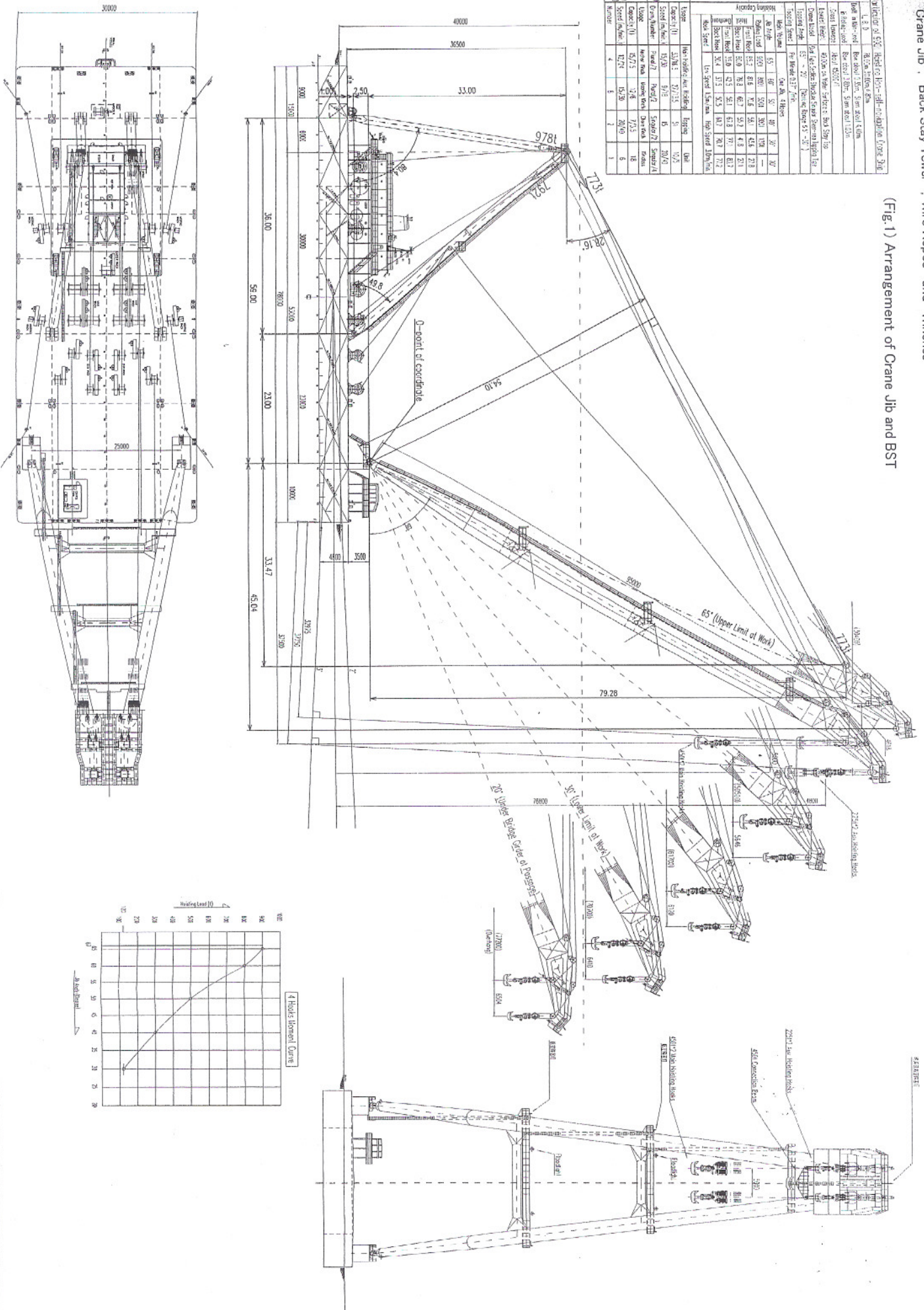


<D> Summary Drawing of Working Load
 (Numbers in this drawing are coincided to numbers in <C> Detail Calculation of loads working to
 "Crane Jib", "Back Stay Tower", "Wire Ropes" and "Winches"

Principal Particulars of Cr. Hoisting Machine Crane 200	
1. Lifting Capacity	20000 kg
2. Lifting Speed	100 m/min
3. Hoisting Drum Diameter	1000 mm
4. Hoisting Drum Length	1000 mm
5. Hoisting Drum Width	1000 mm
6. Hoisting Drum Height	1000 mm
7. Hoisting Drum Weight	1000 kg
8. Hoisting Drum Material	Steel
9. Hoisting Drum Finish	Painted
10. Hoisting Drum Location	On the crane tower
11. Hoisting Drum Orientation	Vertical
12. Hoisting Drum Clearance	100 mm
13. Hoisting Drum Spacing	100 mm
14. Hoisting Drum Support	On the crane tower
15. Hoisting Drum Protection	None
16. Hoisting Drum Maintenance	Regular
17. Hoisting Drum Inspection	Monthly
18. Hoisting Drum Replacement	As required
19. Hoisting Drum Storage	On the crane tower
20. Hoisting Drum Disposal	Recycling

(Fig. 1) Arrangement of Crane Jib and BST



<C> Detail Calculation Loads Working to "Crane Jib", "Back Stay Tower", "Wire Ropes" and "Winches"

(Refer to "<D> Summary Drawings of Working Loads")

No.	Item	Weight (t)	acceleration	Load	Load* pc(s)	Co-ordinate			Force Direction	Moment (tf*m)
						(x)	(y)	(z)		
	Crane Jib									
(1)	Safe working load of crane(main)	450.0	0.25	562.5	281.25*2	41.41	+/-2.50	82.02	vertical	23293
	Safe working load of crane(aux.)	450.0	0.25	562.5	281.25*2	45.99	+/-2.50	86.63	vertical	25869
(2)	Crane Jib	420.0		420	210*2	18.17	0	38.97	vertical	7631
(3)	Crane head(center gir)	54.0		54	27*2	36.34	+/-0.90	77.94	vertical	1962
	Crane head(side gir)	54.0		54	27*2	36.34	+/-5.20	77.94	vertical	1962
(4)	Hoisting block (upper) (main)	24.0		24	12*2	41.41	+/-2.50	82.02	vertical	994
	Hoisting block (upper) (aux)	24.0		24	12*2	45.99	+/-2.50	86.63	vertical	1104
(5)	Topping block (jib)	24.0		24	12*2	37.69	+/-5.00	75.07	vertical	905
(6)	Hoisting hook (main)	56.0	0.25	70	35*2	41.41	+/-2.50	82.02	vertical	2899
	Hoisting hook (aux)	56.0	0.25	70	35*2	45.99	+/-2.50	86.63	vertical	3219
(7)	Hoisting block (lower) (main)	4.0	0.25	5	2.5*2	41.41	+/-2.50	82.02	vertical	207
	Hoisting block (lower) (aux)	4.0	0.25	5	2.5*2	45.99	+/-2.50	86.63	vertical	230
(8)	Hoisting wire rope (main)	28.4		28.4	14.2*2	41.41	+/-2.50	82.02	vertical	1176
	Hoisting wire rope (aux)	28.4		28.4	14.2*2	45.99	+/-2.50	86.63	vertical	1306
(9)	Topping wire rope	14.2		14.2	7.1*2	37.69	+/-5.00	75.07	vertical	535

(10)	Horizontal force (trim) (main)	24.0	---	24.0	12*2	41.41	+/-2.50	82.02	horizontal(fore)	1968
	Horizontal force (trim) (aux)	24.0	---	24.0	12*2	45.99	+/-2.50	86.63	horizontal(fore)	2079
(11)	Horizontal force (heel) (main)	60.2	---	60.2	30.1*2	41.41	+/-2.50	82.02	horizontal(right)	0
	Horizontal force (heel) (aux)	60.2	---	60.2	30.1*2	45.99	+/-2.50	86.63	horizontal(right)	0
(12)	Wind force worked to leg	0	---	0	0	18.17	+/-7.98	38.97	horizontal(fore)	0
(13)	Wind force worked to head	0	---	0	0	37.69	+/-5.00	75.07	horizontal(fore)	0
(14)	Resultant force of WR tension at Hoisting block (top) (main)	23.4	---	23.4	11.7*2	41.25	+/-2.50	77.01	(by force diagram)	965
(15)	Resultant force of WR tension at Hoisting block (top) (aux)	31.2	---	31.2	15.6*2	44.25	+/-2.50	80.21	(by force diagram)	1381
(16)	Tension of Hoisting Wire Rope	---	---	---	---	---	---	---	(be ignored)	
(17)	Tension of Topping Wire Rope	1472	---	1472	736*2	37.69	+/-0.50	75.07	(by force diagram)	79687
	Back Stay Tower								(M't/one Jib Leg)	39844
(21)	BST front leg	100.8		100.8	50.4*2	38.00	(distributed)	16.50	vertical	
(22)	BST rear leg	54.6		54.6	27.3*2	56.00	(distributed)	16.50	vertical	
(23)	BST head	30		30	30*1	53.00	(distributed)	33.00	vertical	
(24)	BST topping block etc.	22		22	11*2	53.00	+/-5.00	33.00	vertical	
(25)	BST topping wire rope	14.2		14.2	7.1*2	53.00	+/-5.00	33.00	vertical	
(26)	Wind force worked to front leg	0	---	0	0	38.00	+/-5.00	16.50	horizontal(fore)	
(27)	Wind force worked to rear leg	0	---	0	0	56.00	+/-5.00	16.50	horizontal(fore)	