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SAFETY WIRE



Safety wire used on most aircraft come in 3 main sizes, but most are made from stainless steel. The three main sizes are 0.020, 0.032 and 0.041. Make sure you determine the correct size wire before starting the safety wire job. Most everything you do will be in 0.032 safety wire. Turnbuckles use 0.041. There are occasions where copper wire may be used.

SAFETY WIRE

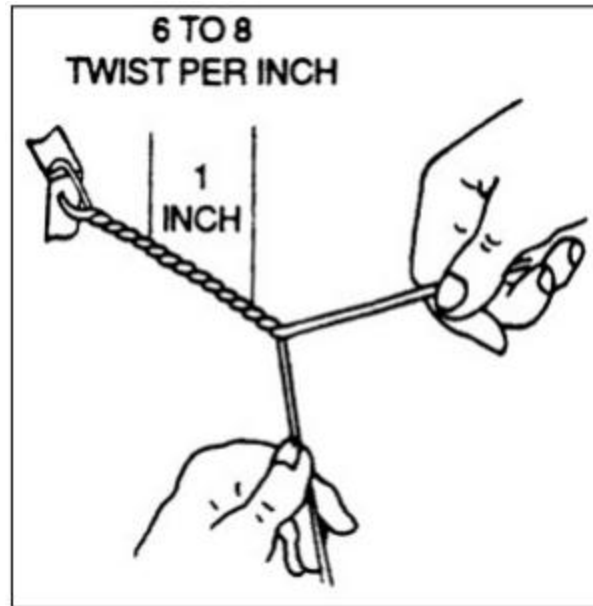


When you safety wire you must make sure you are pulling the bolt tight during the process. You must make sure you are twisting with 6 to 8 wraps per inch, this maintains tightness and keeps the wire from breaking. It is not too tight or too loose.

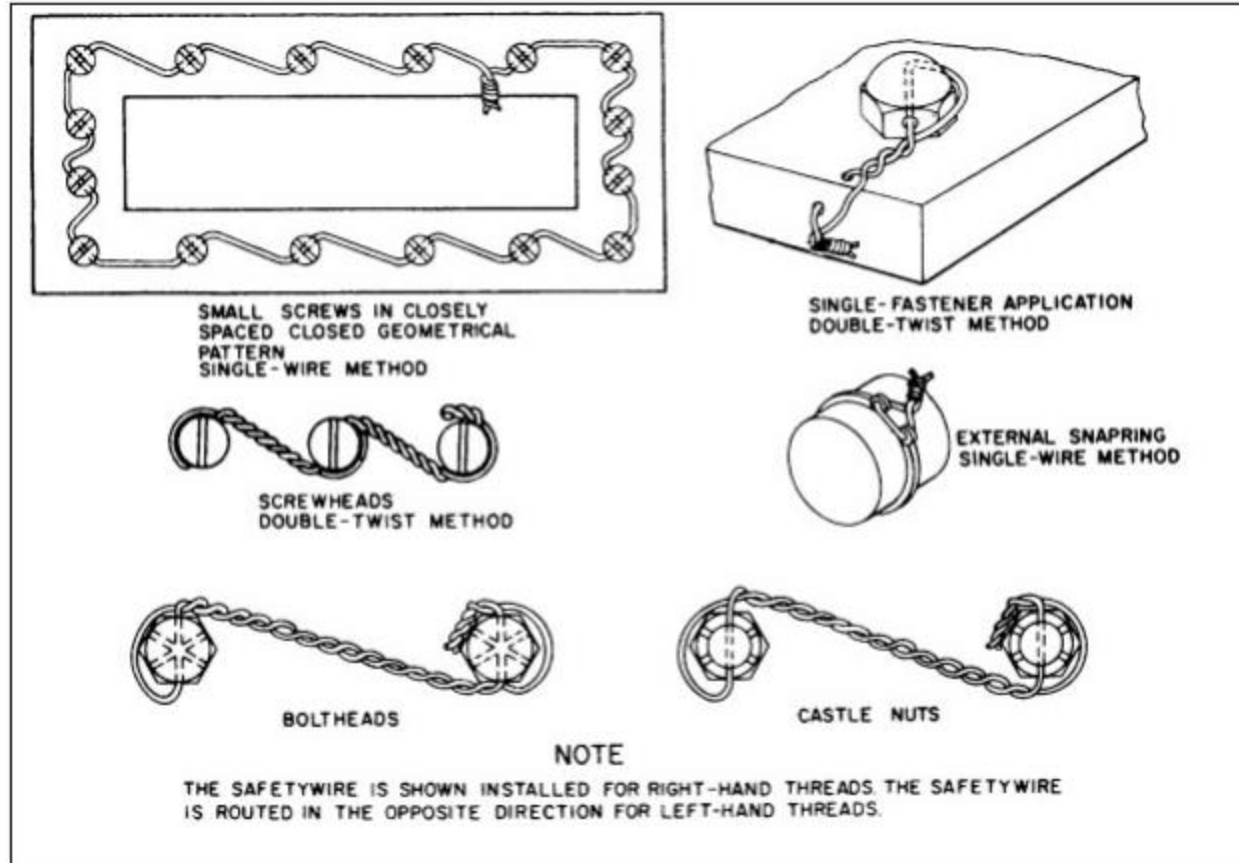
SAFETY WIRE



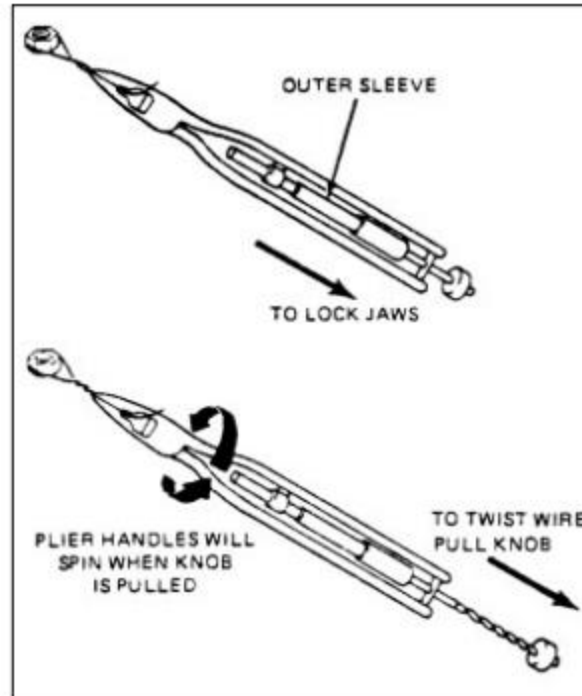
When you have finished the safety wire job, one of the most important things is to make sure you leave enough on the end to turn and tuck the end underneath itself and hidden, so if another technicians reaches down near your safety wire job it will not cut them.



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EXAMPLE 1



EXAMPLE 2



EXAMPLE 3



EXAMPLE 4

Examples 1, 2, 3, and 4 apply to all types of bolts, fillister-head screws, square-head plugs, and other similar parts which are wired so that the loosening tendency of either part is counteracted by tightening of the other part. The direction of twist from the second to the third unit is counterclockwise in examples 1, 3, and 4 to keep the loop in position against the head of the bolt. The direction of twist from the second to the third unit in example 2 is clockwise to keep the wire in position around the second unit. The wire entering the hole in the third unit will be the lower wire, except example 2, and by making a counterclockwise twist after it leaves the hole, the loop will be secured in place around the head of that bolt.

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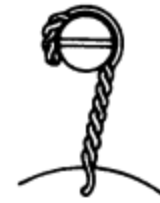
EXAMPLE 5



EXAMPLE 6



EXAMPLE 7



EXAMPLE 8

Examples 5, 6, 7, & 8 show methods for wiring various standard items, NOTE: Wire may be wrapped over the unit rather than around it when wiring castellated nuts or on other items when there is a clearance problem.



EXAMPLE 9

Example 9 shows the method for wiring bolts in different planes. Note that wire should always be applied so that tension is in the tightening direction.



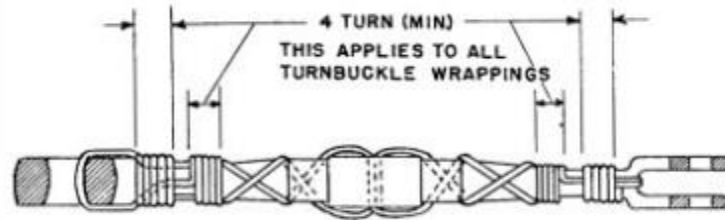
EXAMPLE 10

Hollow-head plugs shall be wired as shown with the tab bent inside the hole to avoid snags and possible injury to personnel working on the engine.



EXAMPLE 11

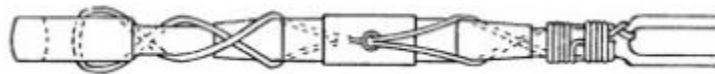
Correct application of single wire to closely spaced multiple group.



(A) DOUBLE WRAP (SPIRAL)



(B) DOUBLE WRAP



(C) SINGLE WRAP (SPIRAL)



(D) SINGLE WRAP

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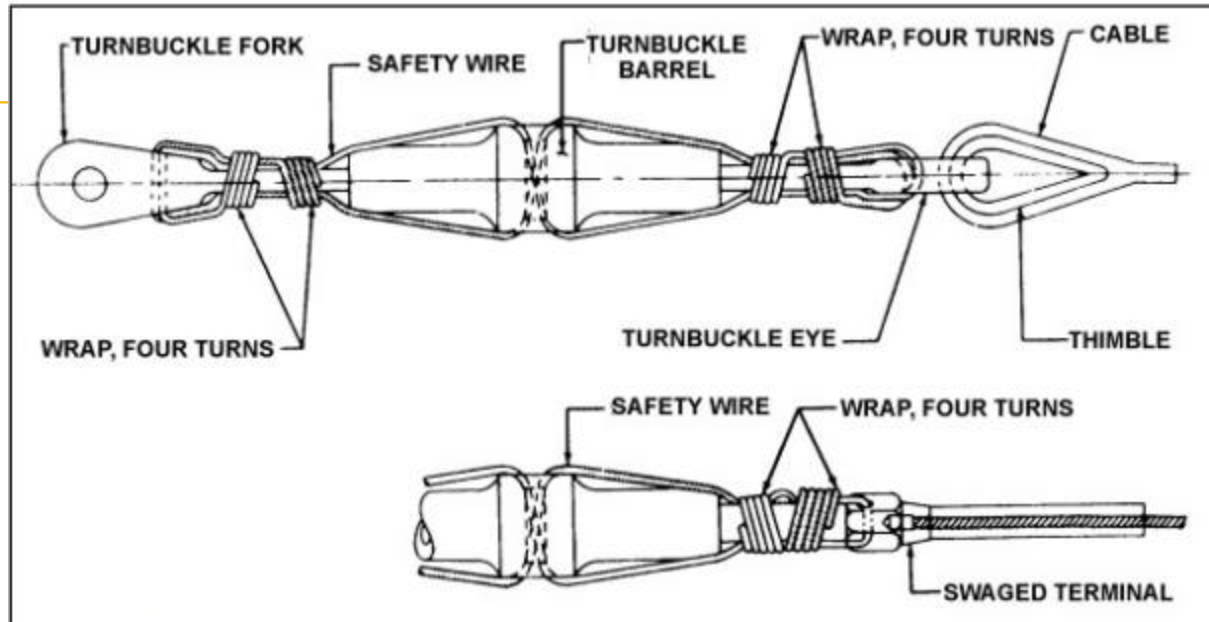
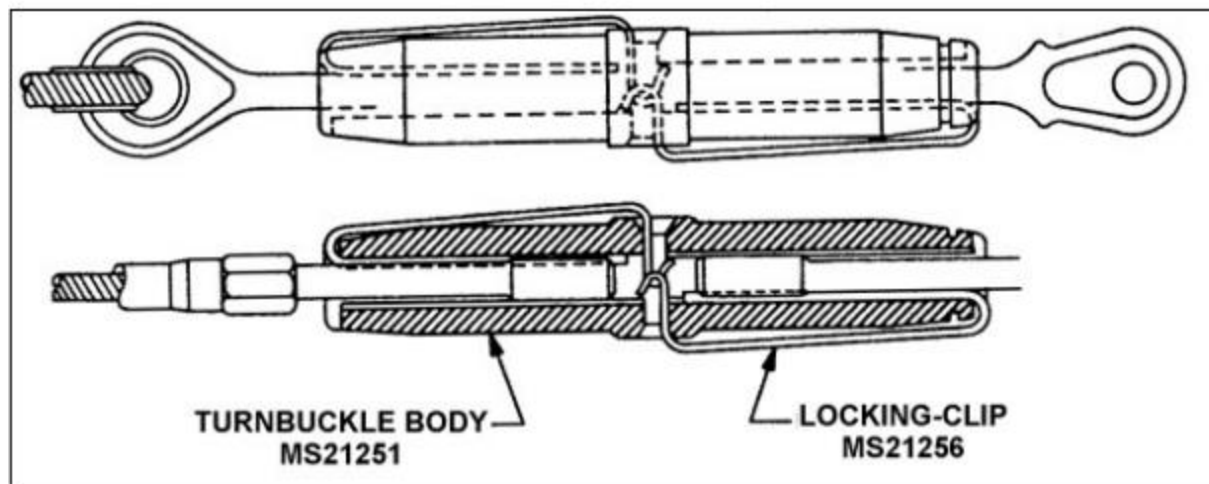


FIGURE 7-27. Securing turnbuckles.



COPPER SAFETY WIRE



Copper safety wire is used mostly in applications where a “break away” need exists. For instance, fire extinguisher handles or switches on the cockpit panel. We need the protection of safety wire to keep from accidentally setting them off, but the ability to break the safety wire and release the fire agent incase of an engine fire.



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