

How to adjust mechanical unloader on “E” & “F” Tranes, Carrier 5H, 5F, 06L’s (R22 refrigerant)

1. All of our compressors have the nut turned clockwise to bottom stop when shipped. This is in the unloaded position & usually only 2 cylinders are loaded. Always start compressor unloaded.
2. If you turn nut counterclockwise, other cylinders will load up & # of cylinders loaded is determined by size & type compressor. There are usually 3 steps in the unloader. As you turn nut counterclockwise to load, go **very slow** & feel the cylinders load up. You will notice slight variation in sound, amps slightly higher, & oil psi will dip for a few seconds & then return to normal operating psi as each step loads. Reason oil psi dips is because oil is used to load up cylinders.
3. When compressor is fully loaded check suction psi.
 - a. If suction pressure is say 75 psi (hot day, good load), you will need to slightly close suction service valve until suction psi is around 60 psi. Then turn nut clockwise until 1 step of unloading steps in. Suction psi will rise, amps slightly lower. You have set the unloaders.
 - b. If suction pressure is say 58 psi (cool day, low load -R22), you will need to artificially load compressor up. Cycle a fan off or turn pump off until suction is around 60 psi. Then turn nut clockwise until 1 step of unloading occurs. Suction psi will rise, amps lower. You have set the unloaders.
 - c. If compressor appears to be cycling very quickly back & forth to 1 unloading stage to another, just turn nut a little clockwise to stop the cycling of load to unload.
 - d. **The main goal is to make sure:**

Compressor is not running unloaded all time. Will kill any compressor.

Compressor is not running loaded all time & suction pressure does not go below 60 psi. Out pump coil.

Unfortunately, it is not uncommon to see unloaders never set in field & the result ends in a premature failure.

Common mistake.

Trane Models E, F, A, B :

Put oil psi safety line on side mount of unloader/ **not at oil pump**. The oil pump fitting only reads pump pressure from pickup screen to oil pump, therefore, you can lose a rod and still have good pressure. A reading at unloader side plate is oil pressure derived from tolerance(s) of rods, bearings, unloaders, etc.

Carrier Models 5H, 5F, O6L

Put oil safety line at oil filter only --- not at or near unloader adjustment screw. Fitting near unloader adjustment screw is control oil psi which reads oil pressure of unloaders when actuated. Oil pressure reading at filter is actual oil psi and a low reading can indicate clogged filter.

Do not put a fitting in the hole above the unloader adjustment screw. This is a hole for atmospheric pressure that allows unloaders to work based of off suction pressure. If this hole is blocked unloaders will not work properly and eventually cause bellows in unloader to leak