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TABLE I

PART NUMBER	NOM. DIA.	A	C MAX.	D DIA.	F DRIVING FLATS	H MAX.	J DIA. MAX.	K MAX.	N MIN.	R RAD.	HOLE SIZE	BREAK-OFF LIMITS	PREVAILING TORQUE IN. LBS. MIN.	DOUBLE SHEAR STRENGTH LBS. MIN.	TENSILE STRENGTH LBS. MIN.
PLT 221-5-(*)	.179	.250 .244	.293	.180 .178	.086 .081	.096	.244	.272	.272	.020 .010	.183 .190	+0.088 +0.000	1.0	3150	900
PLT 221-6-(*)	.214	.312 .305	.328	.215 .213	.104 .099	.113	.300	.312	.340	.025 .015	.218 .215	+0.103 +0.015	1.5	4600	1400
PLT 221-8-(*)	.275	.375 .367	.379	.276 .274	.135 .130	.135	.384	.351	.409	.025 .015	.279 .276	+0.130 +0.032	2.5	7900	2100
PLT 221-10-(*)	.326	.437 .429	.448	.327 .325	.152 .147	.160	.427	.426	.479	.030 .015	.330 .327	+0.130 +0.027	3.5	11350	3600
PLT 221-12-(*)	.389	.500 .491	.535	.390 .388	.185 .180	.190	.516	.495	.548	.030 .015	.393 .390	+0.130 +0.027	4.0	16450	5600

(*) SEE TABLE II FOR SECOND DASH NUMBER AND APPROVED CALLOUT.

TABLE II

SECOND DASH NUMBER	G GRIP	GRIP RANGE		L REF.					SECOND DASH NUMBER	G GRIP	GRIP RANGE		L REF.				
		MIN.	MAX.	PLT 221							MIN.	MAX.	PLT 221				
				-5-(*)	-6-(*)	-8-(*)	-10-(*)	-12-(*)					-5-(*)	-6-(*)	-8-(*)	-10-(*)	-12-(*)
-1	.093	.031	.093	.733	.874	-	-	-	-17	1.094	1.032	1.094	NOT AVAILABLE IN -5 DIAMETER	1.874	1.944	2.096	2.242
-2	.156	.094	.156	.795	.936	1.006	1.158	-	-18	1.156	1.095	1.156		1.936	2.006	2.158	2.304
-3	.219	.157	.219	.858	.999	1.069	1.221	1.367	-19	1.219	1.157	1.219		1.999	2.069	2.221	2.367
-4	.281	.220	.281	.920	1.061	1.131	1.283	1.429	-20	1.281	1.220	1.281		2.061	2.131	2.283	2.429
-5	.344	.282	.344	.983	1.124	1.194	1.346	1.492	-21	1.344	1.282	1.344		2.124	2.194	2.346	2.492
-6	.406	.345	.406	1.045	1.186	1.256	1.408	1.554	-22	1.406	1.345	1.406		2.186	2.256	2.408	2.554
-7	.469	.407	.469	1.108	1.249	1.319	1.471	1.617	-23	1.469	1.407	1.469		2.249	2.319	2.471	2.617
-8	.531	.470	.531	1.170	1.311	1.381	1.533	1.679	-24	1.531	1.470	1.531		2.311	2.381	2.533	2.679
-9	.594	.532	.594	1.233	1.374	1.444	1.596	1.742	-25	1.594	1.532	1.594		2.374	2.444	2.596	2.742
-10	.656	.595	.656	1.295	1.436	1.506	1.658	1.804	-26	1.656	1.595	1.656		2.436	2.506	2.658	2.804
-11	.719	.657	.719	1.358	1.499	1.569	1.721	1.867	-27	1.719	1.657	1.719		2.499	2.569	2.721	2.867
-12	.781	.720	.781	1.420	1.561	1.631	1.783	1.929	-28	1.781	1.720	1.781		2.561	2.631	2.783	2.929
-13	.844	.782	.844	1.483	1.624	1.694	1.846	1.992	-29	1.844	1.782	1.844		2.624	2.694	2.846	2.992
-14	.906	.845	.906	1.545	1.686	1.756	1.908	2.054	-30	1.906	1.845	1.906		2.686	2.756	2.908	3.054
-15	.969	.907	.969	1.608	1.749	1.819	1.971	2.117	-31	1.969	1.907	1.969		2.749	2.819	2.971	3.117
-16	1.031	.970	1.031	1.670	1.811	1.881	2.033	2.179	-32	2.031	1.970	2.031		2.811	2.881	3.033	3.179

▲ "G" TOLERANCES: FOR -5 & -6 SIZES +.030/-0.010; FOR -8 & -10 SIZES +.040/-0.010; FOR -12 SIZE +.050/-0.010.

U.S. PATENT NO. 3643544, OTHER PATENTS PENDING.

Fairchild
 CODE IDENT. NO.
92215

MONOGRAM
 CODE IDENT. NO.
98524

APPROVED DATE
 13 NOVEMBER 1970

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TITLE
VISU-LOK, FASTENER, BLIND INTERNALLY THREADED, EXTERNAL SLEEVE A-286 STEEL PROTRUDING HEX HEAD, SELF LOCKING 1/84" OVERSIZE

STANDARD
PLT 221
SHEET 1 OF 2



CUSTODIAN: ENGINEERING STANDARD COMMITTEE FOR BLIND BOLTS
 3423 SOUTH GARFIELD AVENUE
 LOS ANGELES, CALIFORNIA 90040



PROCUREMENT SPEC. : ESCBB2 CLASS 2.

MATERIAL : NUT & SCREW
 SLEEVE : CORROSION RESISTANT STEEL, TYPE A-286 PER AMS 5731, AMS 5732 OR AMS 5737.

HEAT TREAT : NUT & SCREW SOLUTION HEAT TREATED AND AGED TO A CORE HARDNESS OF Rc 30 TO Rc 45. ALL CORE HARDNESS READINGS ARE TAKEN ON MOUNTED SPECIMEN, USING A BRALE PENETRATOR AND A 30 Kg LOAD (ROCKWELL 30N).

SLEEVE : SOLUTION HEAT TREATED.

△ FINISH : NUT & SCREW
 SLEEVE : PASSIVATE PER MIL-S-5002 (QQ-P-35).

△ LUBRICANT: LUBRICANTS LISTED BELOW MAY BE APPLIED TO ANY OR ALL COMPONENTS IF REQUIRED FOR FASTENER PERFORMANCE: DRY FILM LUBE MoS₂ PER MIL-L-46010 TYPE I OR MIL-L-81329, WWM CARBO-WAX, PARAFFIN WAX AND/OR CETYL ALCOHOL PER MIL-L-87132.

PART CODE & EXAMPLE : PLT 221 - 8 - 8
 GRIP LENGTHS IN 1/16THS (SEE TABLE II).
 NOMINAL BODY DIAMETER AS TABULATED.
 BASIC PART NUMBER, 1/64" OVERSIZE, SELF LOCKING BLIND FASTENER.

GENERAL NOTES :

- 1.) OUTSIDE DIAMETER OF HEAD OF SCREW AND OUTSIDE DIAMETER OF SLEEVE SHALL NOT BE GREATER THAN MAXIMUM "D" DIAMETER.
- 2.) REMOVE ALL LOOSE OR HANGING BURRS.
- △ 3.) LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT AND APPROXIMATELY .040 ABOVE THE INTERSECTION OF THE NUT NOSE ANGLE AND O.D. (MEAN GRIP OF FASTENER).
- △ 4.) THE PREVAILING TORQUE SHALL CONFORM TO THE VALUES AS TABULATED, WHEN TESTED IN ACCORDANCE WITH SPECIFICATION ESCBB-2. HOWEVER, PREVAILING TORQUES FOR THE PLT221-5-1 AND PLT221-6-1 SHALL BE RECORDED THRU A ROTATION OF ONLY 360° OF THE NUT.
- △ 5.) MANUFACTURER'S IDENTIFICATION:
 LETTER "N" DESIGNATES MONOGRAM AEROSPACE FASTENERS.
 LETTERS "VS" DESIGNATE VOI-SHAN.
- 6.) HEAD MARKINGS ON NUT DEPRESSED .010 MAX.
- △ 7.) THE PRODUCT DESCRIBED BY THIS DRAWING IS "EQUIVALENT TO" AND "INTERCHANGEABLE WITH" THE MANUFACTURER'S PRODUCT LISTED BELOW EXCEPT FOR COLOR IDENTIFICATION, HEAD MARKING AND SELF-LOCKING FEATURE. EXISTING STOCK MAY BE REWORKED TO COLOR AND HEAD MARKING MAY BE AS SHOWN BELOW:
 MONOGRAM... : PLO164A-PL0375A SERIES (MARKING: "-" AND/OR "N" OVERSTAMPED "L" OR "SL" NUT MAY BE COLORED RED.
 VOI-SHAN... : VA 407 SERIES (MARKING: "VS", "O", "V" AND "SL"; NUT MAY BE COLORED GOLD.
- △ 8.) STANDARD FINISHES AND LUBRICANTS ARE SHOWN ABOVE. REFER TO SPECIFICATION ESCBB-4 FOR SPECIAL FINISHES AND/OR LUBRICANTS, IF REQUIRED.
- △ 9.) HALF-GRIP SIZES MAY BE ORDERED BY ADDING (.5) TO THE GRIP DASH NUMBERS.
 EXAMPLE: PLT 221-6-4.5 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 AND THE OVERALL SCREW LENGTH "L" DIMENSION MAY VARY AT MANUFACTURER'S OPTION.
- △ 10.) DISTORTION OF "D" DIAMETER SHALL NOT PREVENT INSERTION OF THE FASTENER INTO A RING GAUGE OF LENGTH EQUAL TO ONE DIAMETER AND DIAMETER EQUAL TO MAXIMUM "D" + .001". FORCE FOR INSERTION SHALL NOT EXCEED FIVE (5) POUNDS
- △ 11.) STANDARD GRIP LENGTHS ARE SHOWN IN TABLE II, SHORTER OR LONGER GRIPS THAN THOSE LISTED MAY BE AVAILABLE AS SPECIALS. ON GRIP LENGTHS SHORTER THAN THOSE LISTED, THE BREAKOFF LIMITS AND PREVAILING TORQUES SHOWN IN TABLE I DO NOT APPLY. SEE NOTE △ 4 .
12. DIMENSIONS ARE EXCLUSIVE OF LUBRICATION.

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PLT 221
SHEET 2 OF 2

REV. LETTER AND DATE
 ④ 10-23-03