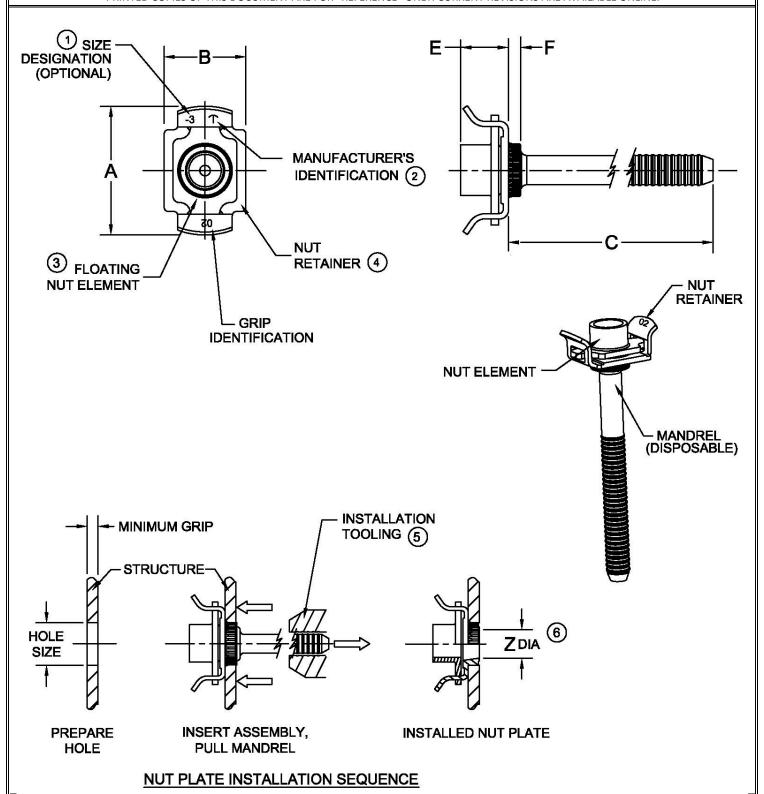
U.S. PATENT

7,059,816

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NOTICE: ALL DIMENSIONS ARE IN INCHES AND APPLY AFTER FINISH AND BEFORE LUBRICATION UNLESS OTHERWISE SPECIFIED.

WARNING: FASTENERS MAY NOT PERFORM PROPERLY IF ALTERED FROM THE MANUFACTURER'S AS-SHIPPED CONDITION OR INSTALLED IN CONDITIONS OTHER THAN SPECIFIED HEREIN.

PROCUREMENT SPECIFICATION:	CHERRY® LIGHTWEIGHT		HEET	1 OF 4	PART NUMBER
NASM25027	RIVETLESS NUT-PLATE	ISSUE		7-29-05	
NAS 523 CODE:	0.030 INCH BOLT CLEARANCE		М	28 Sep 20	CNP14



TABLE I: ASSEMBLY DIMENSIONS

NUT	TUDEAD (175 (7)	Α	В	(С	E	Z	INSTALLATION
DESIGNATION	THREAD SIZE ⑦	MAX	MAX	STD LENGTH	SHORT LENGTH	MAX	6	HOLE SIZE
-3	.1900-32UNJF-3B	.650	.405	1.450	1.100	.260	.218	.253 .249
-4	.2500-28UNJF-3B	.700	.500	1.375	1.100	.320	.280	.315 .311

TABLE II: RETAINER GRIP SELECTION

RETAINER GRIP	MINIMUM	F REF		MAXIMUM GRIP
DASH NO.	GRIP	-3	-4	IVIANIIVIOIVI GRIP
-01 (8) (10)	.040	.036		BASED ON CUSTOMER
-02	.062	.055	.055	APPLICATION.
-03	.125	.110	.110	CONSULT CHERRY FOR
-04	.190		.170	OPTIONS

TABLE III: MECHANICAL PROPERTIES

NUT	RETAINER GRIP	NUT ELEMENT PER NAS1794	ASSEMBLY MECHANICAL PROPERTIES (8)		
DESIGNATION	DASH NO.	AXIAL TENSILE STRENGTH OF ALLOY STEEL AND	TORQUE-OUT	PUSH-OUT	
		CRES AT ROOM TEMPERATURE (lbf, MIN)	(in-lbf, MIN)	(lbf, MIN)	
-3	-01	2460	40	75	
-5	-02 & LONGER	2460	60	100	
-4	ALL GRIPS	4580	100	125	

TABLE IV: MATERIAL AND FINISH (9)

	NUT		RETAINER			MANDREL		
MATERIAL CODE	MATERIAL	FINISH CODE	FINISH	MATERIAL	FINISH CODE	FINISH	MATERIAL	FINISH (1)
	STEEL AISI 1050 PER AMS5085	NO	CAD-PLATE PER AMS-QQ-P-416	A-286 CRES	NO CODE	PASSIVATE PER AMS2700	A-286 CRES	PARTIALLY COPPER COATED
A	OR AIAI 4130 PER AMS6351	CODE	AND DRY FILM LUBE PER NASM25027	PER AMS5525	СС	ALUMINUM COAT PER NAS 4006	PER AMS5525	OR PASSIVATE PER AMS2700

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NOTES:

- (1) FASTENER DIAMETER DESIGNATION STAMPED ON RETAINER, OPTIONAL.
- (2) MANUFACTURER'S IDENTIFICATION LETTER "T" STAMPED ON RETAINER.
- ③ FLOAT OF NUT ELEMENT OF ASSEMBLY SHALL NOT BE LESS THAN .015 INCH RADIALLY FROM CENTERED POSITION. NUT ELEMENT SHALL BE CAPABLE OF ENGAGEMENT WITH BOLT IN THE MAXIMUM MISALIGNED POSITION.
- (4) RETAINER BASE CONFIGURATION IS OPTIONAL WITHIN THE LIMITS OF DIMENSIONS "A" AND "B".
- (5) USE CHERRY INSTALLATION TOOL, ADAPTER, AND PULLING HEAD AS SHOWN IN TABLE BELOW, OR CONSULT CHERRY AEROSPACE FOR OTHER INSTALLATION TOOLING OPTIONS.

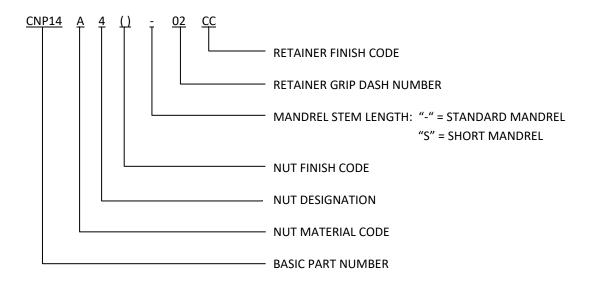
FASTENER	INSTALLATION		PULLING HEAD	
DIAMETER DESIGNATION	TOOL	ADAPTER	STD & SHORT MANDREL	
-3	G704B	N/A	H704-249NP	
	G750A	750A-088	п704-249NP	
-4	G704B	N/A	11704 211110	
	G750A	750A-088	H704-311NP	

- (6) "Z" IS THE EXPECTED INTERNAL DIAMETER OF THE RETAINER AFTER INSTALLATION; UP TO .005" SMALLER MEASUREMENT IS ACCEPTABLE.
- (7) THREADS IN ACCORDANCE WITH SAE AS8879 BEFORE THREAD LOCK AND LUBRICATTION.
- (8) TORQUE-OUT AND PUSH-OUT VALUES APPLY TO ASSEMBLIES INSTALLED IN THE RECOMMENDED HOLE SIZE IN 2024-T3, 7075-T73, OR AN EQUIVALENT STRENGTH ALUMINUM ALLOY. -3 DIAMETER -01 GRIP TORQUE-OUT AND PUSH-OUT VALUES TO BE AS TABULATED IN MECHANICAL PROPERTIES TABLE. TEST PER NASM25027.
- MATERIAL DESIGNATION REFERS TO CHEMICAL COMPOSITION ONLY PER APPROPRIATE SPECIFICATION.
- (10) IN MINIMUM GRIP INSTALLATIONS, ANY BURRS WHICH EXTEND BEYOND THE BACK SIDE OF THE STRUCTURE MAY BE REMOVED BY DEBURRING.
- (11) OPTIONAL: LUBE MAY BE APPLIED TO MANDREL FOR PERFORMANCE.

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EXAMPLE OF CHERRY PART NUMBER:



S	HEET 4	4 OF 4	PART NUMBER
ISSUE		7-29-05	CNP14
REV.	М	28 Sep 20	CNP14

STANDARDS PAGE REVISION LOG CNP14 DCR COMP. **REV LTR** DATE **REVISION DESCRIPTION** NUMBER BY AA Μ 28 Sep 20 20-0377 REVISED NOTE 6