$\left(-4k\lambda\left(eta+ heta\lambda-\phi_{40}
ight)-2mga\coslpha\coslpha\coslpha\sin hetaigg(\sqrt{1-\left(rac{x}{l}+\sinarphi_{10}
ight)^2}+\sqrt{1-\left(rac{x}{l}+\sinarphi_{20}
ight)^2}
ight)
ight)^2$

 $4kx\Big(-eta+rccosigg|\sqrt{1-\Big(rac{x}{l}+\sinarphi_{10}\Big)^2+rac{x an heta}{l}igg|}\Big)\sec^2 heta$

 $l\sqrt{1-\left(\sqrt{1-\left(rac{x}{l}+\sinarphi_{10}
ight)^2}+rac{x an heta}{l}
ight)^2}$