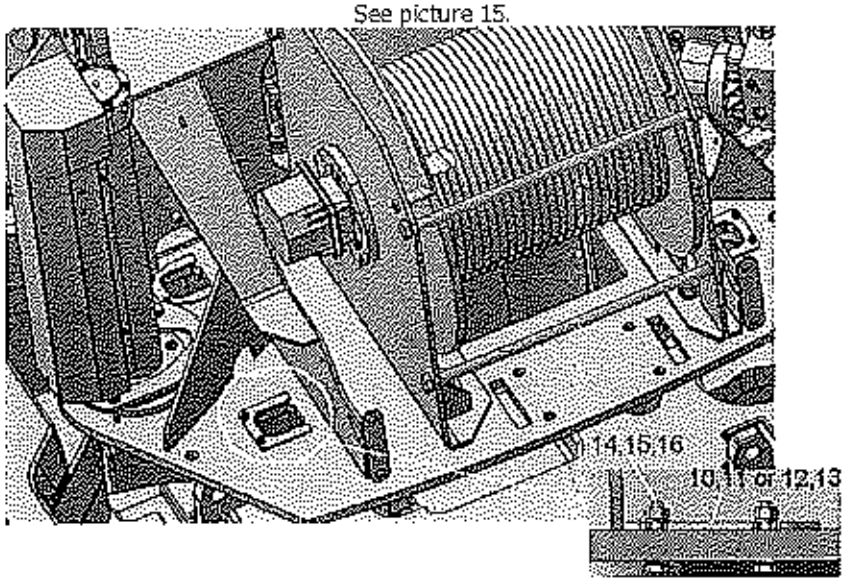
Take out the shims [10, 11, 12, 13] and the Pins [9] and lower 3.1t counterweight with 4.0t counterweight.
Take care to know how many shims have to be added in which place.
See picture 14.



Picture 14: 14. Step

15. Step

Fix every shim – packet [10, 11, 12, 13] by two bolts [14] with washers [15] and nut [16].
See picture 15.

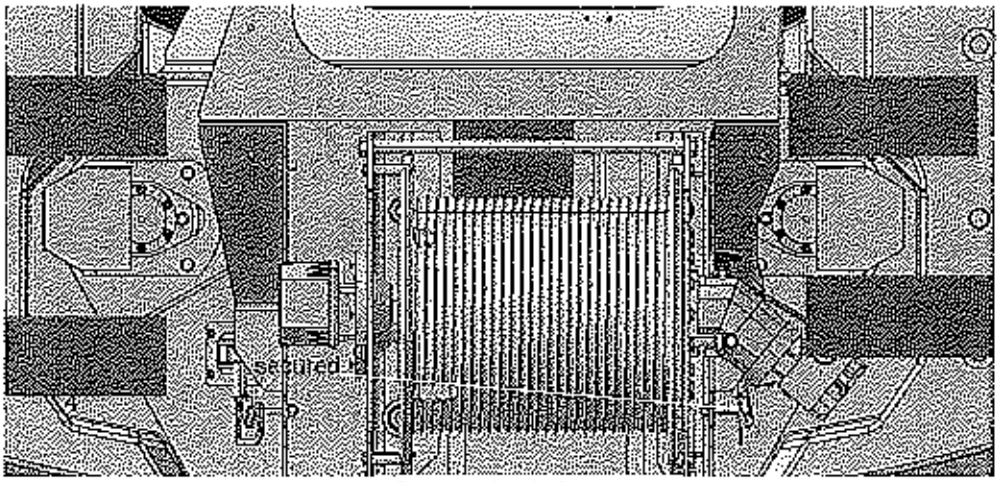


Picture 15: 15. Step

16. Step

Lift both counterweights (3.1t and 4.0t) by counterweight cylinder and take care that 3.1t counterweight is having contact with superstructure. Be careful that support [5] is not clamping between superstructure and 3.1t counterweight. Put in Pin [9] in support [5] and secure it with security clip.

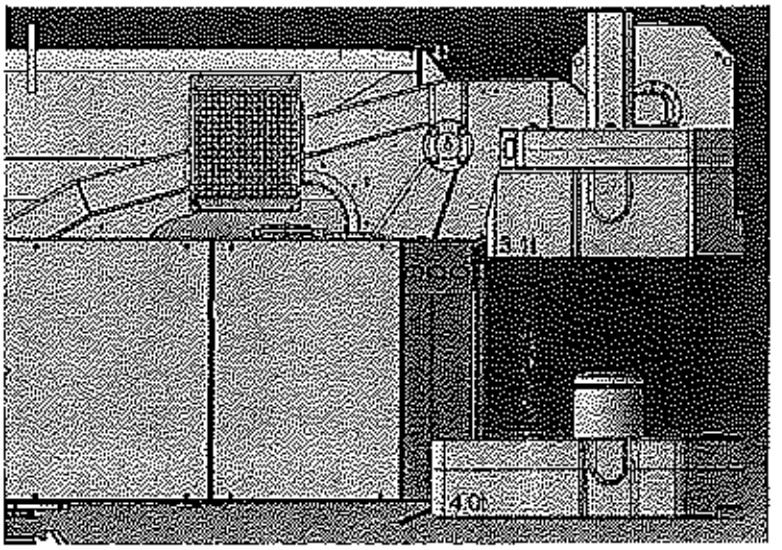
See picture 16.



Picture 16: 16. Step

17. Step

Lower 4.0t counterweight, so that it is standing on counterweight rack.
See picture 17.



Picture 17: 17. Step

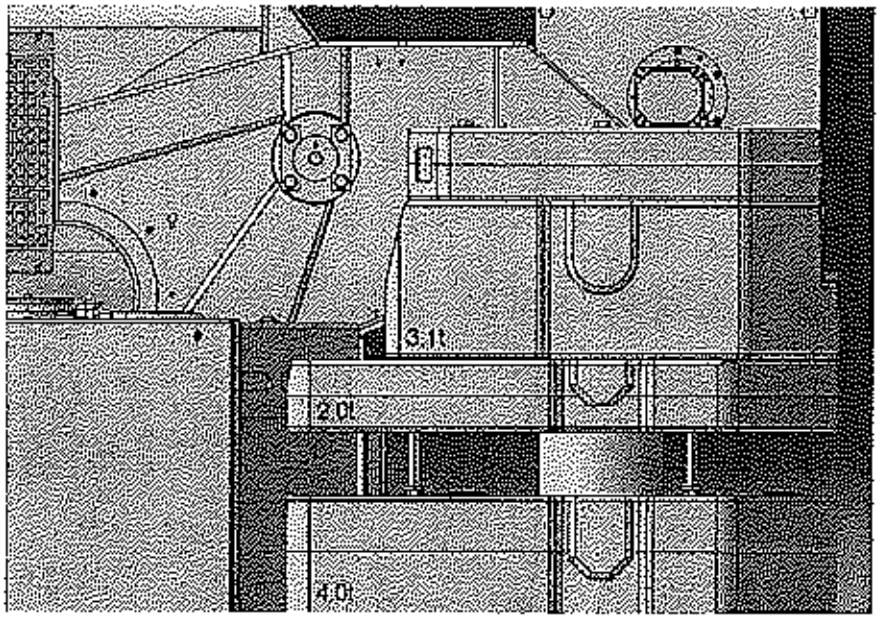
18. Step

Lift 2.0t counterweight
Put into the holes for fixing 2.0t counterweight to 3.1t counterweight bolts [1] with washers [2].
After that, put 2.0t counterweight back on 4.0t counterweight.
Take care, that no bolt will be bended or clamped between the counterweights.
See picture 18.

Picture 18: 18, Step

19. Step

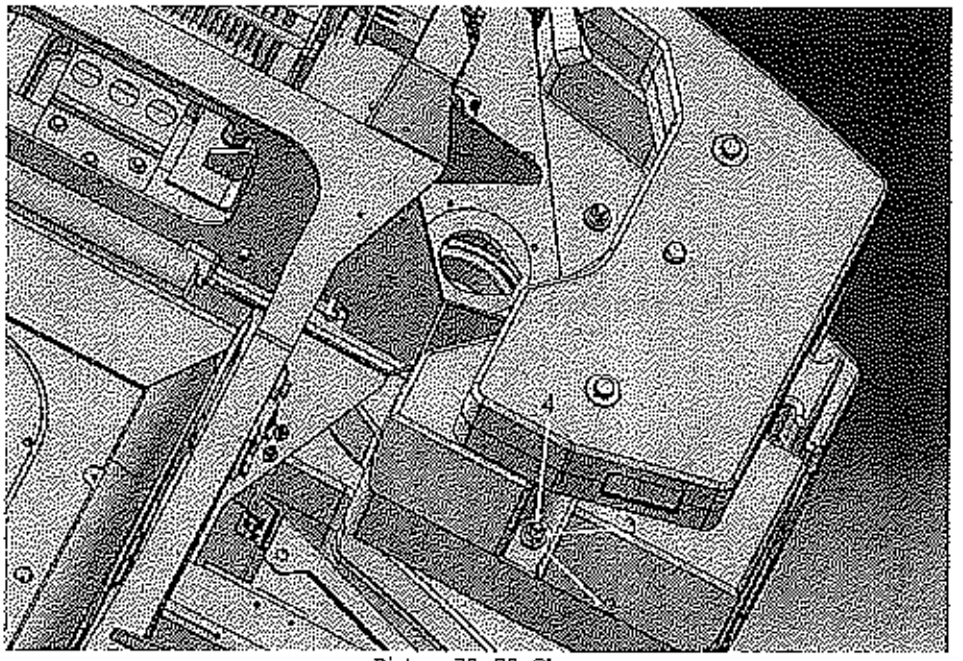
Lift the two counterweights (2.0t and 4.0t) by hydraulic cylinder on superstructure, so that 2.0t counterweight is having touch with 3.1t counterweight
See picture 19.



Picture 19: 19. Step

20. Step

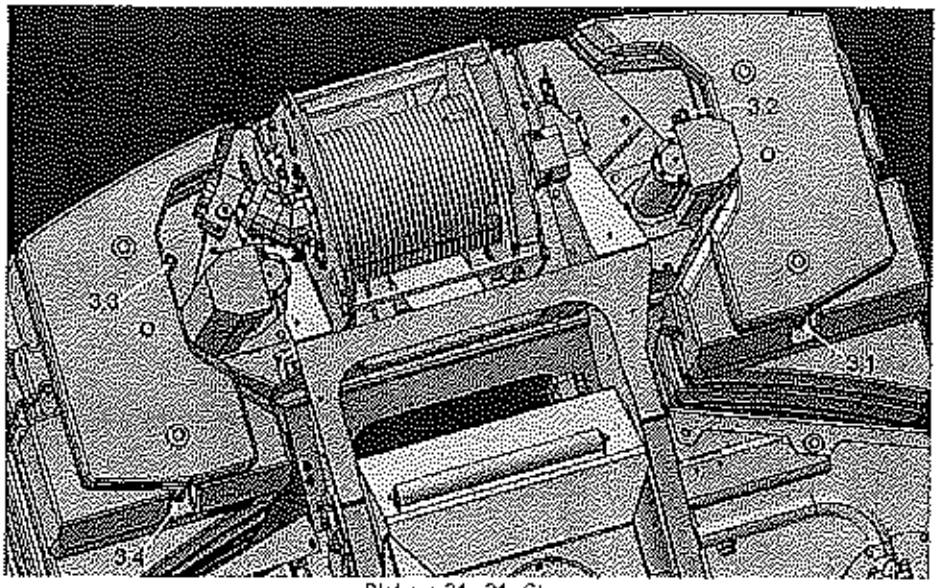
Put the bolts [1] through 3.1t counterweight. Fix them with a washer [2] and a nut [3] by hand, or with help of a hexagon spanner head. Secure bolted joint with secure mean [4].
See picture 20.



Picture 20: 20. Step

21. Step

At first give torque of 400 Nm (295 ft-lbf) to the four bolts [3] in order [3.1], [3.3], [3.2] and [3.4].
Next fix the four bolts with torque 532±28Nm (392 ft-lbf) in order [3.1], [3.3], [3.2] and [3.4].
Take care of a safe stand, when fixing bolts.
See picture 21.

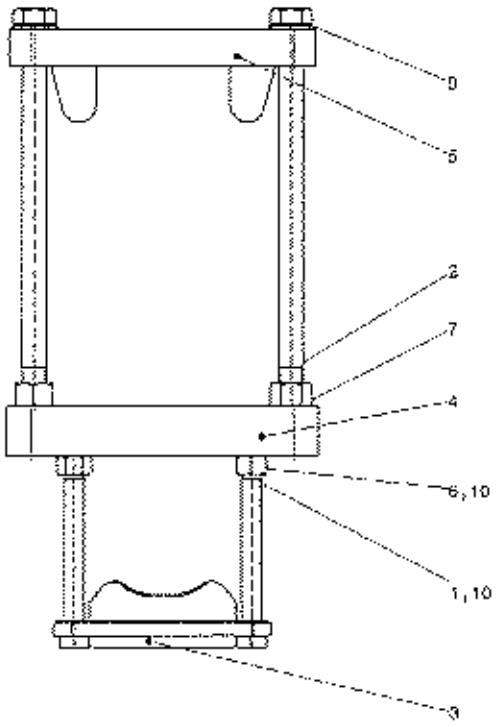


Picture 21: 21. Step

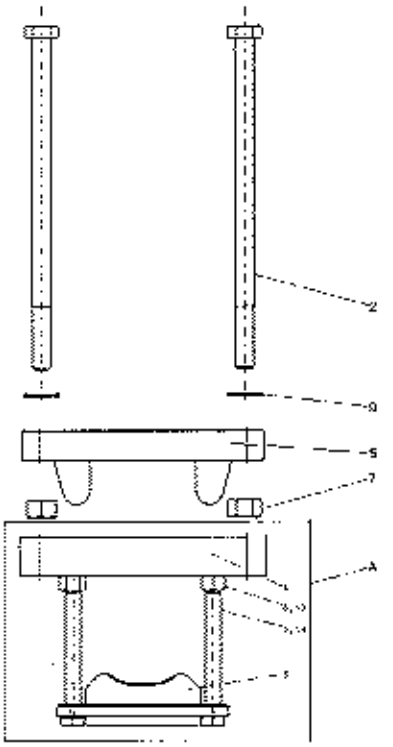
II. Mounting of screwable counterweight – support for fixing 2.0t counterweight and 3.1t counterweight

1. Step

Disassemble the support as shown in picture 2
Do not disassemble subassembly [A]



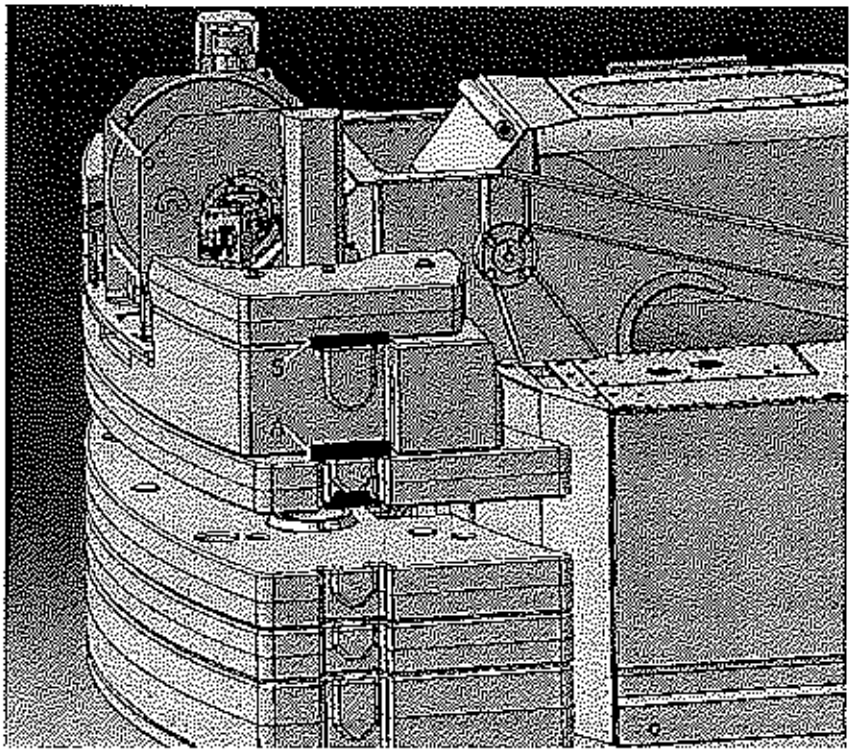
Picture 1: delivery condition



Picture 2: disassembled support

2. Step

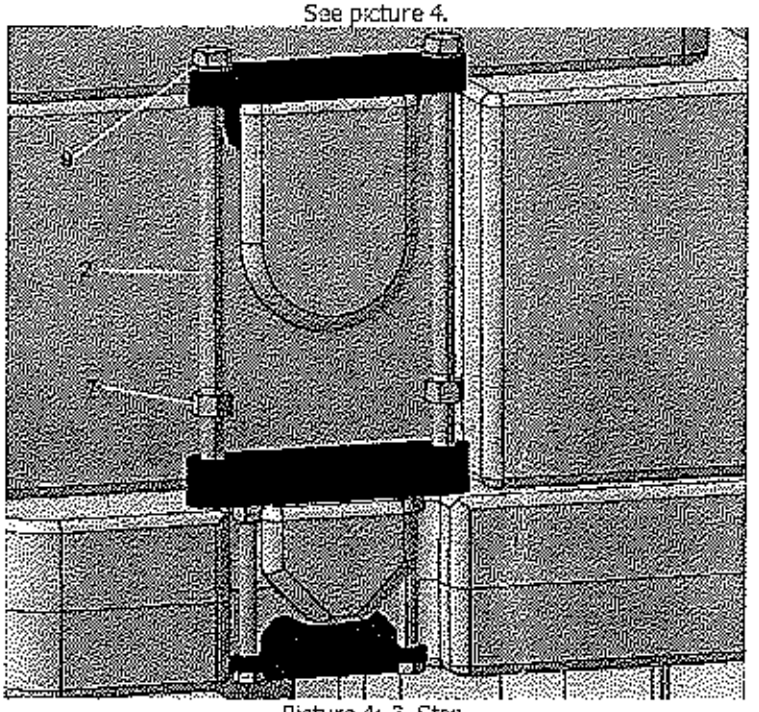
Put subassembly [A] onto 2.0t counterweight
Put part [5] on 3.1t counterweight rope catch. Take care that the safety – locking on part [5] is in correct position, as shown in pictures.
See picture 3



Picture 3: 2. Step

3. Step

Put bolts [2] with washers [9] into part [5].
Put on nuts [7] on bolt [2]
See picture 4.



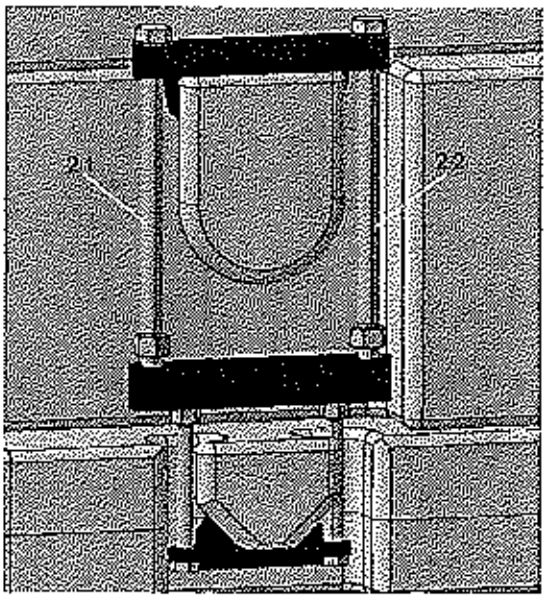
Picture 4: 3. Step

4. Step

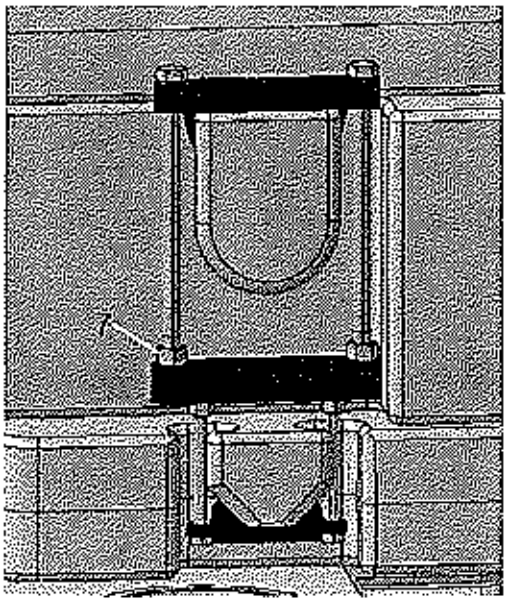
Turn bolt [9] by hand, or with help of a hexagon spanner head, until subassembly [A] is having touch with 2,0t counterweight.
Take care that, counterweight support is not wedged.
At first give torque 40 Nm (29.5 ft-lbf) to bolt [2.1], then [2.2].
Then give torque 73±4Nm (53.8±2.95 ft-lbf) to bolt [2.1], then [2.2].
See picture 5.

5. Step

Fix nut [7] with torque 372±20Nm (274±14.75 ft-lbf)
See picture 6.



Picture 5: 4. Step



Picture 6: 5. Step