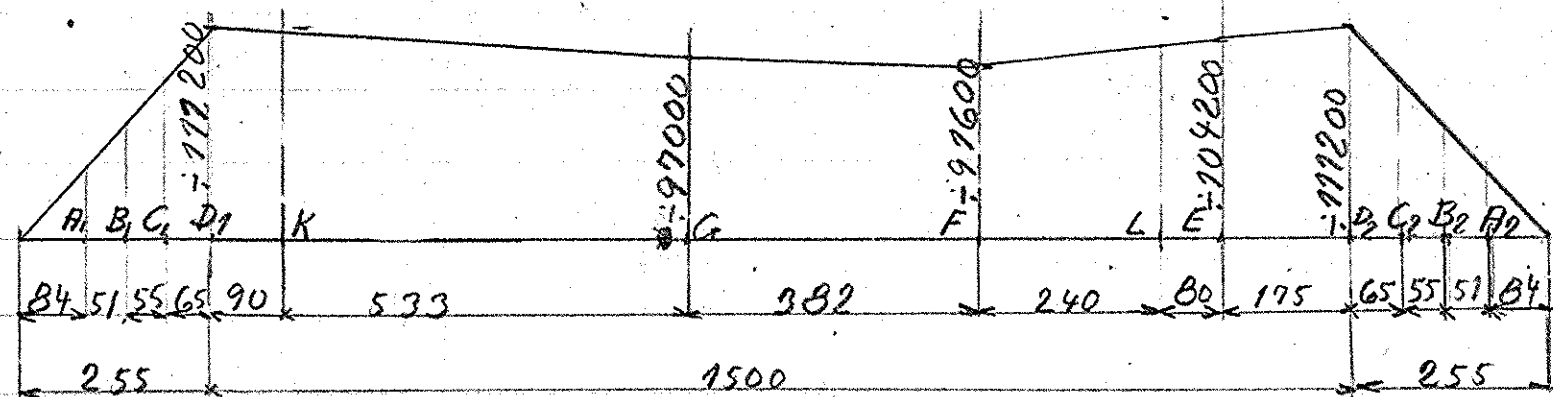
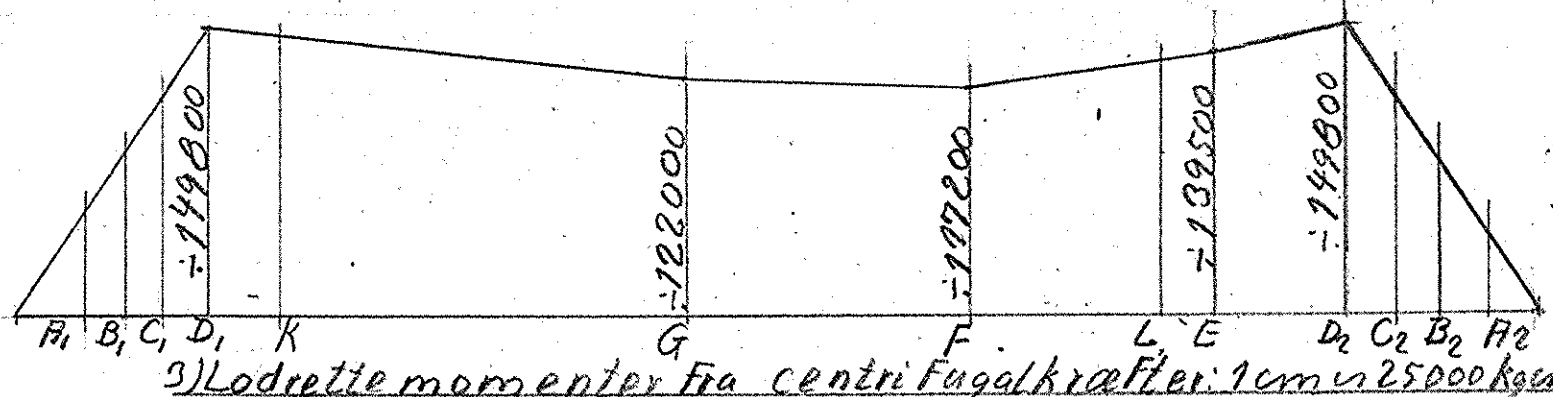


A) Lodrette momenter

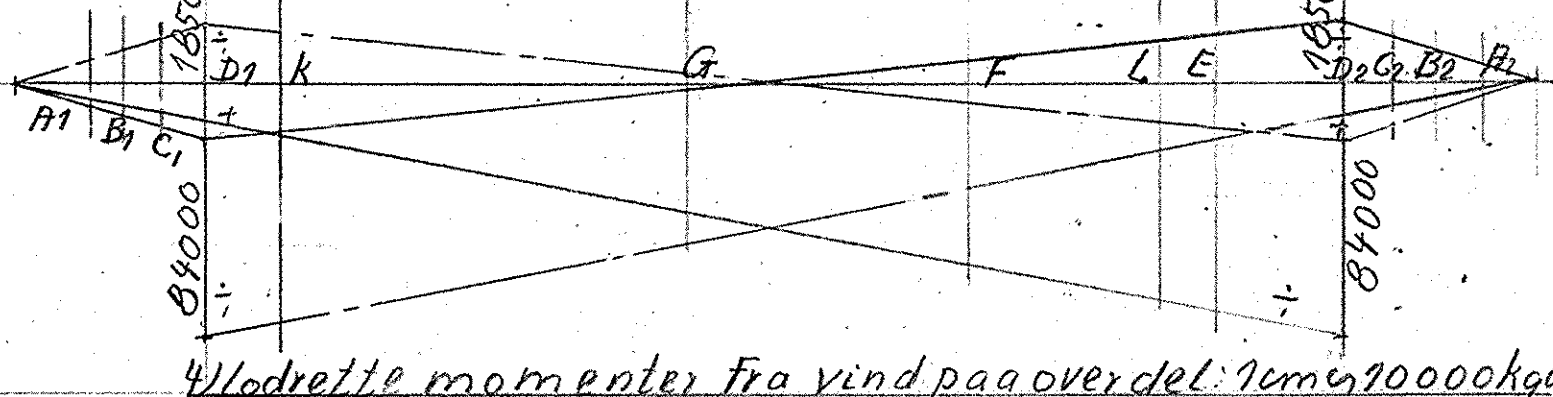
1) Statiske lodrette momenter: 1cm i 10000 kg/cm



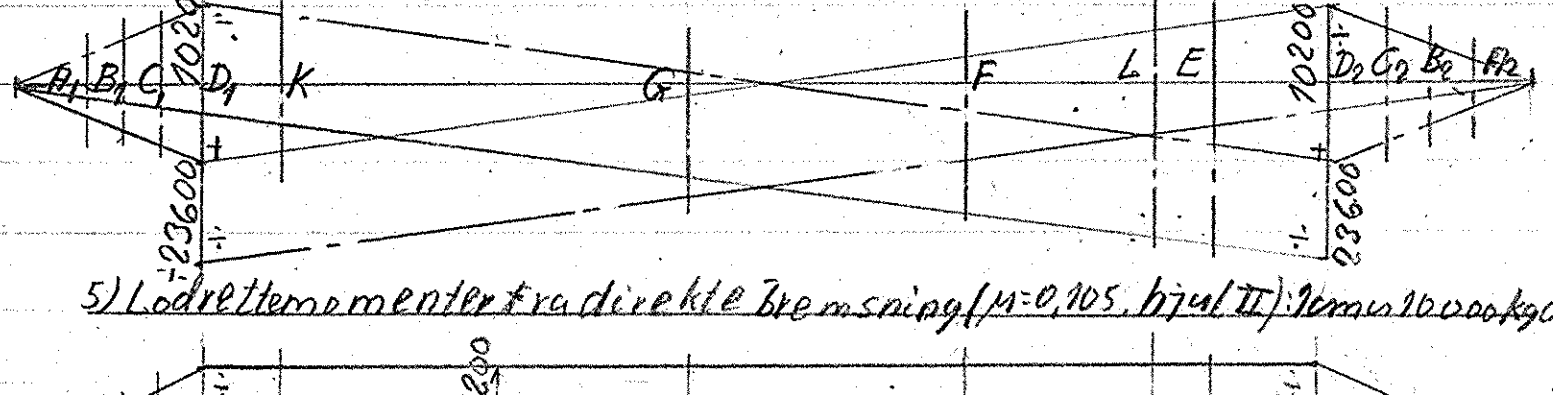
2) Statiske lodrette momenter + stød: 1cm i 40000 kg/cm



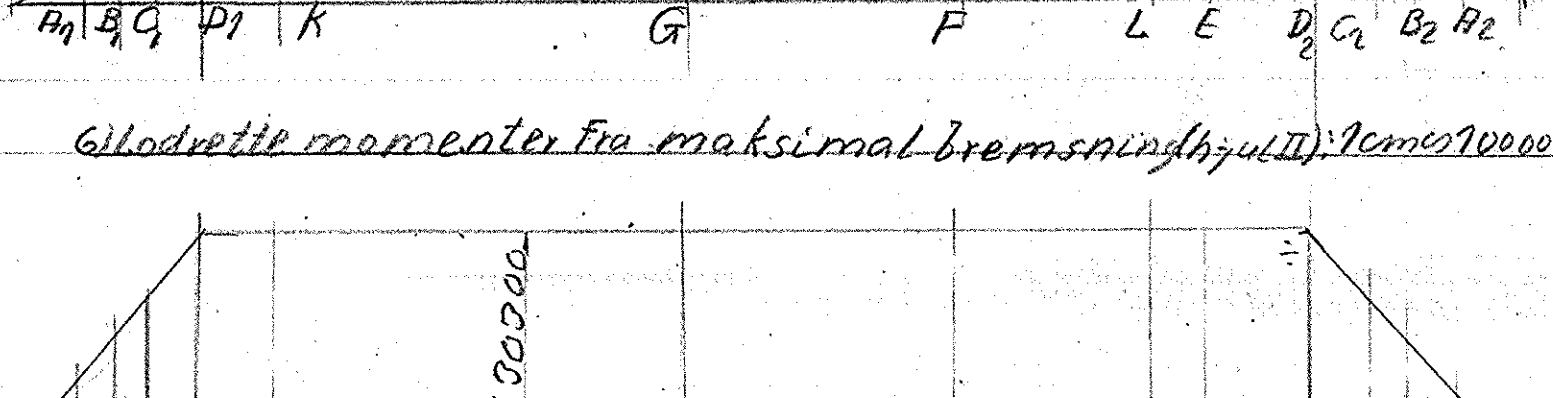
3) Lodrette momenter fra centri fugalkræfter: 1cm i 25000 kg/cm



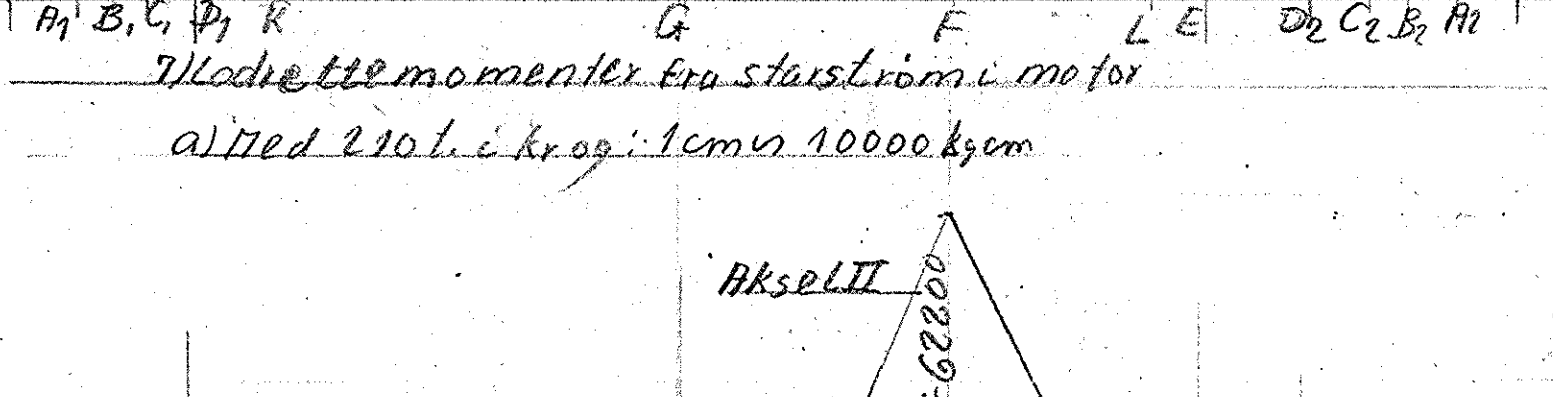
4) Lodrette momenter fra vind paa overdel: 1cm i 70000 kg/cm



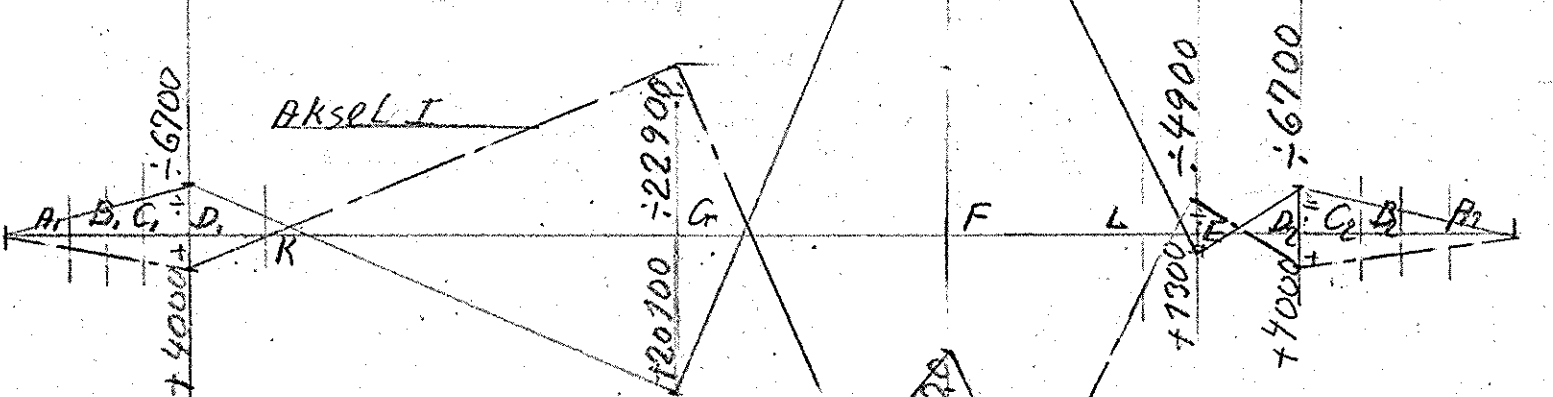
5) Lodrette momenter fra direkte bremsning (mu=0,105, hjul II): 1cm i 10000 kg/cm



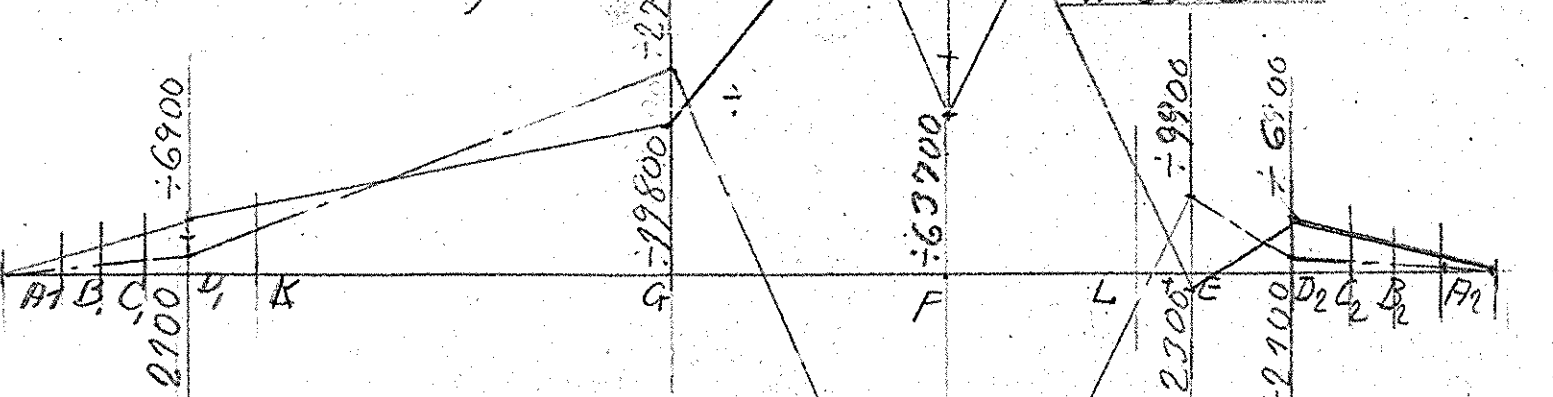
6) Lodrette momenter fra maksimal bremsning (hjul II): 1cm i 10000 kg/cm



7) Lodrette momenter fra statisk strøm i motor



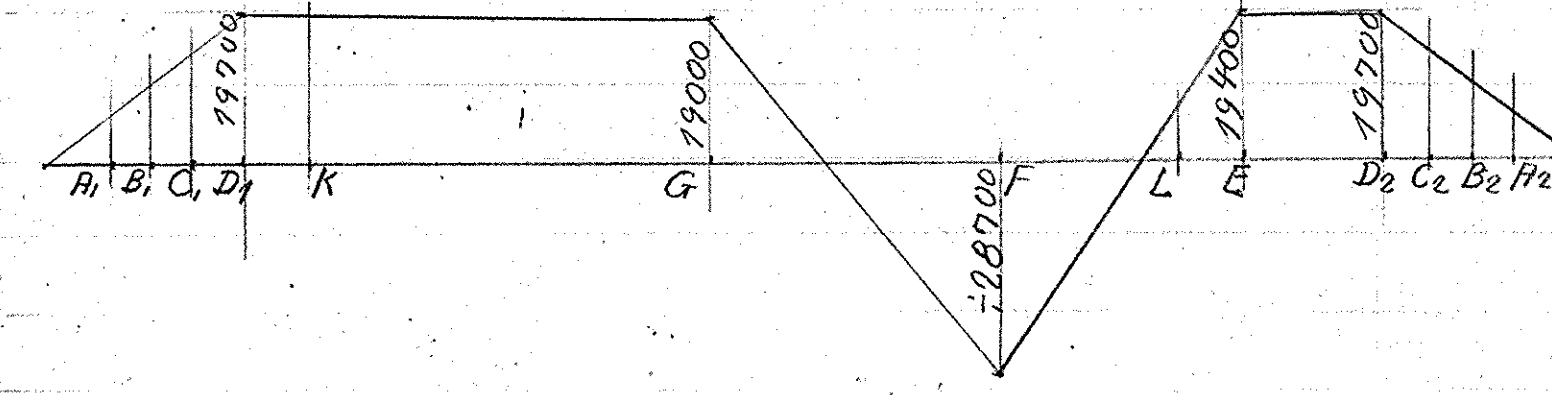
8) Loko alene: 1cm i 10000 kg/cm



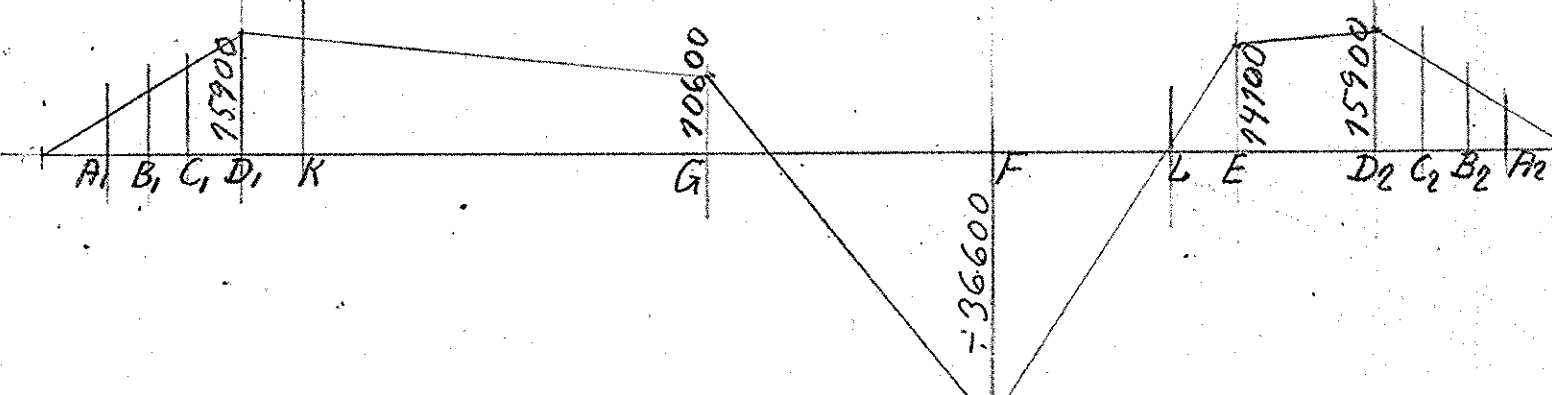
B) Vandrette momenter

1) Startstrøm i banemotoren

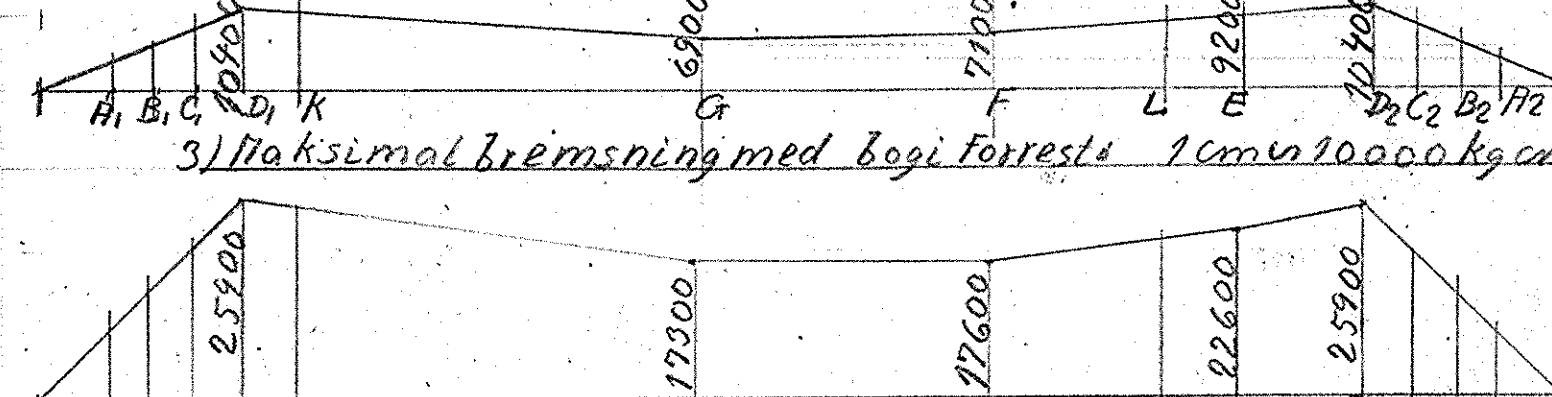
a) 210t i krog: 1cm i 10000 kg/cm



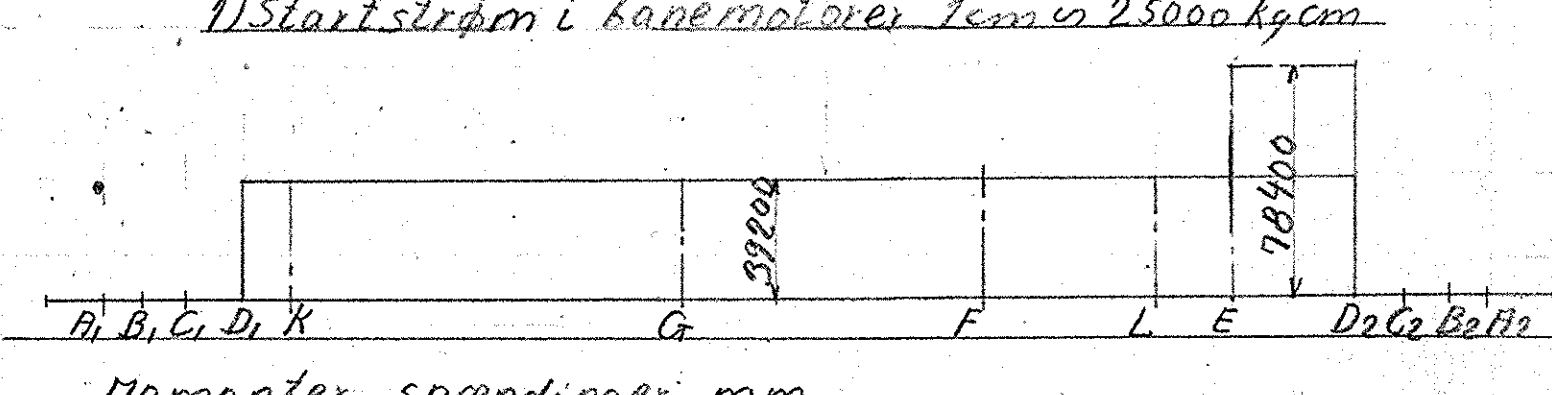
2) Loko alene: 1cm i 10000 kg/cm



2) Bremsning med bogie forrest (mu=0,105): 1cm i 10000 kg/cm



3) Maksimal bremsning med bogie forrest: 1cm i 10000 kg/cm



Momenter, spændinger mm

I) Statiske kræfter

1) Lodrette statiske tryk + startstrøm i banemotoren

a) Snit: A-A d=93 mm Wk=80 cm³ (Loko alene)

$N_A = 117200 \times 84 = 9844800$
 $N_B = 117200 \times 84 = 9844800$
 $N_C = 117200 \times 84 = 9844800$
 $N_D = 117200 \times 84 = 9844800$

b) Snit: B-B d=118 mm Wk=161,3 cm³ (210t i krog)

$N_B = 117200 \times 135 = 15822000$
 $N_C = 117200 \times 135 = 15822000$
 $N_D = 117200 \times 135 = 15822000$

$N_E = 117200 \times 135 = 15822000$
 $N_F = 117200 \times 135 = 15822000$
 $N_G = 117200 \times 135 = 15822000$

c) Snit: C-C d=135 mm Wk=241,5 cm³ (210t i krog)

$N_C = 117200 \times 190 = 22268000$
 $N_D = 117200 \times 190 = 22268000$
 $N_E = 117200 \times 190 = 22268000$

d) Snit: D-D d=160 mm Wk=402,1 cm³ (210t i krog)

$N_D = 117200 \times 255 = 29886000$
 $N_E = 117200 \times 255 = 29886000$
 $N_F = 117200 \times 255 = 29886000$

e) Snit: E-E d=160 mm Wk=402,1 cm³ (Loko alene)

$N_E = 104200 \times 255 = 26571000$
 $N_F = 104200 \times 255 = 26571000$
 $N_G = 104200 \times 255 = 26571000$

f) Snit: F-F d=150 mm Wk=331,3 cm³ (Loko alene)

$N_F = 91600 \times 331,3 = 30358080$
 $N_G = 91600 \times 331,3 = 30358080$
 $N_H = 91600 \times 331,3 = 30358080$

$\sigma_L = 3/8 \times 482 + 5/8 \sqrt{482^2 + 4 \times 59^2} = 497 \text{ kg/cm}^2$
 $r = 6500:11 = 590 \text{ kg/cm}^2$

Ved 5 mm af drejning: $d=145 \text{ mm}$ $W=299,3 \text{ cm}^3$ $\sigma_L = 491 \times 331,3 = 162773$
 $r = 6500:11 = 590 \text{ kg/cm}^2$

g) Snit: G-G d=150 mm Wk=331,3 cm³ (Loko alene)

$N_G = 92000 \times 27000 = 2484000000$
 $N_H = 10600 \times 10600 = 112360000$
 $N_I = 39200 \times 39200 = 1536640000$

$N_J = 91600 \times 91600 = 8390560000$
 $N_K = 91600 \times 91600 = 8390560000$
 $N_L = 91600 \times 91600 = 8390560000$

h) Snit: K-K d=150 mm Wk=331,3 cm³ (Loko alene)

$N_K = 91600 \times 91600 = 8390560000$
 $N_L = 91600 \times 91600 = 8390560000$
 $N_M = 91600 \times 91600 = 8390560000$

i) Snit: L-L d=150 mm Wk=331,3 cm³ (Loko alene)

$N_L = 91600 \times 91600 = 8390560000$
 $N_M = 91600 \times 91600 = 8390560000$
 $N_N = 91600 \times 91600 = 8390560000$

II) Statiske og dynamiske kræfter: $r = 1500 \text{ kg/cm}^2$

1) Egenv. stød + centri fugalkraft + vind + direkte bremsning (mu=0,105)

a) Snit: A-A d=93 mm Wk=80 cm³ (Bogie forrest)

$N_A = 149800 \times 84 = 12583200$
 $N_B = 149800 \times 84 = 12583200$
 $N_C = 149800 \times 84 = 12583200$

b) Snit: B-B d=118 mm Wk=161,3 cm³ (Bogie forrest)

$N_B = 149800 \times 135 = 20223000$
 $N_C = 149800 \times 135 = 20223000$
 $N_D = 149800 \times 135 = 20223000$

c) Snit: C-C d=135 mm Wk=241,5 cm³ (Bogie forrest)

$N_C = 149800 \times 190 = 28462000$
 $N_D = 149800 \times 190 = 28462000$
 $N_E = 149800 \times 190 = 28462000$

d) Snit: D-D d=160 mm Wk=402,1 cm³ (Bogie forrest)

$N_D = 149800 \times 255 = 38109000$
 $N_E = 149800 \times 255 = 38109000$
 $N_F = 149800 \times 255 = 38109000$

e) Snit: E-E d=160 mm Wk=402,1 cm³ (Bogie forrest)

$N_E = 149800 \times 255 = 38109000$
 $N_F = 149800 \times 255 = 38109000$
 $N_G = 149800 \times 255 = 38109000$

f) Snit: F-F d=150 mm Wk=331,3 cm³ (Bogie forrest)

$N_F = 149800 \times 331,3 = 49732814$
 $N_G = 149800 \times 331,3 = 49732814$
 $N_H = 149800 \times 331,3 = 49732814$

h) Snit: K-K d=150 mm Wk=331,3 cm³ (Bogie forrest)

$N_K = 149800 \times 331,3 = 49732814$
 $N_L = 149800 \times 331,3 = 49732814$
 $N_M = 149800 \times 331,3 = 49732814$

i) Snit: L-L d=150 mm Wk=331,3 cm³ (Bogie forrest)

$N_L = 149800 \times 331,3 = 49732814$
 $N_M = 149800 \times 331,3 = 49732814$
 $N_N = 149800 \times 331,3 = 49732814$

2) Egenv. stød + vind + maksimal bremsning (Bogie forrest)

a) Snit: A-A d=93 mm Wk=80 cm³

$N_A = 149800 \times 84 = 12583200$
 $N_B = 149800 \times 84 = 12583200$
 $N_C = 149800 \times 84 = 12583200$

b) Snit: B-B d=118 mm Wk=161,3 cm³

$N_B = 149800 \times 135 = 20223000$
 $N_C = 149800 \times 135 = 20223000$
 $N_D = 149800 \times 135 = 20223000$

c) Snit: C-C d=135 mm Wk=241,5 cm³

$N_C = 149800 \times 190 = 28462000$
 $N_D = 149800 \times 190 = 28462000$
 $N_E = 149800 \times 190 = 28462000$

d) Snit: D-D d=160 mm Wk=402,1 cm³

$N_D = 149800 \times 255 = 38109000$
 $N_E = 149800 \times 255 = 38109000$
 $N_F = 149800 \times 255 = 38109000$

e) Snit: E-E d=160 mm Wk=402,1 cm³

$N_E = 149800 \times 255 = 38109000$
 $N_F = 149800 \times 255 = 38109000$
 $N_G = 149800 \times 255 = 38109000$

f) Snit: F-F d=150 mm Wk=331,3 cm³

$N_F = 149800 \times 331,3 = 49732814$
 $N_G = 149800 \times 331,3 = 49732814$
 $N_H = 149800 \times 331,3 = 49732814$

(Fortsattes: 302L-1.113-01)

Stk.	Betegnelse	Pos.	Materiale kvalitet	Model nr. eller materiale størrelse	rå værdi	færdig værdi
6						
4						
3						
2						
1						
Stk.	ILR	Rev.	Alt.	ITL	Målestok:	
Norm.					1:1	
Date	92-20-57	Indeks				
FRICHS						
Anvendelse				Stykliste nr.		
Diesel el. 375 h.k. Loko						
Tegningens betegnelse				Tegningens nummer		
Beregning af drivakser				302L-1.113.II		
Indeks						