Standard Operating Procedure

Client	
Project	Basic handling instruction using bolster stanchions
Port of loading	
Port of Discharge	
Document edited and issued by	Per Wallmark, Singapore

Revision list

Revision	Date	Edited by	Checked by	Comment
1	20200605	Per Wallmark	Fredrik Hedin	Created

Equipment

Item	Description	Height	SWL
Bolster stanchions v1.	Firsts version stanchions in pairs, plain.	1.0 m	170 mt
Bolster stanchions v2.	Second version stanchions in pairs, added support bracket to prevent inward movements.	1.7 m	170 mt
Bolsters	Fork-liftable 20-foot flat platform (TEU)	0.23 m	18.4 – 28.5 mt

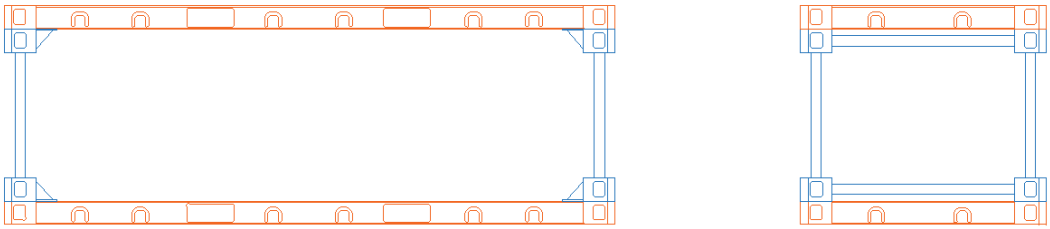
Background

Over the years a discussion has been taken place how to increase the utilization on our decks where we are carrying Breakbulk cargo. When cargo has not been deemed suitable to stack on top of each other the utilization on certain decks has been very low. The challenge has also been that we do not want to increase our equipment pool with too many specialised tools that only are useful for certain type of cargo which might change over time. It has also been important that we can use existing equipment in combination with the new. After the first version that we tested it was discovered that if the height were increased, we could cater to more cargo but at the same time we need to consider the deck height to find the correct balance. We will never be able to cater for all type and sizes. The first version was only equipped with standard corner castings, when in locked position and not secured by lashings were quite wobbly to the sides. With the second version the height was increased, and brackets welded to the corner casting reducing the wobbliness.

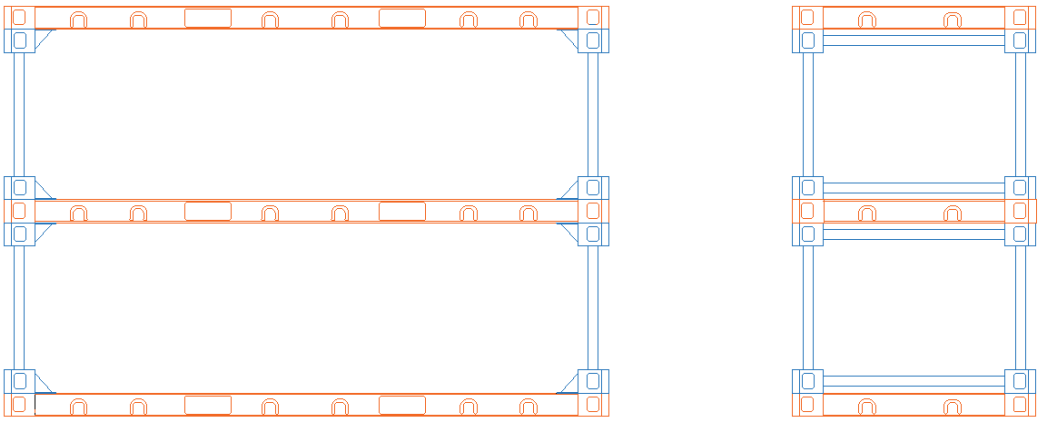
Another consideration that is often forgotten is that the equipment has to be returned when not in use. This concept allowed the stanchions, bolsters & twist-locks to be separated and used for other individual purposes. When separated each component do not take up as much cargo space.
It is imperative that all equipment is recorded into the system as required to enable tracking. Each stanchion has a unique equipment number.

Scope
This SoP is intended to capture the concept how to use the stanchions in combination with our standard bolsters. As an attachment a prefix list of various bolster types and year manufactured can be found. The stanchions as itself can never be overloaded as long the cargo weight do not exceed the weight allowed on to each Bolster, regardless if using 1 or 2 sets of stanchions on top of each other. It will work as a template so that critical phases are not missed. The user must add cargo specific details and modify the SoP to fit the intended cargo operation. Standard lashing procedures for each individual bolster must be followed.

Double-decker bolster with 1 set of stanchions:



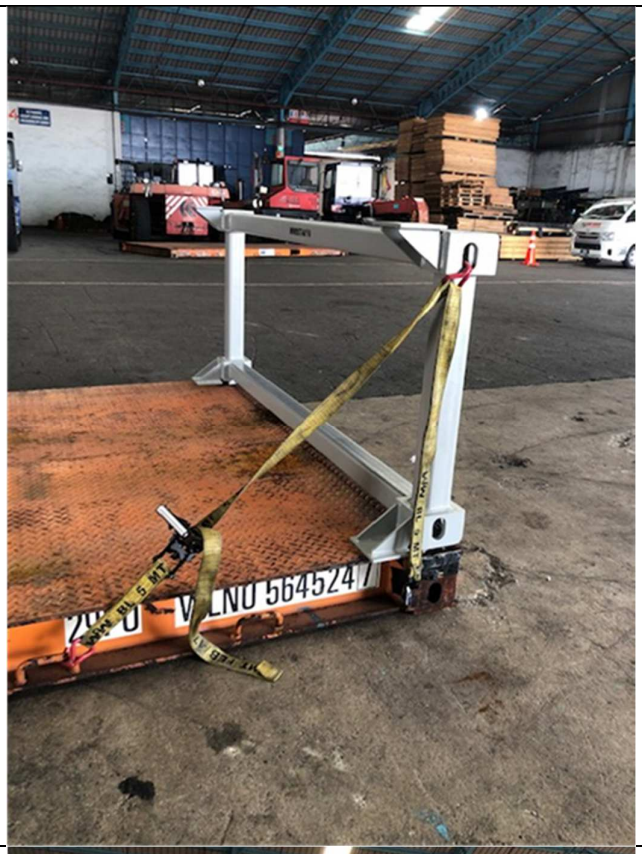
Triple-decker bolster with 2 sets of stanchions:



Sequence of Activities

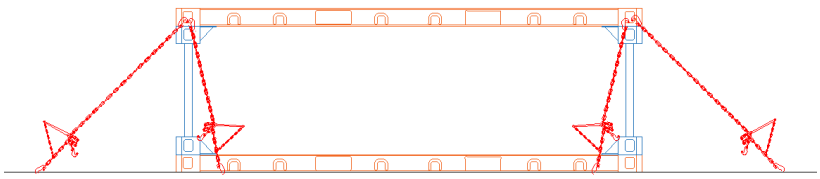
#	Activity – Assemble of stanchions and bolster.	Picture
1	A pair of stanchions. It will require 2 pair, one for each side of the bolster which will make a *set* of stanchions. Note: Circled unique equipment number.	
2	Stanchions pair should be lifted with forklift, directly or by using slings to increase the flexibility.	

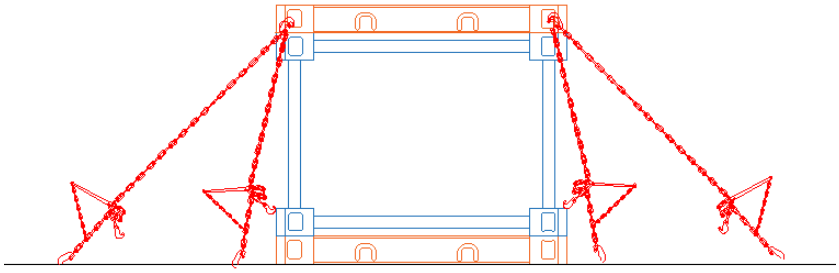
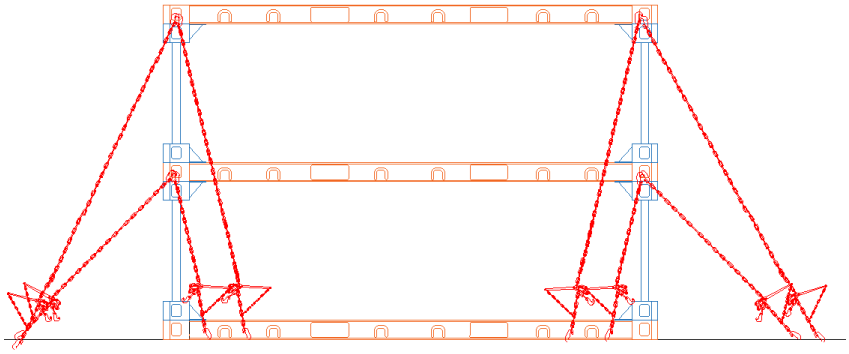
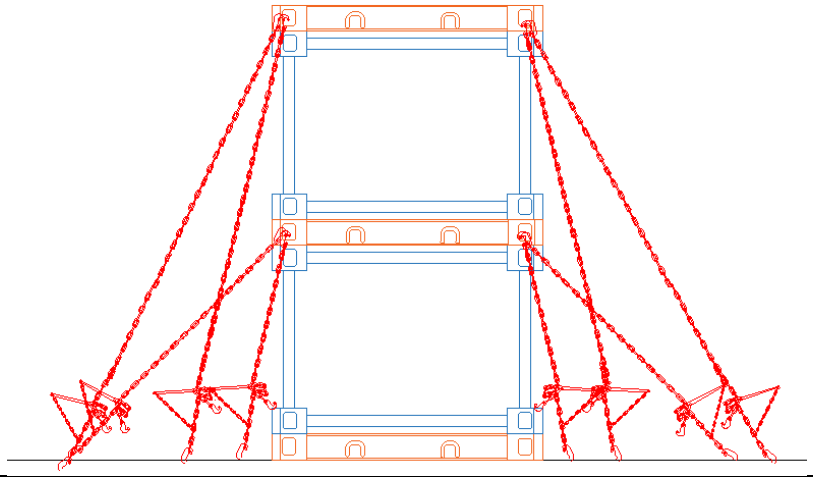
3	After the stanchions corner castings are fitted into the twist-lock, the twist-lock must be locked. If not in locked position, there is a risk that the stanchion can fall out of the twist lock slot.		
4	v2. stanchions have a bracket welded to the corner castings. This prevents the stanchion to fall inwards. When in combination with a stanchion pair at the other side and a second bolster on top, it will reduce the bolsters to wobble.		

5	During the mounting of stanchions and bolsters. A lashing must be attached between the stanchion and bolster to prevent the stanchion pair to fall outwards.		
6	Twist-locks must be placed on top of stanchions before the second bolster is placed on top of the stanchion set.		

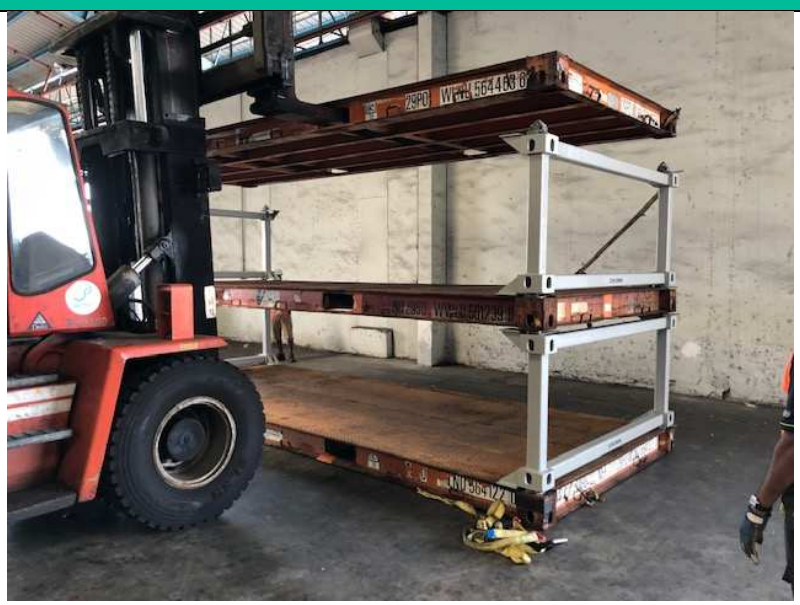
7	A *Double-decker* bolster using <u>1 set</u> of stanchions. Note: if using a maximum carrying capacity bolster of 28.5mt + 2mt for equipment, the total weight for each stanchion pair is 15.25mt compare to design maximum weight of 170mt.	
8	A *Triple-decker* bolster using <u>2 sets</u> of stanchions. Note: if using a maximum carrying capacity bolster of 28.5mt + 2mt for equipment, the total weight for each lower stanchion pair is 30.5mt compare to design maximum weight of 170mt.	

#	Activity – Stuffing of bolster	Picture
9	Each bolster stuffing must be done separately and loaded onboard one by one. Nevertheless, the stuffing can be tested while in terminal to determine if the fit is correct.	
10	If very high stuffing it can be of importance to measure the total height to ensure the final top bolster/cargo fit in on dedicated deck.	
11	It is recommended that cargo stuffed onto bolster prior loaded is secured to bolster in accordance to WW Ocean lashing recommendations .	

#	Activity – **Loading** of *Double or Triple-decker* bolster onboard the vessel	Picture
11	Each bolster shall be loaded separately by roll trailer or by forklift.	
12	*Double-decker.* Basic lashing arrangement regardless of type of cargo to be stuffed. MSL 7.5mt chain lashings to be used. If Bottom bolster cannot be secured by twist-lock, then it must be lashed as well.	

13	Cargo securing must follow WW Ocean standard lashings recommendation for bolster. Heavier units should strive to have a combination of direct to bolster and vessel deck lashings.	
14	*Triple-decker.* Basic lashing arrangement regardless of type of cargo to be stuffed. MSL 7.5mt chain lashings to be used. If Bottom bolster cannot be secured by twist-lock, then it must be lashed as well.	
15	Cargo securing must follow WW Ocean standard lashings recommendation for bolster. Heavier units should strive to have a combination of direct to bolster and vessel deck lashings.	

16	Care should be taken to ensure cargo is well secured to bolster but also between cargo and vessels deck.	
17	It is of very importance that additional chain lashings are between each bolster and vessels deck to prevent longitudinal or transversal movement.	
18	Example of lashings from bolster to vessels deck. Using a *Double-decker* bolster.	

19	Example of lashings from bolster to vessel deck. Using a *Triple-decker* bolster. Note: Efforts must be taken to ensure the CoG is kept as low as possible for the whole package. i.e. avoid heavy cargo on the top bolster.	
#	Activity – **<u>Discharging</u>** of *Double or Triple-decker* bolster onboard the vessel	Picture
20	When discharging cargo from bolster it is imperative that lashings are removed in reverse direction when loading. <u>No</u> basic lashings between bolster and vessel decks shall be removed before cargo loaded on same bolster are either removed or secured by inserted forklift forks.	

#	Activity – Disassemble of stanchions and bolster.	Picture
21	When removing stanchions from the bolster a forklift must be station to avoid the stanchion falling out and off the twist-lock when the locks are opened. Note: a lashing can also be secured between the stanchion and bolster. Care must be taken when lashing is removed to avoid the stanchion falling out of twist-lock when opened.	
22	Loose stanchions can be stuffed onto empty rolltrailer or an empty bolster laying down.	
23	Stanchions can also be loaded loose by forklift.	

Wallenius Wilhelmsen Ocean

Prefix of different bolster models and carrying capacity:

Prefix	Max Gross	Tare	Max. Payload	Building year	
WLNU 564	30,480.00 kgs	1,940.00 kgs	28,540.00 kgs	1996-97	
BROU 567	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1979-82	
SACU 560	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1978-79	
SACU 560	20,460.00 kgs	1,940.00 kgs	18,520.00 kgs	1978-79	(CSC-Plate heavy tested GW 25460 kgs)
SACU 561	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1979-83	
SACU 561	20,460.00 kgs	1,940.00 kgs	18,520.00 kgs	1979-83	(CSC-Plate heavy tested GW 25460 kgs)
SACU 562	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1982-83	
WWLU 560	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1979-83	
WWLU 561	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1981-82	
WWLU 562	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1984	
EACU 560	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1978-83	
BFLU 560	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1979	
BFLU 562	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1982	
BFLU 563	25,460.00 kgs	1,940.00 kgs	23,520.00 kgs	1984	
BROU 566	20,320.00 kgs	1,940.00 kgs	18,380.00 kgs	1980	(CSC-Plate heavy tested GW 25460 kgs)
WLNU 270	27,000.00 kgs	1,940.00 kgs	25,060.00 kgs	1993	