Fishwiring is a technique used to install many automotive aftermarket accessories. If the available space is too small to position an attachment bolt by hand, a length of wire is threaded onto the bolt, and the bolt is maneuvered into position using the wire, which is then removed.

Two bolts are used. Both bolts must have the same thread pitch, but different diameters - the wire is first wound around the thread of a bolt which is $1 / 16$ " smaller in diameter than the bolt to be positioned. (Refer to the Sizing Chart below.) Then, the wire is threaded off the smaller bolt, and onto the larger bolt.

1. First, position a sufficient length of $0.025^{\prime \prime}$ to $0.035^{\prime \prime}$ wire (Welding wire was used in this example.) along the base of the smaller bolt (inset, Figure A).
2. Wrap the wire along the thread grooves of the bolt, as shown in Figure A, for at least five complete revolutions.
3. Hold the wire in one hand and turn the bolt with the other, until the wire is free (Figure B).
4. Trim the wire with a pair of side cutters (Figure C).
5. Thread the larger bolt onto the wire (Figure D). Then, center the wire to the bolt - with a pair of pliers, twist the wire at the end of the bolt so that it extends away from the bolt in a straight line (Figure D).
6. Maneuver the free end of the wire through the closest available space, and through the attachment point. In this example Figure E-a carriage bolt and backing plate, which will be used to attach a tow bar mounting bracket, is fishwired through an existing opening in the frame rail, and into position.
7. Once the attachment bolt is in position, pull on the wire to remove the wire from the bolt (inset, Figure E).


## Sizing Chart

| size of bolt | size of bolt |
| :---: | :---: |
| to be fishwired | used to make the fishwire |
| 3/4" | ............. 9/16" |
| 9/16" | ............... 1/2" |
| $1 / 2{ }^{1}$ | ............. 7/16" |
| 7/16" | ............. 3/8" |
| 3/8" | ........... 5/16" |
| 5/16" | ... 1/4" |
| $1 / 4$. | ............... 10 |



