$\bar{x}_p = 7.23$
$s_p = 11.863$

$H_0: \mu_p = 0$

$H_A: \mu_p > 0$

$\alpha = 0.01$

Assuming normality of difference population

if $H_0$ is true, then

$$t = \frac{\bar{x}_p - \mu_p}{s_p / \sqrt{n}}$$

follows a $t$ with $n-1 = 7$ degrees of freedom

in our case $t = 1.73 < 2.998$ so ACCEPT $H_0$

there is no apparent difference in mean breaking load