

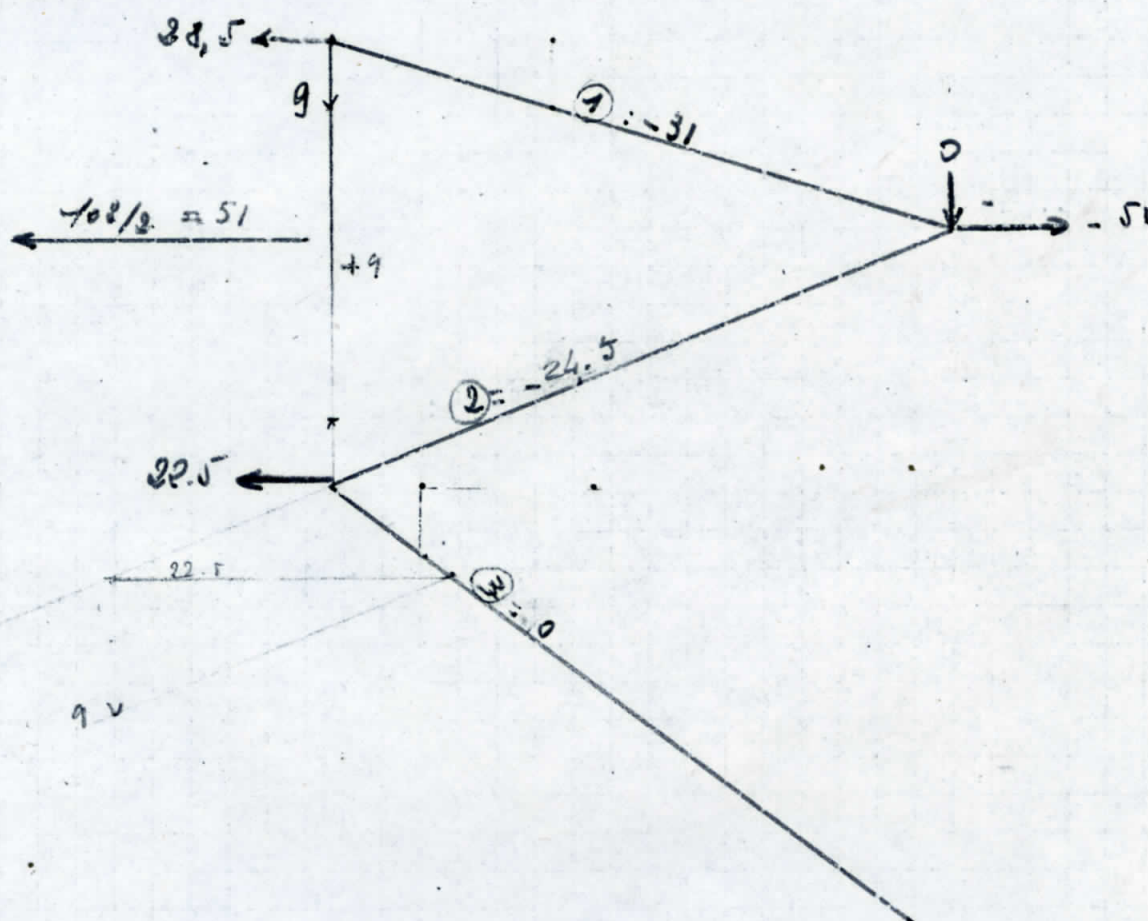
8  
-

Bati-moteur  
Suffat du Train A

RD 03 - 100 Cu. Traction

194

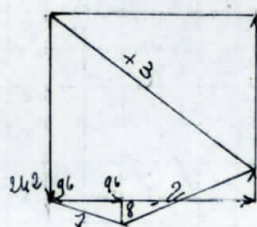
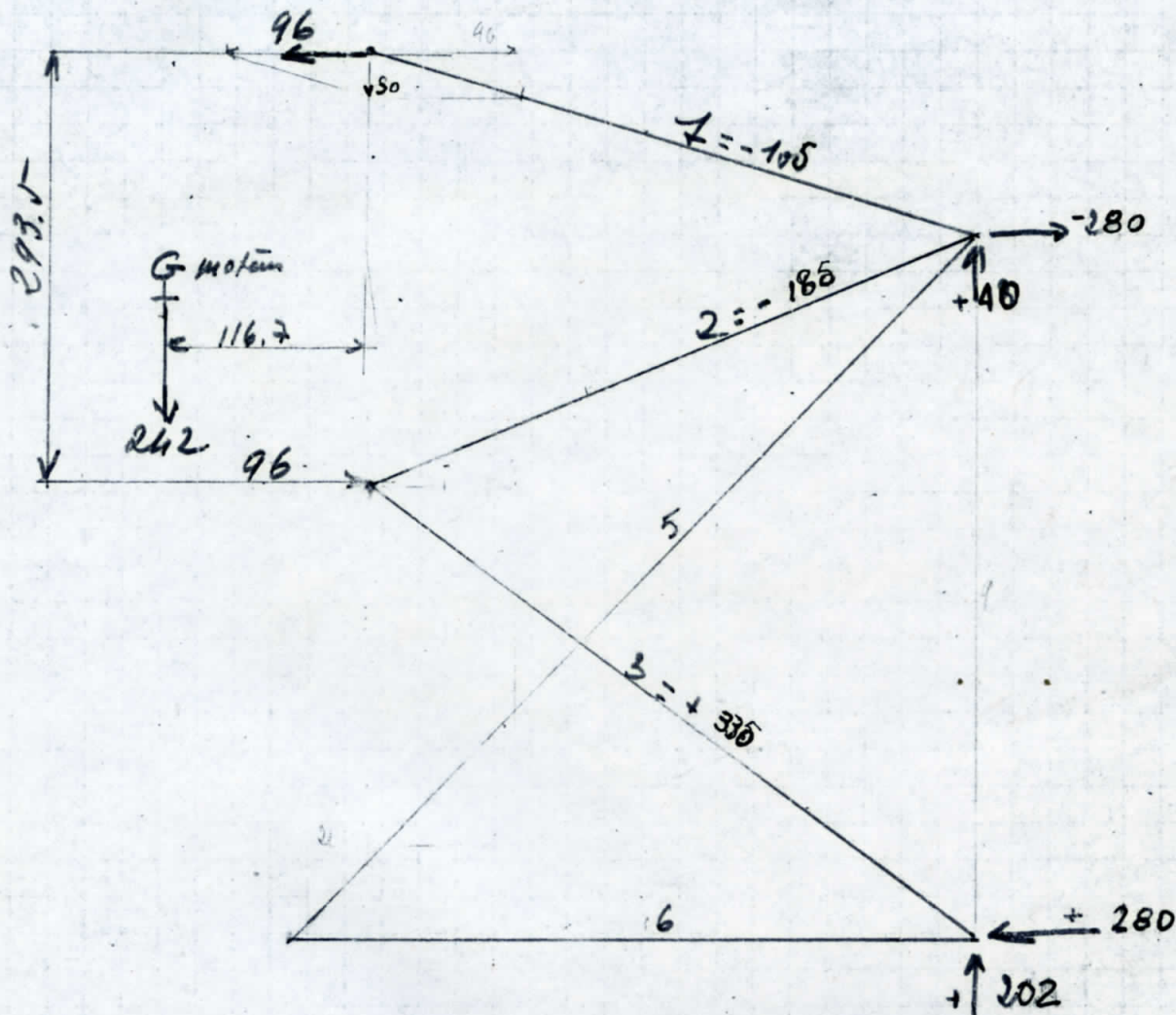
$$0.8 \times \frac{100 \times 75}{59.2} = 102$$



Charge verticale au c.-a. g.:

$$110 \times 44 = 484 \text{ kg. soit } 242 \text{ kg par } 1/2 \text{ bati (lun)}$$

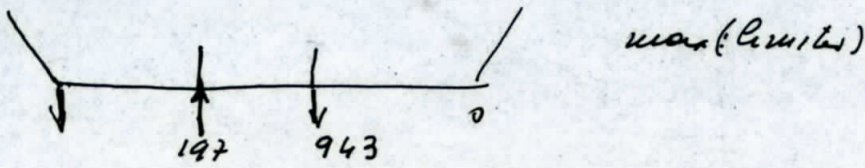
$$\text{produisant un couple de } 100 \text{ kg} : \frac{242 \times 116.7}{293.5} = 96 \text{ kg.}$$



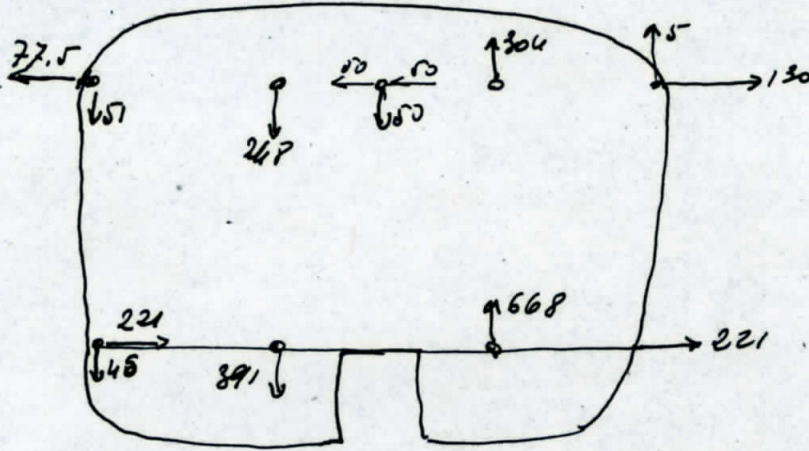
R.D 03

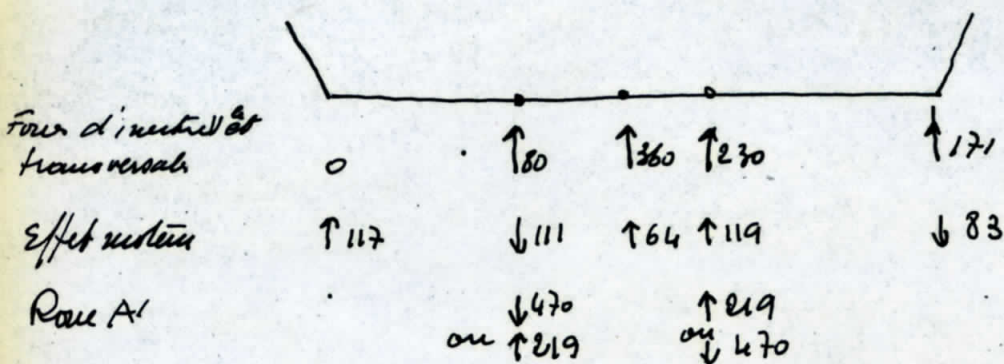
Reaction horizontal aux attaches sup<sup>re</sup>

191

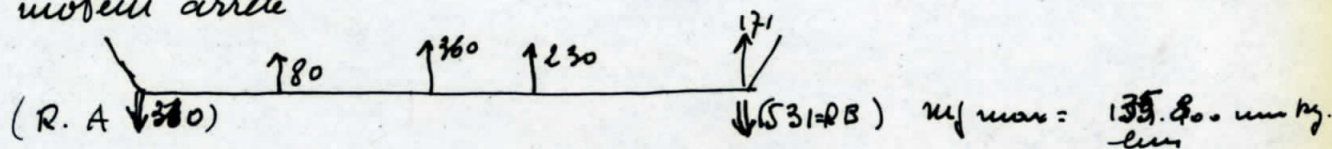


Reaction verticals max lim. at each transversals

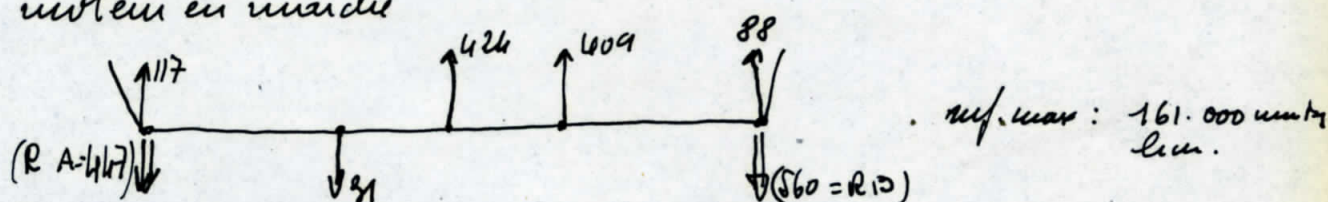


a) route inferieure -

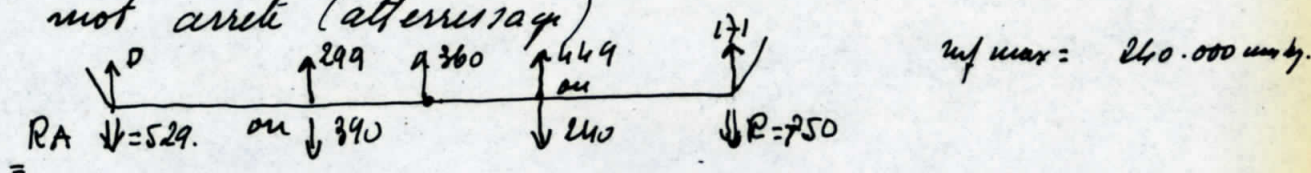
## a) en vol moteur arrêté



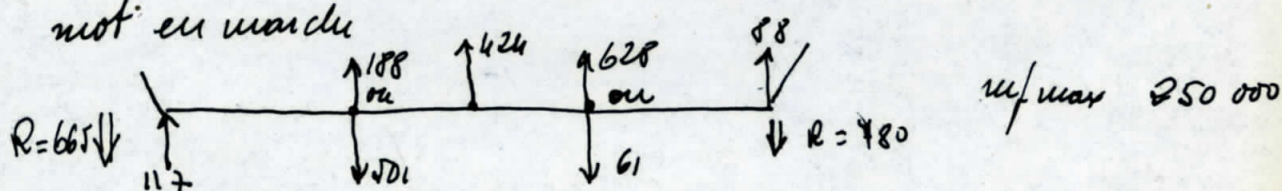
## a) en vol moteur en marche



## c) au del mot arrêté (atterrissage)



## c) au vol mot en marche



## fatigue de la poutre

$$I = \frac{L \times 20 \times 20 \times 2}{12} \quad F/U = 20.320$$

$$S \text{ cm} = 180 \text{ cm}^2$$

$$n_f = \frac{240000 \times 1.5}{20.320} = 18.45 \text{ ext. fr.}$$

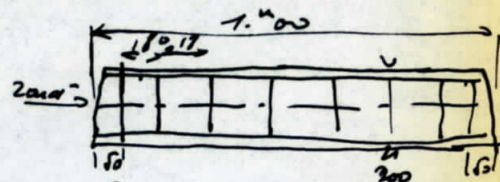
$$t \text{ max} = \frac{780 - 88}{180} \times 1.5 = 4.9 \text{ ext. fr.}$$

$$n_f \text{ cum (1 raid central)} = 210000 \left( \frac{1}{90} \right)^2 = 26.$$

$$n_f/n_f_2 = \frac{26}{32} = 0.88$$

rendement 24 km/h 180% - double à chaque extrémité

$$n_{c0} = \left( 5 + 6 \frac{80}{180} \right) 7000 \left( \frac{1}{90} \right)^2 = 6.9.$$



RD 03 - Bati moteur - Efforts dans les barres (lunette)  
(moteur Lycoming 150 CV)

| Charge:                 | Barres                       | 1                   | 1'                  | 2                   | 3                    | 4 | 5 | 6 |
|-------------------------|------------------------------|---------------------|---------------------|---------------------|----------------------|---|---|---|
| d'inclinaison verticale | $\frac{1}{2} - 0.4 \times 1$ | $\pm 110$<br>$+ 44$ | $\pm 190$<br>$+ 76$ | $\pm 170$<br>$+ 68$ | $\pm 500$<br>$+ 200$ | 0 | 0 | 0 |
| Couple moteur           |                              | $\pm 118$           | $\pm 103$           | $\pm 160$           | $\pm 175$            | 0 | 0 | 0 |
| React. laterale         |                              | $\pm 105$           | $\pm 40$            | $\pm 82$            | $\pm 90$             | 0 | 0 | 0 |
| Traction d'hélice       |                              | -22                 | -32                 | -38                 | -15                  | 0 | 0 | 0 |
| Efforts max             |                              | +245<br>-355        | +287<br>+365        | +255<br>-450        | +350<br>-480         | 0 | 0 | 0 |

Support de roue Rd - Efforts dans les barres

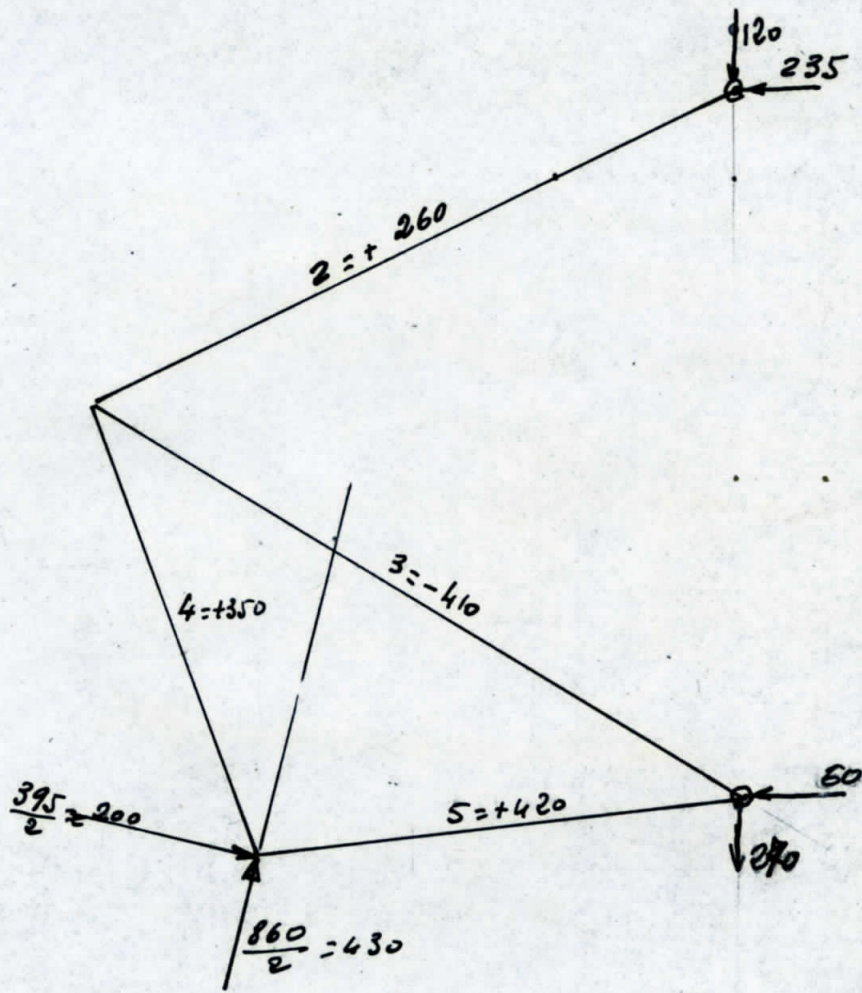
| Barres              | 1 | 1' | 2                      | 3                      | 4                      | 5                      | 6    |
|---------------------|---|----|------------------------|------------------------|------------------------|------------------------|------|
| Cas 1               | 0 | 0  | +210                   | -340                   | +290                   | +170                   | 0    |
| Cas ch. Transv. le. | 0 | 0  | $\pm 570$<br>$\pm 265$ | $\pm 910$<br>$\pm 430$ | $\pm 770$<br>$\pm 360$ | $\pm 390$<br>$\pm 120$ | +300 |
| Cas " vers l'AV.    | 0 | 0  | +26<br>+260            | -40<br>-410            | +32<br>+350            | -103<br>+420           | 0    |
| Ch. max. cum.       | 0 | 0  | +570<br>-265           | -910<br>+430           | +770<br>-360           | +390<br>-120           | +300 |

Efforts continus max lunette

| Barre                                       | 1                 | 1'                | 2              | 3                   | 4              | 5              | 6             |
|---|-------------------|-------------------|----------------|---------------------|----------------|----------------|---------------|
| Effort max.                                 | +245<br>-355      | +287<br>-365      | +825<br>-715   | +1180<br>-1340      | +770<br>-360   | +420<br>-120   | +300          |
| L <sup>e</sup> tube (mm)<br>charge extrêmes | 540<br>+368 - 585 | 475<br>+435 - 550 | 470<br>+1240   | 500<br>+1770 - 2010 | 320<br>+1155   | 315<br>+630    | 460<br>+450   |
| Ech. tube 25045                             | 18x1<br>(600 kg)  | 18x1<br>(800)     | 18x1<br>(1600) | 18x1.5<br>(2200)    | 15x1<br>(1700) | 18x1<br>(1400) | 16x1<br>(800) |
| Marge mini                                  | 62%               | 86%               | 29%            | 26%                 | 47%            | 146%           | 76%           |
| Poids                                       | 0.350             | 0.305             | 0.405          | 0.470               | 0.220          | 0.200          | 0.300         |

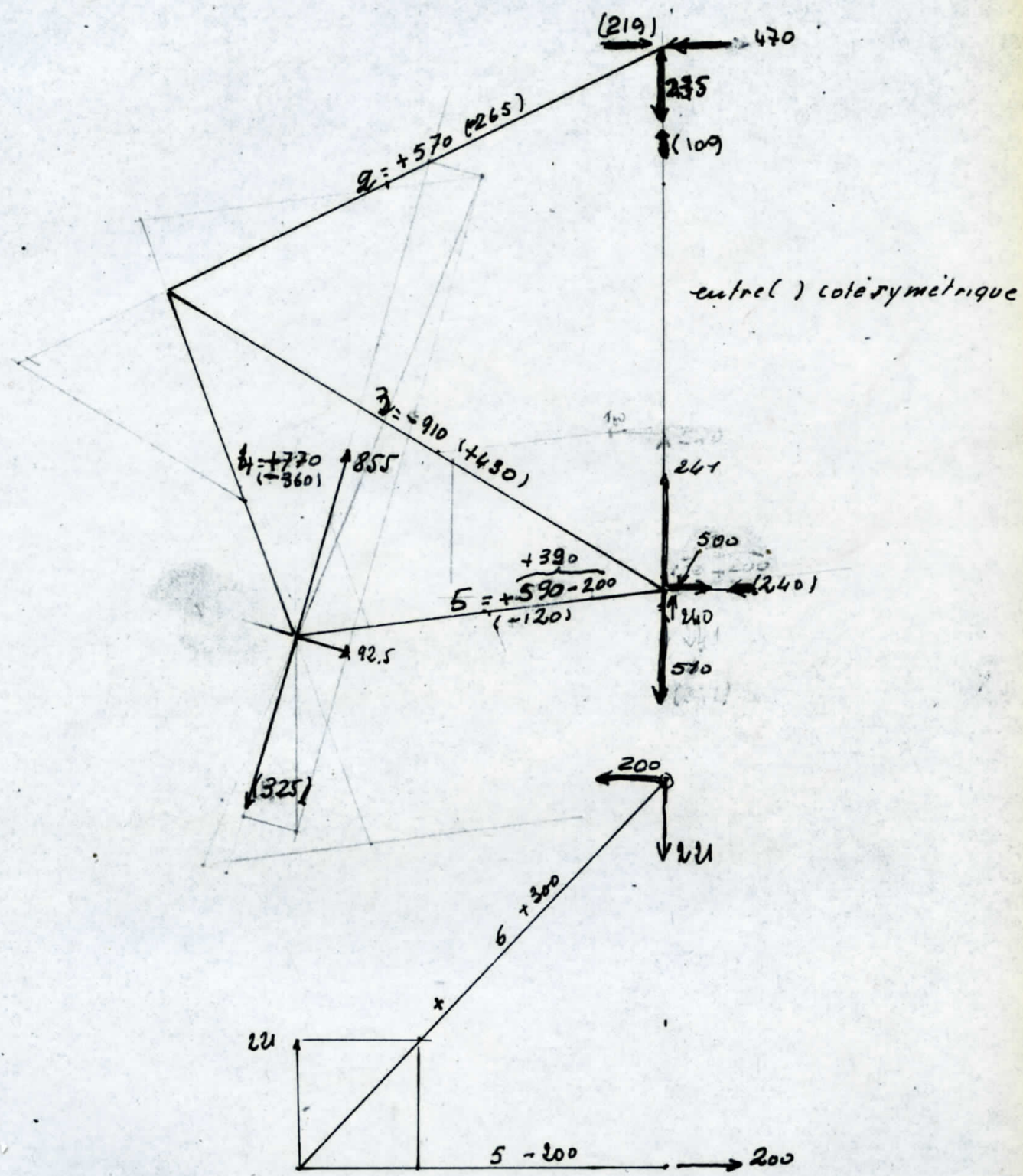
Poids Total des tubes: 2,150 kg.

cas de charge vers l'arrière

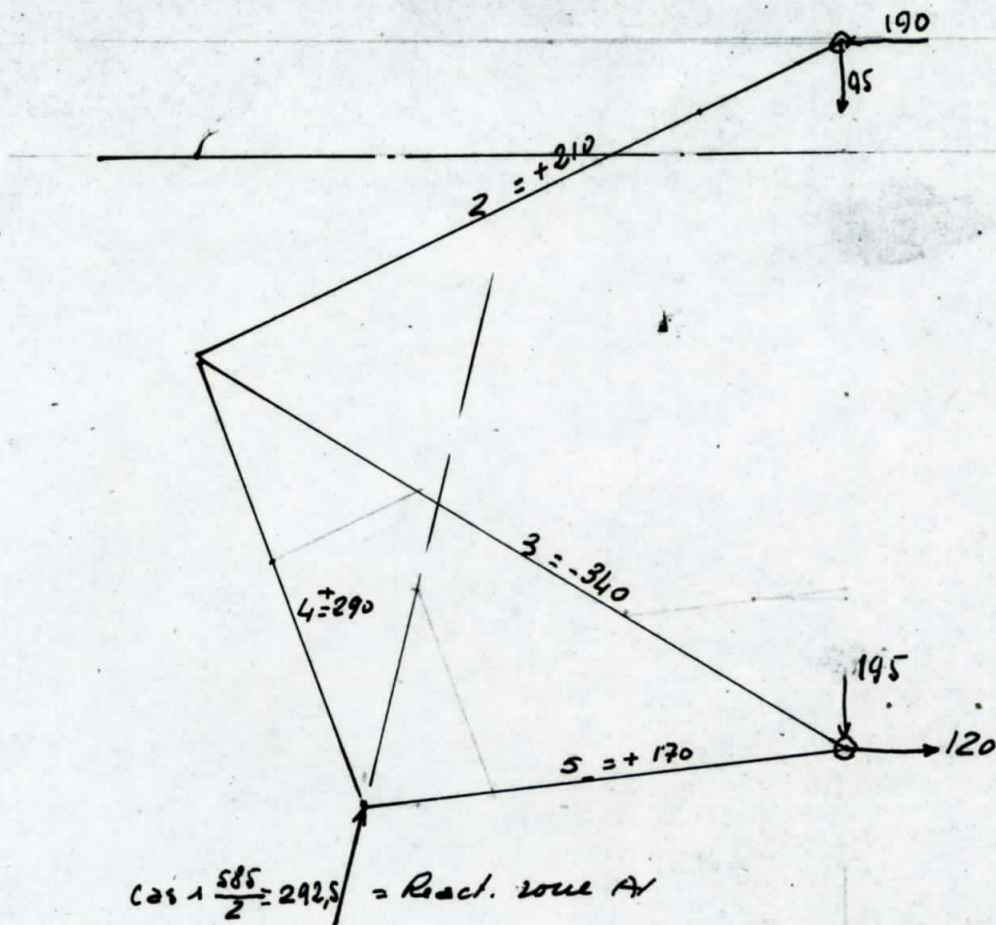


RD 03 Bati de roue AV avec moteur Lycoming IDCU

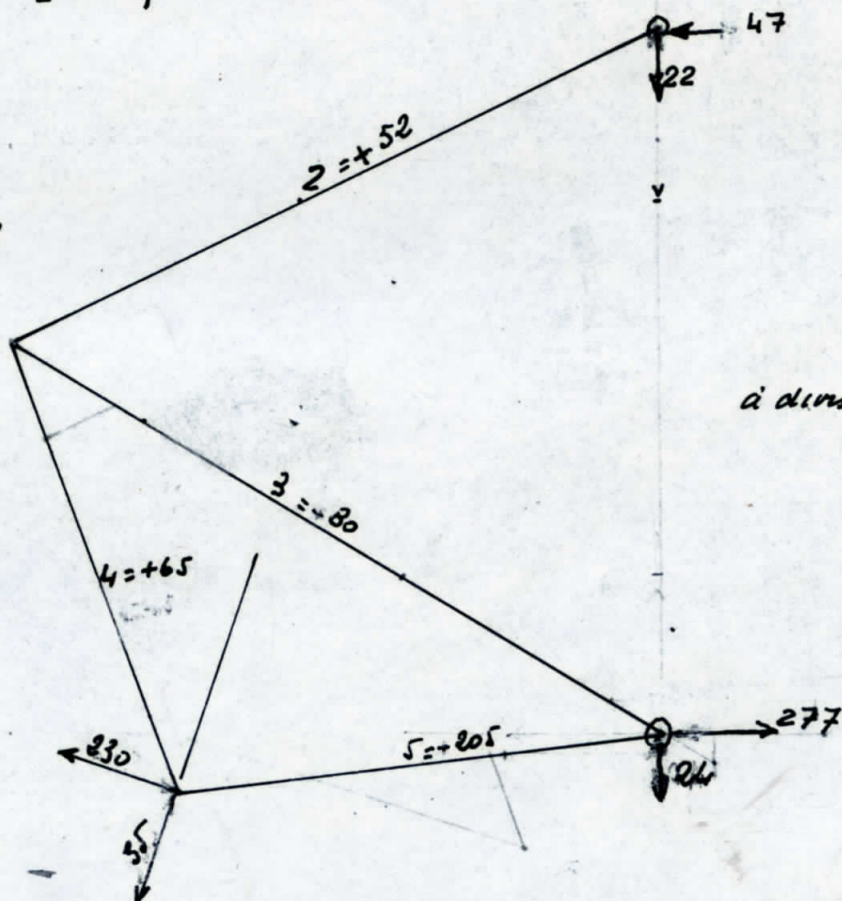
cas de charge laterale sur roue AV



RD 03 Bati de roue Al avec moteur Lycoming.  
 Reaction de la roue A (limite)  
 cas de charge verticale ( " 1



Cas charge  $\rightarrow R$



# RD 03 - Moteur Synchrone 150 CV - Bati moteur

Cas de charge laterale :  $C_L = \frac{138 \times 4.4}{3} = 202 \text{ kg cm.}$

Couple dans le plan de l'arbre 1 et 1' : (Transport de  $G$  en  $A$ )

$$202 \times 0.200 = 40.4 \text{ m kg.}$$

Effort dans les attaches 2 et 2' :  $\pm \frac{40.4}{0.33} = \pm 122 \text{ kg.}$

plus une charge  $\perp$  à l'axe longitudinal de  $202 = 101 \text{ kg.}$

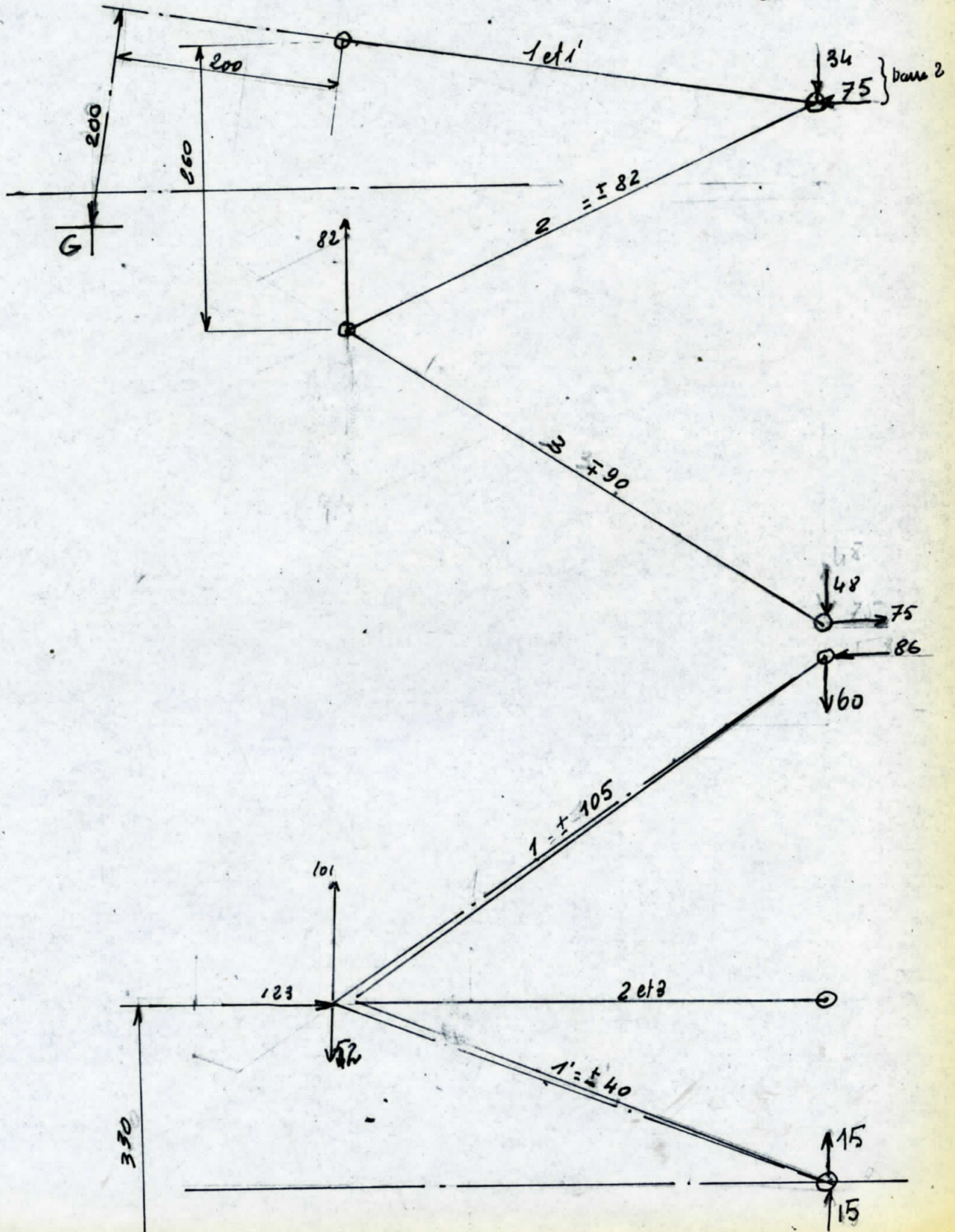
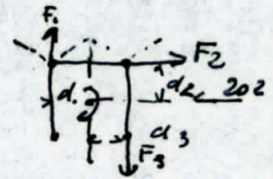
Couple dû au transport de  $G$  en  $A$  :  $202 \times 0.20 = 40.4 \text{ m kg.}$

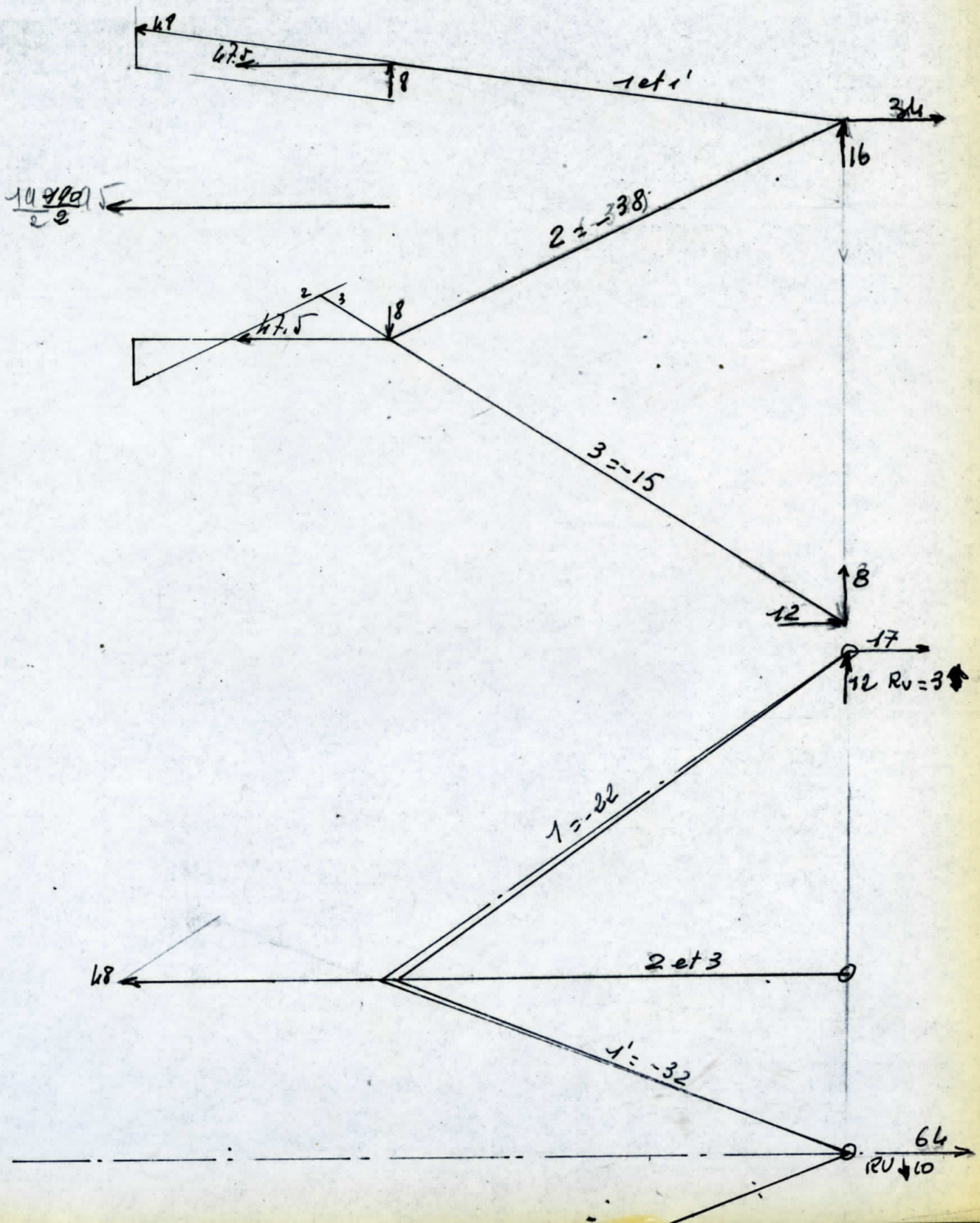
se répartissant sur 2 plans vert. et 1 plan h<sup>z</sup>

$$F_1 d_1 = F_2 d_2 = F_3 d_3 = C/3$$

$$F_1 = F_3 = \frac{C}{0.165} = \frac{40.4}{2 \times 0.165} = 82$$

$$F_2 = \frac{40.4}{8 \times 0.13} = 104$$



$$T = 0.8 \frac{150 \times 75}{59.2} = 190 \text{ kg}$$


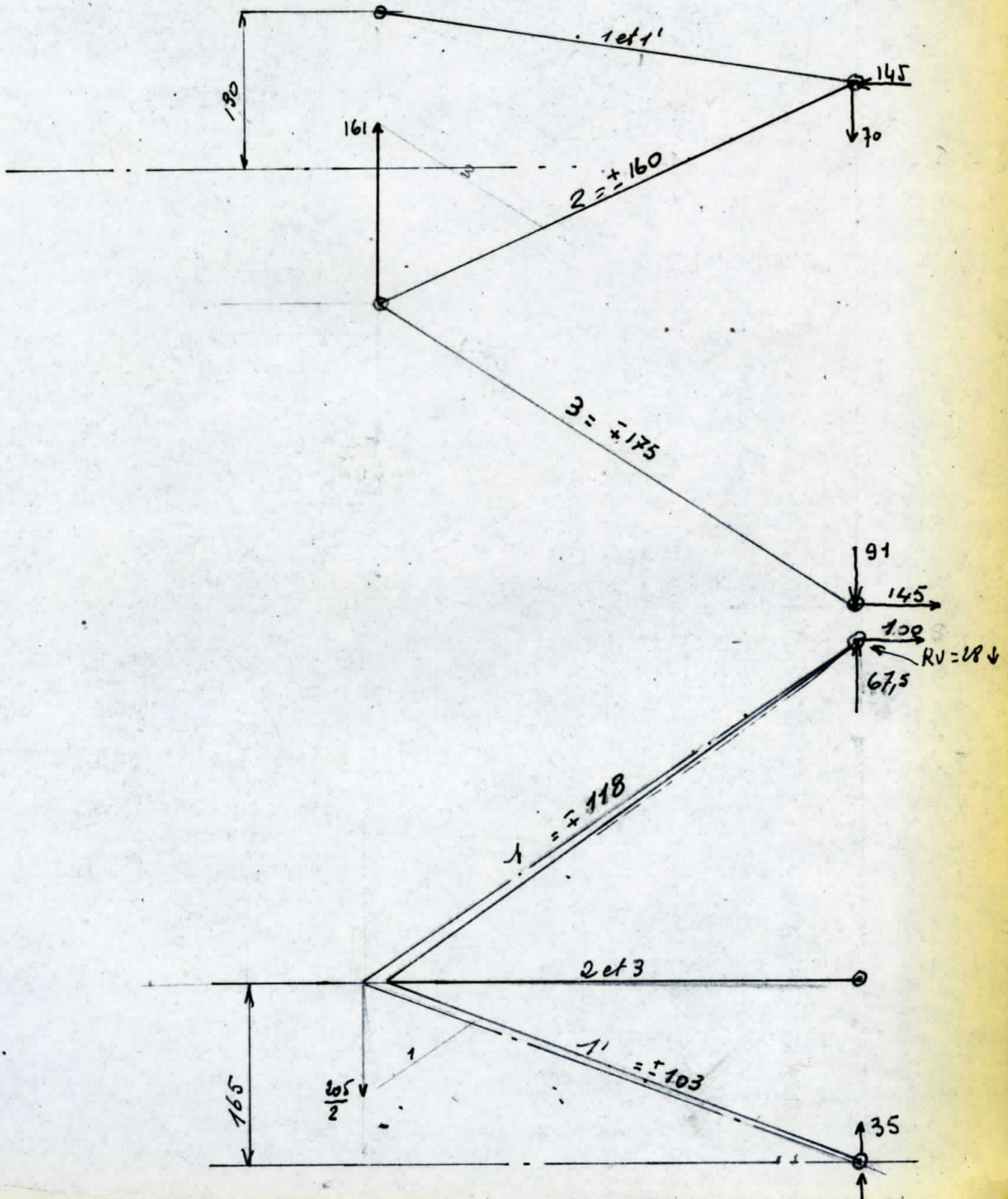
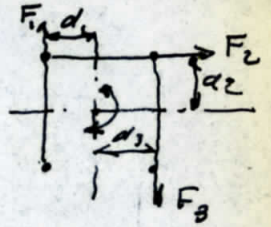
R003 - Bati moteur Lycoming O-300 150CV. Efforts dus au couple moteur

$$C = \frac{150 \times 716 \times 2}{2700} = 80 \text{ mkg.}$$

Soit par flanc de barres:  $\frac{80}{3} = 26,66 \text{ mkg.}$

$$F_1 d_1 + F_2 d_2 + F_3 d_3 = 80 \quad F_1 d_1 = F_2 d_2 = F_3 d_3$$

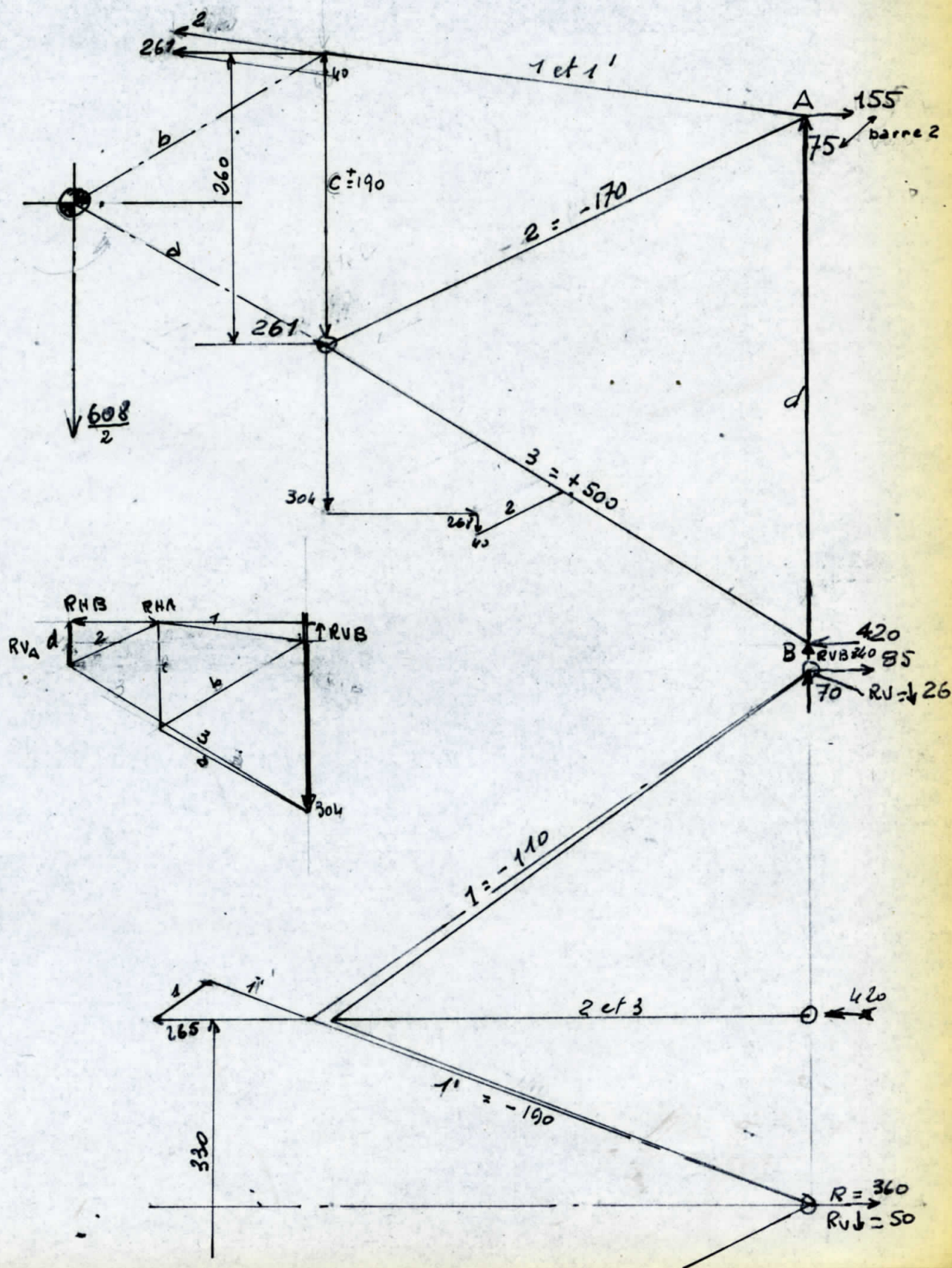
$$F_1 = F_3 = \frac{26,6}{0,165} = \pm 161,4 \quad F_2 = \frac{26,6}{0,130} = 205$$



RD03. Bati Moteur Lycoming 150CV -  
Efforts dus aux charges verticales d'inertie

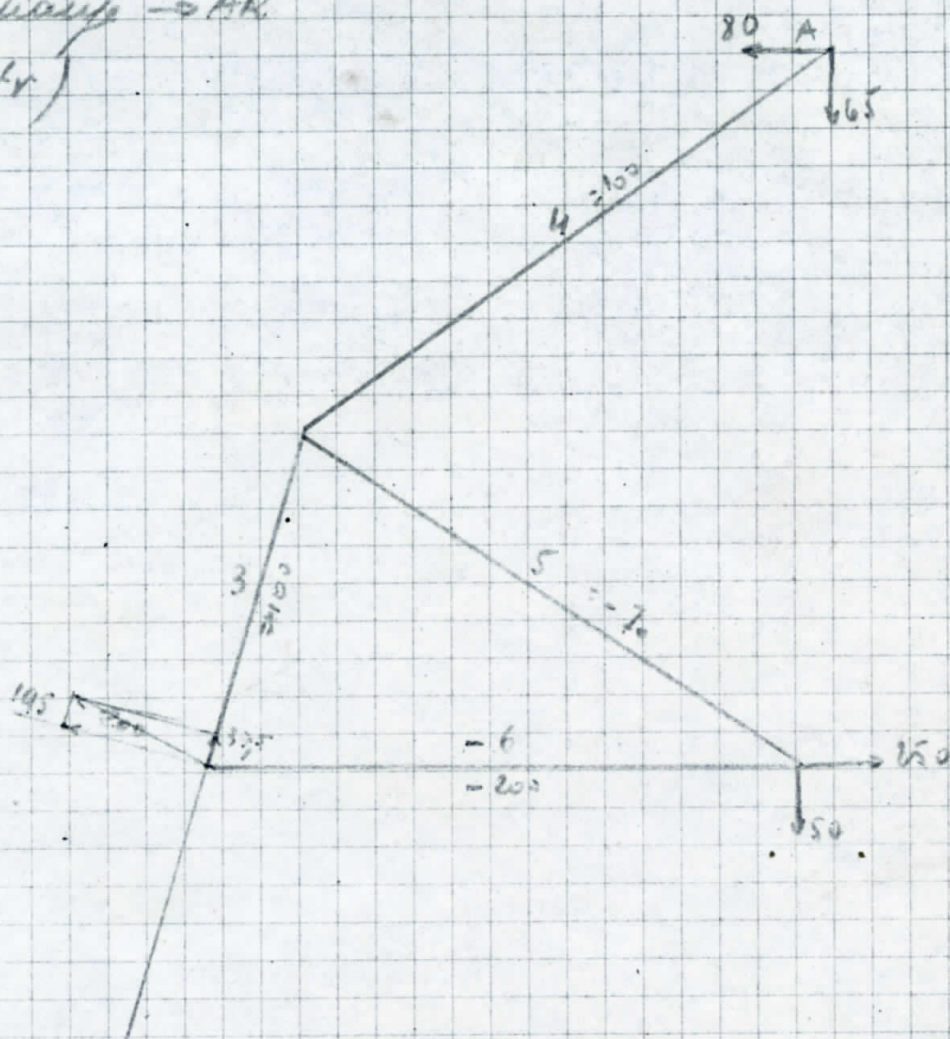
Poids: Moteur + hélice = 138 kg  $n_1 = 4.4$  (cat U)

$F = 138 \times 4.4 = 608 \text{ kg}$  lin. soit  $\frac{608}{2} = 304$  par côté  
Effort du couple (par attaché):  $\frac{304 \times 225}{260} = \pm 268$

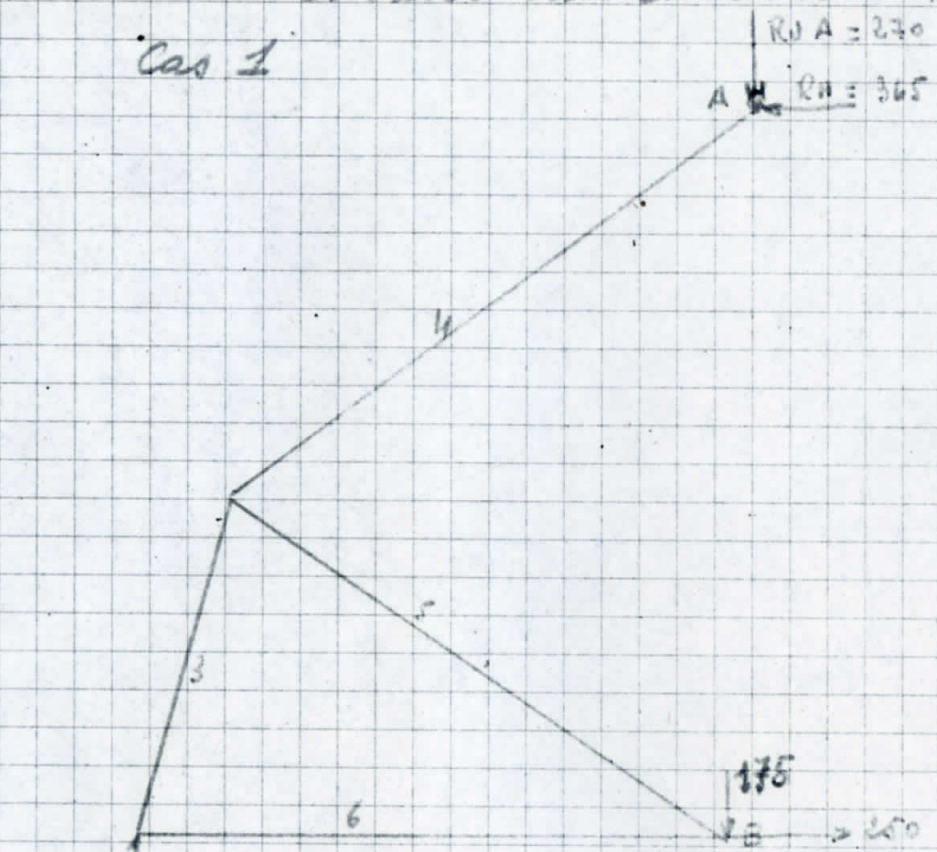


R003.N Resch. zone H. (14.5 CV Cubicentral)

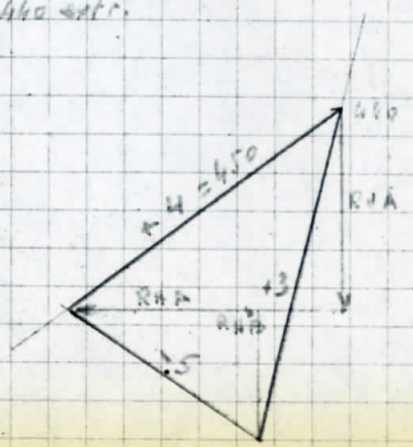
cas de charge  $\rightarrow$  AR  
(entr)



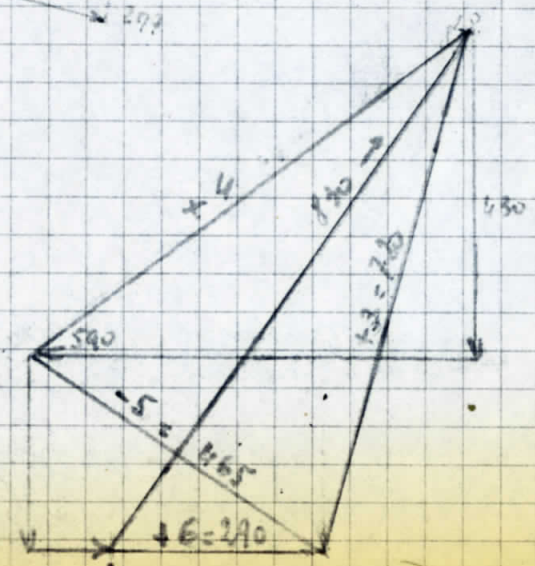
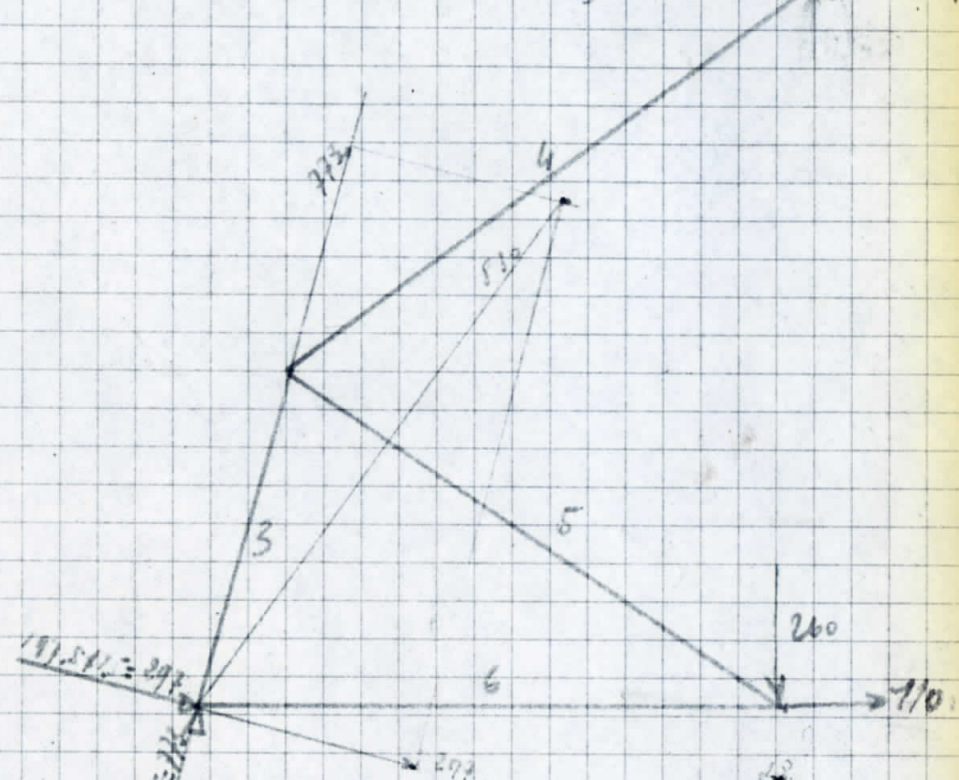
ND03 N  
 Eff. extr dans la barre due à la roue A  
 Cas 1



React roue A Cas 1  
 $= 292.5 \times 1.5 = 440 \text{ extr.}$



Cas de charge → A1 450  
 (extr.)



Tract. helice = 111 kg

G mot + helice = 153 kg

Ch. v<sup>e</sup> d'écriture : 2505  
Compte rendu : 2285  
" des ann. de l'ob. : 2236

$$\begin{array}{r} 244 \\ + 192.5 \\ + 150 \\ + 31 \text{ (trans. helio)} \\ \hline 616.5 \end{array}$$

228  
 1925  
 106  
 526.5  
 431 (Frank helix)  
 445.5

