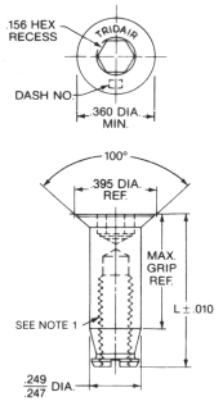
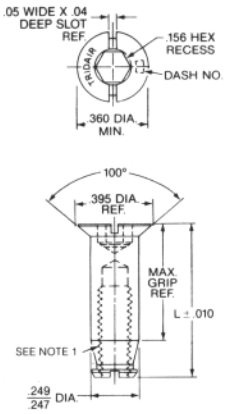
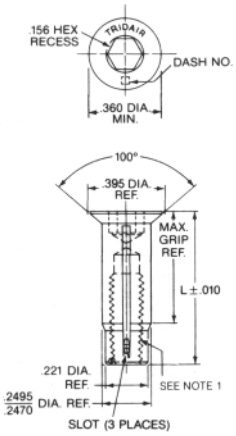
Live Lock
CA1800/CA18000 Series.

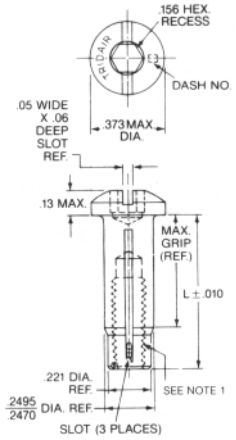
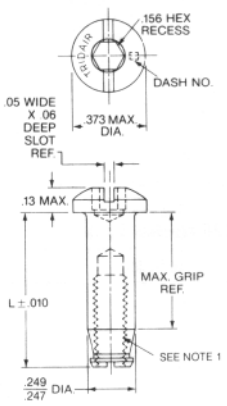
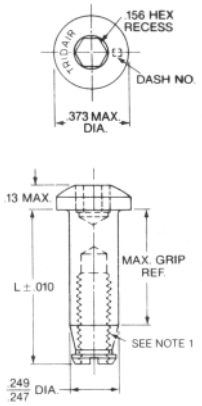
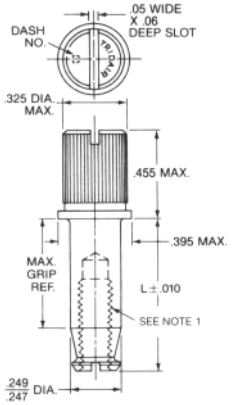
Stud Nuts.

Thread Size:.1640-32, 4 Lead

Notes:

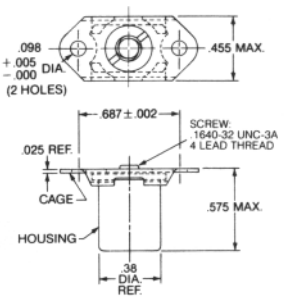
1. Thread Size:.1640-32 UNC-3B, modified minor diameter, 4 lead thread.
2. Recommended tightening torque: 30 inch punds.
3. Part numbers shown are basic part numbers only. See Ordering Information on page 19 for required dash number, weight information and "L" dimension.

	Flush Head		
	 **100° C'Sink Hex Recess**	 **100° C'Sink Hex Recess Slotted**	 **100° C'Sink Hex Recess Slotted Shank**
Material	Part No.	Part No.	Part No.
Material: 300 Series CRES Finsih: Passivated per QQ-P-35	CA1820-( )	CA1832-( )	--
Material: 300 Series CRES Finish: Black Oxide per MIL-C-13924	CA1820-( )B	CA1832-( )B	--
Material: 300 Series CRES Finish: Cadmium Plated per QQ-P-416, Type II, Class 2	CA1820-( )C	--	--
Material: Alloy Steel Heat Treat: Per MIL-H-6875 Fininsh: Cadmium Plated per QQ-P-416, Type II Class 2	--	--	CA18121-( )HS
Material: A-286 CRES Heat Treat: Per MIL-H-6875 Finish: Passivated per QQ-P-35	CA18187T-( )	--	--

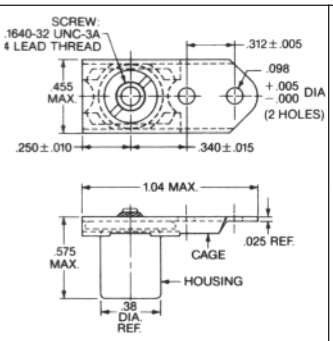
Protruding Head			
			
Pan Head Hex Recess Slotted Shank	**Pan Head Hex Recess Slotted**	**Pan Head Hex Recess**	**Knurled Head Slotted**
Part No.	Part No.	Part No.	Part No.
CA18161-( )HS	CA1821-( )	CA1824-( )	CA1828-( )
CA18161-( )BHS	CA1821-( )B	CA1824-( )B	CA1828-( )
CA18161-( )CHS	--	--	--
--	--	--	--
--	--	--	--

Live Lock
CA1800/CA18000 Series.

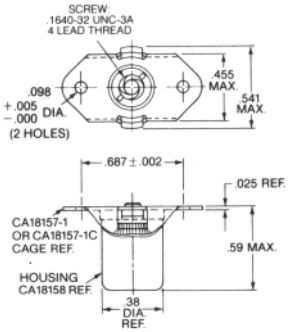
Receptacles.



Weight:
0.014 obls./ea. approx.
2-Lug
.025 Radial Float



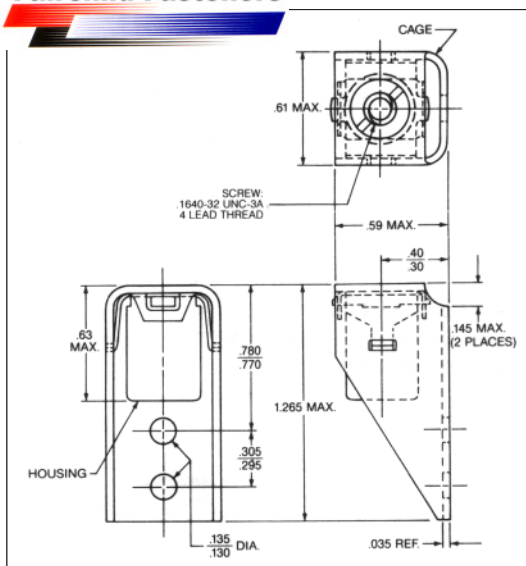
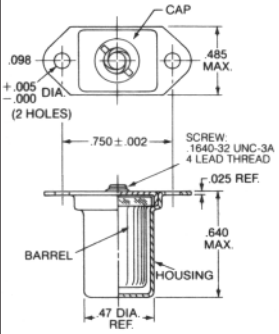
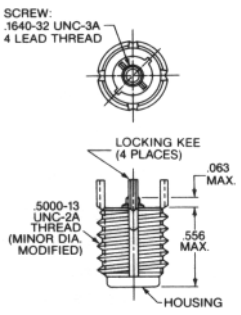
Weight:
0.015 lbs./ea. approx.
1-Lug
.025 Radial Float



Weight:
0.011 lbs./ea. approx.
2-Lug, Light Weight,*
Replaceable
.025 Radial Float

Material	Part No.	Part No.	Part No.
Housing: Aluminum Alloy per QQ-A-225 Screw: Alloy Steel Cage: 17-7PH CRES Heat Treat: Screw: Per MIL-H-6875 Cage: Per MIL-H-6875 Finish: Housing: Blue Anodized per MIL-A-8625 Screw: Cadmium Plated per QQ-P-416, Type II, Class 2 Cage: Passivated per QQ-P-35	--	--	CA18157*
Same as Pat No. CA18157 Except Cage is Cadmium Plated per QQ-P-416, Type II, Class 2	--	--	CA18157C*
Housing: 300 Series CRES Screw: A286 CRES Heat Treat: Screw: Per MIL-H-6875 Finish: Housing: Passivated per QQ-P-35 Screw: Dry Film Lubed	--	--	--
Housing & Cage: 300 Series CRES Screw: A286 CRES Heat Treat: Screw: Per MIL-H-6875 Finish: Housing & Cage: Passivated per QQ-P-35 Screw: Dry Film Lubed	CA1810	CA1812	--
Same as Part No. CA1810 Except Cage is Cadmium Plated per QQ-P-416, Type II, Class 2	CA1810C	CA1812C	--
Barrel. Housing & Cap: 300 Series CRES Screw: A286 CRES Heat Treat: Screw: Per MIL-H-6875 Finish: Barrel, Housing & Cap: Passivated per QQ-P-35 Screw: Dry Film Lubed	--	--	--
Housing: 300 Series CRES Screw: A286 CRES Cage: 17-7PH CRES Heat Treat: Screw: Per MIL-H-6875 Finish: Housing & Cage: Passivated per QQ-P-35 Screw: Dry Film Lubed	--	--	--

*** The 2-Lug, Light Weight receptacle is removable and replaceable. For replacement, order housing Part No. CA18158 and tool Part No. CA18157-T10. Replacement cage Part No. CA18157-1 or CA18157-1C.**

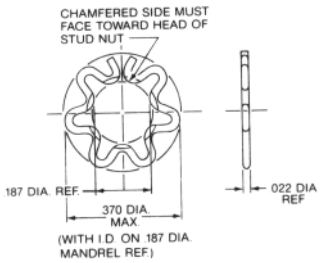
 Weight: 0.029 lbs./ea. approx. **Right Angle Mount** **.025 Radial Float**	 Weight: 0.021 lbs./ea. approx. **2-Lug, Encapsulated** **.020 Radial Float**	 Weight: 0.018 lbs./ea. approx. **LiveSert****
Part No.	Part No.	Part No.
--	--	--
--	--	--
--	--	CA18062
--	--	--
--	--	--
--	CA18193	--
CA1879	--	--

**LiveSerts with radial float are avaiable; contact Technical Sales.

Live Lock
CA1800/CA18000 Series.

Retaining Rings.

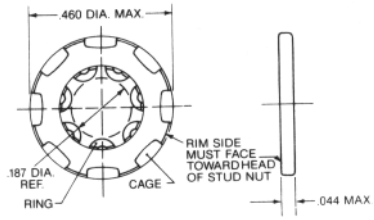
CA1825 Wire Form



Material:
Elgiloy Wire
Finish:
Passivated per QQ-P-35
Heat Treat:
Spring Tempered
Weight:
.019 lbs. per hundred (approx.)

IMPORTANT: Chamfered side must face toward head of stud nut.

CA18377 Wire Form Caged

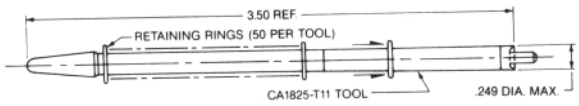


Weight:
.071 lbs. per hundred (approx.)

IMPORTANT: Rim side must face toward head of stud nut.

Material	Part No.
Ring: Elgiloy Wire Finish: Passivated per QQ-P-35 Heat Treat: Spring Tempered Cage: 300 Series CRES Finish: Passivated per QQ-P-35	CA18377

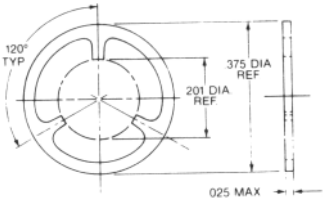
Installation Tool for CA1825 or CA18377 Retaining Rings



Notes:
1. Above retaining rings can be used with CA1800 series stud nuts only.
2. Fifty (50) retaining rings are sold mounted on an installation tool to insure proper installation.

CA18132 Solid, 3-Tabs

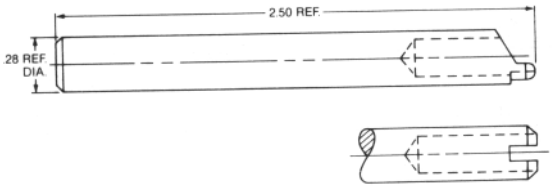
Use with stud nut part number CA18121-( ) series or CA18161-( ) series only.



Weight:
.036 lbs. per hundred (approx.)

Material	Part No.
Material: 17-7PH CRES Finish: Passivated per QQ-P-35 Heat Treat: Per MIL-H-6875	CA18132
Same as Part No. CA18132 Except Finish: Cadmium Plated per QQ-P-416, Type II, Class 2	CA18132C

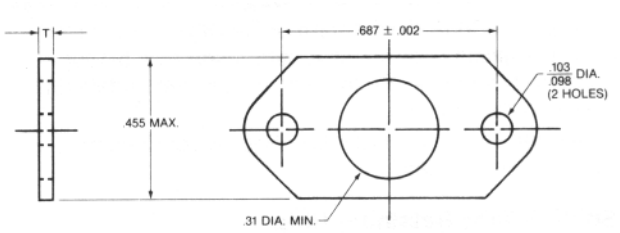
Installation Tool for CA18132 Retaining Ring CA18132-T11



Live Lock
CA1800/CA18000 Series.

Shims.*

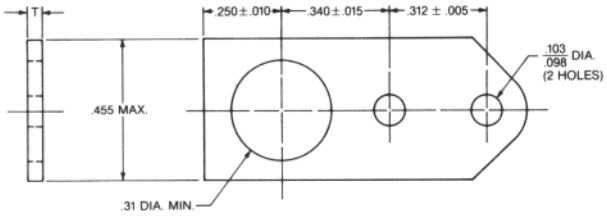
2-Lug Shim
CA1818-( ) and CA18029-( )



Note: Shims noted in following table can be used with receptacle part numbers CA1810, CA1810C, CA18157 and CA18157C only.

Material	Part No.	T	Weight lbs./100 Approx.
Material: 300 Series CRES Finish: Passivated per QQ-P-35	CA1818-1	.037 .027	.2390
	CA1818-2	.107 .097	.7810
	CA1818-3	.068 .058	.3970
Material: 300 Series CRES Finish: Cadmium Plated per QQ-P-416, Type II, Class2	CA1818-1C	.037 .027	.2390
	CA1818-2C	.107 .097	.7810
	CA1818-3C	.068 .058	.3970
Material: Aluminum Alloy per QQ-A-250 Finish: Chemical Film per MIL-C-5541	CA18029-1	.037 .027	.0812
	CA18029-2	.068 .058	.1500
	CA18029-3	.095 .085	.2200

1-Lug Shim
CA1878-( )



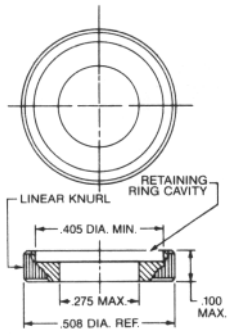
Material: 300 Series CRES
Finish: Passivated per QQ-P-35.

Part No.	T	Weight lbs./100 Approx.
CA1878-1	.037 .027	.2370
CA1878-2	.068 .058	.3950
CA1878-3	.095 .085	.7790

Note: CA1878-( ) shim to be used with CA1812 or CA1812C 1-lug receptacles only.

*See Page 5 for typical shim installation.

Stud Nut Hold-out Cage.
CA18014



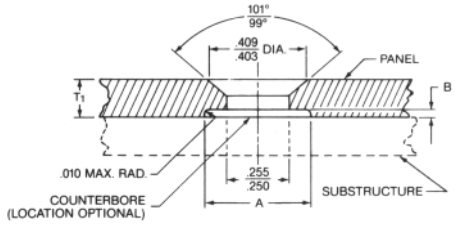
Material:
300 Series CRES
Finish:
Passivated per QQ-P-35
Weight:
.233 lbs. per hundred (approx.)

Notes:
1. For use wth CA1825 retaining ring.
2. See Page 17 for installation.
3. Stud nut hold-out grommets are also available; contact Technical Sales.

Live Lock
CA1800/CA18000 Series.

Panel/Substructure Preparation and Installation Data.

Panel:
Flush Head Stud Nuts



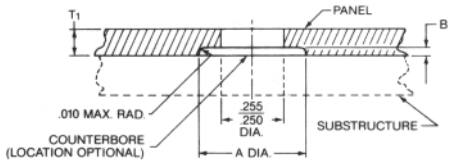
Type of Retaining Ring	Stud Nut Ref. Part No.	A Dia. Min.	B C'Bore Depth Min.
Wire Form	CA1800 Series	.468	.025
Wire Form Caged		.484	.045
Solid, 3-Tabs	CA18121-( ) Series CA18161-( ) Series	.406	.030

Notes:
1. Locate and drill $\frac{.255}{.250}$ Dia. hole through panel.

2. Countersink $\frac{101°}{99°}$ to $\frac{.409}{.403}$ Dia.

3. If "T_1" is .135 or greater, counterbore panel to "A" Dia. by "B" depth. Preferred location for counterbore retaining ring recess is in panel "T_1".
4. Panel "T_1"=.090 min. when counterbore is located in substructure.

Panel:
Protruding Head Stud Nuts



Notes:
1. Refer to table above.

2. Locate and drill $\frac{.255}{.250}$ Dia. hole through panel.

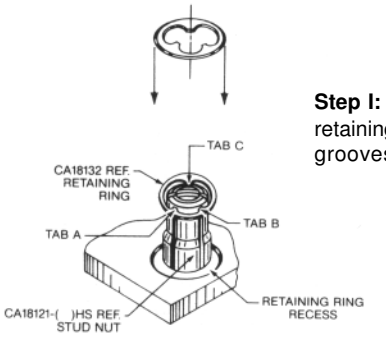
3. If "T_1" is .090 or greater, counterbore panel to "A" Dia. by "B" depth. Preferred location for counterbored retaining ring recess is in panel "T_1".
4. Panel "T_1"=.021 min. when counterbore is located in substructure.

Retaining Ring Installation:
Wire Form and Wire Form Caged Retaining Rings

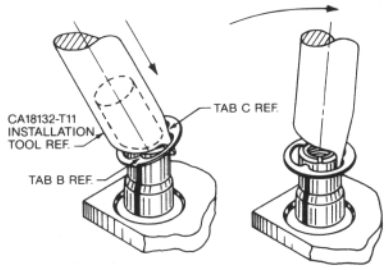
1. To install CA1825 wire form or CA18377 wire form caged retaining rings, on stud nuts, insert pilot of tool completely into stud nut threads and slide the retaining ring onto the stud nut.
2. See retaining ring installation, Page 6, for illustration of retaining ring installation.

Solid, 3-Tabs Retaining Ring

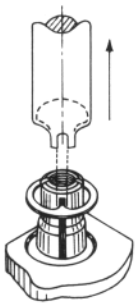
To install CA18132 solid 3-tab retaining ring on stud nut part number CA18121-( ) series or CA18161-( ) series, follow steps I through III:



Step I: Install tabs "A" and "B" retaining ring into two of the stud nut grooves.



Step II: Lower tool straddling tab "C" as shown, then swing tool to an upright position to snap tab "C" into third groove of stud nut.



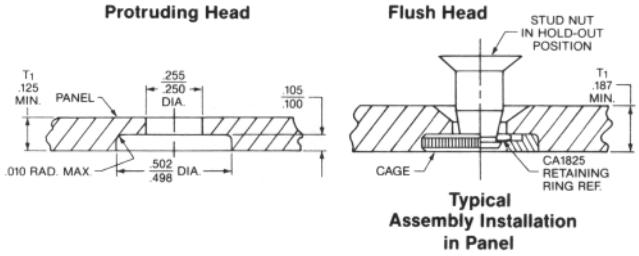
Step III: Remove tool from assembly.

Live Lock
CA1800/CA18000 Series.

Panel/Substructure Preparation and Installation Data (cont'd.).

Panel:

Stud Nut Hold-out Cage (optional)



Typical Assembly Installation in Panel

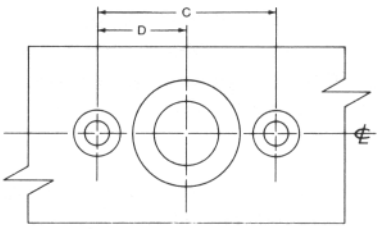
Notes:

1. Use with retaining ring part number CA1825.
2. Locate and drill $\frac{.255}{.250}$ Dia. hole through panel.
3. Counterbore underside of panel

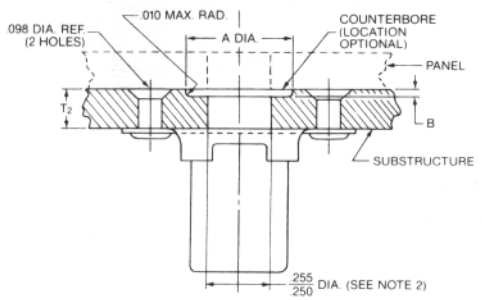
   $\frac{.502}{.498}$ Dia. to $\frac{.105}{.100}$ depth.
4. Install stud nut through $\frac{.255}{.250}$ Dia. hole.
5. Install CA1825 wire form retaining ring on stud.
6. Press cage into counterbore until flush with panel.

Substructure:

2-Lug Receptacles



Top View of Substructure



Receptacle Part No.	C	D Ref.
CA1810 CA1810C	.689 .685	.343
CA18157 CA18157C		
CA18193	.752 .748	.375

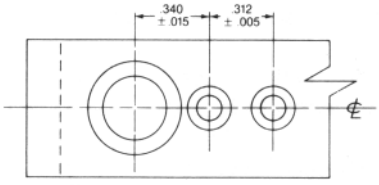
Notes:

1. Refer to table on Page 16.
2. Locate and drill $\frac{.255}{.250}$ Dia. hole through substructure.

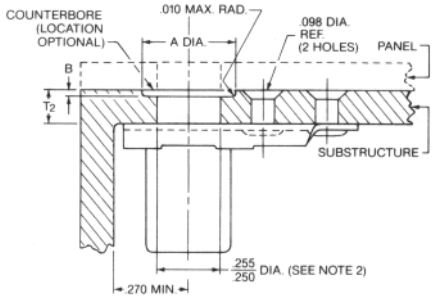
   a. To allow for misalignment, open through hole to .250 plus min. receptacle float. In addition, if counterbore is located in substrcture, open "A" Dia. min. plus min. receptacle float.
3. If required, counterbore to "A" Dia. by "B" depth (see panel preparation for flush or protruding head, Note 3, Page 16).
4. Locate, drill and countersink two holes for flush mount rivets (not supplied). Holes must be symmetrical to $\frac{.255}{.250}$ Dia. hole.
5. Rivet receptacle in place.

Substructure:

1-Lug Receptacle



Top View of Substructure



Notes:

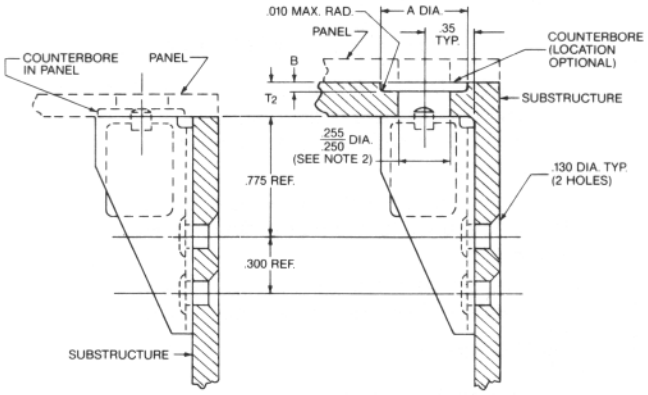
1. Refer to table on Page 16.
2. Locate and drill $\frac{.255}{.250}$ Dia. hole through substructure.

   a. To allow for misalignment, open through hole to .250 plus min. receptacle float. In addition, if counterbore is located in substructure, open "A" Dia. min. plus min. receptacle float.
3. If required, counterbore to "A" Dia. by "B" depth (see panel preparation for flush or protruding head, Note 3, Page 16).
4. Locate, drill and countersink two holes for flush mount rivets (not supplied). Holes must be symmetrical to $\frac{.255}{.250}$ Dia. hole.
5. Rivet receptacle in place.

Live Lock
CA1800/CA18000 Series.

Panel/Substructure Preparation and Installation Data (cont'd.).

Substructure:
Right Angle Receptacle

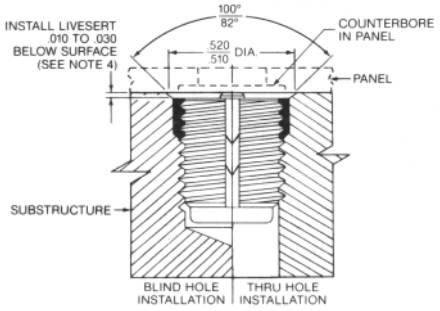


Option I Installation:
1. Requires retaining ring counterbore recess to be in panel.
2. Locate and drill two holes for rivets (not supplied).
3. Rivet receptacle in place.

Option II Installation:
1. Refer to table on Page 16.
2. Locate and drill $\frac{.255}{.250}$ Dia. hole through substructure.

   a. To allow for misalignment, open through hole to .250 plus min. receptacle float. In addition, if counterbore is located in substructure, open "A" Dia. min. plus min. receptacle float.
3. If required, counterbore to "A" Dia. by "B" depth (see flush or protruding head, Note 3, Page 16).
4. Locate and drill two holes for rivets (not supplied).
5. Rivet receptacle in place.

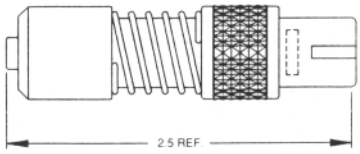
Substructure:
LiveSert Receptacle



Shown With Locking KEES Installed

Notes:
1. Locate and drill $\frac{.457}{.452}$ Dia. to .590 min. depth.
2. Countersink $\frac{100°}{82°}$ to $\frac{.520}{.510}$ Dia.
3. Tap .5000-13 UNC-2B thread to .533 min. depth.
4. Refer to LiveSert installation, steps I and II, Page 8.
   a. Install insert with part number CA18062-T10 installation tool (step I). Live Sert is designed to stop at the correct depth below the surface of the substructure.
   b. Invert tool and drive in the KEES (step II).
5. Retaining ring counterbore recess must be in panel "T_1."
6. **CAUTION:** Always wear eye protection when striking tool with hammer.

Note: Installation tool CA18062-T10 is required to install CA18062 LiveSert receptacle.



Material: Alloy Steel
Finish: Black Oxide

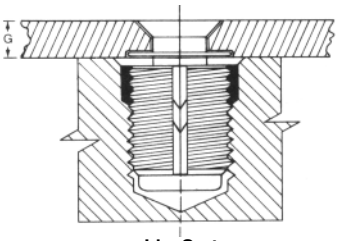
Live Lock
CA1800/CA18000 Series.

Ordering Information.

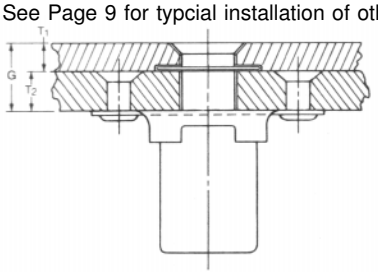
To Select Stud Nut Dash Number:

1. Determine “G” thickness.
   a. **All receptacles except LiveSert:** “G”=“T_1”+“T_2,” plus shim, any compressed gasketing material, pain or other finishes.
   b. **LiveSert receptacle:**”G”=grip range, plus any other material.
2. Locate “G” grip range in the table.

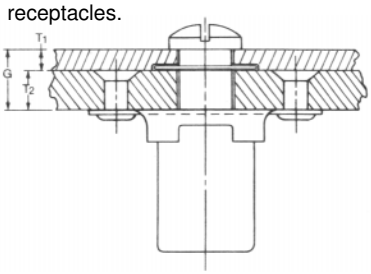
See Page 9 for typcial installation of other receptacles.



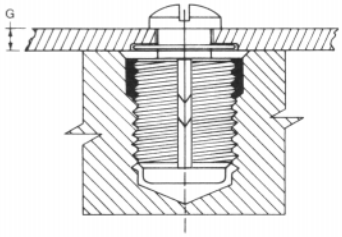
LiveSert Receptacle Flush Head Stud Nut



2-Lug Receptacle Flush Head Stud Nut Shown



2-Lug Receptacle Protruding Head Stud Nut Shown



LiveSert Receptacle Protruding Head Stud Nut Shown

Stud Nut Dash Number Selection***											
L	"G" Grip Range	CA1820**		CA1832**		CA1821**		CA1824**		CA1828**	
		Dash No.	Weight lbs./100	Dash No.	Weight lbs./100	Dash No.	Weight lbs./100	Dash No.	Weight lbs./100	Dash No.	Weight lbs./100
.375*	.098-.155	-0	.20	-0	.20	-0*	.40	-0*	.40	-0*	1.10
.437	.156-.250	-1	.33	-1	.33	-1	.48	-1	.48	-1	1.20
.531	.251-.343	-2	.46	-2	.46	-2	.56	-2	.56	-2	1.30
.625	.344-.437	-3	.52	-3	.52	-3	.64	-3	.64	-3	1.40
.781	.438-.531	-4	.63	-4	.63	-4	.72	-4	.72	-4	1.50
.812	.532-.625	-5	.74	-5	.74	-5	.80	-5	.80	-5	1.60
.906	.626-.718	-6	.85	-6	.85	-6	.88	-6	.88	-6	1.70
1.000	.719-.812	-7	.96	-7	.96	-7	.96	-7	.96	-7	1.80

*(-0) “L” dimension is .343 for part numbers CA1821, CA1824 and CA1828.
**If “G” is .097 or less shim is required (see Page 5 for typical shim installation).

Stud Nut Dash Number Selection***					
L	"G" Grip Range	CA18121		CA18161	
		Dash No.	Weight lbs./100 (approx.)	Dash No.	Weight lbs./100 (approx.)
.430	.150-.220	-1HS	.35	-1HS	.51
.500	.221-.290	-2HS	.43	-2HS	.56
.570	.291-.360	-3HS	.51	-3HS	.61
.640	.361-.430	-4HS	.59	-4HS	.66
.710	.431-.500	-5HS	.67	-5HS	.72
.780	.501-.570	-6HS	.75	-6HS	.77
.850	.571-.640	-7HS	.83	-7HS	.82
.920	.641-.710	-8HS	.91	-8HS	.87
.990	.711-.780	-9HS	.99	-9HS	.93
1.060	.781-.850	-10HS	1.07	-10HS	1.46

***For “G” greater of lesser than grip shown, contact Technical Sales.