



Piston Rod Root Stress

Piston rod root stress is used to design the appropriate piston rod attachment preload levels. Ariel piston rod to crosshead nut preload levels are 30,000 psi. This is well above 1-1/2 times the root stress potential from inertia and gas loading. Ariel does not publish a limit based upon piston rod root stress.

Root areas for Ariel frames are below:

Frame Model	Rod Diameter (in)	Crosshead Thread Pitch	Thread Root Area (in ²)
JGM:N:P:Q	1-1/8 inch	1"-12	0.625 in ²
JG / JGA	1-1/8 inch	1"-12	0.625 in ²
JGW:R:J	1-1/2 inch	1-3/8"-12	1.260 in ²
JGH:E:K:T KBK:T	2 inch	1-3/4"-12	2.120 in ²
JGC:D:F	2-1/2 inch	2-1/4"-8	3.420 in ²
KBZ:U	2-7/8 inch	2-5/8"-8	4.76 in ²
KBB:V	3-1/8 inch	2-7/8"-8	5.780 in ²