

DD Form 672, MAY 88

PREVIOUS CONICHS ARE DEBOLETE

ΉE

THE SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND ACENCES OF DEPARTMENT OF DEFENSE.

REQUI	REMENTS.				Form Approved OMB No 0704-018
	RIVETS MAT		NN ENDS, OR ENDS CHAMFERED UP TO 20 TO TO	HE "S" DIMENSION OR I	MAY HAVE A RADIUS
2	to the "t" Material	ALUMINUM 1100-F (A91 2219-T81 (A92119) 22	100) AND ALUMINUM ALLOYS 2017-T4 (A92017) 19-T62 (A92119), 5056-H32 (A95056) 7050-T7	2024-T4 (A92024) 211 73 (A97050) PER QQ-A-	7-14 (A92117) 430 AND
٦.			oy 45cd (R58450) per ams 4982 Th not listed show 1/16 increment required		
			IS MAY BE OBTAINED BY ADDING -5 AFTER THE I		
		F. PART. NUMBER.			
-					
	<u>MS20470</u>		JMINUM ALLOY 2117-T4 RIVET, 1/8 DA, (3/4 + CATES ADDITIONAL 1/32 INCH INCREMENT IN LENG		CLEAR
			CODE INDICATES CHEMICAL SURFACE TREATMENT PI INDICATES ANODIZE PER MIL-A-8625 TYPE II CU INDICATES ANODIZE PER MIL-A-8625 TYPE II CU INDICATES OPTION OF ANY FINISH EXCEPT AS NOT INDICATES CHEMICAL SURFACE TREATMENT PER MIL INDICATES ANODIZE PER MIL-A-8625 TYPE II CU	ASS 1, CLEAR ASS 1, DICHROMATE SEA ED BELOW L-C-5541 CLASS 1A C	L
		NOTE	FOR 1100 AL CHEMICAL SURFACE TERATMEN GOLD/YELLOW (NO CODE)	T PER MIL-C-5541 CU	SS 1A.
		CLAS FOR PER ONLY	2024 AL ANODIZE PER MIL-A-8625 TYPE II CL 5 2 WITH SPECIFIED COLOR (A, D OR N CODE) 2017 2117 2219 5056 AND 7050 AL CHEMICA MIL-C-5541, CLASS 1A, CLEAR OR GOLD/YELLOW WHEN AUTHORIZED) OR ANODIZE PER MIL-A-86 AR OR DICHROMATE SEAL) OR CLASS 2	NL FINISH SURFACE TREA V (CLEAR FILM SHALL BE	TMENT
		FOR	TITANIUM COLUMBIUM NO FINISH REQUIRED		
			ATES LENGTH IN 1/16 OF AN INCH		
		L INDIC	ATES DIAMETER IN 1/32 OF AN INCH		
			NDICATES 2117-T4 AL ALLOY INDICATES 5056-H32 AL ALLOY NDICATES 2017-T4 AL ALLOY INDICATES 2017-T4 AL ALLOY INDICATES 2024-T4 AL ALLOY NDICATES 2029-T81 AL ALLOY NDICATES TITANIUM COLUMBIUM ALLOY 45Cb NDICATES 2219-T62 AL ALLOY	NEW DESIGN	
		BASIC	S MS NUMBER		
6			(7050 RIVETS) SHALL BE A MAXIMUM OF 75% OF INCH INDENTED RING IS REQUIRED ON 7050 R		
	MANUFACTU	RED AFTER 2 JULY 1990	REQUIRED TO BE DEPRESSED ON RIVET HEADS WIT		
8	ALUMINUM	NLLOY 2017-T4 RIVETS W	ITH 33KSI MIN UNDRIVEN SHEAR STRENGTH ARE	ACCEPTABLE UNTIL 2 J	ULY 1990
NOTES	5				
		ARE IN INCHES UNLES	s otherwise specified tolerances decimals	± 010	
2		EABILITY RELATION WITH J	NH470 RIVETS MS20470 RIVETS OF LIKE DASH N E.	NUMBERS ARE UNIVERSAL	LY, FUNCTIONALLY
3	IN THE EVE	NT OF A CONFLICT BETWE ANDARD SHALL TAKE PREC	EN THE TEXT OF THIS STANDARD AND THE REFER	ENCES CITED HERIN, TH	E TEXT
4			-COVERNMENT) DOCUMENTS OF THE ISSUE LISTED IND STANDARDS (DODISS) SPECIFIED IN THE SOLIC	IN THAT ISSUE OF THE STATION FORM A PART O	DEPARTMENT OF F THIS STA
RFPAP	ING ACTIVITY 1			SPECIFICATION SHEET	NUMBER
	IANS ARMY-		MILITARY SPECIFICATION SHEET	MS20470	14 SEP 93 REV H
	AIR FORCE-	99 DLA-	RIVET SOLID UNIVERSAL HEAD.	SUPERSEDING	
eview <i>i</i> Iser m		ME, MI, OS, 82	ALUMINUM ALLOY AND TITANIUM COLUMBIUM ALLOY	MS20470 G	28 JAN 91
	NUMBER 5		L	AMSC- N/A	FSC 5320
	TION STATEM				

THE REQUIREMENTS FOR ACOURING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECERCATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION MIL-A-3674

THE REQUIREMENTS FOR ACOURTING THE PRODUCT(S) DESCRIBED HEREIN SHALL COMSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION MIL-R-5674

								1	Form Approved OMB No: 0704-
ALUMINUM 1100-F	ALUMINUM 2117-T4	ALUMINUM 5056-H32	ALUMINUM 2017-T4 NACTIVE	ALUMINUM 2024-T4 INACTIVE	ALUMINUM 7050-173	ALUMINUM 2219-T81 INACTIVE	TITANIUM 45 Cb	ALUMINUM 2219-T62	
DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	
				1/16 NOM	DIA.				
A2-3	A02-3	82-3	D2-3	002-3	E2-3	K2-3	T2-3	J2-3	168
A2-4	AD2-4	<u>B2-4</u>	D2-4	002-4	E2-4	K2-4	T2-4	J2-4	250
A2-5	AD2-5	B2-5	D2-5	DD2-5	E2-5	K2-5	T2-5	J2-5	312
A2-6	AD2-6	B2-6	D2-6	DD2-6	E2-6	K2-6	T2-6		375
A2-7	AD2-7	B2-7	D2-7	DD2-7	E2-7	K2-7	T2-7	J2-7	438
A2-8	A02-8	82-8	D2-8	DD2-8	E2-8	K2-8	T2-B	J2-8	500
A2-9	A02-9	82-9	D2-9	002-9	E2-9	K2-9	12-9	J2-9	562
A2-10	A02-10	B2-10	D2-10	DD2-10	E2-10	K2-10	T2-10	J2-10	625
A2-12	A02-12	82-12	D2-12	DD2-12	E2-12	K2-12	T2-12		750
A2-14	A02-14	B2-14	D2-14	002-14	E2-14	K2-14	T2-14	J2-14	875
A2-16	A02-16	B2-16	D2-16	DD2-16	E2-16	K2-16	72-16	J2-16	1 000
A2-18	A02-18	82-18	D2-18	DD2-18	E2-18	K2-18	T2-18	J2-18	1 125
A2-20	A02-20	B2-20	02-20	002-20	E2-20	K2-20	T2-20	J2-20	1 250
ALUMINUM 1100-F	ALUMINUM 2117-T4	ALUMINUM 5056-H32	ALUMINUM 2017-T4 INACTIVE	ALUMINUM 2024-T4 INACTIVE	ALUMINUM 7050-173	ALUMINUM 2219-T81 INACTIVE	TITANIUM 45 Cb	ALUMINUM 2219-T62	
DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	
			واستعداد والمتعادم والم	3/32 NOM	DIA.				
A3-3	AD3-3	83-3	D3-3	DD3-3	E3-3	K3-3	T3-3	J3-3	188
A3-4	AD3-4	B3-4	D3-4	D03-4	E3-4	K3-4	T3-4	J3-4	250
A3-5	AD3-5	83-5	D3-5	D03-5	E3-5	K3-5	T3-5	J3-5	312
A3-6	AD3-6	83-6	D3-6	DD3-6	E3-6	K3-6	73-6	J3-6	375
A3-7	A03-7	B3-7	D3-7	003-7	E3-7	K3-7	13-7	J3-7	438
A3-8	AD3-8	83-8	03-8	003-8	E3-8	K3-8	13-8	J3-8	500
A3-9	AD3-9	83-9	03-9	003-9	E3-9	K3-9	13-9	J3-9	562
A3-10	A03-10	B3-10	D3-10	DD3-10	E3-10	K3-10	T3-10	J3-10	625
A3-12	AD3-12	83-12	<b>D3-12</b>	DD3-12	E3-12	K3-12	13-12	J3-12	750
A3~14	AD3-14	83-14	03-14	DD3-14	E3-14	K3-14	T3-14	J3-14	875
A3-16	A03~16	<b>B</b> 3-16	03-16	DD3-16	E3-16	K3-16	T3-16	J3-16	1 000
A3~18	AD3-18	83-18	D3-18	003-18	E3-18	K3-18	T3-18	J3-18	1 125
A3-20	AD3-20	83-20	03-20	DD3-20	E3-20	K3-20	T3-20	J3-20	1 250
A3-22	AD3-22	B3-22	D3-22	003-22	E3-22	K3-22	T3-22	J3-22	1 375
ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM 2017-T4	ALUMINUM 2024-T4 INACTIVE	ALUMINUM 7050-173	ALUMINUM 2219-TB1 INACTIVE	TITANIUM 45 Cb	ALUMINUM 2219-T62	
1100-F	2117-74	5056-H32	INACTIVE	ICANCELLAC					
		DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	
1100-F DASH NO	2117-T4	DASH NO	DASH NO	DASH NO 1/8 NOM I	DHA.				
1100-F	2117-T4 DASH NO AD4-3	DASH NO B4-3		DASH NO		K4-3	T4-3	J4-3	188
1100-F DASH NO A4~3	2117-74 DASH NO AD4-3 AD4-3-5	DASH NO 84-3 84-3-5	DASH NO D4-3	DASH NO 1/8 NOM 1 DD4-3	DW. E4-3	K4-3 K4-3-5	<u>14-3</u> 14-3-5		_218
1100-F DASH NO	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4	DASH NO 84-3 84-3-5 84-4	DASH NO	DASH NO 1/8 NOM I	DHA.	K4-3 K4-3-5 K4-4	T4-3 T4-3-5 T4-4	J4-3 J4-3-5 J4-4	_218 
1100-F DASH NO A4-3 A4-4	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5	DASH NO 04-3 04-3-5 04-4 04-4-5	DASH NO D4-3 D4-4	DASH NO 1/8 NOM 1 DD4-3 DD4-4	DH. E4-3 E4-4	K4-3 K4-3-5 K4-4 K4-4-5	T4-3 T4-3-5 T4-4 T4-4-5	J4-3 J4-3-5 J4-4 J4-4-5	_218 _250 _281
1100-F DASH NO A4-3 A4-4 A4-5	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5	DASH NO 04-3 04-3-5 04-4 04-4-5 04-5	DASH NO D4-3 D4-4 D4-5	DASH NO 1/8 NOM 1 DD4-3 DD4-4 DD4-5	DHA. E4-3 E4-4 E4-5	K4-3 K4-3-5 K4-4 K4-4-5 K4-5	T4-3 T4-3-5 T4-4 T4-4-5 T4-5	J4-3 J4-3-5 J4-4 J4-4-5 J4-5	218 250 281 312
1100-F DASH NO M-3 M-4 A4-5 M-6	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-5 AD4-6	DASH NO 04-3 04-3-5 04-4 04-4-5 04-5 04-5 04-6	DASH NO D4-3 D4-4 D4-5 D4-6	DASH NO 1/8 NOM 1 DD4-3 DD4-4 DD4-5 DD4-6	DW. <u>E4-3</u> <u>E4-4</u> <u>E4-5</u> <u>E4-6</u>	K4-3 K4-3-5 K4-4 K4-4-5 K4-5 K4-6	74-3 74-3-5 74-4 74-4-5 74-5 74-5 74-6	J4-3 J4-3-5 J4-4 J4-4-5 J4-5 J4-6	218 250 281 312 375
1100-F DASH NO A4-3 M-4 A4-5 M-6 A4-7	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-6 AD4-7	DASH NO 84-3 84-3-5 84-4 84-4-5 84-5 84-5 84-5 84-7	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7	DASH NO 1/8 NOM 1 D04-3 D04-4 D04-5 D04-6 D04-7	DWA. E4-3 E4-4 E4-5 E4-6 E4-7	K4-3 K4-3-5 K4-4 K4-4-5 K4-5 K4-6 K4-6	74-3 74-3-5 74-4 74-4-5 74-5 74-5 74-6 74-7	J4-3 J4-3-5 J4-4 J4-4-5 J4-5 J4-6 J4-7	218 250 281 312 375 438
1100-F DASH NO M-3 M-4 M-6 M-6 M-7 M-8	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-5 AD4-6 AD4-7 AD4-8	B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-5 B4-6 B4-7 B4-8	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7 D4-8	DASH NO 1/8 NOM ( DD4-3 DD4-4 DD4-5 DD4-5 DD4-6 DD4-7 DD4-8	DWA. E4-3 E4-4 E4-5 E4-6 E4-7 E4-8	K4-3 K4-3-5 K4-4 K4-4-5 K4-5 K4-6 K4-7 K4-8	74-3 74-3-5 74-4 74-4-5 74-5 74-5 74-6 74-7 74-8	J4-3 J4-3-5 J4-4 J4-5 J4-5 J4-5 J4-6 J4-7 J4-8	218 250 281 312 375 438 500
1100-F DASH NO M-3 M-4 M-5 M-6 M-7 M-8 M-7 M-8 M-9	2117-74 DASH NO AD4-3-5 AD4-4-5 AD4-6 AD4-6 AD4-7 AD4-7 AD4-8 AD4-9	DASH NO 84-3 84-3-5 84-4 84-4 84-5 84-5 84-6 84-7 84-8 84-9	DASH NO D4-3 D4-4 D4-5 D4-6 D4-6 D4-7 D4-8 D4-9	DASH NO 1/8 NOM 1 DD4-3 DD4-4 DD4-5 DD4-5 DD4-6 DD4-6 DD4-7 DO4-8 DD4-7	DWA E4-3 E4-4 E4-5 E4-5 E4-7 E4-8 E4-9	K4-3 K4-3-5 K4-4 K4-4-5 K4-5 K4-6 K4-6 K4-7 K4-8 K4-9	$\begin{array}{r} 74-3 \\ 74-3-5 \\ 74-4 \\ 74-4-5 \\ 74-5 \\ 74-6 \\ 74-7 \\ 74-8 \\ 74-9 \\ 74-9 \end{array}$	J4-3 J4-3-5 J4-4 J4-4-5 J4-6 J4-7 J4-8 J4-9	218 250 281 312 375 438 500 562
1100-F DASH NO M-3 M-4 M-6 M-6 M-7 M-8	2117-74 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-5 AD4-5 AD4-6 AD4-7 AD4-8 AD4-9 AD4-10	DASH NO B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-5 B4-6 B4-7 B4-6 B4-9 B4-9 B4-10	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7 D4-8	DASH NO 1/8 NOM ( DD4-3 DD4-4 DD4-5 DD4-5 DD4-6 DD4-7 DD4-8	DWA. E4-3 E4-4 E4-5 E4-6 E4-7 E4-8	K4-3 K4-4 K4-4-5 K4-5 K4-5 K4-7 K4-8 K4-9 K4-10	T4-3       T4-3-5       T4-4       T4-4-5       T4-5       T4-6       T4-7       T4-9       T4-10	J4-3 J4-3-5 J4-4 J4-5 J4-5 J4-6 J4-7 J4-8 J4-9 J4-9 J4-10	218 250 281 312 375 438 500 562 625
1100-F DASH NO A4-3 A4-3 A4-5 A4-5 A4-5 A4-7 A4-8 A4-9 A4-10	2117-74 DASH NO AD4-3 AD4-3-5 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-6 AD4-7 AD4-8 AD4-9 AD4-10 AD4-11	DASH NO B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-6 B4-7 B4-8 B4-9 B4-10 B4-11	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-9 D4-10	DASH NO 1/8 NOM 1 DD4-3 DD4-3 DD4-4 DD4-5 DD4-6 DD4-7 DD4-6 DD4-7 DD4-8 DD4-9 DD4-9 DD4-10	DHA E4-3 E4-3 E4-5 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10	K4-3 K4-3-5 K4-4 K4-4 K4-6 K4-6 K4-7 K4-8 K4-7 K4-8 K4-10 K4-11	T4-3       T4-3-5       T4-4       T4-4-5       T4-5       T4-6       T4-7       T4-8       T4-9       T4-10       T4-11	J4-3 J4-3-5 J4-4 J4-4-5 J4-5 J4-6 J4-7 J4-8 J4-9 J4-9 J4-10 J4-11	218 250 281 312 438 500 562 625 687
1100-F DASH NO M-3 M-4 M-5 M-6 M-6 M-7 M-8 M-10 M-10 M-12	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-4 AD4-4-5 AD4-6 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-10 AD4-11 AD4-12	DASH NO 64-3 84-3-5 84-4 84-4-5 84-5 84-6 84-7 84-6 84-7 84-8 84-9 84-10 84-11 84-12	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-7 D4-8 D4-9 D4-10 D4-12	DASH NO 1/8 NOM 1 DD4-3 DD4-4 DD4-5 DD4-5 DD4-6 DO4-7 DO4-6 DO4-7 DO4-8 DO4-9 DO4-10 DO4-12	DAA E4-3 E4-3 E4-5 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-12	K4-3 K4-3-5 K4-4 K4-4 K4-5 K4-5 K4-5 K4-5 K4-6 K4-7 K4-8 K4-9 K4-10 K4-11 K4-12	T4-3       T4-3-5       T4-4       T4-5       T4-6       T4-7       T4-8       T4-9       T4-10       T4-12	J4-3 J4-3-5 J4-4 J4-4-5 J4-5 J4-5 J4-7 J4-8 J4-7 J4-8 J4-7 J4-8 J4-9 J4-10 J4-11 J4-12	218 250 281 312 375 438 500 562 625 687 750
1100-F DASH NO M-3 M-4 M-5 M-6 M-7 M-8 M-7 M-8 M-9 M-10 M-12 M-14	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-4 AD4-4-5 AD4-6 AD4-6 AD4-6 AD4-7 AD4-8 AD4-9 AD4-10 AD4-11 AD4-12 AD4-14	DASH NO 84-3 84-3-5 84-4 84-4 84-5 84-5 84-6 84-7 84-8 84-9 84-10 84-10 84-11 84-12 84-14	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-7 D4-8 D4-9 D4-10 D4-12 D4-14	DASH NO 1/8 NOM 1 DD4-3 DD4-4 DD4-5 DD4-6 DD4-6 DD4-6 DD4-7 DD4-8 DD4-7 DD4-8 DD4-10 DD4-10 DD4-12 DD4-14	DHA E4-3 E4-3 E4-5 E4-6 E4-7 E4-8 E4-7 E4-8 E4-10 E4-12 E4-14	K4-3 K4-3-5 K4-4 K4-4-5 K4-5 K4-5 K4-6 K4-8 K4-7 K4-8 K4-10 K4-10 K4-11 K4-12 K4-14	$\begin{array}{c} \hline 74-3\\ \hline 74-3-5\\ \hline 74-4\\ \hline 74-4-5\\ \hline 74-5\\ \hline 74-5\\ \hline 74-6\\ \hline 74-6\\ \hline 74-7\\ \hline 74-8\\ \hline 74-9\\ \hline 74-10\\ \hline 74-10\\ \hline 74-11\\ \hline 74-12\\ \hline 74-14\\ \end{array}$	$\begin{array}{c} J4-3\\ J4-3-5\\ J4-4\\ J4-4-5\\ J4-5\\ J4-5\\ J4-7\\ J4-8\\ J4-7\\ J4-8\\ J4-9\\ J4-10\\ J4-10\\ J4-11\\ J4-12\\ J4-14\end{array}$	218 250 281 312 375 438 500 562 625 687 750 875
1100-F DASH NO A4-3 A4-5 A4-5 A4-5 A4-5 A4-5 A4-7 A4-8 A4-10 A4-10 A4-12 A4-14 A4-16	2117-74 DASH NO AD4-3-5 AD4-4-5 AD4-4-5 AD4-5 AD4-5 AD4-6 AD4-5 AD4-6 AD4-7 AD4-8 AD4-9 AD4-10 AD4-11 AD4-12 AD4-14 AD4-16	DASH NO B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-5 B4-6 B4-7 B4-7 B4-9 B4-10 B4-11 B4-11 B4-12 B4-16	DASH NO D4-3 D4-4 D4-5 D4-5 D4-6 D4-7 D4-8 D4-9 D4-10 D4-10 D4-12 D4-14 D4-18	DASH NO 1/8 NOM ( DD4-3 DD4-3 DD4-4 DD4-5 DD4-5 DD4-6 DD4-7 DD4-7 DD4-8 DD4-7 DD4-8 DD4-9 DD4-10 DD4-12 DD4-14 DD4-18	DHA E4-3 E4-4 E4-5 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-10 E4-12 E4-14 E4-18	K4-3 K4-3-5 K4-4 K4-4-5 K4-5 K4-5 K4-6 K4-6 K4-8 K4-8 K4-8 K4-9 K4-10 K4-11 K4-11 K4-12 K4-14 K4-18	T4-3       T4-3-5       T4-4       T4-4-5       T4-5       T4-6       T4-7       T4-8       T4-9       T4-10       T4-11       T4-12       T4-14       T4-16	$\begin{array}{c} J4-3\\ J4-3-5\\ J4-4\\ J4-4-5\\ J4-5\\ J4-5\\ J4-6\\ J4-7\\ J4-8\\ J4-9\\ J4-10\\ J4-11\\ J4-11\\ J4-12\\ J4-14\\ J4-18\\ \end{array}$	218 250 281 312 375 438 500 562 625 687 750 875 1000
1100-F DASH NO M-3 M-4 M-5 M-6 M-7 M-8 M-7 M-8 M-10 M-10 M-12 M-14 M-18	2117-74 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-7 AD4-7 AD4-7 AD4-7 AD4-9 AD4-10 AD4-11 AD4-12 AD4-18	DASH NO B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-6 B4-7 B4-6 B4-9 B4-10 B4-11 B4-12 B4-14 B4-16 B4-18	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-7 D4-8 D4-7 D4-10 D4-12 D4-12 D4-14 D4-18 D4-18	DASH NO 1/8 NOM 1 DD4-3 DD4-3 DD4-4 DD4-5 DD4-6 DD4-7 DD4-6 DD4-7 DD4-6 DD4-7 DD4-8 D04-9 D04-10 D04-12 DD4-14 DD4-16 DD4-18	DHA E4-3 E4-3 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-12 E4-14 E4-18 E4-18	K4-3 K4-4 K4-4-5 K4-5 K4-5 K4-6 K4-7 K4-8 K4-7 K4-8 K4-9 K4-10 K4-10 K4-11 K4-12 K4-14 K4-18 K4-18	$\begin{array}{c} \hline 74-3\\ \hline 74-3-5\\ \hline 74-4\\ \hline 74-4-5\\ \hline 74-5\\ \hline 74-5\\ \hline 74-6\\ \hline 74-7\\ \hline 74-8\\ \hline 74-6\\ \hline 74-10\\ \hline 74-10\\ \hline 74-11\\ \hline 74-12\\ \hline 74-14\\ \hline 74-18\\ \hline 74-18\\ \hline 74-18\\ \hline 74-18\\ \hline 74-18\\ \hline \end{array}$	$\begin{array}{c} J4-3\\ J4-3-5\\ J4-4\\ J4-4-5\\ J4-5\\ J4-5\\ J4-6\\ J4-7\\ J4-8\\ J4-9\\ J4-10\\ J4-10\\ J4-11\\ J4-12\\ J4-14\\ J4-18\\ J4-18\\ J4-18\end{array}$	218 250 281 312 375 438 500 562 625 687 750 875 1000 1 125
1100-F DASH NO M-3 M-4 M-5 M-6 M-7 M-8 M-9 M-10 M-12 M-12 M-18 M-18 M-20	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-4 AD4-4 AD4-5 AD4-5 AD4-5 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-11 AD4-112 AD4-12 AD4-18 AD4-18 AD4-18 AD4-20	DASH NO B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-6 B4-7 B4-6 B4-7 B4-8 B4-9 B4-10 B4-11 B4-12 B4-14 B4-16 B4-18 B4-20	DASH NO D4-3 D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-9 D4-10 D4-12 D4-14 D4-14 D4-18 D4-18 D4-20	DASH NO 1/8 NOM 1 DD4-3 DD4-3 DD4-5 DD4-5 DD4-6 DD4-7 DD4-6 DD4-7 DD4-7 DD4-10 DD4-12 DD4-14 DD4-18 DD4-18 DD4-20	DHA E4-3 E4-3 E4-5 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-12 E4-14 E4-14 E4-18 E4-20	K4-3 K4-3-5 K4-4 K4-4-5 K4-6 K4-7 K4-8 K4-7 K4-8 K4-7 K4-10 K4-11 K4-12 K4-14 K4-18 K4-18 K4-20	$\begin{array}{c} \hline 74-3\\ \hline 74-3-5\\ \hline 74-4\\ \hline 74-4-5\\ \hline 74-5\\ \hline 74-5\\ \hline 74-6\\ \hline 74-7\\ \hline 74-8\\ \hline 74-0\\ \hline 74-10\\ \hline 74-10\\ \hline 74-11\\ \hline 74-12\\ \hline 74-14\\ \hline 74-18\\ \hline 74-16\\ \hline 74-20\\ \end{array}$	$\begin{array}{c} J4-3\\ J4-3-5\\ J4-4\\ J4-4-5\\ J4-5\\ J4-5\\ J4-6\\ J4-7\\ J4-8\\ J4-7\\ J4-8\\ J4-1\\ J4-12\\ J4-11\\ J4-12\\ J4-14\\ J4-18\\ J4-18\\ J4-18\\ J4-20\\ \end{array}$	218 250 281 312 375 438 500 562 625 687 750 875 1000 1125 1250
1100-F DASH NO M-3 M-4 M-5 M-6 M-7 M-8 M-7 M-8 M-10 M-10 M-12 M-14 M-18	2117-74 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-7 AD4-7 AD4-7 AD4-7 AD4-9 AD4-10 AD4-11 AD4-12 AD4-18	DASH NO B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-6 B4-7 B4-6 B4-9 B4-10 B4-11 B4-12 B4-14 B4-16 B4-18	DASH NO D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-7 D4-8 D4-7 D4-10 D4-12 D4-12 D4-14 D4-18 D4-18	DASH NO 1/8 NOM 1 DD4-3 DD4-3 DD4-4 DD4-5 DD4-6 DD4-7 DD4-6 DD4-7 DD4-6 DD4-7 DD4-8 D04-9 D04-10 D04-12 DD4-14 DD4-16 DD4-18	DHA E4-3 E4-3 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-12 E4-14 E4-18 E4-18	K4-3 K4-4 K4-4-5 K4-5 K4-5 K4-6 K4-7 K4-8 K4-7 K4-8 K4-9 K4-10 K4-10 K4-11 K4-12 K4-14 K4-18 K4-18	$\begin{array}{c} \hline 74-3\\ \hline 74-3-5\\ \hline 74-4\\ \hline 74-4-5\\ \hline 74-5\\ \hline 74-5\\ \hline 74-6\\ \hline 74-7\\ \hline 74-8\\ \hline 74-6\\ \hline 74-10\\ \hline 74-10\\ \hline 74-11\\ \hline 74-12\\ \hline 74-14\\ \hline 74-18\\ \hline 74-18\\ \hline 74-18\\ \hline 74-18\\ \hline 74-18\\ \hline \end{array}$	$\begin{array}{c} J4-3\\ J4-3-5\\ J4-4\\ J4-4-5\\ J4-5\\ J4-5\\ J4-6\\ J4-7\\ J4-8\\ J4-9\\ J4-10\\ J4-10\\ J4-11\\ J4-12\\ J4-14\\ J4-18\\ J4-18\\ J4-18\end{array}$	218 250 281 312 375 438 500 562 625 687 750 875 1000 1 125
1100-F DASH NO M-3 M-4 A4-5 M-6 M-7 M-8 M-9 A4-10 A4-10 A4-10 A4-12 A4-14 A4-18 A4-20 A4-22 A4-24 ARING ACTIVITI DOWNS ARM AR FORC	2117-74 DASH MO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-6 AD4-5 AD4-7 AD4-8 AD4-9 AD4-10 AD4-10 AD4-11 AD4-11 AD4-11 AD4-12 AD4-12 AD4-14 AD4-16 AD4-20 AD4-22 AD4-24 Y NAVY-AS Y-AR E=99	DASH NO B4-3 B4-3-5 B4-4 B4-3-5 B4-5 B4-5 B4-5 B4-6 B4-7 B4-7 B4-9 B4-10 B4-11 B4-10 B4-11 B4-12 B4-12 B4-14 B4-16 B4-18 B4-22 B4-24 B4-24 B4-24	DASH NO D4-3 D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-7 D4-8 D4-9 D4-10 D4-10 D4-12 D4-14 D4-18 D4-18 D4-18 D4-18 D4-20 D4-22 D4-24 MILL TTTLE	DASH NO 1/8 NOM ( DD4-3 DD4-4 DD4-5 DD4-6 D04-5 D04-6 D04-7 D04-8 D04-7 D04-8 D04-7 D04-10 D04-12 D04-12 D04-14 D04-18 D04-18 D04-18 D04-22 D04-24 TARY SPEC	DHA E4-3 E4-3 E4-4 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-12 E4-12 E4-14 E4-18 E4-18 E4-20 E4-22 E4-24 SIFICATION S	K4-3 K4-3-5 K4-4 K4-5 K4-5 K4-8 K4-8 K4-8 K4-8 K4-8 K4-10 K4-11 K4-12 K4-11 K4-12 K4-14 K4-18 K4-18 K4-20 K4-24 SHEET	$\begin{array}{c} \hline 74-3\\ \hline 74-3-5\\ \hline 74-4\\ \hline 74-4-5\\ \hline 74-5\\ \hline 74-6\\ \hline 74-6\\ \hline 74-7\\ \hline 74-8\\ \hline 74-6\\ \hline 74-10\\ \hline 74-22\\ \hline 74-24\\ \hline \\ SPECIFICATION\\ \hline MS20\\ \hline \\ SUPERSEDINC\\ \hline \end{array}$	J4-3 J4-3-5 J4-4 J4-4-5 J4-6 J4-7 J4-8 J4-7 J4-8 J4-7 J4-10 J4-11 J4-12 J4-14 J4-18 J4-18 J4-20 J4-22 J4-24 M SHEET NUK	218 250 281 312 375 438 500 562 625 625 627 750 875 1000 1125 1 250 1 375 1 500 4BER 14 SEP 03 REY M
1100-F DASH NO A4-3 A4-3 A4-5 A4-5 A4-5 A4-5 A4-9 A4-10 A4-10 A4-12 A4-14 A4-16 A4-10 A4-12 A4-14 A4-22 A4-24 A4-22 A4-24 A4-22 A4-24 A4-22 A4-24 A4-25 A4-22 A4-24 A4-25 A4-22 A4-25 A4-25 A4-25 A4-25 A4-25 A4-16 A4-20 A4-20 A4-22 A4-26 A4-20 A4-20 A4-20 A4-20 A4-20 A4-20 A4-20 A4-22 A4-20	2117-T4 DASH NO AD4-3 AD4-3-5 AD4-4 AD4-4-5 AD4-4 AD4-4-5 AD4-4 AD4-4-5 AD4-4 AD4-4-5 AD4-4 AD4-6 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-7 AD4-8 AD4-11 AD4-11 AD4-112 AD4-114 AD4-114 AD4-12 AD4-114 AD4-20 AD4-22 AD4-22 AD4-24 AD4-24 AD4-24 AD4-20 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-24 AD4-26 AD4-26 AD4-7 AD4-8 AD4-16 AD4-16 AD4-16 AD4-16 AD4-17 AD4-18 AD4-20 AD4-24	DASH NO B4-3 B4-3-5 B4-4 B4-3-5 B4-5 B4-5 B4-5 B4-6 B4-7 B4-7 B4-9 B4-10 B4-11 B4-10 B4-11 B4-12 B4-12 B4-14 B4-16 B4-18 B4-22 B4-24 B4-24 B4-24	DASH NO D4-3 D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-7 D4-8 D4-9 D4-10 D4-10 D4-12 D4-14 D4-18 D4-18 D4-18 D4-18 D4-20 D4-22 D4-24 MILL TTTLE	DASH NO 1/8 NOM ( DD4-3 DD4-4 DD4-5 DD4-6 D04-5 D04-6 D04-7 D04-8 D04-7 D04-8 D04-7 D04-10 D04-12 D04-12 D04-14 D04-18 D04-18 D04-18 D04-20 D04-22 D04-24 TARY SPEC	DHA E4-3 E4-3 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-12 E4-14 E4-12 E4-14 E4-18 E4-20 E4-22 E4-24 CIFICATION S	K4-3 K4-3-5 K4-4 K4-5 K4-5 K4-8 K4-8 K4-8 K4-8 K4-8 K4-10 K4-11 K4-12 K4-11 K4-12 K4-14 K4-18 K4-18 K4-20 K4-24 SHEET	$\begin{array}{c} \hline 74-3\\ \hline 74-3-5\\ \hline 74-4\\ \hline 74-4-5\\ \hline 74-5\\ \hline 74-5\\ \hline 74-6\\ \hline 74-7\\ \hline 74-8\\ \hline 74-9\\ \hline 74-10\\ \hline 74-10\\ \hline 74-10\\ \hline 74-10\\ \hline 74-10\\ \hline 74-11\\ \hline 74-12\\ \hline 74-14\\ \hline 74-18\\ \hline 74-18\\ \hline 74-20\\ \hline 74-22\\ \hline 74-24\\ \hline SPECIFICATION\\ MS20\\ SUPERSEDINC\\ MS20470 \ C \end{array}$	$\begin{array}{c} J4-3\\ J4-3-5\\ J4-4\\ J4-4-5\\ J4-5\\ J4-6\\ J4-7\\ J4-8\\ J4-9\\ J4-10\\ J4-10\\ J4-11\\ J4-12\\ J4-14\\ J4-16\\ J4-18\\ J4-20\\ J4-22\\ J4-24\\ \hline SHEET NUK\\ 470\\ \end{array}$	218 250 281 312 375 438 500 562 625 687 750 875 1 000 1 125 1 250 1 375 1 500 #BER 14 SEP 93 REV H 28 JAN 91
1100-F DASH NO M4-3 M4-3 M4-4 M4-5 M4-6 M4-7 M4-8 M4-9 M4-10 M4-12 M4-10 M4-12 M4-14 M4-18 M4-20 M4-22 M4-24	2117-74 DASH NO AD4-3-5 AD4-4-5 AD4-4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-5 AD4-6 AD4-7 AD4-8 AD4-9 AD4-10 AD4-11 AD4-11 AD4-12 AD4-11 AD4-12 AD4-12 AD4-12 AD4-12 AD4-12 AD4-12 AD4-12 AD4-12 AD4-20 AD4-22 AD4-24 Y NAVY-AS Y-AR E-99 ME, MI, OS, S320-0806 DMEMT	DASH NO B4-3 B4-3-5 B4-4 B4-4-5 B4-5 B4-5 B4-6 B4-7 B4-9 B4-10 B4-11 B4-12 B4-12 B4-12 B4-14 B4-16 B4-18 B4-20 B4-22 B4-24 NAVY- CLA- B2	DASH NO D4-3 D4-3 D4-4 D4-5 D4-6 D4-7 D4-8 D4-7 D4-8 D4-9 D4-10 D4-10 D4-12 D4-14 D4-16 D4-18 D4-20 D4-22 D4-24 MILL MLE Rf	DASH NO 1/8 NOM I DD4-3 DD4-3 DD4-4 DD4-5 DD4-5 DD4-6 DD4-7 DD4-6 DD4-7 DD4-6 DD4-7 DD4-10 DD4-12 DD4-14 DD4-16 DD4-12 DD4-14 DD4-16 DD4-12 DD4-12 DD4-12 DD4-12 DD4-22 DD4-22 DD4-22 DD4-24 TARY SPEC	DHA E4-3 E4-3 E4-4 E4-5 E4-6 E4-7 E4-8 E4-9 E4-10 E4-12 E4-14 E4-18 E4-18 E4-20 E4-22 E4-24 CIFICATION S NIVERSAL HE/A Y AND TITAN A ALLOY	K4-3 K4-3-5 K4-4 K4-5 K4-5 K4-8 K4-8 K4-8 K4-8 K4-8 K4-10 K4-11 K4-12 K4-11 K4-12 K4-14 K4-18 K4-18 K4-20 K4-24 SHEET	$\begin{array}{c} \hline 74-3\\ \hline 74-3-5\\ \hline 74-4\\ \hline 74-4-5\\ \hline 74-5\\ \hline 74-6\\ \hline 74-6\\ \hline 74-7\\ \hline 74-8\\ \hline 74-6\\ \hline 74-10\\ \hline 74-22\\ \hline 74-24\\ \hline \\ SPECIFICATION\\ \hline MS20\\ \hline \\ SUPERSEDINC\\ \hline \end{array}$	J4-3 J4-4-5 J4-4 J4-6 J4-6 J4-7 J4-8 J4-9 J4-10 J4-11 J4-12 J4-14 J4-18 J4-18 J4-18 J4-20 J4-22 J4-22 J4-24 J4-24	218 250 281 312 375 438 500 562 625 625 627 750 875 1000 1125 1 250 1 375 1 500 4BER 14 SEP 03 REY M

THE SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCESS OF THE DEPARTMENT OF DEFENSE

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFICATION THE SOUCITATION MIL-R-5674

	····		A1 121						1	m Approved IB No 0704
ALUMINUM 1100-F	ALUMINUM 2117-14	ALUMINUM 5056-H32	ALUMINUM 2017-T4 INACTME	ALUMINUM 2024-14 INACTIVE	ALUMINUM 7050173	ALLMINUM 2219-T81 INACTIVE	ALUMINU 2219-76		LENGTH	]
DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO		
				5/32 NOM						
A5-4 A5-5	A05-4 A05-5	85-4 85-5	05-4	005-4 005-5	<u>E3-4</u> E3-5	K5-4 K5-5	<u></u>	15-4	_250	4
A5-6	A05-6	85-6	05-6	005-6	E5-0	K5-6	J5-8	T5-6	375	1
A5-7	A05-7	85-7	05-7	005-7	E5-7	K5-7	J5-7	15-7	438	1
A5-8	A05-8	85-8	D5-8	005-8	E5-8	K5-8	J5~B	T5-8	500	]
<u>A3-9</u>	AD5-9	<u>B5-9</u>	05-9	D05-9	<u>E3-9</u>	K5-9	15-9	T5-9	.562	4
A5-10	AD5-10 AD5-11	85-10	D5-10	005-10	E5-10	K5-10 K5-11	J5-10 J5-11	<u> </u>	<u>625</u> 687	4
A5-12	A05-12	85-12	D5-12	005-12	E5~12	K5-12	J5-12	T5-12	750	4
A5-14	AD5-14	85-14	05-14	DD5-14	E5-14	K5-14	J5-14	T5-14	.875	1
A5-16	AD5-16	85-16	05-18	005-16	E5-16	K5-16	J5-16	<u> </u>	1 000	4
A5-18	AD5-17 AD5-18	B5-18	05-18	D05-18	£5-18	K5-17 K5-18	J5-18	15-18	1 062	-
	AD5-19					K5-19	J5-19		1 187	1
A5-20	A05-20	85-20	05-20	DD5-20	E5-20	K5-20	J5-20	15-20	1 250	]
A5-22 A5-24	AD5-22 AD5-24	85-22	05-22 05-24	005-22	E5-22 E5-24	K5-22 K5-24	J5-22 J5-24	T5-22 T5-24	1 375	4
A5-28	A05-24	85-24 85-28	D5-28	005-28	E5-28	K5-28	J5-28	T5-28	1 750	4
	·		ALUMINUM	ALUMINUM		ALUMINUM				-
ALUMINUM 1100-F	ALUMINUM 2117-T4	ALUMINUM 5056-H32	2017-T4	2024-14	ALUMINUM 7050-T73	2219-181	ALUMINU 2219-T6		LENGTH	
DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	l	]
	_		مر بر المراجع المراجع مراجع المراجع ال	3/16 NOM	DIA.					4
A6-4	AD6-3 AD6-4	85-4	D6-4	DD8-4	E6-4	K6-4	J6-4	16-4	187	-
A6-5	AD6-5	B6-5	D6-5	006-5	£6-5	K6-5	J6-5	T6-5	.312	1
A6-6	AD6-6	86-6	D66	006-6	E6-6	K6-6	J6-6	TB-6	.375	1
A6-7	A06-7	<u>B6-7</u>	D6-7	006-7	<u>E6-7</u>	K6-7	J6-7	18-7	438	-
A6-8 A6-9	AD6-8 AD6-9	<del>86-8</del> 86-9	D6-8 D6-9	DD6-8 DD6-9	<u>E6-0</u> E6-9	K6-8 K6-9	36-8 36-9	T6-8 T6-9	.562	-
A6-10	AD6-10	B6-10	D6-10	DD6-10	E6-10	K6-10	J6~10	T6-10	625	-j
	AD6-11				E6-11				687	
A6-12	AD6-12 AD6-13	86-12	D6-12	006-12	<u><u></u><u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u>	K6-12	<u>J6-12</u>	T6-12		-
A6-14	AD6-14	B6-14	D6-14	DD6-14	E6-14	K6-14	36-14	16-14	.875	-
A6-16	AD6-16	86-16	D6-16	006-16	E6-16	K6-16	J6-16	_T6-16	1 000	-
A6-18	AD6-18	86-18	D6-18	006-18	E6-18	K6-18	J6-18	T6-18	1 125	1
A6-20	AD6-20	86-20	D6-20	006-20	E6-20	K6-20	J6-20	T6-20	1.250	]
A6-22	AD6-22	86-22	D6-22	DD6-22	<u>E6-22</u>	K6-22	J6-22	16-22	1.375	4
A6-24 A6-28	AD6-24 AD6-28	86-24 86-28	D6-24 D6-28	DD6-24 0D6-28	E6-24 E6-28	K6-24 K6-28	J6-24 J6-28	<u>16-24</u> 16-28	1 750	4
A6-32	AD6-32	B6-32	06-32	006-32	E6-32	K6-32	J6-32	16-32	2 000	1
	AD6-36								2.250	]
A6-40	AD6-40 AD6-48	86-40 86-48	D6-40 D6-48	DD6-40 DD6-48	E6-40 E6-48	K6-40 K6-48	J6-40 J6-48	<u> </u>	2.500	4
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ALUMINUM 1100-F	ALUMINUM 2117-T4	ALUMINUM 5056-H32	ALUMINUM 2017-T4 INACTIVE	ALUMINUN 2024-T4 INACTME	ALUMINUM 7050-173	ALUMINUM 2219-TB1 INACTIVE	ALUMINU 2219-T0		LENCTH	
DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	1	
				7/32 NOM						-
A7-6	AD7-6 AD7-7	87-6	07-6 07-7	007-6	E7-6 E7-7	<u> K7-6</u> K7-7	<u></u> 	77-8	438	-
A7-8	A07-8	87-8	D7-8	B	E7-8	K7-8	17-8	17-8	.500	1
A7-0	A07-9	87-9	D7-8	D07-9	E7-9	K7-9	J7-9	17-9	.562	7
A7-10	AD7-10	87-10	D7-10	D07-10	0-10	K7-10	<u>J7-10</u>	17-10	625	4
<u>A7-12</u> A7-14	AD7-12 AD7-14	<u>B7-12</u> B7-14	D7-12 D7-14	007-12	E7-12 E7-14	K7-12 K7-14	<u>37-12</u> <u>37-14</u>	77-12	.750	4
A7-16	A07-16	87-16	D7-16	007-16	E7-18	K7-16	J7-16	17-16	1.000	1
A7-18	AD7-18	87-18	07-18	DD7-18	E7-18	K7-18	J7-18	17-18	1 125	3
A7-20	A07-20	B7-20	D7-20	D07-20	E7-20	K7-20	57-20	17-20	1.250	4
A7-22	AD7-22 AD7-24	87-22	<u>D7-22</u> D7-24	D07-22 D07-24	E7-22 E7-24	K7-22 K7-24	57-22	17-22	1,375	4
A7-24 A7-28	AD7-24	87-24	07-28	007-24	E7-28	K7-28	J7-28	17-28	1 750	ſ
A7-32	AD7-32	B7-32	D7-32	007-32	E7-32	K7-32	57-32	17-32	2 000	1
A7-40	AD7-40	B7-40	D7-40	D07-40	E7-40	K7-40	J7-40	17-40	2.500	7
A7-48	AD7-48 AD7-56	87-48	07-48 D7-56	007-48	E7-48 E7-36	K7-48 K7-56	J7-48 J7-56	17-48	3.000	-
A7-30	1 10/-36	67-30	07-30	007-36	1 27-30	<u> </u>	1 27-36	17-30	1 3 300	
RING ACTIVIT	Y NAVY-AS	NAVY-		MILITARY	SPECIFICA	TION SHEE	<u>.</u>	SPECIFICATION MS204		14 SEP 9
AIR FOR			TITLE				- F		· · ·	REV H
AV. GL. 15	3. ME, MI, O	DLA- IS, 82		ALUMINUN	ALLOY AN	D TITANIUM		SUPERSEDING	2	5 JAN 91
	5320-0806				MOIUM ALLO			AMSC- N/A		FSC 5320
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THE REQUIREMENTS FOR ACOURING THE PRODUCT(S) DESCRIBED HEREIN SHULL CONSIST OF THIS SPECIFICATION SHEET AND THE RISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION MIL-R-5874

									OMB No 0704
UMINUM 00-F	ALUMINUM 2117-T4	ALUMINUM 5056-H32	ALUMINUM 2017-T4 INACTIVE	ALUMINUM 2024-T4 INACTIVE	ALUMINUM 7050-173	ALUMINUM 2219-T81 INACTIVE	ALUMINUM 2219-T62	TITANIUM 45 Cb	LENIGTH
SH NO	DASH ND	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	1
				1/4 NOM 0	)A.				
8-6	AD8-6	88-6	D8-6	DD8-6	E8-6	K8-6	J8-6	T86	.375
8-7	AD8-7	B8-7	D8-7	DD6-7	<u>E8-7</u>	K8-7	J8-7	18-7	438
				The second s		the second s	The second s		500
					and the second design of the s				.562
									625
				the second s			the second s		875
									1 000
				the second s					1 125
8-20	A08-20	the second s	the second s				J8-20		1 250
8-22	AD8-22	B8-22	DB-22	DD8-22	E8-22	KB-22	J8-22	T8-22	1 375
8-24	AD8-24	B8-24	D8-24	DD8-24	EB-24	K8-24	J8-24	18-24	1 500
8-28	AD6-28	68-28	D8-28	DD8-28	E828	K8-28	JB-28	18-28	1 750
8-32	AD8-32	88-32	08-32	DD8-32	E8-32	K8-32	J8-32	T8-32	2 000
8-40	AD8-40	88-40	D8-40	DD8~40	EB-40	K8-40	J8-40	TB40	2 500
8-48		the second s	and the second se						3 000
0-56	AD8-56	08-56	U8-55	008-56	1.8-56	K8-56	J9-26	18-35	3 500
UMINUM 00-F	ALUMINUM 2117-T4	ALUMINUM 5056-H32	ALUMINUM 2017-T4	ALUMINUM 2024-T4	ALUMINUM 7050-173	ALUMINUM 2219-TB1	ALUMINUM 2219-T62	TITANIUM 45 Cb	LENGTH
					0.01		-		4
SH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	1
				5/16 NOM	DIA.				
10-8	AD10-8	810-8	D10-8	DD10-8	E10-8	K10-8	J10-8	T10-8	500
10-9	A010-9	B10-9		D010-9	E10-9	K10-9	9	T10-9	562
								· · · · · · · · · · · · · · · · · · ·	625
_	and the second se		the second data in the second data is the second da						750
			the second se						875
			the second s	the second s				· · · · · · · · · · · · · · · · · · ·	1 125
		and the second		and the second se			the second s		1 250
10-22				D010-22	£10-22	K10-22	J10-22	T10-22	1 375
10-24	A010-24	B10-24	D10-24	D010-24	E10-24	K10-24	J10-24	T10-24	1 500
10-28	AD10-28	B10-28	010-28	D010-28	E10-28	K10-28	J10-28	T10-28	1 750
10-32	AD10-32	B10-32	D10-32	D010-32	E10-32	K10-32	J10-32	T10-32	2 000
10-40	AD10-40	B10-40	D10-40	DD10-40	E10-40	K10-40	J10-40	T10-40	2 500
10-48	AD10-48	B10-48	D10-48	DD10-48	E10-48	K10-48	J10-48	T10-48	3 000
						K10-56			3 500
10-04	AU10~64	010-64	U10-04	0010-64	L10-64	K10-64	04	104	4 000
uminum 00-f	ALUMINUM 2117-T4	ALUMINUM 5056-H32	ALUMINUM 2017-T4 INACTIVE	ALUMINUM 2024-T4 INACTIVE	ALUMINUM 7050-173	ALUMINUM 2219-T81 INACTIVE	ALUMINUM 2219-T62	TITANIUM 45 Cb	LENGTH
SHNO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	1
12-10	4010 10		D12-10						
	AU12-101	812-10		DD12-10	E12-10	K12-10	J12-10	T12-10	625
12-12	A012-10 A012-12	B12-10 B12-12	D12-12	0012-10 0012-12	E12-10 E12-12	K12-10 K12-12	J12-10 J12-12	T12-10	625 750
12-12 12-14		the second s							
12-14 12-16	AD12-12 AD12-14 AD12-16	812-12 812-14 812-16	D12-12 D12-14 D12-16	0012-12 0012-14 0012-16	E12-12 E12-14 E12-16	K12-12 K12-14 K12-16	J12-12 J12-14 J12-16	T12-12 T12-14 T12-16	750 .875 1 000
12-14 12-16 12-18	AD12-12 AD12-14 AD12-16 AD12-18	B12-12 B12-14 B12-16 B12-18	D12-12 D12-14 D12-16 D12-18	DD12-12 DD12-14 DD12-16 DD12-18	E12-12 E12-14 E12-16 E12-18	K12-12 K12-14 K12-16 K12-18	J12-12 J12-14 J12-16 J12-18	T12-12 T12-14 T12-16 T12-18	750 .875 1 000 1 125
12-14 12-16 12-16 12-20	AD12-12 AD12-14 AD12-16 AD12-18 AD12-20	B12-12 B12-14 B12-16 B12-18 B12-20	D12-12 D12-14 D12-16 D12-18 D12-20	0012-12 0012-14 0012-16 0012-18 0012-20	E12-12 E12-14 E12-16 E12-18 E12-20	K12-12 K12-14 K12-16 K12-18 K12-20	J12-12 J12-14 J12-16 J12-18 J12-20	T12-12 T12-14 T12-16 T12-18 T12-20	750 .875 1 000 1 125 1 250
12-14 12-16 12-18 12-20 12-22	AD12-12 AD12-14 AD12-16 AD12-18 AD12-20 AD12-22	812-12 812-14 812-16 912-18 812-20 812-22	D12-12 D12-14 D12-16 D12-18 D12-20 D12-22	0012-12 0012-14 0012-16 0012-18 0012-20 0012-22	E12-12 E12-14 E12-18 E12-18 E12-18 E12-20 E12-22	K12-12 K12-14 K12-16 K12-18 K12-20 K12-22	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22	750 .875 1 000 1 125 1 250 1 .375
12-14 12-16 12-18 12-20 12-22 10-24	AD12-12 AD12-14 AD12-16 AD12-18 AD12-20 AD12-22 AD12-22 AD12-24	812-12 812-14 812-16 812-18 812-20 812-22 812-22 812-24	D12-12 D12-14 D12-16 D12-18 D12-20 D12-22 D12-22 D12-24	0012-12 0012-14 0012-16 0012-18 0012-20 0012-22 0012-24	E12-12 E12-14 E12-16 E12-18 E12-20 E12-22 E12-22 E12-24	K12-12 K12-14 K12-16 K12-18 K12-20 K12-22 K12-24	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-24	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22 T12-24	750 .875 1 000 1 125 1 250 1 .375 1 500
12-14 12-16 12-18 12-20 12-22 10-24 12-28	AD12-12 AD12-14 AD12-16 AD12-18 AD12-20 AD12-22 AD12-22 AD12-24 AD12-28	\$12-12 812-14 912-16 \$12-18 \$12-20 B12-22 B12-22 B12-24 \$12-28	D12-12 D12-14 D12-16 D12-18 D12-20 D12-22 D12-22 D12-24 D12-28	0012-12 0012-14 0012-16 0012-18 0012-20 0012-22 0012-24 0012-28	E12-12 E12-14 E12-16 E12-18 E12-20 E12-22 E12-22 E12-24 E12-28	K12-12 K12-14 K12-16 K12-18 K12-20 K12-22 K12-24 K12-24 K12-28	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-22 J12-24 J12-28	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22 T12-22 T12-24 T12-28	750 .875 1 000 1 125 1 250 1.375 1 500 1 750
12-14 12-16 12-16 12-20 12-22 10-24 12-28 12-32	AD12-12 AD12-14 AD12-16 AD12-18 AD12-20 AD12-22 AD12-22 AD12-24 AD12-28 AD12-32	\$12-12 812-14 912-16 \$12-18 \$12-20 812-22 812-22 812-24 \$12-28 812-32	D12-12 D12-14 D12-16 D12-18 D12-20 D12-22 D12-22 D12-24 D12-28 D12-32	0012-12 0012-14 0012-16 0012-18 0012-20 0012-22 0012-22 0012-24 0012-28 0012-32	E12-12 E12-14 E12-16 E12-18 E12-20 E12-22 E12-24 E12-24 E12-28 E12-32	K12-12 K12-14 K12-16 K12-18 K12-20 K12-22 K12-24 K12-28 K12-32	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-22 J12-24 J12-28 J12-32	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22 T12-22 T12-24 T12-28 T12-32	750 .875 1 000 1 125 1 250 1.375 1 500 1 750 2 000
12-14 12-16 12-16 12-20 12-22 10-24 12-28 12-32 12-32 12-40	AD12-12 AD12-14 AD12-16 AD12-20 AD12-20 AD12-22 AD12-24 AD12-28 AD12-32 AD12-32 AD12-32	812-12 812-14 912-16 912-18 812-20 812-22 812-22 812-24 812-23 812-32 812-40	D12-12 D12-14 D12-16 D12-18 D12-20 D12-20 D12-22 D12-24 D12-28 D12-32 D12-40	0012-12 0012-14 0012-16 0012-18 0012-20 0012-20 0012-22 0012-24 0012-28 0012-32 0012-32	E12-12 E12-14 E12-16 E12-18 E12-20 E12-22 E12-22 E12-24 E12-28 E12-32 E12-32 E12-40	K12-12 K12-14 K12-16 K12-20 K12-22 K12-22 K12-24 K12-28 K12-32 K12-32	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-22 J12-24 J12-28 J12-32 J12-40	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22 T12-24 T12-28 T12-32 T12-40	750 .875 1 000 1 125 1 250 1.375 1 500 1 750 2 000 2 500
12-14 12-16 12-16 12-20 12-22 10-24 12-28 12-32 12-32 12-40 12-48	AD12-12 AD12-14 AD12-16 AD12-28 AD12-20 AD12-22 AD12-24 AD12-28 AD12-24 AD12-28 AD12-32 AD12-40 AD12-48	812-12 812-14 812-16 812-18 812-20 B12-22 B12-22 B12-24 B12-32 B12-32 B12-40 B12-46	D12-12 D12-14 D12-16 D12-18 D12-20 D12-22 D12-24 D12-28 D12-32 D12-40 D12-48	0012-12 0012-14 0012-16 0012-20 0012-22 0012-22 0012-24 0012-28 0012-23 0012-32 0012-34	E12-12 E12-14 E12-18 E12-18 E12-20 E12-22 E12-24 E12-28 E12-32 E12-32 E12-40 E12-48	K12-12 K12-14 K12-16 K12-18 K12-20 K12-22 K12-24 K12-24 K12-28 K12-32 K12-40 K12-48	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-22 J12-24 J12-28 J12-32 J12-40 J12-48	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22 T12-24 T12-28 T12-32 T12-40 T12-48	750 .875 1 000 1 125 1 250 1 .375 1 500 1 750 2 000 2 500 3 000
12-14 12-16 12-18 12-20 12-22 10-24 12-28 12-32 12-32 12-40 12-48 12-56	AD12-12 AD12-14 AD12-16 AD12-16 AD12-20 AD12-22 AD12-22 AD12-24 AD12-32 AD12-32 AD12-40 AD12-40 AD12-45	B12-12       B12-14       B12-16       B12-20       B12-22       B12-22       B12-23       B12-33       B12-40       B12-48       B12-56	D12-12 D12-14 D12-16 D12-20 D12-22 D12-22 D12-24 D12-32 D12-40 D12-48 D12-56	0012-12 0012-14 0012-16 0012-16 0012-20 0012-22 0012-22 0012-24 0012-28 0012-35	E12-12 E12-14 E12-16 E12-18 E12-20 E12-22 E12-24 E12-24 E12-32 E12-40 E12-48 E12-56	K12-12 K12-14 K12-16 K12-20 K12-22 K12-22 K12-24 K12-38 K12-30 K12-40 K12-48 K12-56	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-22 J12-24 J12-32 J12-40 J12-48 J12-56	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22 T12-24 T12-24 T12-32 T12-40 T12-48 T12-56	750 .875 1 000 1 125 1 250 1 .375 1 500 1 750 2 000 2 500 3 000 3 500
12-14 12-16 12-16 12-20 12-22 10-24 12-28 12-32 12-32 12-40 12-48	AD12-12 AD12-14 AD12-16 AD12-28 AD12-20 AD12-22 AD12-24 AD12-28 AD12-24 AD12-28 AD12-32 AD12-40 AD12-48	812-12 812-14 812-16 812-18 812-20 B12-22 B12-22 B12-24 B12-32 B12-32 B12-40 B12-46	D12-12 D12-14 D12-16 D12-18 D12-20 D12-22 D12-24 D12-28 D12-32 D12-40 D12-48	0012-12 0012-14 0012-16 0012-20 0012-22 0012-22 0012-24 0012-28 0012-23 0012-32 0012-34	E12-12 E12-14 E12-18 E12-18 E12-20 E12-22 E12-24 E12-28 E12-32 E12-32 E12-40 E12-48	K12-12 K12-14 K12-16 K12-18 K12-20 K12-22 K12-24 K12-24 K12-28 K12-32 K12-40 K12-48	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-22 J12-24 J12-28 J12-32 J12-40 J12-48	T12-12 T12-14 T12-16 T12-18 T12-20 T12-22 T12-24 T12-28 T12-32 T12-40 T12-48	750 .875 1 000 1 125 1 250 1 .375 1 500 1 750 2 000 2 500 3 000
12-14 12-16 12-18 12-20 12-20 12-22 12-24 12-28 12-32 12-40 12-32 12-64 ACTMTY N ARMY-	AD12-12 AD12-14 AD12-16 AD12-18 AD12-20 AD12-22 AD12-24 AD12-24 AD12-32 AD12-32 AD12-40 AD12-48 AD12-56 AD12-56 AD12-54 NAVY-AS AR	B12-12       B12-14       B12-16       B12-20       B12-22       B12-22       B12-24       B12-23       B12-40       B12-56       B12-64	D12-12 D12-14 D12-16 D12-20 D12-22 D12-22 D12-24 D12-28 D12-32 D12-40 D12-48 D12-56 D12-56 D12-56	0012-12 0012-14 0012-16 0012-20 0012-22 0012-22 0012-24 0012-24 0012-24 0012-32 0012-40 0012-48 0012-35 0012-64	E12-12 E12-14 E12-16 E12-20 E12-22 E12-22 E12-24 E12-28 E12-28 E12-32 E12-40 E12-48 E12-56 E12-64	K12-12 K12-14 K12-16 K12-20 K12-22 K12-22 K12-22 K12-24 K12-32 K12-40 K12-48 K12-56 K12-64 SHEET	J12-12 J12-14 J12-16 J12-18 J12-20 J12-22 J12-22 J12-24 J12-28 J12-32 J12-40 J12-48 J12-56 J12-64 SPECIFICATIO MS20	T12-12 T12-14 T12-16 T12-20 T12-22 T12-24 T12-28 T12-32 T12-40 T12-48 T12-56 T12-64 N SHEET NUM	750 .875 1 000 1 125 1 250 1 .375 1 500 1 750 2 000 2 500 3 000 3 500 4 000
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AD8=32       8=40     AD8=44       8=26     AD8=24       8=32     AD8=32       8=40     AD8=45       8=56     AD8=56       JMINUM     ALUMINUM       20=7     AD10=8       10=9     AD10=9       10=10     AD10=10       10=12     AD10=10       10=13     AD10=12       10=14     AD10=13       10=20     AD10=22       10=22     AD10=23       10=24     AD10=24       10=32     AD10=40       10=40     AD10=45       10=56     AD10=64       AD10=64     AD10=64 <tr< td=""><td>SH NO     DASH NO     DASH NO       8=6     AD8=6     98-6       8=7     AD8-7     98-7       8=8     AD8=8     98-7       8=9     AD8-9     98-9       8=10     AD8-12     98-10       8=12     AD8-12     98-10       8=14     AD8-14     98-14       8=16     AD8-18     98-16       8=22     AD8-22     98-22       8=22     AD8-22     98-22       8=24     AD8-28     98-22       8=24     AD8-28     98-22       8=24     AD8-28     98-22       8=24     AD8-28     98-24       8=23     AD8-32     98-32       8=40     AD8-48     95-48       8=56     AD8-56     98-56       JMINUM     ALUMINUM     ALUMINUM       00-F     2117-74     5056-H32       SH NO     DASH NO     DASH NO       10-9     AD10-9     810-9       10-9     AD10-10     810-10</td><td>ACTIVE     NACTIVE       SH NO     DASH ND     DASH NO     DASH NO     DASH NO       8=6     AD8-7     B8-7     D8-7     B8-7       8=8     AD8-8     B8-9     D8-9     B8-9       8=9     AD8-12     B8-10     D8-10     B8-10       8=11     AD8-12     B8-14     D8-12     O8-12       8=14     AD8-12     B8-14     D8-14     B8-14       8=18     AD8-12     B8-15     D8-18       8=14     AD8-14     B8-15     D8-18       8=18     AD8-12     B8-20     D8-20       8=20     AD8-20     B8-20     D8-24       8=21     AD8-24     B8-24     D8-24       8=22     AD8-24     B8-24     D8-24       8=23     AD8-48     B8-45     D8-45       8=45     AD8-44     B8-45     D8-45       8=45     AD8-45     B3-45     D8-45       8=45     AD8-45     B10-8     D10-9       D0-16     D10-9     <t< td=""><td>ALTIVE     INACTIVE     INACTIVE     INACTIVE     INACTIVE     INACTIVE     INACTIVE       SH NO     DASH NO     DASH NO     DASH NO     DASH NO     DASH NO     DASH NO       8=6     ADB-7     BB-7     DB-7     DDC-7       8=5     ADB-7     BB-7     DDC-7     DDC-7       8=6     ADB-7     BB-7     DDC-7     DDC-7       8=7     ADB-10     BB-10     DB-10     DDB-10       8=9     ADB-10     BB-10     DB-10     DDB-10       8=14     ADB-14     BB-12     DDE-12     DDDE-12       8=14     ADB-14     BB-16     DB-16     DD2-16       8=13     ADB-18     BB-18     DD8-18     DD2-12       8=24     ADB-22     BB-24     DB-20     DD8-20       8=24     ADB-24     BB-24     DB-21     DD2-22       8=24     ADB-24     BB-24     DB-24     DD2-32       8=45     ADB-48     BB-48     DB-48     DD6-40       8=45     AD</td><td>Control     INACTIVE     INACTIVE</td><td>CONTRAL     INACTIVE     INACTIVE</td><td>Description     Process     Proces     Process     Process</td><td><math 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ADB-10     BB-10     DB-10     DDB-10       8=14     ADB-14     BB-12     DDE-12     DDDE-12       8=14     ADB-14     BB-16     DB-16     DD2-16       8=13     ADB-18     BB-18     DD8-18     DD2-12       8=24     ADB-22     BB-24     DB-20     DD8-20       8=24     ADB-24     BB-24     DB-21     DD2-22       8=24     ADB-24     BB-24     DB-24     DD2-32       8=45     ADB-48     BB-48     DB-48     DD6-40       8=45     AD</td><td>Control     INACTIVE     INACTIVE</td><td>CONTRAL     INACTIVE     INACTIVE</td><td>Description     Process     Proces     Process     Process</td><td><math display="block">\begin{array}{c c c c c c c c c c c c c c c c c c c </math></td></t<>	ALTIVE     INACTIVE     INACTIVE     INACTIVE     INACTIVE     INACTIVE     INACTIVE       SH NO     DASH NO     DASH NO     DASH NO     DASH NO     DASH NO     DASH NO       8=6     ADB-7     BB-7     DB-7     DDC-7       8=5     ADB-7     BB-7     DDC-7     DDC-7       8=6     ADB-7     BB-7     DDC-7     DDC-7       8=7     ADB-10     BB-10     DB-10     DDB-10       8=9     ADB-10     BB-10     DB-10     DDB-10       8=14     ADB-14     BB-12     DDE-12     DDDE-12       8=14     ADB-14     BB-16     DB-16     DD2-16       8=13     ADB-18     BB-18     DD8-18     DD2-12       8=24     ADB-22     BB-24     DB-20     DD8-20       8=24     ADB-24     BB-24     DB-21     DD2-22       8=24     ADB-24     BB-24     DB-24     DD2-32       8=45     ADB-48     BB-48     DB-48     DD6-40       8=45     AD	Control     INACTIVE     INACTIVE	CONTRAL     INACTIVE     INACTIVE	Description     Process     Proces     Process     Process	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

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