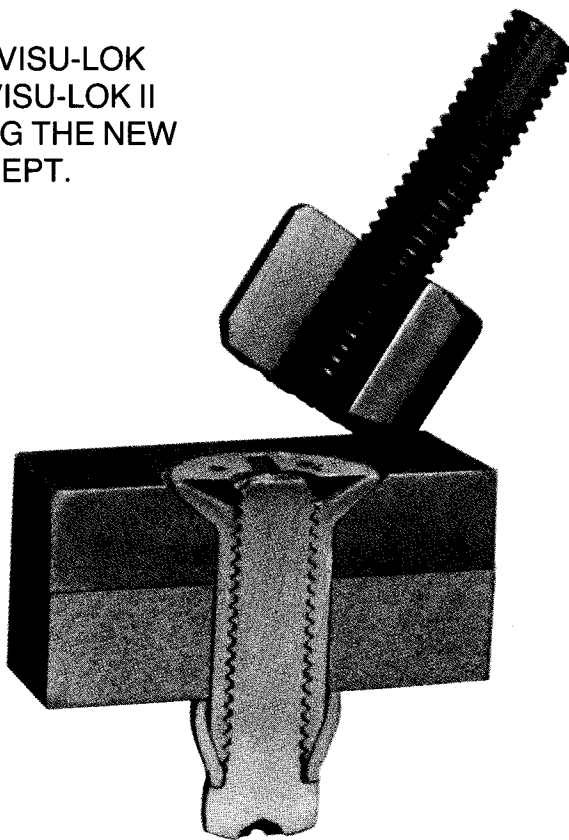


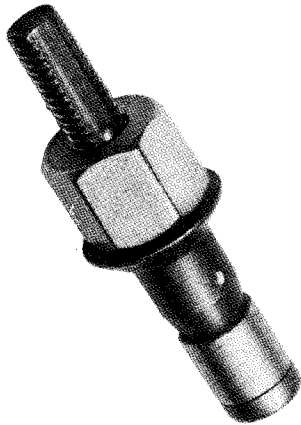
FROM JO-BOLT TO VISU-LOK
NOW COMES THE VISU-LOK II
SYSTEM FEATURING THE NEW
"DRIVE NUT" CONCEPT.





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DESCRIPTION

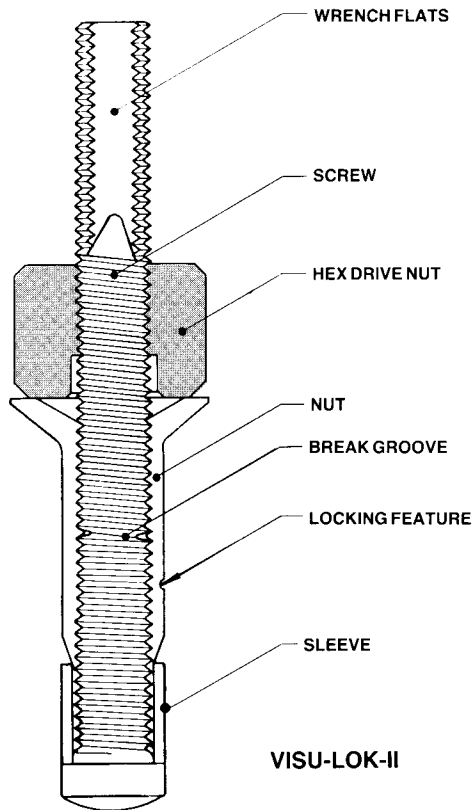


THE VISU-LOK II BLIND BOLT is an advanced blind fastener used in structural aircraft components where a high degree of joint integrity is required. Unique design characteristics provide performance similar to conventional fastening with the added advantage of one man, one side installation, inspectability, fewer fasteners to stock and a new driving feature (DRIVE NUT) which simplifies the installation procedure.

- **HIGH STRENGTH** – As the name implies, the Visu-Lok II is a bolting system. Its high shear (as high as 112 K.S.I. available) and tensile strength and guaranteed 20% minimum pre-load has made Visu-Lok II the primary choice for blind fastened joints.
- **SELF LOCKING** – A primary design feature of the Visu-Lok II is a positive self-locking device that resists loosening in severe vibrational environments.
- **QUALITY** – The Visu-Lok II is manufactured to close tolerances and tested for conformance to many industry and government specifications.
- **WIDE RANGE** – This system is available in a wide range of materials, diameters, shank configurations, lengths and head styles to satisfy the majority of applications.
- **SIMPLE** – The basic design of the Visu-Lok II is based on one of the oldest and time proven fastening principles: the nut and bolt. The new DRIVE NUT concept delivers a quick trouble free installation and greatly extends tool life.
- **LIMITED ACCESS** – The ability to install Visu-Lok II in areas with limited access is superior to all other blind fastening systems. Unusual tool configurations are relatively easy to design due to the simple wrenching motion required to install a Visu-Lok II.
- **SPECIALS** – Monogram has a fully staffed, qualified engineering group. If our standard range of Visu-Lok II blind bolts doesn't fit your specific needs, we have the capacity, facilities and people to evaluate other fastening alternatives.
- **SELF INSPECTING** – The Visu-Lok II can be installed and the installation fully verified from one side of the structure. Gauging the corebolt break-off height relative to the skin surface is an indicator of correct grip. The application of a specified torque load to the installed fastener is an indicator of clamp-up.



DRIVE NUT CONCEPT



VISU-LOK-II

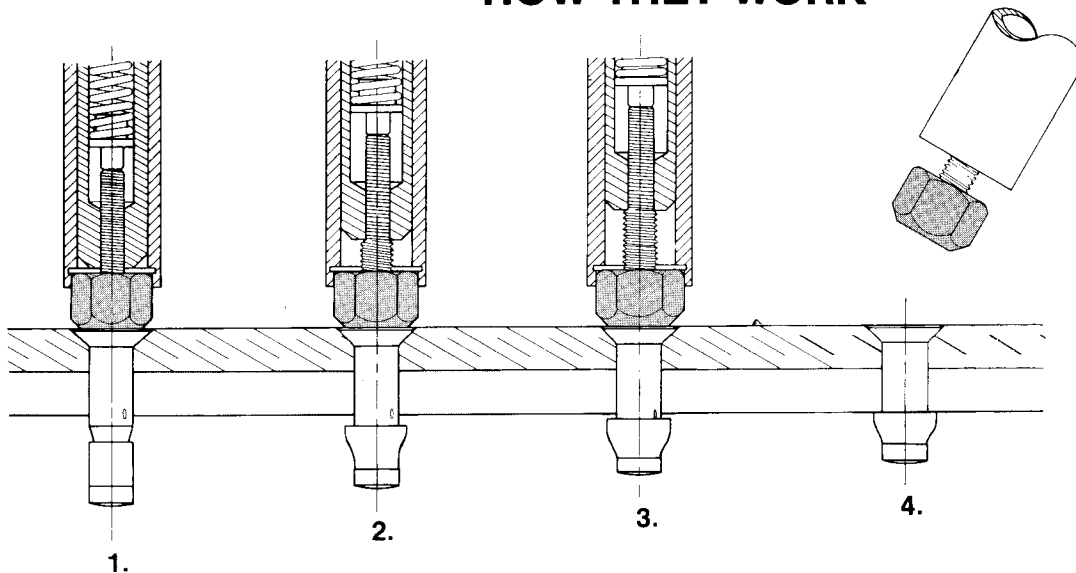
Visu-Lok II differs visually and dimensionally from the original Visu-Lok in the following ways:

- An additional component – the DRIVE NUT.
- Flush head fasteners have very small recesses to allow seating torque to be checked on installed fasteners. The original Visu-Lok has deep drive recesses to facilitate installation.

Visu-Lok II functional differences are much more remarkable.

- Only two nose pieces are required for installation of 5/32" diameter through 3/8" diameter fasteners! Any head style! One drives 5/32" through 1/4" size and the other 5/16" and 3/8". (A separate wrench adapter is still required for each diameter).
- Cam-outs are completely eliminated on flush head fasteners.
- Nose pieces never wear out.
- Mechanical properties such as fatigue and the lap shear values of flush head fasteners are expected to be improved due to stronger nut body head (stronger because the recesses are much shallower).
- The DRIVE NUT stays on the discarded pintail after installation minimizing the tendency of small pintails to find their way into F.O.D. critical areas. The steel DRIVE NUT permits easier retrieval (including magnetic pick-up).

HOW THEY WORK



1. The Visu-Lok II fastener is inserted into the prepared hole. The installation tool is placed over the screw simultaneously engaging the wrench flats and the DRIVE NUT.
2. Torque is applied to the screw while the DRIVE NUT is held stationary. If the DRIVE NUT is not already threaded down tight then both the screw and nut body rotate until the drive nut is "jammed" against the nut body. This restrains further rotation of the nut body. The screw continues to advance through the nut body causing the sleeve to be drawn up over the tapered nose of the nut. Initial blind head formation is started.
3. Continued tightening removes sheet gap, completes the large blind head and clamps the sheets tightly together.
4. When the sleeve forms tight against the blind side of the structure the screw will fracture in the break groove. The tool is pulled away and the pintail-DRIVE NUT assembly is discarded.

DOUBLE SHEAR STRENGTH



(LBS. MINIMUM)

NOMINAL DIAMETER	100° FLUSH HEAD & HEX HEAD				100° FLUSH SHEAR HEAD		
	ALLOY STEEL	ALUMINUM	H-11 STL.	TITANIUM & A-286	ALLOY STEEL	TITANIUM & A-286	H-11 STL
-5	3,355	1,920	4,680	3,150	3,355	3,150	4,680
-6	5,240	3,100	6,900	4,600	5,240	4,600	6,900
-8	9,000	5,300	11,800	7,900	9,000	7,900	11,800
-10	12,000	N/A	17,000	11,350	12,000	11,350	17,000
-12	19,500	N/A	24,500	16,450	19,500	16,450	24,500

1. VALUES SHOWN ARE FASTENER CAPABILITIES ONLY.
CONSULT MIL-HDBK-5 FOR JOINT DESIGN ALLOWABLES.

TENSILE STRENGTH



(LBS. MINIMUM)

NOMINAL DIAMETER	100° FLUSH HEAD & HEX HEAD				100° FLUSH SHEAR HEAD		
	ALLOY STL. & A-286	ALUMINUM	H-11 STL.	TITANIUM	ALLOY STL.	A-286 & TITANIUM	H-11 STL
-5	900	750	1,350	900	900	750	1,060
-6	1,400	950	2,100	1,400	1,400	1,250	1,770
-8	2,100	1,500	3,650	2,100	2,100	1,900	3,120
-10	3,600	N/A	5,200	3,600	3,600	3,250	4,440
-12	5,600	N/A	7,500	5,600	5,600	5,050	6,390

1. VALUES SHOWN ARE FASTENER CAPABILITIES ONLY.



Visu-Lok II Fasteners

INSTALLED WEIGHTS TYPICAL

In Pounds per Thousand (Nominal Dia. Fasteners Only)

MAT'L	HEAD STYLE	DIA DASH NO.	GRIP DASH NUMBER											
			1	2	3	4	5	6	7	8	9	10	11	Adder*
ALUMINUM	100 FLUSH	-5	-	1.70	1.92	2.15	2.37	2.59	2.81	3.03	3.25	3.47	3.69	.22
		-6	-	2.86	3.19	3.52	3.85	4.18	4.50	4.83	5.16	5.49	5.82	.33
		-8	-	-	6.23	6.82	7.42	8.01	8.61	9.21	9.80	10.40	10.99	.60
	HEX	-5	2.15	2.37	2.60	2.82	3.04	3.26	3.48	3.70	3.92	4.14	4.37	.22
		-6	-	3.97	4.30	4.63	4.96	5.29	5.62	5.95	6.28	6.61	6.94	.33
		-8	-	8.08	8.68	9.27	9.87	10.46	11.06	11.65	12.25	12.85	13.44	.59
TITANIUM	100 FLUSH SHEAR	-5	-	1.59	1.80	2.01	2.22	2.43	2.64	2.85	3.06	3.27	3.48	.18
		-6	-	2.48	2.78	3.09	3.40	3.70	4.01	4.31	4.62	4.93	5.23	.20
		-8	-	4.49	5.02	5.54	6.07	6.60	7.12	7.65	8.17	8.70	9.22	.34
		-10	-	-	9.06	9.82	10.58	11.33	12.09	12.85	13.61	14.36	15.12	.49
		-12	-	-	-	16.07	17.16	18.25	19.34	20.43	21.52	22.61	23.70	.71
		-14	-	-	-	-	-	-	-	-	-	-	-	-
	100 FLUSH	-5	-	1.79	2.00	2.21	2.42	2.63	2.84	3.05	3.26	3.47	3.68	.21
		-6	-	2.78	3.09	3.39	3.70	4.00	4.31	4.61	4.92	5.23	5.53	.31
		-8	-	5.25	5.78	6.30	6.83	7.35	7.88	8.41	8.93	9.46	9.98	.53
		-10	-	-	10.71	11.47	12.22	12.98	13.74	14.50	15.25	16.01	16.77	.78
	PROT.	-5	1.94	2.15	2.36	2.57	2.78	2.99	3.20	3.41	3.62	3.83	4.04	.21
		-6	3.15	3.46	3.77	4.07	4.38	4.68	4.99	5.29	5.60	5.90	6.21	.31
		-8	-	6.25	6.78	7.30	7.83	8.36	8.88	9.41	9.93	10.46	10.91	.53
		-10	-	11.10	11.86	12.62	13.38	14.13	14.89	15.65	16.41	17.16	17.92	.76
		-12	-	-	19.31	20.39	21.48	22.56	23.65	24.74	25.82	26.91	27.99	1.09
		-14	-	-	-	-	-	-	-	-	-	-	-	-
ALLOY — A-286 — H-11	100 FLUSH SHEAR	-5	-	2.29	2.66	3.03	3.40	3.77	4.15	4.52	4.89	5.26	5.63	.37
		-6	-	3.64	4.18	4.73	5.27	5.81	6.36	6.90	7.44	7.99	8.53	.54
		-8	-	6.82	7.75	8.68	9.62	10.55	11.48	12.41	13.34	14.27	15.21	.93
		-10	-	-	12.50	13.84	15.18	16.52	17.86	19.19	20.53	21.87	23.21	1.34
		-12	-	-	-	21.51	23.42	25.34	27.26	29.18	31.10	33.01	34.93	1.92
	100 FLUSH	-5	-	2.64	3.01	3.38	3.76	4.13	4.50	4.87	5.24	5.62	5.99	.37
		-6	-	4.22	4.76	5.30	5.85	6.39	6.93	7.48	8.02	8.56	9.11	.54
		-8	-	8.08	9.02	9.95	10.88	11.81	12.75	13.68	14.61	15.54	16.48	.93
		-10	-	-	15.54	16.88	18.22	19.56	20.89	22.23	23.57	24.91	26.25	1.34
		-12	-	-	-	27.60	29.53	31.45	33.38	35.30	37.23	39.15	41.07	1.91
	PROT.	-5	2.88	3.26	3.63	4.00	4.37	4.74	5.11	5.49	5.86	6.23	6.60	.37
		-6	4.85	5.39	5.93	6.48	7.02	7.56	8.11	8.65	9.20	9.74	10.28	.54
		-8	-	9.76	10.70	11.63	12.56	13.49	14.42	15.36	16.29	17.22	18.15	.93
		-10	-	16.35	17.69	19.02	20.36	21.70	23.04	24.38	25.72	27.06	28.39	1.34
		-12	-	-	28.30	30.22	32.14	34.07	35.99	37.92	39.84	41.77	43.69	1.93
		-14	-	-	-	-	-	-	-	-	-	-	-	-

*ADDER FOR ADDITIONAL GRIP LENGTHS

MONOGRAM PART NO. vs: NAS PART NO.



CROSS REFERENCE CHART

VISU-LOK II PART NUMBER	NAS PART NUMBER	GENERAL DESCRIPTION	REPLACEMENT FOR			
			VISU-LOK	OLD NAS NUMBER	OBSOLETE	
					JO-BOLT	NAS NO.
PLT5110-5- -6- -8- -10- -12-	1670-08DL -03DL -04DL -05DL -06DL	ALLOY STEEL FLUSH HEAD	PLT110-5- -6- -8- -10- -12-	1670-08L -03L -04L -05L -06L	FF164- 200- 260- 312- 375-	1670-08 -03 -04 -05 -06
PLT5111-5- -6- -8- -10- -12-	1750-08DL -03DL -04DL -05DL -06DL	ALLOY STEEL OVERSIZE FLUSH HEAD	PLT111-5- -6- -8- -10- -12-	1750-8L -03L -04L -05L -06L	FFO164- 200- 260- 312- 375-	NONE
PLT5114-5- -6- -8- -10- -12-	NONE	ALLOY STEEL GROUND SHANK FLUSH HEAD	PLT114-5- -6- -8- -10- -12-	NONE	FFG164- 200- 260- 312- 375-	NONE
PLT5115-5- -6- -8- -10- -12-	NONE	ALLOY STEEL FRACTIONAL SIZE FLUSH HEAD	PLT115-5- -6- -8- -10- -12-	NONE	FF164- 190- 250- 312- 375-	NONE
PLT5120-5- -6- -8- -10- -12-	1672-08DL -03DL -04DL -05DL -06DL	A-286 FLUSH HEAD	PLT120-5- -6- -8- -10- -12-	1672-08L -03L -04L -05L -06L	F164ALS- 200ALS- 260ALS- 312ALS- 375ALS-	1672-08 -03 -04 -05 -06
PLT5121-5- -6- -8- -10- -12-	1752-08DL -03DL -04DL -05DL -06DL	A-286 OVERSIZE FLUSH HEAD	PLT121-5- -6- -8- -10- -12-	1752-08L -03L -04L -05L -06L	FO164ALS- 200ALS- 260ALS- 312ALS- 375ALS-	NONE
PLT5130-5- -6- -8- -10- -12-	1674-08DL -03DL -04DL -05DL -06DL	ALUMINUM FLUSH HEAD	PLT130-5- -6- -8- -10- -12-	1674-08L -03L -04L	SSHFA164- 200- 260-	1674-08 -03 -04
PLT5131-5- -6- -8- -10- -12-	1754-08DL -03DL -04DL -05DL -06DL	ALUMINUM OVERSIZE FLUSH HEAD	PLT131-5- -6- -8- -10- -12-	1754-08L -03L -04L	SSHFAO164- 200- 260-	NONE
PLT5210-5- -6- -8- -10- -12-	1669-08DL -03DL -04DL -05DL -06DL	ALLOY STEEL PROTRUDING HEAD	PLT210-5- -6- -8- -10- -12-	1669-08L -03L -04L -05L -06L	PP164- 200- 260- 312- 375-	1669-08 -03 -04 -05 -06
PLT5211-5- -6- -8- -10- -12-	1751-08DL -03DL -04DL -05DL -06DL	ALLOY STEEL OVERSIZE PROTRUDING HEAD	PLT211-5- -6- -8- -10- -12-	1751-08L -03L -04L -05L -06L	PPO164- 200- 260- 312- 375-	NONE
PLT5214-5- -6- -8- -10- -12-	NONE	ALLOY STEEL GROUND SHANK PROTRUDING HEAD	PLT214-5- -6- -8- -10- -12-	NONE	PPG164- 200- 260- 312- 375-	NONE
PLT5215-5- -6- -8- -10- -12-	NONE	ALLOY STEEL FRACTIONAL SIZE PROTRUDING HEAD	PLT215-5- -6- -8- -10- -12-	NONE	PP164- 190- 250- 312- 375-	NONE
PLT5220-5- -6- -8- -10- -12-	1671-08DL -03DL -04DL -05DL -06DL	A-286 PROTRUDING HEAD	PLT220-5- -6- -8- -10- -12-	1671-08L -03L -04L -05L -06L	P164A- 200A- 260A- 312A- 375A-	1671-08 -03 -04 -05 -06
PLT5221-5- -6- -8- -10- -12-	1753-08DL -03DL -04DL -05DL -06DL	A-286 OVERSIZE PROTRUDING HEAD	PLT221-5- -6- -8- -10- -12-	1753-08L -03L -04L -05L -06L	PO164A- 200A- 260A- 312A- 375A-	NONE
PLT5230-5- -6- -8- -10- -12-	1673-08DL -03DL -04DL	ALUMINUM PROTRUDING HEAD	PLT230-5- -6- -8- -10- -12-	1673-08L -03L -04L	PPA164- 200- 260-	NONE
PLT5231-5- -6- -8- -10- -12-	1755-08DL -03DL -04DL	ALUMINUM OVERSIZE PROTRUDING HEAD	PLT231-5- -6- -8- -10- -12-	1755-08L -03L -04L	PPAO164- 200- 260-	NONE



VISU-LOK II, 100° FLUSH HEAD SERIES

U.S. PATENT NOS. 3643544, 4747202. OTHER PATENTS PENDING

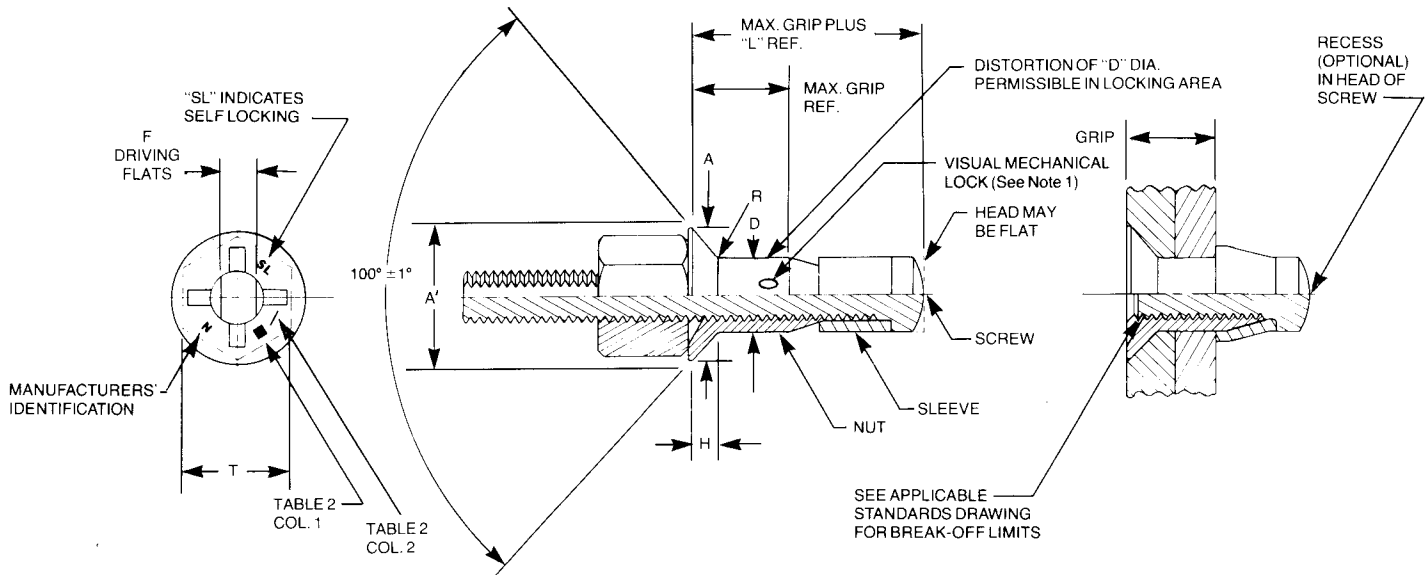


TABLE 1

BASIC DIA DASH NUMBER	T DRIVE NUT FLATS REF	NOM. DIA.			A' DIA THEO	A DIA MIN	D DIA			F	H REF		L REF	R RAD		SHORTEST AVAILABLE GRIP LENGTH
		STANDARD	GROUND SHANK	1/64" OVERSIZE			STANDARD	GROUND SHANK	1/64" OVERSIZE		STANDARD AND GROUND SHANK	1/64" OVERSIZE		PLT 5150 PLT 5151 PLT 5154	ALL OTHER PART NUMBERS	
-5	.375	.1635	.1640	.179	.332 .325	.296	.1645 .1625	.1645 .1635	.180 .178	.086 .081	.069	.063	.355	.040 .035	.030 .010	-2
-6	.375	.1980	.2021	.214	.385 .378	.342	.1990 .1970	.2026 .2016	.215 .213	.104 .099	.077	.070	.401	.050 .045	.030 .015	-2
-8	.375	.2590	.2645	.275	.507 .499	.463	.2600 .2580	.2651 .2641	.276 .274	.135 .130	.102	.096	.466	.060 .055	.030 .015	-3
-10	.500	.3105	.3115	.326	.635 .626	.577	.3115 .3095	.3120 .3110	.327 .325	.152 .147	.134	.128	.590	.070 .060	.040 .020	-4
-12	.500	.3735	.3740	.389	.762 .752	.696	.3745 .3725	.3745 .3735	.390 .388	.185 .180	.160	.154	.712	.070 .060	.040 .020	-4

TABLE 2

BASIC PART NO.	HEAD MARKINGS	
	COL. 1	COL. 2
PLT 5110	■	NONE
PLT 5111	■	-
PLT 5114	■	G
PLT 5120	●	NONE
PLT 5121	●	-
PLT 5124	●	G
PLT 5150	NONE	NONE
PLT 5151	NONE	-
PLT 5154	NONE	G
PLT 5170	▲	NONE
PLT 5171	▲	-
PLT 5174	▲	G

NOTES: 1. LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT.

2. STANDARD FINISHES ARE SHOWN IN TABLE 4. REFER TO SPECIFICATION PLT 5003 FOR SPECIAL FINISHES AND/OR LUBRICANTS.

3. HALF-GRIP SIZES MAY BE ORDERED BY ADDING (.5) TO THE GRIP DASH NUMBERS.

EXAMPLE: PLT170-6-4.5 INDICATES A NOMINAL GRIP LENGTH OF 4.5 SIXTEENTHS = .281. THE GRIP RANGE FOR THESE HALF-GRIP SIZES WILL BE NOMINAL GRIP +.031/- .030.

4. STANDARD GRIP LENGTHS ARE SHOWN IN TABLE 3. SHORTER OR LONGER GRIPS THAN THOSE LISTED MAY BE AVAILABLE AS SPECIALS.

5. LUBRICATION: DRY FILM LUBRICANT (MoS₂), PARAFFIN WAX, OR CETYL ALCOHOL MAY BE APPLIED TO ANY OR ALL COMPONENTS AS REQUIRED FOR PERFORMANCE.

6. PROCUREMENT SPECIFICATION:
ALUMINUM, ALLOY STEEL, A-286 = NAS1675
ALL OTHERS = PLT 5000

"SL" INDICATES SELF LOCKING
"■" INDICATES ALLOY STEEL
"▲" INDICATES TITANIUM
"●" INDICATES A-286 CRES
"N" INDICATES MONOGRAM
"-" INDICATES 1/64" OVERSIZE
BLANK INDICATES STANDARD DIA.
"G" INDICATES GROUND SHANK

PART NUMBER CODE & EXAMPLE:

PLT 5 1 () () - () - ()

GRIP DASH NO. (TABLE 3) IN
1/16" INCREMENTS

NOMINAL DIA IN 1/32" INCREMENTS

"D" DIA SHANK CONFIGURATION (TABLE 1)

0 = STANDARD DIA

1 = 1/64th OVERSIZE

4 = GROUND SHANK

MATERIAL (TABLE 4)

1 = ALLOY STEEL (GOLD DRIVE NUT)

2 = CRES (BLACK DRIVE NUT)

5 = H-11 (RED DRIVE NUT)

7 = TITANIUM (LIGHT GRAY DRIVE NUT)

FLUSH HEAD

DRIVE NUT

VISU-LOK (PREVAILING LOCKING TORQUE)

TABLE 3

SEE NOTE 3

SECOND DASH NUMBER	GRIP RANGE	
	MIN	MAX
- 2	.094	.156
- 3	.157	.219
- 4	.220	.281
- 5	.282	.344
- 6	.345	.406
- 7	.407	.469
- 8	.470	.531
- 9	.532	.594
-10	.595	.656
-11	.657	.719
-12	.720	.781
-13	.782	.844
-14	.845	.906
-15	.907	.969
-16	.970	1.031
-17	1.032	1.094
-18	1.095	1.156
-19	1.157	1.219
-20	1.220	1.281
-21	1.282	1.344
-22	1.345	1.406
-23	1.407	1.469
-24	1.470	1.531
-25	1.532	1.594
-26	1.595	1.656
-27	1.657	1.719
-28	1.720	1.781
-29	1.782	1.844
-30	1.845	1.906
-31	1.907	1.969
-32	1.970	2.031

TABLE 4

SEE NOTE 2

BASIC PART NO.	COMPO- NENTS	MATERIAL	HEAT TREAT	FINISH
PLT 511()	NUT	ALLOY STEEL: 4130 MIL-S-6758 OR 4140 MIL-S-5626 OR 8740 MIL-S-6049.	MIL-H 6875 APPROX. 180-200 K.S.I. TENSILE (RC 39/43)	CAD. PLATE QQ-P-416 TY2, CL2
	SCREW			
	SLEEVE			
PLT 512()	NUT	CORROSION & HEAT RESISTANT STEEL, A-286 AMS 5731, AMS 5732, OR AMS 5737	SOLUTION HEAT TREATED & AGED TO A CORE HARDNESS OF RC 30 TO RC 45	PASSIVATED QQ-P-35
	SCREW			
	SLEEVE		AS REQUIRED FOR PERFORMANCE	
PLT 515()	NUT	5% CHROME STEEL H-11 AMS 6487	RC 48-53	CAD. PLATE NAS672, .0003 MIN THK., CHROMATE TREAT- MENT QQ-P-416 AFTER BAKE.
	SCREW			
	SLEEVE	A-286 AMS 5731, AMS 5732, AMS 5737	AS REQUIRED FOR PERFORMANCE	CAD. PLATE QQ-P-416 TY1,CL3
PLT 517()	NUT	6AL-4V TITANIUM AMS 4928 OR AMS 4967	SOLUTION TREATED AND AGED TO 160 K.S.I. TENSILE MIN.	NONE
	SCREW			
	SLEEVE	303 OR 304 QQ-S-763 AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATED QQ-P-35

DRIVE NUT IS MILD STEEL COLOR CODED (BLUE) WITH A CORROSION RETARDENT COATING

VISU-LOK II, HEX HEAD SERIES

U.S. PATENT NOS. 3643544, 4747202. OTHER PATENTS PENDING

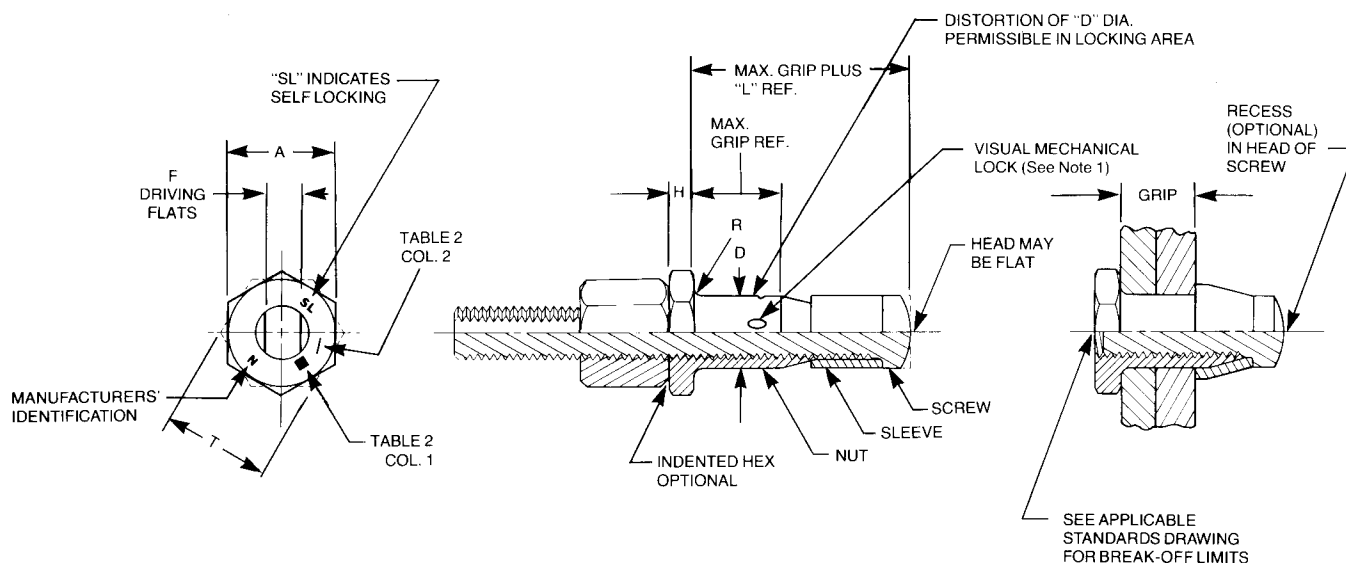


TABLE 1

BASIC DIA DASH NUMBER	T DRIVE NUT FLATS REF	NOM. DIA.			A FLATS	D DIA			F	H MAX	L REF	R RAD			SHORTEST AVAILABLE GRIP LENGTH
		STANDARD	GROUND SHANK	1/64"		STANDARD	GROUND SHANK	1/64"				PLT 5250 PLT 5251 PLT 5254	ALL OTHER PART NUMBERS		
-5	.375	.1635	.1640	.179	.250 244	.1645 1625	.1645 1635	.180 178	.086 081	.096	.355	.025 020	.020 019	-1	
-6	.375	.1980	.2021	.214	.312 305	.1990 1970	.2026 2016	.215 213	.104 099	.113	.401	.030 025	.025 015	-2	
-8	.375	.2590	.2645	.275	.375 367	.2600 2580	.2651 2641	.276 274	.135 130	.135	.466	.035 030	.025 015	-2	
-10	.500	.3105	.3115	.326	.437 429	.3115 3095	.3120 3110	.327 325	.152 147	.160	.590	.045 035	.030 015	-2	
-12	.500	.3735	.3740	.389	.500 491	.3745 3725	.3745 3735	.390 388	.185 180	.190	.712	.045 035	.030 015	-3	

TABLE 2

BASIC PART NO.	HEAD MARKINGS	
	COL. 1	COL. 2
PLT 5210	■	NONE
PLT 5211	■	-
PLT 5214	■	G
PLT 5220	●	NONE
PLT 5221	●	-
PLT 5224	●	G
PLT 5250	NONE	NONE
PLT 5251	NONE	-
PLT 5254	NONE	G
PLT 5270	▲	NONE
PLT 5271	▲	-
PLT 5274	▲	G

"SL"	INDICATES SELF LOCKING
"■"	INDICATES ALLOY STEEL
"▲"	INDICATES TITANIUM
"●"	INDICATES A-286 CRES
"N"	INDICATES MONOGRAM
"_"	INDICATES 1/64" OVERSIZE
BLANK	INDICATES STANDARD DIA.
"G"	INDICATES GROUND SHANK

NOTES:1. LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT.

2. STANDARD FINISHES ARE SHOWN IN TABLE 4. REFER TO SPECIFICATION PLT 5003 FOR SPECIAL FINISHES AND/OR LUBRICANTS.

3. HALF-GRIP SIZES MAY BE ORDERED BY ADDING (.5) TO THE GRIP DASH NUMBERS.

EXAMPLE: PLT5270-6-4.5 INDICATES A NOMINAL GRIP LENGTH OF 4.5 SIXTEENTHS = .281. THE GRIP RANGE FOR THESE HALF-GRIP SIZES WILL BE NOMINAL GRIP + .031/- .030.

4. STANDARD GRIP LENGTHS ARE SHOWN IN TABLE 3. SHORTER OR LONGER GRIPS THAN THOSE LISTED MAY BE AVAILABLE AS SPECIALS.

5. LUBRICATION: DRY FILM LUBRICANT (MoS₂), PARAFFIN WAX, OR CETYL ALCOHOL MAY BE APPLIED TO ANY OR ALL COMPONENTS AS REQUIRED FOR PERFORMANCE.

6. PROCUREMENT SPECIFICATION:
ALUMINUM, ALLOY STEEL, A-286 = NAS1675
ALL OTHERS = PLT 5000

PART NUMBER CODE & EXAMPLE:

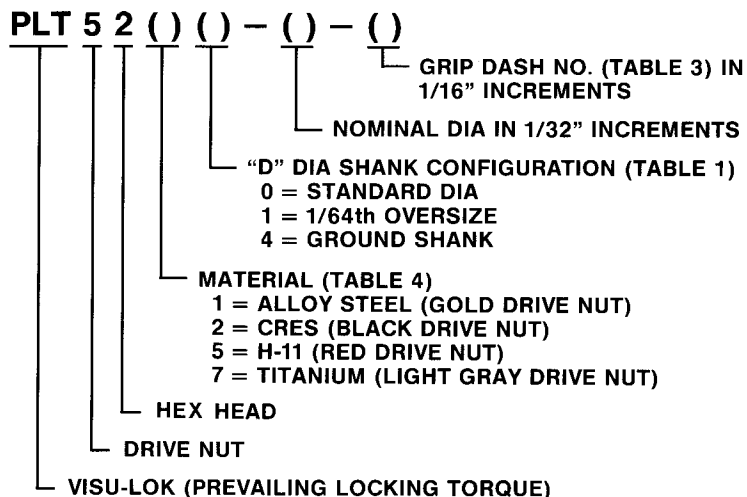


TABLE 3
SEE NOTE 3

SECOND DASH NUMBER	GRIP RANGE	
	MIN	MAX
- 1	.031	.093
- 2	.094	.156
- 3	.157	.219
- 4	.220	.281
- 5	.282	.344
- 6	.345	.406
- 7	.407	.469
- 8	.470	.531
- 9	.532	.594
-10	.595	.656
-11	.657	.719
-12	.720	.781
-13	.782	.844
-14	.845	.906
-15	.907	.969
-16	.970	1.031
-17	1.032	1.094
-18	1.095	1.156
-19	1.157	1.219
-20	1.220	1.281
-21	1.282	1.344
-22	1.345	1.406
-23	1.407	1.469
-24	1.470	1.531
-25	1.532	1.594
-26	1.595	1.656
-27	1.657	1.719
-28	1.720	1.781
-29	1.782	1.844
-30	1.845	1.906
-31	1.907	1.969
-32	1.970	2.031

TABLE 4
SEE NOTE 2

BASIC PART NO.	COMPO- NENTS	MATERIAL	HEAT TREAT	FINISH
PLT 521()	NUT	ALLOY STEEL: 4130 MIL-S-6758 OR 4140 MIL-S-5626 OR 8740 MIL-S-6049.	MIL-H 6875 APPROX. 180-200 K.S.I. TENSILE (RC 39/43)	CAD. PLATE QQ-P-416 TY2, CL.2
	SCREW			
	SLEEVE	303 OR 304 QQ-S-763, AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATE QQ-P-35 & CAD. PLATE QQ-P-416, TY1, CL3
PLT 522()	NUT	CORROSION & HEAT RESISTANT STEEL, A-286 AMS 5731, AMS 5732, OR AMS 5737	SOLUTION HEAT TREATED & AGED TO A CORE HARDNESS OF RC 30 TO RC 45	PASSIVATED QQ-P-35
	SCREW		AS REQUIRED FOR PERFORMANCE	
	SLEEVE			
PLT 525()	NUT	5% CHROME STEEL H-11 AMS 6487	RC 48-53	CAD. PLATE NAS672, .0003 MIN THK., CHROMATE TREAT- MENT QQ-P-416 AFTER BAKE.
	SCREW			
	SLEEVE	A-286 AMS 5731, AMS 5732, AMS 5737	AS REQUIRED FOR PERFORMANCE	CAD. PLATE QQ-P-416 TY1,CL3
PLT 527()	NUT	6AL-4V TITANIUM AMS 4928 OR AMS 4967	SOLUTION TREATED AND AGED TO 160 K.S.I. TENSILE MIN.	NONE
	SCREW			
	SLEEVE	303 OR 304 QQ-S-763 AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATED QQ-P-35

DRIVE NUT IS MILD STEEL COLOR CODED (BLUE) WITH A CORROSION RETARDENT COATING



VISU-LOK II 100° FLUSH HEAD, ALUMINUM SERIES

U.S. PATENT NOS. 3643544, 4747202. OTHER PATENTS PENDING

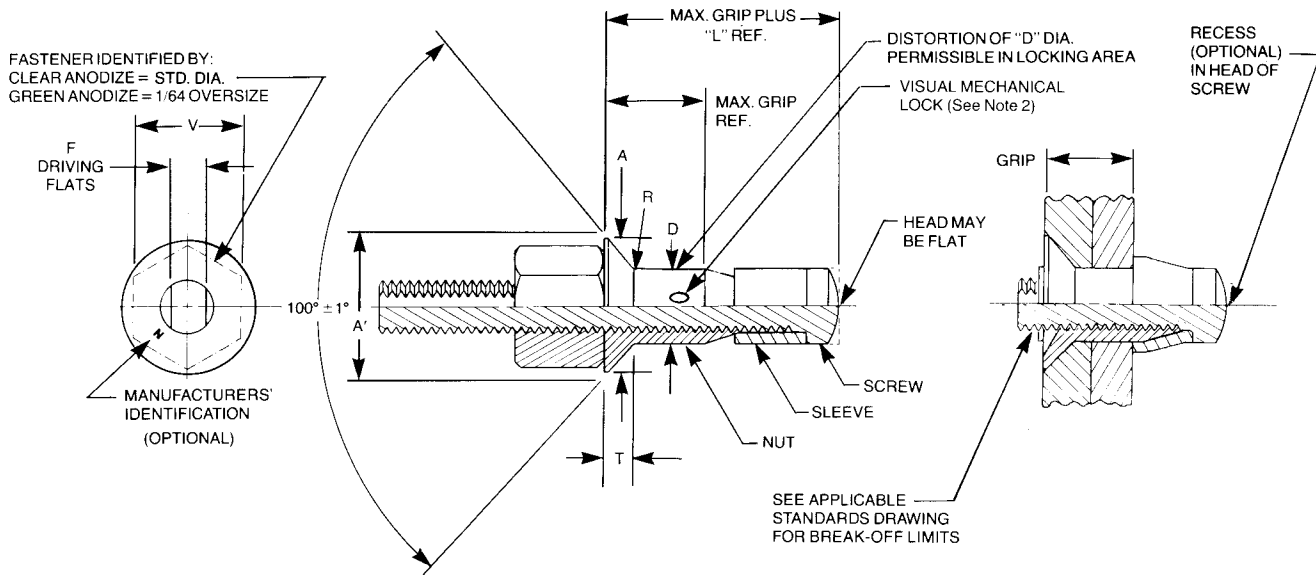


TABLE 1

BASIC DIA DASH NO.	NOM DIA		A' DIA THEO.	A DIA MIN.	D DIA		F DRIVING FLATS	L REF	R RAD	T REF		SHORTEST AVAILABLE GRIP-LENGTH	V DRIVE NUT FLATS REF
	STAND-ARD	1/64" OVER-SIZE			STAND-ARD	1/64" OVER-SIZE				STAND-ARD	1/64" OVER-SIZE		
-5	.1635	.179	.278	.259	.1645 .1625	.180 .178	.088 .081	.355	.030 .010	.049	.043	-2	.375
-6	.1980	.214	.333	.310	.1990 .1970	.215 .213	.104 .099	.401	.030 .015	.061	.055	-2	.375
-8	.2590	.275	.458	.430	.2600 .2580	.276 .274	.135 .130	.466	.030 .015	.088	.082	-2	.375

TABLE 2

SECOND DASH NUMBER	GRIP RANGE	
	MIN	MAX
-2	.094	.156
-3	.157	.219
-4	.220	.281
-5	.282	.344
-6	.345	.406
-7	.407	.469
-8	.470	.531
-9	.532	.594
-10	.595	.656
-11	.657	.719
-12	.720	.781
-13	.782	.844
-14	.845	.906
-15	.907	.969
-16	.970	1.031
-17	1.032	1.094
-18	1.095	1.156
-19	1.157	1.219
-20	1.220	1.281
-21	1.282	1.344
-22	1.345	1.406
-23	1.407	1.469
-24	1.470	1.531
-25	1.532	1.594
-26	1.595	1.656
-27	1.657	1.719
-28	1.720	1.781
-29	1.782	1.844
-30	1.845	1.906
-31	1.907	1.969
-32	1.970	2.031

TABLE 3

BASIC PART NO.	COMPONENTS	MATERIAL	HEAT TREAT	FINISH
PLT 5130	NUT	ALUM. ALLOY 7075 QQ-A-282	T6 CONDITION	ANODIZE MIL-A-8625 TY.2 CLEAR
	SCREW	ALLOY STEEL MIL-S-5626, MIL-S-6049 OR MIL-S-6758	MIL-H-6875 APPROXIMATELY 180-200 K.S.I. TENSILE RC39-43	CAD. PLATE QQ-P-416 TY.2 CL.2 OR NAS 672 PLUS DICHRIMATE PER QQ-P-416
	SLEEVE	CRES 303 OR 304 QQ-S-763, AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATE QQ-P-35 CAD. PLATE QQ-P-416 TY.1 OR 2 CL.3
PLT 5131	NUT	ALUM. ALLOY 7075 QQ-A-282	T6 CONDITION	ANODIZE MIL-A-8625 TY.2 GREEN
	SCREW	ALLOY STEEL MIL-S-5626, MIL-S-6049 OR MIL-S-6758	MIL-H-6874 APPROXIMATELY 180-200 K.S.I. TENSILE RC39-43	CAD. PLATE QQ-P-416 TY.2 CL.2 OR NAS 672 PLUS DICHRIMATE PER QQ-P-416
	SLEEVE	CRES 303 OR 304 QQ-S-763, AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATE QQ-P-35 CAD. PLATE QQ-P-416 TY.1 OR 2 CL.3

DRIVE NUT IS MILD STEEL COLOR CODED (BLUE) WITH A CORROSION RETARDENT COATING

GENERAL NOTES:

- LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT.
- STANDARD FINISHES ARE SHOWN ABOVE. REFER TO SPECIFICATION PLT 5003 FOR SPECIAL FINISHES AND/OR LUBRICANTS. IF REQUIRED
- HALF-GRIP SIZES MAY BE ORDERED BY ADDING (.5) TO THE GRIP DASH NUMBERS.
EXAMPLE: PLT 5130-6-4.5 INDICATES A NOMINAL GRIP LENGTH OF 4.5 SIXTEENTHS = .281. THE GRIP RANGE FOR THESE HALF-GRIP SIZES WILL BE NOMINAL GRIP + .031/- .030.
- STANDARD GRIP LENGTHS ARE SHOWN IN TABLE 2. SHORTER OR LONGER GRIPS THAN THOSE LISTED MAY BE AVAILABLE AS SPECIALS.
- LUBRICATION: DRY FILM LUBRICANT (MoS₂), PARAFFIN WAX, OR CETYL ALCOHOL MAY BE APPLIED TO ANY OR ALL COMPONENTS AS REQUIRED FOR PERFORMANCE.
- PROCUREMENT SPECIFICATION:
ALUMINUM, ALLOY STEEL, A-286 = NAS 1675
ALL OTHERS = PLT 5000.

PART NUMBER CODE & EXAMPLE:

PLT 5 13 () - () - ()
GRIP DASH NO. (TABLE 2)
NOMINAL DIA IN 1/32" INCREMENTS
D DIA SHANK CONFIGURATION
0 = STANDARD DIA. 1 = 1/64" OVERSIZE
FLUSH HEAD ALUMINUM (TABLE 3)
DRIVE NUT
VISU-LOK (PREVAILING LOCKING TORQUE)

VISU-LOK II HEX HEAD, ALUMINUM SERIES

U.S. PATENT NOS. 3643544, 4747202. OTHER PATENTS PENDING

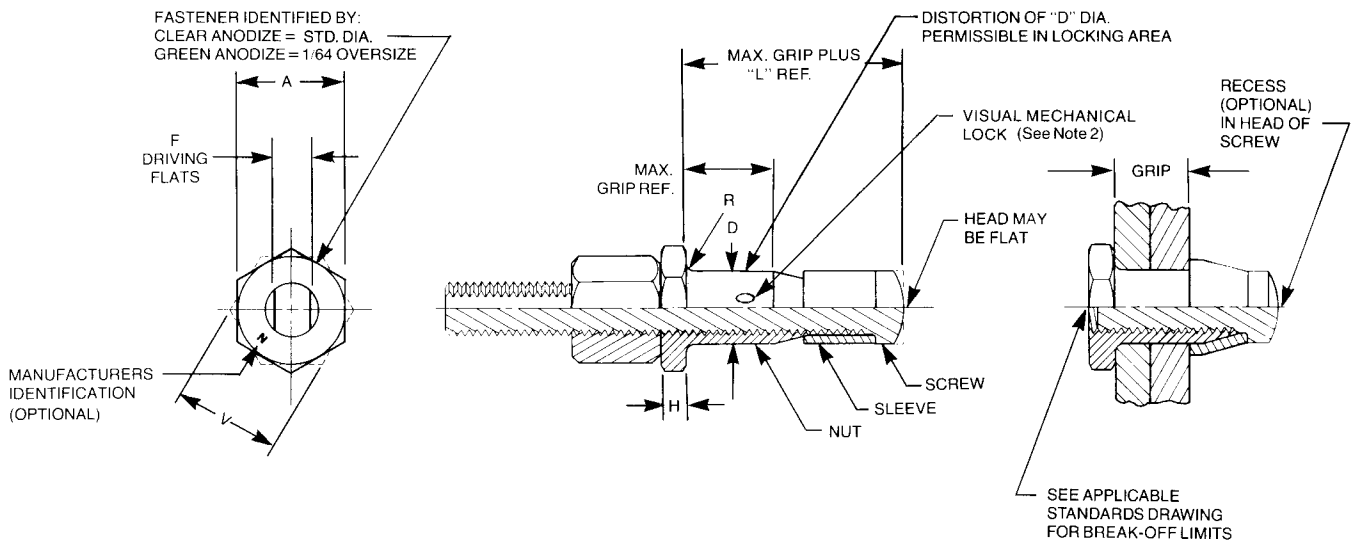


TABLE 1

BASIC DIA DASH NO.	NOM DIA		A	D DIA		F DRIVING FLATS	H MAX	L REF	R RAD	SHORTEST AVAILABLE GRIP LENGTH	V DRIVE NUT FLATS REF
	STANDARD	1/64" OVER-SIZE		STANDARD	1/64" OVER-SIZE						
-5	.1635	.179	.283	.1645	.180	.086	.096	.355	.020	-1	.375
-6	.1980	.214	.346	.1990	.213	.104	.113	.401	.025	-1	.375
-8	.2590	.275	.472	.2600	.276	.135	.135	.466	.025	-2	.375

TABLE 2

SECOND DASH NUMBER	GRIP RANGE	
	MIN	MAX
-1	.031	.093
-2	.094	.156
-3	.157	.219
-4	.220	.281
-5	.282	.344
-6	.345	.406
-7	.407	.469
-8	.470	.531
-9	.532	.594
-10	.595	.656
-11	.657	.719
-12	.720	.781
-13	.782	.844
-14	.845	.906
-15	.907	.969
-16	.970	1.031
-17	1.032	1.094
-18	1.095	1.156
-19	1.157	1.219
-20	1.220	1.281
-21	1.282	1.344
-22	1.345	1.406
-23	1.407	1.469
-24	1.470	1.531
-25	1.532	1.594
-26	1.595	1.656
-27	1.657	1.719
-28	1.720	1.781
-29	1.782	1.844
-30	1.845	1.906
-31	1.907	1.969
-32	1.970	2.031

TABLE 3

BASIC PART NO.	COMPONENTS	MATERIAL	HEAT TREAT	FINISH
PLT 5230	NUT	ALUM. ALLOY 7075 QQ-A-282	T6 CONDITION	ANODIZE MIL-A-8625 TY.2 CLEAR
	SCREW	ALLOY STEEL MIL-S-5626, MIL-S-6049 OR MIL-S-6758	MIL-H-6875 APPROXIMATELY 180-200 K.S.I. TENSILE RC39-43	CAD. PLATE QQ-P-416 TY.2 CL.2 OR NAS 672 PLUS DICHROMATE PER QQ-P-416
	SLEEVE	CRES 303 OR 304 QQ-S-763, AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATE QQ-P-35 CAD. PLATE QQ-P-416 TY.1 OR 2 CL.3
PLT 5231	NUT	ALUM. ALLOY 7075 QQ-A-282	T6 CONDITION	ANODIZE MIL-A-8625 TY.2 GREEN
	SCREW	ALLOY STEEL MIL-S-5626, MIL-S-6049 OR MIL-S-6758	MIL-H-6874 APPROXIMATELY 180-200 K.S.I. TENSILE RC39-43	CAD. PLATE QQ-P-416 TY.2 CL.2 OR NAS 672 PLUS DICHROMATE PER QQ-P-416
	SLEEVE	CRES 303 OR 304 QQ-S-763, AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATE QQ-P-35 CAD. PLATE QQ-P-416 TY.1 OR 2 CL.3

DRIVE NUT IS MILD STEEL COLOR CODED (BLUE) WITH A CORROSION RETARDANT COATING

GENERAL NOTES:

- LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT.
- STANDARD FINISHES AND LUBRICANTS ARE SHOWN ABOVE. REFER TO SPECIFICATION PLT 5003 FOR SPECIAL FINISHES AND/OR LUBRICANTS. IF REQUIRED.
- HALF-GRIP SIZES MAY BE ORDERED BY ADDING (.5) TO THE GRIP DASH NUMBERS. EXAMPLE: PLT 5230-6-4.5 INDICATES A NOMINAL GRIP LENGTH OF 4.5 SIXTEENTHS = .281. THE GRIP RANGE FOR THESE HALF-GRIP SIZES WILL BE NOMINAL GRIP + .031/- .030.
- STANDARD GRIP LENGTHS ARE SHOWN IN TABLE 2. SHORTER OR LONGER GRIPS THAN THOSE LISTED MAY BE AVAILABLE AS SPECIALS.
- LUBRICATION: DRY FILM LUBRICANT (MoS₂), PARAFFIN WAX, OR CETYL ALCOHOL MAY BE APPLIED TO ANY OR ALL COMPONENTS AS REQUIRED FOR PERFORMANCE.
- PROCUREMENT SPECIFICATION: ALUMINUM, ALLOY STEEL, A-286 = NAS 1675 ALL OTHERS = PLT 5000.

PART NUMBER CODE & EXAMPLE:

PLT 5 23 () - () - ()

GRIP DASH NO. (TABLE 2)

NOMINAL DIA IN 1/32" INCREMENTS

D DIA SHANK CONFIGURATION
0 = STANDARD DIA. 1 = 1/64" OVERSIZE

HEX HEAD ALUMINUM (TABLE 3)

DRIVE NUT

VISU-LOK (PREVAILING LOCKING TORQUE)



VISU-LOK II 100° REDUCED FLUSH HEAD SERIES

U.S. PATENT NOS. 3643544, 4747202. OTHER PATENTS PENDING

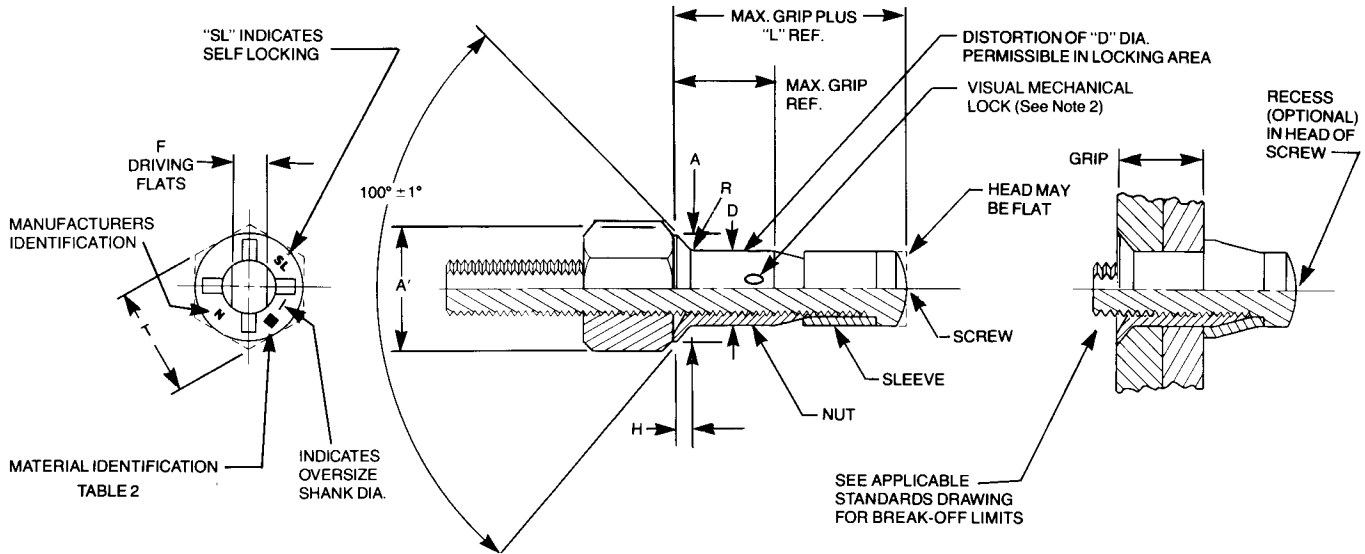


TABLE 1

BASIC DIA. DASH NO.	NOM. DIA.	A' DIA. THEO.	A DIA. MIN.	D DIA.	F DRIVING FLATS	H REF.	L REF.	R RAD.	SHORTEST AVAILABLE GRIP LENGTHS	T DRIVE NUT FLATS REF.
-5	.1635	.2612 .2564	.241	.1645 .1625	.086 .081	.040	.355	.030 .010	-2	.375
-6	.1980	.3016 .2966	.270	.1990 .1970	.104 .099	.047	.401	.030 .015	-2	.375
-8	.2590	.3948 .3898	.363	.2600 .2580	.135 .130	.061	.466	.030 .015	-3	.375
-10	.3105	.4739 .4689	.442	.3115 .3095	.152 .147	.068	.590	.040 .020	-3	.500
-12	.3735	.5604 .5554	.529	.3745 .3725	.185 .180	.077	.712	.040 .020	-3	.500

TABLE 2

BASIC PART NO.	HEAD MARKINGS
PLT-5410	■
PLT-5420	●
PLT-5470	▲

■ INDICATES ALLOY STEEL
● INDICATES A-286 CRES
▲ INDICATES TITANIUM

NOTES:

1. LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT.
2. STANDARD FINISHES AND LUBRICANTS ARE SHOWN. REFER TO SPECIFICATION PLT 5003 FOR SPECIAL FINISHES AND/OR LUBRICANTS, IF REQUIRED.
3. HALF-GRIP SIZES MAY BE ORDERED BY ADDING (.5) TO THE GRIP DASH NUMBERS.

EXAMPLE: PLT 5420-6-4.5 INDICATES A NOMINAL GRIP LENGTH OF 4.5 SIXTEENTHS = .281. THE GRIP RANGE FOR THESE HALF-GRIP SIZES WILL BE NOMINAL GRIP +.031/-.030, THE BASIC "G" DIMENSION WILL BE NOMINAL GRIP +.031.

4. STANDARD GRIP LENGTHS ARE SHOWN IN TABLE 3. SHORTER OR LONGER GRIPS THAN THOSE LISTED MAY BE AVAILABLE AS SPECIALS.
5. LUBRICATION: DRY FILM LUBRICANT (MoS₂), PARAFFIN WAX, OR CETYL ALCOHOL MAY BE APPLIED TO ANY OR ALL COMPONENTS AS REQUIRED FOR PERFORMANCE.
6. PROCUREMENT SPECIFICATION:
ALUMINUM, ALLOY STEEL, A-286 = NAS 1675
ALL OTHERS = PLT 5000.

PART NUMBER CODE & EXAMPLE:

PLT 5 4 () () - () - ()

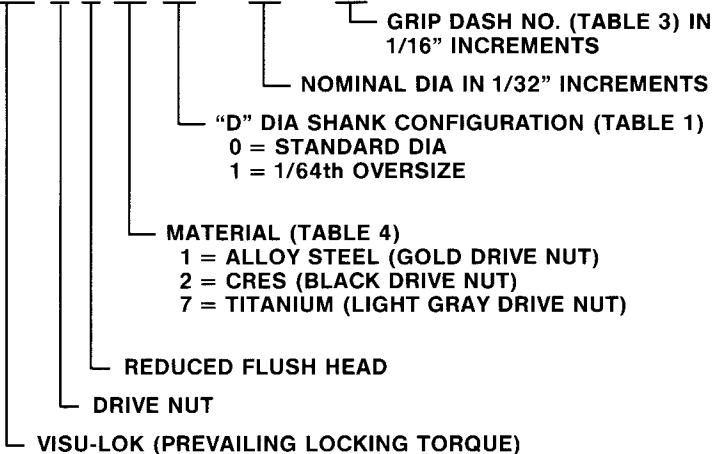


TABLE 3
SEE NOTE 3

SECOND DASH NUMBER	GRIP RANGE	
	MIN	MAX
- 2	.094	.156
- 3	.157	.219
- 4	.220	.281
- 5	.282	.344
- 6	.345	.406
- 7	.407	.469
- 8	.470	.531
- 9	.532	.594
-10	.595	.656
-11	.657	.719
-12	.720	.781
-13	.782	.844
-14	.845	.906
-15	.907	.969
-16	.970	1.031
-17	1.032	1.094
-18	1.095	1.156
-19	1.157	1.219
-20	1.220	1.281
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-28	1.720	1.781
-29	1.782	1.844
-30	1.845	1.906
-31	1.907	1.969
-32	1.970	2.031

TABLE 4
SEE NOTE 2

BASIC PART NO.	COMPO- NENTS	MATERIAL	HEAT TREAT	FINISH
PLT 5410	NUT	ALLOY STEEL: 4130 MIL-S-6758 OR 4140 MIL-S-5626 OR 8740 MIL-S-6049.	MIL-H 6875 APPROX. 180-200 K.S.I. TENSILE (RC 39/43)	CAD. PLATE QQ-P-416 TY2, CL.2
	SCREW			
	SLEEVE	303 OR 304 QQ-S-763, AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATE QQ-P-35 & CAD. PLATE QQ-P-416, TY1, CL3
PLT 5420	NUT	CORROSION & HEAT RESISTANT STEEL, A-286 AMS 5731, AMS 5732, OR AMS 5737	SOLUTION HEAT TREATED & AGED TO A CORE HARDNESS OF RC 30 TO RC 45	PASSIVATED QQ-P-35
	SCREW		AS REQUIRED FOR PERFORMANCE	
	SLEEVE			
PLT 5470	NUT	6AL-4V TITANIUM AMS 4928 OR AMS 4967	SOLUTION TREATED AND AGED TO 160 K.S.I. TENSILE MIN.	NONE
	SCREW			
	SLEEVE	303 OR 304 QQ-S-763 AMS 5639 OR AMS 5641	AS REQUIRED FOR PERFORMANCE	PASSIVATED QQ-P-35

DRIVE NUT IS MILD STEEL COLOR CODED (BLUE) WITH A CORROSION RETARDENT COATING



VISU-LOK II BLIND BOLT INSTALLATION TOOLING

This section describes the installation tooling and their accessories currently in use to insure the proper performance of Visu-Lok II Blind Bolts.

The Visu-Lok II Blind Fastener uses standard NAS1675 type tooling at standard air pressure levels. No secondary hydraulic units are required. A wide variety of low cost 90° offset tools, and small hand tools and adapters meet limited access applications.

The tooling, when used in conjunction with the proper "Nose Adapters" and "Wrench Adapters", will satisfactorily install all basic Visu-Lok II Fastener configurations in the 5/32" thru 3/8" body diameters.

The basic configurations of installation tools and their accessories are described below:

1. **THE DRIVER** - Pneumatic power motor or hand driver.
2. **THE ADAPTER ASSEMBLY** - Nose adapter to hold the DRIVE NUT and wrench adapter to engage the screw.
 - a. **THE NOSE ADAPTER** - The nose adapter connects to the power motor housing or hand driver handle. Its function is to engage the DRIVE NUT and prevent rotation.
 - b. **THE WRENCH ADAPTER** - The wrench adapter is enclosed by the nose adapter and connects directly to the power source. Its function is to apply driving force to the fastener wrenching end and eject it after break-off.

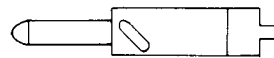
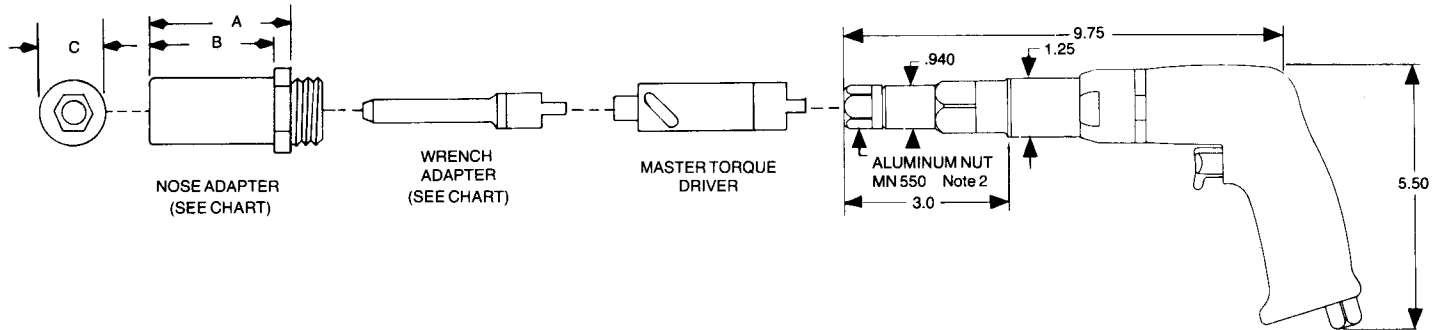
In addition, the tooling described herein will also install all basic Composi-Lok II Blind Fasteners configurations in 5/32" thru 3/8" body diameters, without any modification to the tooling being required.

Recommended Source For Tooling-



Monogram Aerospace Fasteners
3423 S. Garfield Avenue
Los Angeles, California 90040-3103
(213) 722-4760 • FAX (213) 721-1851

INSTALLATION TOOLING-Pneumatic Pistol



COMBINATION
WRENCH ADAPTER
AND TORQUE DRIVER
Note 1
(SEE CHART)

MOTOR SPECIFICATIONS

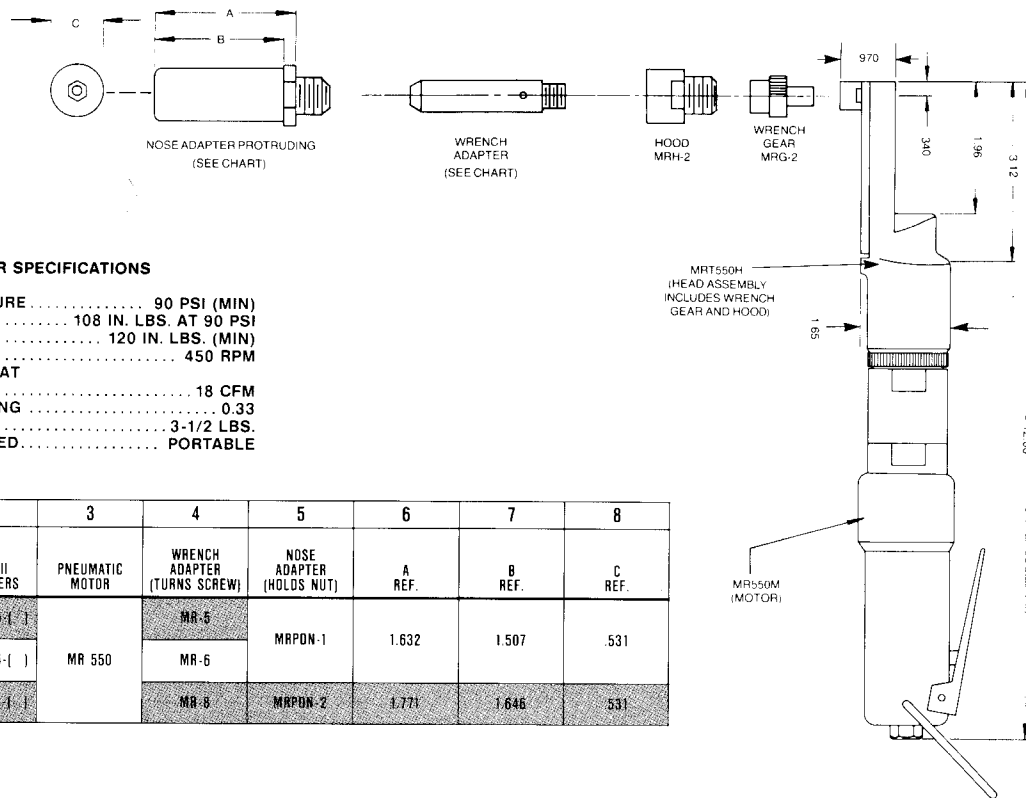
OPERATING PRESSURE 90 PSI (MIN)
TORQUE OUTPUT 190 IN. LBS. AT 90 PSI
STALL TORQUE 215 IN. LBS. (MIN)
MOTOR SPEED 450 RPM
AIR CONSUMPTION AT
FREE SPEED 22 CFM (MAX)
HORSEPOWER RATING 0.43
WEIGHT 3 LBS.
WORK SPACE NEEDED PORTABLE

1	2	3	4	5	6	7	8
BASIC DIA.	TYPICAL VISU-LOK II FASTENER PART NUMBERS	PNEUMATIC MOTOR	NOSE ADAPTER (HOLDS NUT)	WRENCH ADAPTER (HOLDS SCREW)	A REF.	B REF.	C REF.
5/32	ALL PLT 5000 SERIES	MP550BF	MPP-8	MP-5	1.379	1.254	.525
3/16				MP-6			
1/4				MP-8			
5/16			MPP-12 (SEE NOTE 2)	MPTBF-10 (SEE NOTE 1)	1.509	1.353	.750
3/8				MPTBF-12 (SEE NOTE 1)			

- NOTES: 1. COMBINATION WRENCH ADAPTER & TORQUE DRIVER-REQUIRES REMOVAL OF MASTER TORQUE DRIVER (MTD550BF) SUPPLIED WITH THE TOOL.
2. LARGER MALE THREAD ON NOSE ADAPTERS-REQUIRES REMOVAL OF ALUMINUM NUT (MN550) SUPPLIED WITH THE TOOL.



INSTALLATION TOOLING-Pneumatic Right Angle

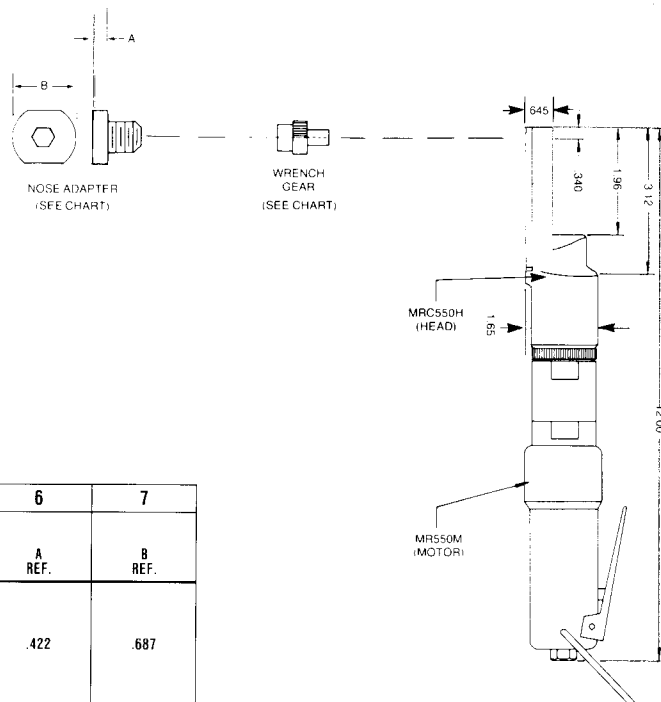


MOTOR SPECIFICATIONS

OPERATING PRESSURE 90 PSI (MIN)
TORQUE OUTPUT 108 IN. LBS. AT 90 PSI
STALL TORQUE 120 IN. LBS. (MIN)
MOTOR SPEED 450 RPM
AIR CONSUMPTION AT
FREE SPEED 18 CFM
HORSEPOWER RATING 0.33
WEIGHT 3-1/2 LBS.
WORK SPACE NEEDED PORTABLE

1	2	3	4	5	6	7	8
BASIC DIA.	TYPICAL VISU-LOK II PART NUMBERS	PNEUMATIC MOTOR	WRENCH ADAPTER (TURNS SCREW)	NOSE ADAPTER (HOLDS NUT)	A REF.	B REF.	C REF.
5/32	ALL PLT 5000 SERIES	MR 550	MR-5	MRPON-1	1.632	1.507	.531
3/16			MR-6				
1/4			MR-8	MRPON-2	1.771	1.646	.531

Pneumatic Right Angle Close Quarter

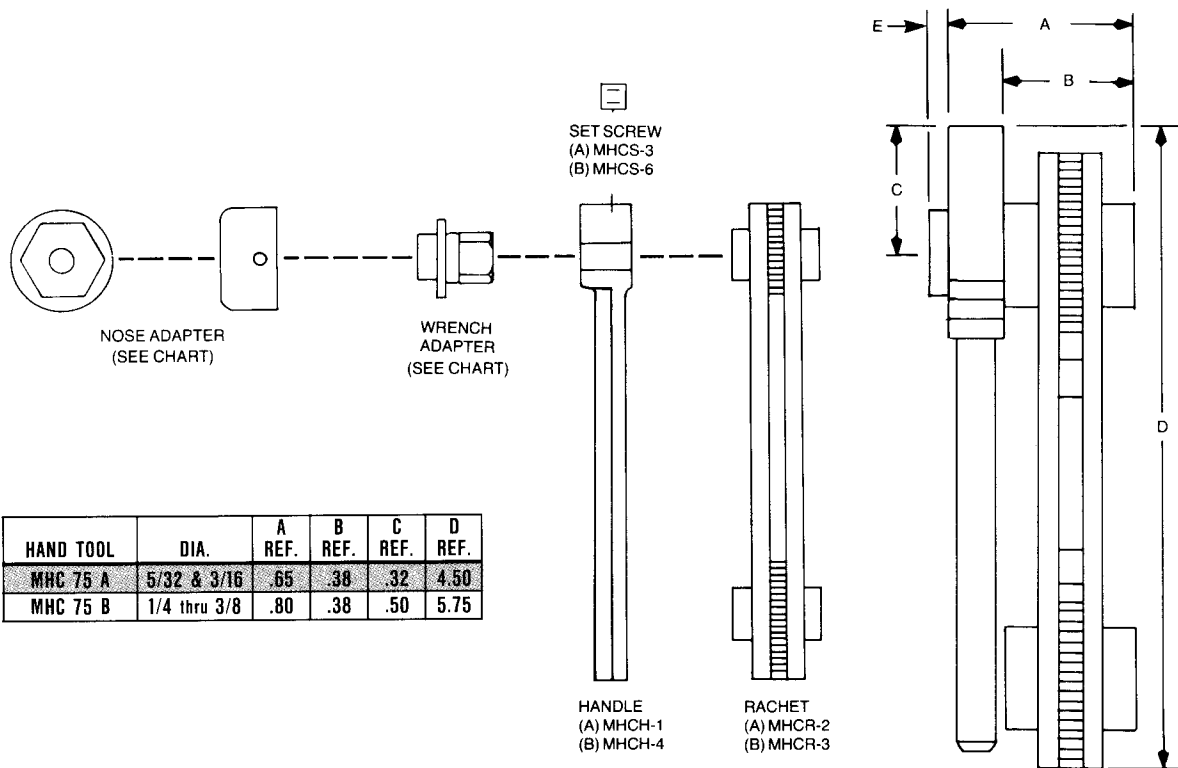


MOTOR SPECIFICATIONS

OPERATING PRESSURE 90 PSI (MIN)
TORQUE OUTPUT 108 IN. LBS. AT 90 PSI
STALL TORQUE 120 IN. LBS. (MIN)
MOTOR SPEED 450 RPM
AIR CONSUMPTION AT
FREE SPEED 18 CFM
HORSEPOWER RATING 0.33
WEIGHT 3-1/2 LBS.
WORK SPACE NEEDED PORTABLE

1	2	3	4	5	6	7
BASIC DIA.	TYPICAL VISU-LOK II PART NUMBERS	PNEUMATIC MOTOR	WRENCH GEAR (TURNS SCREW)	NOSE ADAPTER (HOLDS NUT)	A REF.	B REF.
5/32	ALL PLT 5000 SERIES	MRC 550	MRC-5	MRCPON-1	.422	.687
3/16			MRC-6			
1/4			MRC-8			

INSTALLATION TOOLING-Hand Tool Close Quarter

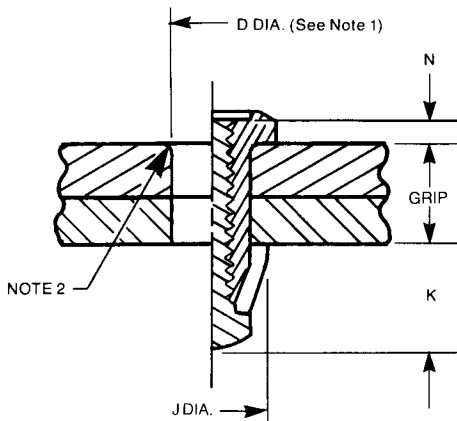


1	2	3	4	5	6
BASIC DIA.	TYPICAL VISU-LOK II PART NUMBERS	HAND TOOL	WRENCH ADAPTER (TURNS SCREW)	NOSE ADAPTER (HOLDS NUT)	E REF.
5/32	ALL PLT 5000 SERIES	MHC 75 A	MHC-5	MHCPDN-1	.335
3/16			MHC-6		
1/4		MHC 75 B	MHC-8	MHCPDN-2	.450
5/16			MHC-10	MHCPDN-3	.602
3/8			MHC-12		

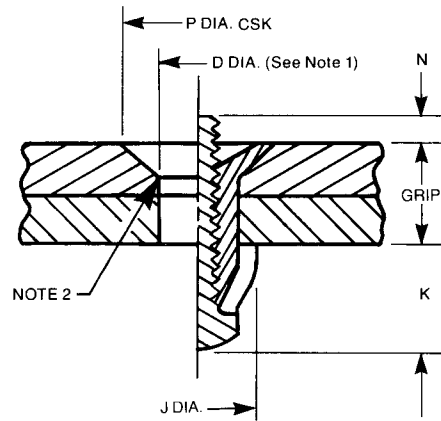
NOTE: UNDER NORMAL CONDITIONS VISU-LOK II FASTENERS CAN BE PROPERLY INSTALLED WITH HAND TOOLS. HOWEVER THEY ARE TESTED FOR CONFORMANCE WITH POWER TOOLS ONLY.



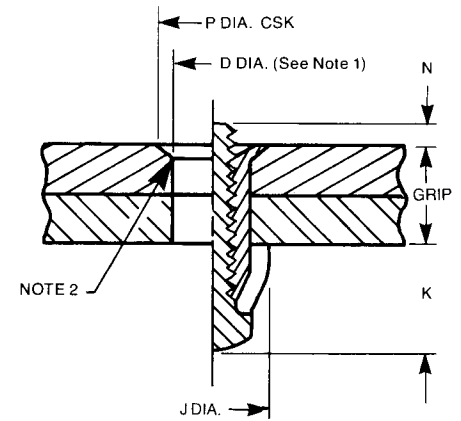
VISU-LOK II BLIND BOLT-HOLE PREPARATION & INSTALLED DIMENSIONS



**HEX
HEAD**



**100° FLUSH
HEAD**

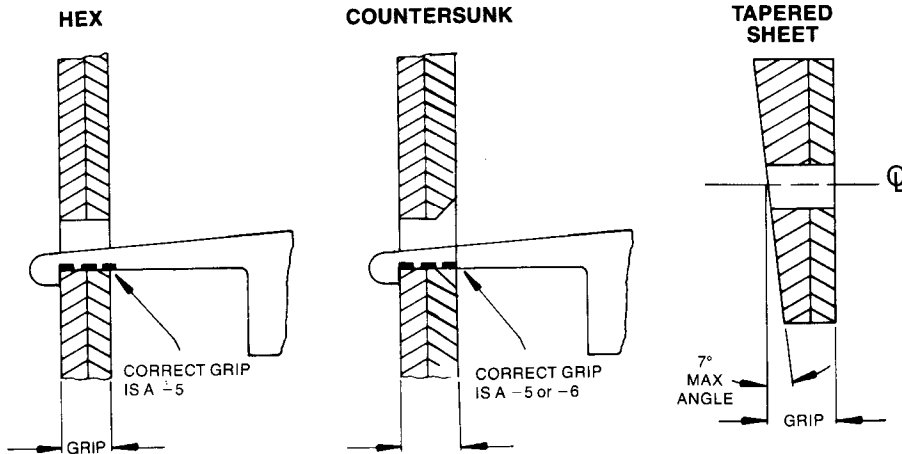
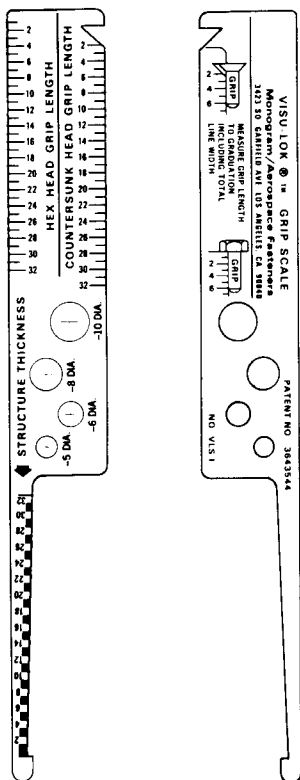


**100° FLUSH
SHEAR HEAD**

DIA. DASH NUMBER	D DIA. RECOMMENDED HOLE SIZE			P DIA. C'SK.			J DIA. MAX.		K MAX		N COREBOLT BREAK- OFF LIMITS
	STANDARD DIA.	GROUND SHANK	1/64" OVERSIZE	100° FLUSH HEAD	100° FLUSH SHEAR HD.	ALUMINUM 100° FLUSH HEAD	STANDARD AND GROUND SHANK	1/64" OVERSIZE	STANDARD AND GROUND SHANK	1/64" OVERSIZE	
-5	.168/.165	SEE NOTE 5	.183/.180	.332/.325	.2564/.2612	.283/.277	.244	.275	.246	.272	SEE NOTES 4 & 6
-6	.202/.199		.218/.215	.385/.378	.2966/.3016	.346/.339	.300	.331	.281	.312	
-8	.263/.260		.279/.276	.507/.499	.3898/.3948	.472/.464	.384	.415	.325	.351	
-10	.315/.312		.330/.327	.635/.626	.4689/.4739	N/A	.427	.458	.390	.426	
-12	.378/.375		.393/.390	.762/.752	.5554/.5604	N/A	.516	.547	.470	.495	

- NOTES:**
- HOLES SHOULD BE STRAIGHT AND PERPENDICULAR TO SURFACE. HOLES SHOULD BE REASONABLY ROUND AND FREE FROM BURRS.
 - EDGE OF HOLES SHOULD BE GIVEN A SLIGHT CHAMFER.
 - SHEETS SHOULD BE FIRMLY CLAMPED TOGETHER DURING DRILLING.
 - PROT. & HEX HEAD COREBOLT BREAK-OFF LIMITS ARE MEASURED FROM SKIN SURFACE. FLUSH HEAD SCREW LIMITS ARE MEASURED FROM TOP OF FASTENER HEAD.
 - GROUND SHANK VISU-LOK II SHOULD NOT BE USED, EXCEPT WITH CONSIDERABLE CAUTION, IN APPLICATIONS WHICH EXCEED .004 INCH INTERFERENCE FIT. THEY PERFORM IN LINE TO LINE OR SNUG FIT APPLICATIONS.
 - SEE APPLICABLE VISU-LOK II DRAWING.

VISU-LOK II BLIND BOLT GRIP SCALE & GRIP SELECTION



Measure the material thickness with a VLS-1 grip gage as shown. Insert gage into hole, draw gage back until hook contacts the blind sheet. Read where front skin surface coincides with numbers and lines on gage. If reading is directly on a line you may use either that grip or the next longer grip.

In those applications where a tapered sheet condition exists on the blind side, the grip length must be determined by the depth at the centerline of the hole as illustrated above.

VISU-LOK II BLIND BOLT BLIND SIDE PROTRUSION

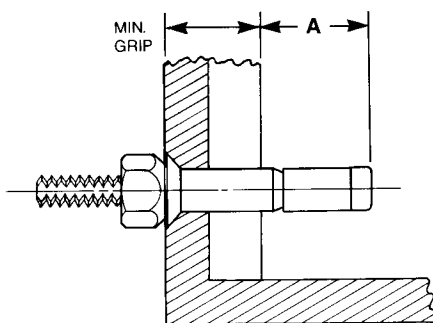


FIG. 1

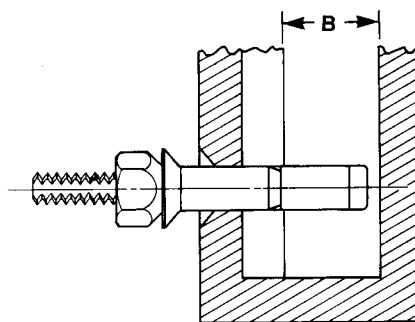


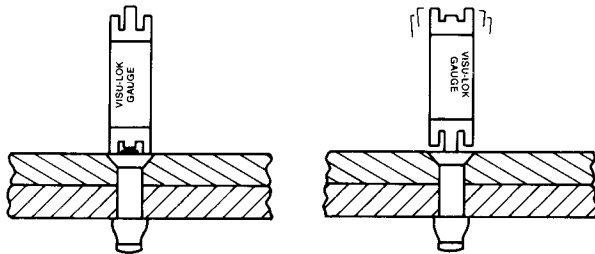
FIG. 2

BASIC DIA DASH NO.	(A) BLIND SIDE PROTRUSION IN MIN. GRIP (FIG. 1)	(B) BLIND SIDE PROTRUSION (FIG. 2)
-5	.475	.295
-6	.510	.330
-8	.571	.370
-10	.696	.455
-12	.819	.545

VISU-LOK II BLIND BOLTS MAY BE "WALKED-IN" IN TIGHT CLEARANCE APPLICATIONS (SEE FIG. 2).

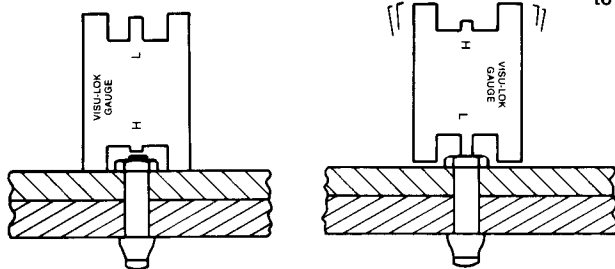


VISU-LOK II BLIND BOLT INSPECTION AFTER INSTALLATION



HIGH BREAK-OFF
CHECK
MUST NOT ROCK

LOW BREAK-OFF
CHECK
GAUGE MUST ROCK



HIGH BREAK-OFF
CHECK
MUST NOT ROCK

LOW BREAK-OFF
CHECK
GAUGE MUST ROCK

The stem break-off position of the screw in the head of the nut is a positive indication that the Visu-Lok II has been properly installed and that the correct grip length has been used.

Product drawings list the acceptable stem break-off limits for properly installed Visu-Lok II. Stem break-off higher than the limits shown is an indication that the fastener is too long; stem break-off falling below the limits shown is an indication that the fastener is too short. In either case, the fastener should be removed, the grip length carefully checked, and then replaced by the next longer or shorter grip fastener, as necessary.

If desired, the nose piece may be adapted to a torque wrench and the following torque values used to determine looseness. However, caution should be exercised not to over-torque the installed Visu-Lok when this method is used.

Visu-Lok II Size	Torque in Inch Lbs.
-5 PLT Series	4 Inch Pounds
-6 PLT Series	6 Inch Pounds
-8 PLT Series	10 Inch Pounds
-10 PLT Series	20 Inch Pounds
-12 PLT Series	30 Inch Pounds



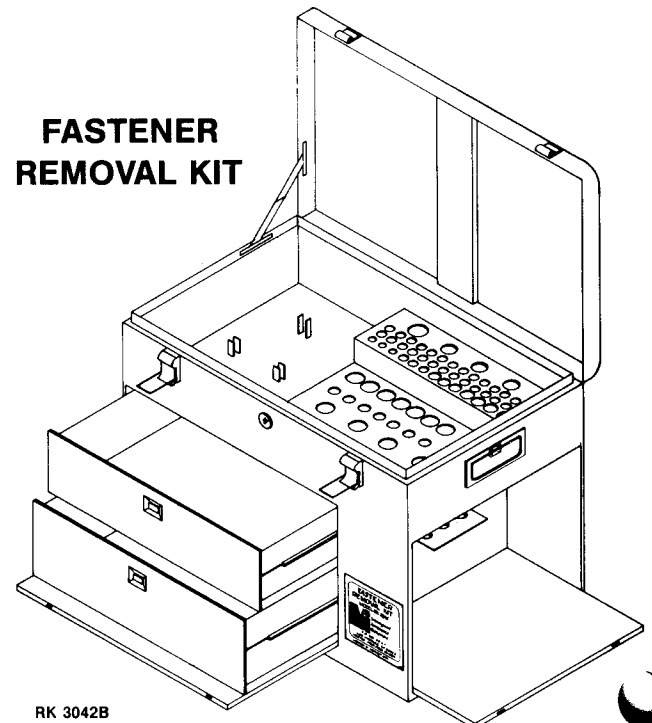
VISU-LOK II BLIND BOLT REMOVAL

All aircraft manufacturing operations are sooner or later faced with the necessity of removing one or more permanent fasteners. Until now this operation was a costly and time consuming process which often resulted in the destruction and scrapping of aircraft components.

With the application of this kit, fasteners can be removed with the confidence of a precision machining operation. Fixturing is accomplished using a vacuum pad which anchors the drill motor guides directly on the centerline of the fastener being removed. This fixture is designed to adjust to convex and concave surfaces. With proper maintenance this kit offers in one portable box all of the fixtures, drills, motors and cutting tools necessary to successfully remove most fasteners.

- **PRECISION FIXTURING**—Prevents drill from drifting off of fasteners centerline.
- **COST EFFECTIVE**—Reduces removal time, use of oversize repair fasteners, and the possible scrapping of major aircraft components.
- **COMPACT & CONVENIENT**—This kit offers in one portable unit all of the tools to successfully remove most fasteners even in areas where access is difficult.
- **VERSATILE**—Removes several diameters, all grips, all head styles and most materials.

FASTENER REMOVAL KIT

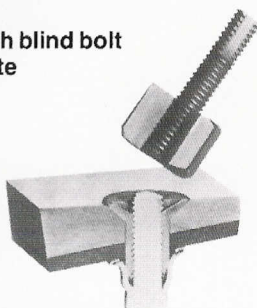


RK 3042B

CONTACT MONOGRAM AEROSPACE FASTENERS FOR COMPLETE DESCRIPTIVE BROCHURE

COMPOSI-LOK® II

High strength blind bolt for composite materials

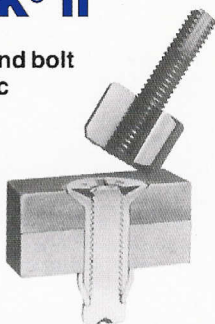


FEATURES

- Large blind side upset ■ Light weight
- Visual locking feature ■ Controlled clamp-up
- Lower total installed costs ■ Simpler long life tooling ■ Fuel tight sealing capability

VISU-LOK® II

High strength blind bolt for use in metallic structures

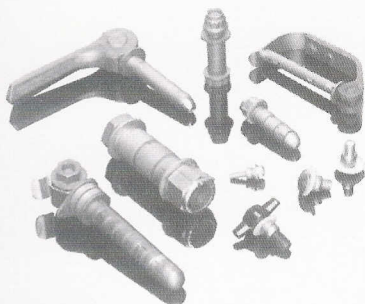


FEATURES

- High clamp-up ■ Self locking ■ Self inspecting ■ Lower total installed costs
- Use of existing tooling ■ Wide range of materials, lengths, diameters & head styles

ADJUSTABLE BUSHING

Manually operated radial expansion fasteners



FEATURES

- Ideal for vibration applications
- Removes structural play
- Provides near perfect alignment
- Permits quick-release fastening
- Allows for blind fastening

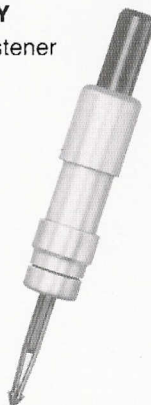
WEDGELOCK

CYLINDRICAL BODY

A temporary blind fastener for use in composite and metallic structures

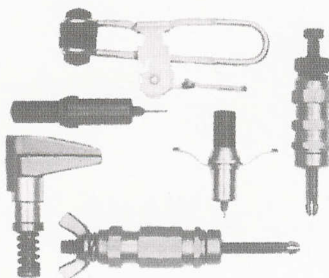
FEATURES

- Easy installation
- 50% time savings in installation and removal efficiency
- Ideal for robotic applications
- Simplified installation tooling



OTHER TEMPORARY FASTENERS

Monogram offers a wide range of lightweight, temporary fastening systems consisting of clamps, template fasteners, drilling aids andplier operated fasteners.



FEATURES

- Wide range of fastening methods
- Inch or metric sizes
- Specials ■ Reusable ■ Durable
- Simple to use

RADIAL-LOK®

A high strength, hole filling fastener for use in both composite and metallic structures

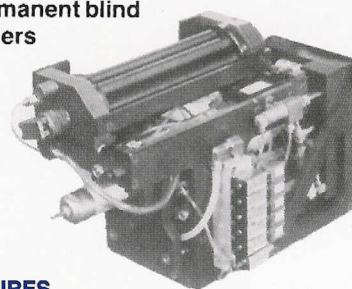
FEATURES

- Radial expansion up to .005"
- Lightning strike protection in composite structures
- High clamp-up
- Ideal in vibration applications
- Available in 3/16" to 3/8" diameters



ROBOTICS

Revolutionary automated fastening system designed to install temporary or permanent blind fasteners



FEATURES

- Fastener and installation tooling designed specifically for automatic and robotic applications
- Light weight ■ Robotic end arm and stationary point applications
- Remote center compliance device incorporated into design
- Common cylindrical driving element allows for installation of a wide variety of fasteners with no change of tooling

OSI-BOLT®

High strength fastener for primary structure

FEATURES

- Interference fit capabilities (.006" in aluminum and .003" in steel)
- 95 and 112 KSI shear systems
- Always breaks flush; no corebolt shaving required
- Directly interchangeable with standard & oversize pin & collar systems
- Robotically compatible using Monogram's patented double cylindrical drive system



Maf

Adjustable fastener for soft core and composite materials

FEATURES

- Variety of head style combinations
- Adjustable clamp-up
- Positive mechanical lock
- Choice of three materials
- Available in three sizes plus oversize





Monogram Aerospace Fasteners

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