

Zero-Force Members

Mechanical Engineering

Spotting members that carry nothing, and why they are still in the truss.

Zero force is a property of the load case, not of the member.

It carries zero when

Two members meet, unloaded, not in line

Three meet, two in line, joint unloaded

One member meets a support reaction line

The joint has no external load at all

It is still needed

It braces a long member against buckling

Another load case will load it

Removing it can make a mechanism

It holds geometry during erection

Recheck for every load case. A member idle under dead load can be the critical one under wind.