

STANDARD	FIRST DASH NUMBER		THREAD	A DIA	B DIA MIN	D DIA		n		M GAGE PROT	T	U REF	V GAGE DIA	
	OVERSIZE FOR REPAIR ONLY					MIN	MAX	MIN	MAX					
	1/64 O.S.	1/32 O.S.												
-3			.1900-32 UNJF-3A	.3813 .3765	.348	.1890	.1895	.0439	.0459	.0232 .0203	.406	.032	.3272 .3270	
	-3(<)<X					.2021	.2026	.015	.0393					.0413
		-3(<)<Y				.2177	.2182	.005	.0320					.0340
-4			.2500-28 UNJF-3A	.5066 .5018	.473	.2490	.2495	.0713	.0733	.0319 .0288	.469	.032	.4320 .4318	
	-4(<)<X					.2646	.2651	.015	.0652					.0672
		-4(<)<Y				.2802	.2807	.005	.0582					.0602
-5			.3125-24 UNJF-3A	.6335 .6287	.600	.3115	.3120	.0878	.0898	.0378 .0345	.531	.046	.5451 .5449	
	-5(<)<X					.3271	.3276	.015	.0819					.0839
		-5(<)<Y				.3427	.3432	.005	.0749					.0769
-6			.3750-24 UNJF-3A	.7604 .7556	.727	.3740	.3745	.1147	.1167	.0437 .0401	.641	.046	.6582 .6580	
	-6(<)<X					.3896	.3901	.015	.1088					.1108
		-6(<)<Y				.4052	.4057	.005	.1017					.1037
-7<9>			.4375-20 UNJF-3A	.8884 .8812	.839	.4365	.4370	.1303	.1333	.0471 .0424	.656	.046	.7784 .7782	
	-7(<)<X					.4521	.4526	.022	.1244					.1274
		-7(<)<Y				.4677	.4682	.005	.1182					.1202
-8			.5000-20 UNJF-3A	1.0139 1.0068	.965	.4990	.4995	.1568	.1598	.0529 .0481	.731	.046	.8902 .8900	
	-8(<)<X					.5146	.5151	.022	.1508					.1538
		-8(<)<Y				.5302	.5307	.005	.1446					.1466

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DRAWN
27 SEPTEMBER 1972
REV. LETTER AND DATE
ECN 31991
M 23 NOVEMBER 1992

HI-TORQUE •
BOLT, 100° FLUSH SEALING HEAD
CLOSE TOLERANCE

DRAWING NUMBER

HT4020

SHEET 1 OF 3

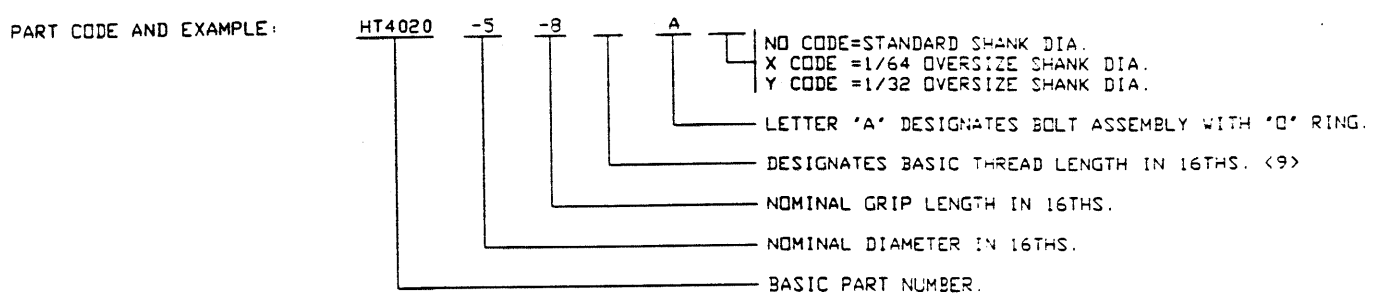
FIRST DASH NUMBER			"O" RING PART NUMBER	X TIR	Y MAX	HI-TORQUE RECESS				TORQUE IN/LB MIN	TENS STRENG LB/MIN	
STANDARD	OVERSIZE FOR REPAIR ONLY					RECESS NO.	J	K REF	W REF			<4>
	1/64 O.S.	1/32 O.S.										
-3			ST7M251-6	.0045	.005	3	.045 .042	.305	.110	76	2,230	
	-3<><>X										1,900	
		-3<><>Y	ST7M251-7								1,900	
-4			ST7M251-8	.0045	.006	4	.054 .051	.422	.134	165	5,220	
	-4<><>X										4,440	
		-4<><>Y	ST7M251-9								4,440	
-5			ST7M251-10	.0045	.007	5	.064 .061	.490	.160	260	8,390	
	-5<><>X										7,110	
		-5<><>Y	ST7M251-11								7,110	
-6			ST7M251-12	.0045	.008	6	.088 .084	.639	.198	400	12,200	
	-6<><>X										10,800	
		-6<><>Y	ST7M251-13								10,800	
-7<9>			ST7M251-14	.0060	.009	7	.100 .096	.715	.224	730	17,180	
	-7<><>X										14,600	
		-7<><>Y	ST7M251-15								14,600	
-8			ST7M251-16	.0060	.010	8	.105 .101	.766	.256	1220	23,000	
	-8<><>X										17,300	
		-8<><>Y	ST7M251-17								17,300	

PROCUREMENT SPECIFICATION: MCDONNELL-DOUGLAS 23M112, TYPE (c) EXCEPT TENSILE LOADS AS TABULATED, AND TENSION-TENSION FATIGUE HIGH LOAD 40% OF TABULATED TENSILE LOADS.

MATERIAL: PH13-8Mo PER AMS 5629.

HEAT TREAT: 125,000 PSI MINIMUM SHEAR.

FINISH AND LUBRICANT: PASSIVATE PER QQ-P-35 AND CETYL ALCOHOL LUBE (BOLT ONLY).



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DRAWN 27 SEPTEMBER 1972 REV. LETTER AND DATE ECN 31991 M 23 NOVEMBER 1992	HI-TORQUE • BOLT, 100° FLUSH SEALING HEAD CLOSE TOLERANCE	DRAWING NUMBER HT4020 SHEET 2 OF 3
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GENERAL NOTES:

- <1> CONCENTRICITY: CONICAL SURFACE OF HEAD TO "D" DIA. WITHIN .002 TIR.
"D" DIA TO THREAD PITCH DIA. WITHIN "X" TIR.
RECESS TO "D" DIA WITHIN .010 FOR -3, WITHIN .012 FOR
-4 THRU -6, WITHIN .015 TIR FOR -7 AND -8.
- <2> HEAD OUT OF ROUNDNESS SHALL NOT EXCEED "Y" MAXIMUM.
3. GRIP LENGTH OF BOLT IS MEASURED FROM TOP OF HEAD TO END OF FULL CYLINDRICAL
PORTION OF SHANK.
- <4> BOLTS SHALL BE TESTED WITH APPLICABLE MS 33750 DRIVER WITH AN AXIAL END LOAD
NOT EXCEEDING 15 POUNDS. BOLTS ARE REJECTABLE IF MINIMUM TORQUE VALUES AS
TABULATED CAUSE FRACTURE OR DISTORTION WHICH RESULT IN A RAISE OF METAL AT THE
EDGE OF THE SLOT EXCEEDING .005 ABOVE THE SURROUNDING AREA.
5. SURFACE ROUGHNESS PER ANSI B46.1. CONICAL SURFACE OF HEAD, HEAD TO SHANK FILLET
RADIUS, SHANK AND ALL THREAD ELEMENTS 32 RHR MAX. ALL OTHER SURFACES 125 RHR MAX.
6. FLUORESCENT PENETRANT INSPECT PER MIL-STD-6866.
7. BREAK ALL SHARP EDGES AND REMOVE ALL BURRS.
8. DIMENSIONS IN INCHES.
- <9> WHEN SPECIFIED, A THIRD DASH NUMBER DESIGNATES A BASIC THREAD LENGTH IN 16THS OTHER
THAN TABULATED IN THE TABLE (T) FOR THE -7 SIZES, STANDARD AND OVERSIZES.
- <10> APPLY WHITE PAINT, COLOR NO. 37875 PER FED-STD-595, (MINIMUM 40% OF AREA) TO TOP OF
HEAD FOR MATERIAL IDENTIFICATION FOR ST3M652 MCAIR PART NUMBER, STANDARD SERIES ONLY.
NOT REQUIRED FOR ANY OTHER CROSS REFERENCED PART NUMBER. PAINT SHALL BE REMOVABLE
WITH A MEK WIPE.
11. ALL PARTS SHALL BE MARKED PER MIL-STD-130. ALL INTERIOR PACKAGES SHALL BE MARKED PER
MIL-STD-129. INTERIOR PACKAGES SHALL ALSO BE DURABLY MARKED WITH THE COMPLETE MCAIR
APPROVED CALLOUT NUMBER. IN ADDITION, BOLT ASSEMBLIES SHALL BE PACKAGED IN FLEXIBLE,
TRANSPARENT AND HEAT SEALED BAGS, (PAPER BAGS OPTIONAL) QUANTITIES PER BAG PER MAC
3112 (PACKAGING INSTRUCTIONS). AGE CONTROL NOT APPLICABLE.

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