4002 Series. Panel Preparation and Installation Data

(For Ring Retained Grommets)

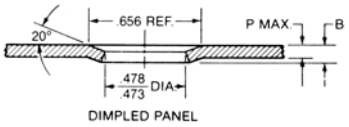
Plus Flush Grommets

Drill #30 (.1285) pilot hole. Enlarge pilot hole to .478-.473 diameter with hole saw HS-471. "P" maximum panel thickness varies with grommet selected. Please see Page A-51 for tabulation.

Panels with thicknesses greater than "P" maximum must be back counterbored to a concentric .688 inch diameter with a remaining material thickness not exceeding "P" maximum.

Note: *Hole saws and counterboring tools are available as a convenience in selected sizes. Please see Page A-55.*

Flush Mounting Grommets



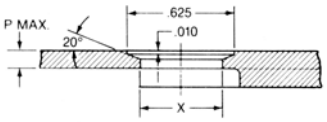
DIMPLED PANEL

P Max.	B Max.	Hole Saw	Dimpling Tool Set* (order both P/Ns)
.064	.074	HS-471	4G200M-[ ]
.086	.117		4G200F-[ ]

** See Next page for dimpling tool ordering information.*

Dimpled Panel Preparation for panel thicknesses "P" up to .086 inch. Drill #30 (.1285) pilot hole. Enlarge pilot hole to .478-.473 diameter with hole saw HS-471. Then dimple using tools specified in the table above. Spot face back side of panel if required to meet "B" maximum.

Note: When using panels constructed of ductile materials, see alternate dimpling method.



DRILLED PANEL

For panel thickness "P" large than .086 inch, drill #30 pilot hole. Enlarge pilot hole using hole saw specified below to X diameter. C'Sink using tool specified.

Grommet	X Dia.	Hole Saw	C'Sink Tool
40G1 High shear version only	.500 Min.	N/A	4GC-500 or 4GC-1-500*
All other flush mounting ring retained versions	.478 .473	HS-471	4GC or 4GC-1-470*

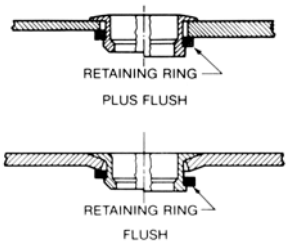
** Supplied with optional 1/4-28-UNF-2A Thread*

"P" maximum panel thickness varies with grommet selected. Please see Pages A-51 and A-52. Panels with thicknesses greater than "P" maximum must be back counterbored to a concentric .688 inch diameter with a remaining material thickness not exceeding "P" maximum.

Note: *Hole saws, counterboring tools and countersinks are available as a convenience in selected sizes (see alternative dimple method).*

Installing Grommet

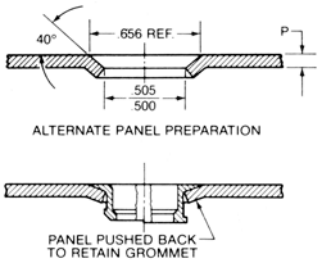
Insert grommet into mounting hole and captivate with retaining ring. Please see Page A-56 for more information.



Typical Installations

Alternate Dimpling Method.

"Thin" panels constructed from ductile materials allow use of an alternative method which eliminates the need for grommet retaining rings.



ALTERNATE PANEL PREPARATION

P Max.	Hole Saw	Dimpling Tool Set* (order both P/Ns)	Closing Tools* (order both P/Ns)
.086	HS-418	4-G100M-[ ]	4-GM-[ ]
		4-G100F-[ ]	4-GF-[ ]

** See Next Page for dimpling tool ordering information.*

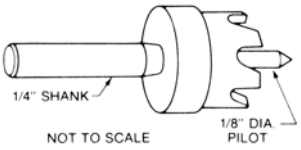
Drill #30 (.1285) pilot hole. Enlarge hole using hole saw P/N HS-418. Then dimple using tools tabulated above. Insert grommet and push panel back using closing tool specified. Panel must be securely engaged behind shoulder of grommet for positive retention.

4002 Series. Panel Preparation and Installation Data (continued)

Installation Tools for Ring Retained Grommets.

Hole Saws

Accurately sizes grommet mounting holes.

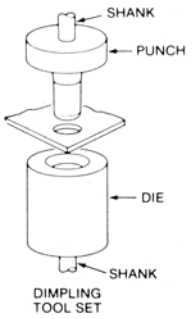


Part No.	Application
HS-418	Alternate dimple method only
HS-471	All mounting holes except alternate dimple method

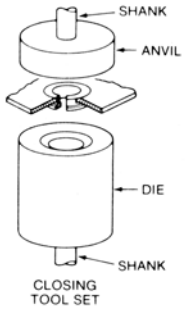
Dimpling and Closing Tools

(Part number for dimpling and closing tools are listed with the installation instructions on preceding page.)

Dimpling tools for dimpling thin panels.



Closing tools must be used with alternative dimpling method to push back panel.



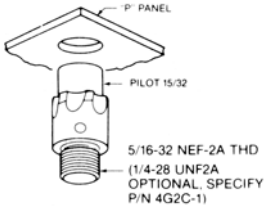
Dash Nos. for Shank Diameters and Lengths Used On Dimpling and Closing Tools		
Dash Number	Shank Dia.	Shank Length
-1	1/4	9/16
-2	5/16	5/8
-3	5/16	7/8
-4	3/8	7/8

Note:
It is recommended that tools be ordered in sets.
However, punch and dies may be ordered separately

Tooling Part Number Structure
Example: 4G200M-2
2 = 5/16" Dia. x 5/8" Long Shank
M = Punch
F = Die

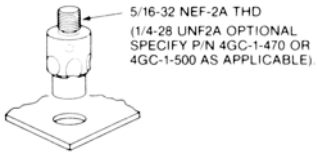
Counterboring Tool 4G2C

For back counterboring thick panels to .688 concentric diameter.



Countersinking Tool (4GC)

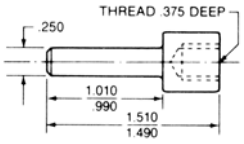
Forms C'Sink required for flush mounting grommets.



Part Number	Thread	Pilot Hole
4GC	5/16-32	.470
4GC-500	5/16-32	.500
4GC-1-470	1/4-28	.470
4GC-1-500	1/4-28	.500

Adaptors

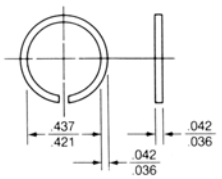
May be used to adapt any C'Sinking or C'Boring tool for use in a drill chuck.



C'Sink Tool Thread	Adaptor Part No.
5/16-32 NEF-2B	T19
1/4-28 UNF-2B	T19-1

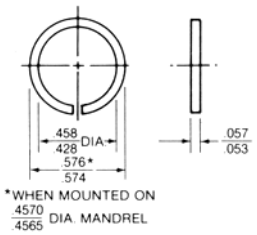
QUICK OPERATING 1/4-TURN FASTENERS 4002 SERIES

Retaining Rings for Ring Retained Grommets.



Standard Retaining Ring

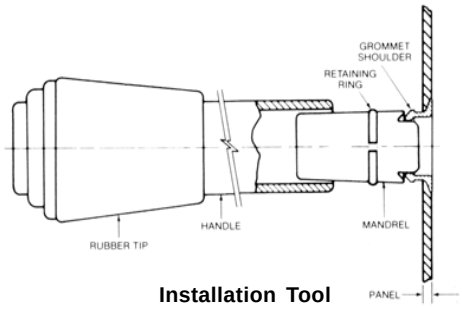
Part No.	Material	Weight (per 100 pcs.) (lbs.)	Application	Tool
R4G	Steel (Cadmium Plated)	0.06	For use with all ring retained grommets except 40G1 Series	T26
40G26-1	Elgiloy. (Non-Magnetic, Corrosion-Resistant)	0.07		



High Shear Retaining Ring

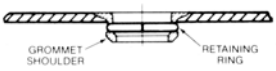
Part No.	Material	Weight (per 100 pcs.) (lbs.)	Application	Tool
R4T	Alloy Steel (Cadmium Plated)	0.15	For use with 40G1 Series High Shear Grommets only	T39-1

Retaining Ring Installation



Installation Tool

1. Place grommet in prepared hole.
2. Place mandrel into grommet.
3. Place retaining ring over mandrel as shown.
4. Push handle over mandrel until sharp ring is fully seated behind shoulder of grommet.



Installed Grommet

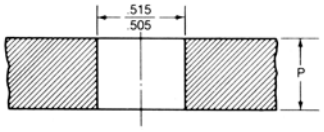
Retaining Ring Installation Tool and Replacement Components.

Description	Part No.
Complete Installation Tool	T-26
Rubber Tip	T-26-1
Mandrel	T-26-2

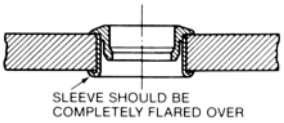
4002 Series. Panel Preparation and Installation Data (continued)

For Flare Retained Grommets

Plus Flush Grommets

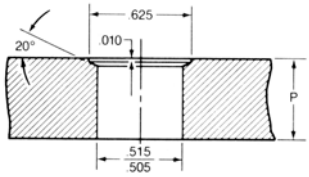


Form .515-505 mounting hole. Insert grommet into panel and flare using appropriate flaring tools from table at right.

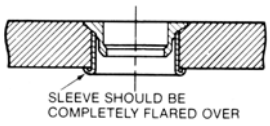


Typical Installation

Flush Mounting Grommets



Form .515-.505 mounting hole. Countersink with C'Sink tool P/N 4-GC-500. Insert grommet into panel and flare using appropriate flaring tool set from table at right.

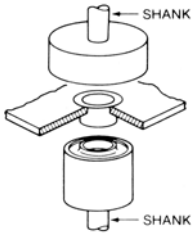


Typical Installation

Installation Tools

Flaring Tools

Used to flare grommets in place.



Tool Part Numbers		
Grommet Part No.	Punch	Die
4002- { P, P3, P4	4-GM-[ ]	4-PF-[ ]
40G15 40g16	4-GM-[ ]	T92-[ ]

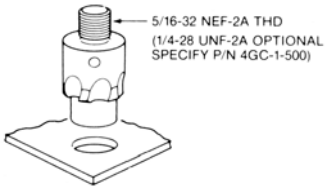
Determine basic part number from table above. Flaring tools are available in a number of shank diameters and shank lengths. Select from table below and list corresponding dash number as a sufix to basic part number

Shank Diameters and Lengths		
Dash Number	Shank Diameter	Shank Length
-1	1/4	9/16
-2	5/16	5/8
-3	5/16	7/8
-4	3/8	7/8

Example: To specify Flaring Die P/N 4-PF-1[?], with 5/16" shank diameter and 7/8" shank length, complete the part number with a-3. Completed part number: 4-PF-3.

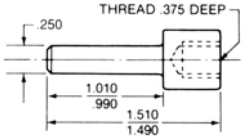
Countersinking Tool 4GC-500

Forms C'Sink required for Flush Mounting Grommets.



Adaptors for Countersinking Tools

May be used to adapt any C'Sinking tool for use in drill chuck.



C'Sink Tool Thread	Adaptor Part Number
5/16-32NEF-2B	T19
1/4-28UNF-2B	T19-1