

REV. B

AS81969™/30

FEDERAL SUPPLY CLASS  
5120

RATIONALE

AS81969/30 UNWIRED CONTACT REMOVAL TOOL NEEDED TO BE REVISED TO CLARIFY FIGURES 1 AND 2.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS81969.

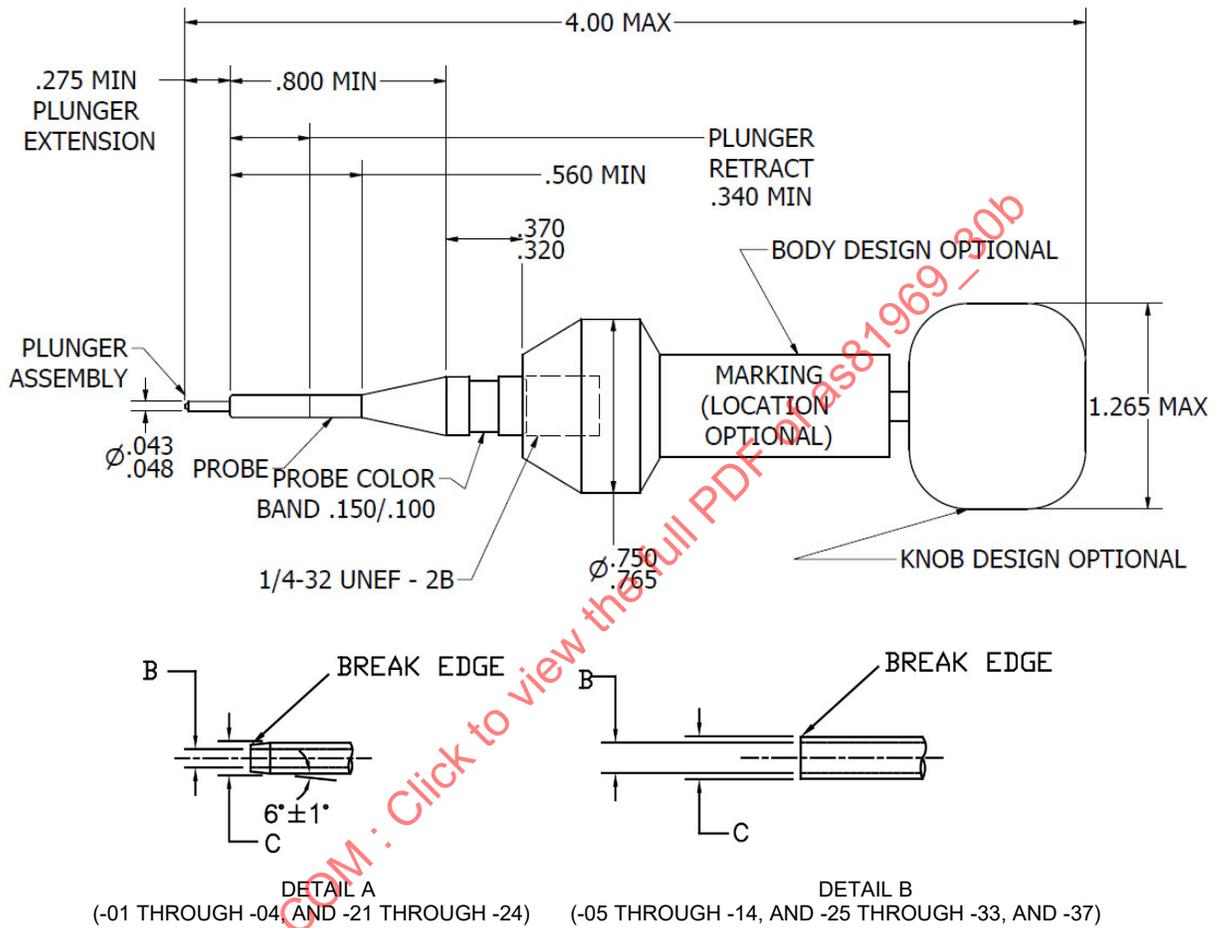
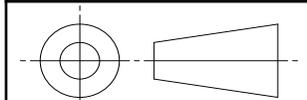


FIGURE 1 - TOOL CONFIGURATION (PLASTIC TIP VERSION)

For more information on this standard, visit

<https://www.sae.org/standards/content/AS81969/30B>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C2

PROCUREMENT SPECIFICATION: AS81969



AEROSPACE STANDARD

INSTALLING AND REMOVAL TOOLS, CONNECTOR ELECTRICAL CONTACT, TYPE II, CLASS 2, COMPOSITION C, FOR UNWIRED CONTACTS

AS81969™/30  
SHEET 1 OF 7

REV. B

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ISSUED 2017-01 REVISED 2024-05

**TABLE 1 - TOOL PART NUMBERS, DETAILS, AND APPLICATION DATA FOR FIGURE 1**

THE FOLLOWING TOOLS HAVE PLASTIC TIPS (PROBES) FOR UNWIRED CONTACT REMOVAL							
(HANDLE WITH PROBE) DASH NUMBER	PROBE BAND/DOT COLOR 1/	PROBE (ONLY) DASH NUMBER 2/	PROBE COLOR 1/	CONTACT SIZE 3/	B DIA	C DIA 4/	APPLICABLE CONNECTORS
-01	BLACK	-21	YELLOW	22	.046 .044	.077 .073	AS81511 SERIES 3 & 4
-02	BLACK	-22	RED	20	.0595 .0575	.099 .095	
-03	BLACK	-23	BLUE	16	.091 .089	.131 .127	
-04	BLACK	-24	YELLOW	12	.150 .148	.198 .194	
-05	SILVER	-25	RED	20	.0755 .0725	.1035 .1005	MIL-DTL-83733 (EXCEPT SIZE 22D) AS50151 SERIES AS34501 (MS3450) MIL-DTL-83723 SERIES 3 MIL-DTL-26482 SERIES 2
-06	SILVER	-26	BLUE	16	.1010 .0985	.1345 .1315	
-07	SILVER	-27	YELLOW	12	.1480 .1465	.1925 .1895	
NOT AVAILABLE IN PLASTIC PROBE - METAL ONLY				23	SEE FIGURE 2 AND TABLE 2		MIL-DTL-38999 SERIES 1, 2, 3 & 4 MIL-DTL-24308 MIL-DTL-83733 (SIZE 22D ONLY)
-08	BROWN	-28	BROWN	22D	.046 .044	.0645 .0625	
-09	BROWN	-29	YELLOW	22M	.044 .042	.0645 .0625	
-10	BROWN	-30	GREEN	22	.050 .048	.074 .072	
-11	BROWN	-31	RED	20	.068 .066	.097 .095	
-12	BROWN	-32	BLUE	16	.101 .099	.133 .131	
-13	BROWN	-33	YELLOW	12	.148 .146	.187 .185	
-14	BROWN	-37	BLACK	10	.207 .205	.249 .247	

- 1/ PROBE SHALL BE A CONTINUOUS COLOR ON THE OUTER SURFACE WITH A COLOR BAND OR A COLOR DOT. THE DOT SHALL BE A MINIMUM DIAMETER OF .100 INCH (SEE APPLICATION NOTES).
- 2/ TOOL PROBE ONLY (SEE PIN - PART IDENTIFICATION NUMBER).
- 3/ FOR CONTACTS WHICH DIFFER IN SIZE BETWEEN THE MATING END AND WIRE BARREL (E.G., M39029/5-117 - 16 MATING END/20 WIRE BARREL), THE TOOL/PROBE SHALL BE CHOSEN BASED ON THE MATING END SIZE OF THE CONTACT (SEE APPLICATION NOTES).
- 4/ THE "C" DIAMETER APPLIES FOR A LENGTH OF .045 INCH MINIMUM (MEASURED FROM THE END OF THE PROBE).

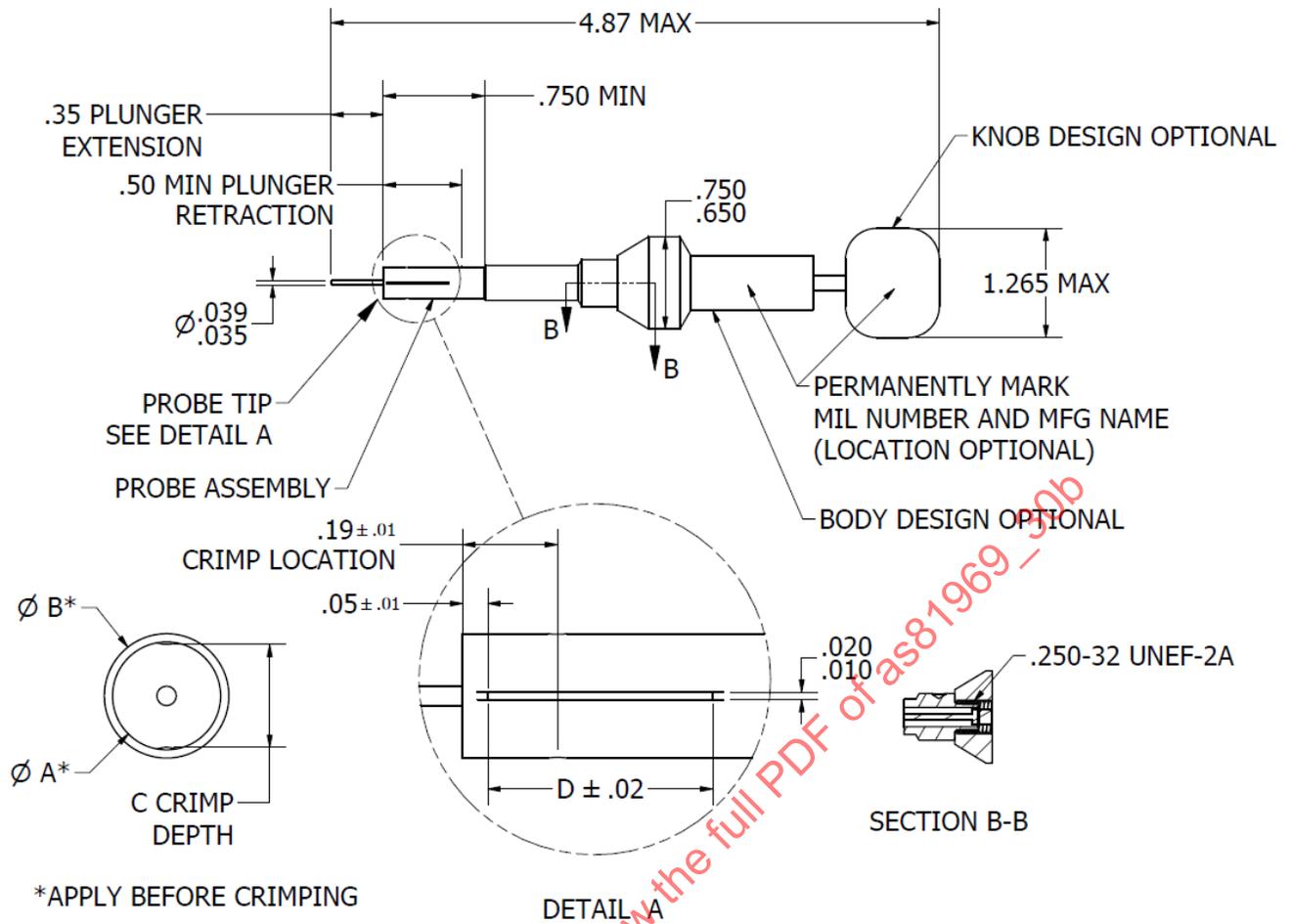


FIGURE 2 - TOOL CONFIGURATION (METAL TIP VERSION)

	<b>AEROSPACE STANDARD</b>	<b>AS81969™/30</b> SHEET 3 OF 7	<b>REV.</b> <b>B</b>
	INSTALLING AND REMOVAL TOOLS, CONNECTOR ELECTRICAL CONTACT, TYPE II, CLASS 2, COMPOSITION C, FOR UNWIRED CONTACTS		

**TABLE 2 - TOOL PART NUMBERS, DETAILS, AND APPLICATION DATA FOR FIGURE 2**

TOOL DASH NUMBER	PROBE COLOR	COLOR DOT CODE 4/	PROBE (ONLY) DASH NUMBER 1/	CONTACT SIZE 2/	ØA	ØB 3/	C ±.005 6/	D SLOT 5/	APPLICABLE CONNECTORS
-08M	METALLIC	BROWN	-28M	22D	.052 .050	.065 .063	.045	.30	MIL-DTL-38999 SERIES 1, 2, 3 & 4 MIL-DTL-24308 MIL-DTL-83733 (SIZE 22D ONLY)
-09M	METALLIC	YELLOW	-29M	22M	.047 .043	.065 .063	.041	.30	
-10M	METALLIC	GREEN	-30M	22	.062 .060	.075 .074	.049	.30	
-11M	METALLIC	RED	-31M	20	.079 .077	.098 .096	.067	.30	
-12M	METALLIC	BLUE	-32M	16	.111 .109	.136 .134	.100	.40	
-13M	METALLIC	YELLOW	-33M	12	.159 .157	.192 .189	.147	.45	
-14M	METALLIC	BLACK	-37M	10	.217 .215	.249 .247	.206	.45	
-15M	METALLIC	ORANGE	-38M	23	.052 .050	.058 .056	.045	.30	

1/ TOOL PROBE ONLY FOR M81969/30-20M.

2/ FOR MULTIPLE SIZE CONTACTS (E.G., 16 THROUGH 20), THE TOOLS SHALL BE CHOSEN BASED ON THE MATING SIZE OF THE CONTACT.

3/ THE "B" DIAMETER IS TO APPLY FOR A LENGTH OF .045 TO .050 INCH MEASURED FROM THE END OF THE PROBE.

4/ COLOR DOT WITH A MINIMUM DIAMETER OF .100 INCH (SEE APPLICATION NOTES).

5/ "D" SLOT GO THROUGH TO BOTH SIDES.

6/ "C" DIMENSION APPLIES AT THE CRIMP LOCATION SPECIFIED IN FIGURE 2 NOT FOR THE TOTAL LENGTH "D" (SEE REQUIREMENT 2).

**TABLE 3 - HANDLE (ONLY) PART NUMBERS AND DETAILS**

HANDLE (ONLY) DASH NUMBER	CONTACT SIZE	APPLICATION
-20	10 THRU 22M	FOR PLASTIC PROBES
-20M	10 THRU 23	FOR METAL PROBES

**TABLE 4 - TOOL SET PART NUMBERS AND DETAILS**

SET DASH NUMBER 1/	CONTACT SIZE	HANDLE PIN M81969/30	PROBE PIN	APPLICABLE CONNECTORS
-19	22M THRU 10	20	21 THRU 33, & 37	MIXED (SEE TABLE 1)
-34	22 THRU 12	20	21 THRU 24	AS81511 SERIES 3 AND 4
-35	20 THRU 12	20	24 THRU 27	MIL-DTL-83733 (EXCEPT SIZE 22D) AS50151 SERIES MS3450 MIL-DTL-83723 SERIES 3 MIL-DTL-26482 SERIES 2
-36	22D, 22M THRU 10	20	28 THRU 33, & 37	MIL-DTL-38999 SERIES 1-4 MIL-DTL-24308 MIL-DTL-83733 (SIZE 22D ONLY)
-40M	22D, 22M THRU 10, 23	20M	28M THRU 33M, 37M, & 38M	MIL-DTL-38999 SERIES 1-4 MIL-DTL-24308 MIL-DTL-83733 (SIZE 22D ONLY)

1/ SET CONSIST OF ONE DESIGNATED TOOL HANDLE AND PROBES AS SHOWN.

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS81969.

CONFIGURATION:

- DIMENSIONING AND TOLERANCES ARE IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ±.005 ON THREE PLACE DECIMALS, ±.0005 ON FOUR PLACE DECIMALS, AND ANGLES ±5°.
- DIMENSION B IN FIGURE 1 AND DIMENSION C IN FIGURE 2 PROVIDE THE GRIPPING FORCE ON THE CONTACT WIRE BARREL. THE GRIPPING FORCE SHALL RETAIN THE UNWIRED CONTACT BARREL WITH SUFFICIENT FORCE TO PERMIT THE CONTACT TO BE RELEASED AND EXTRACTED FROM THE CONNECTOR SPECIFIED FOR THE TOOL AND RETAINED IN THE PROBE AFTER REMOVAL.

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3. TOOL (HANDLE AND PROBE ASSEMBLY) CONFIGURATION SHALL BE IN ACCORDANCE WITH FIGURES 1 AND 2, AND TABLES 1 AND 2. HANDLE ASSEMBLY AND PROBE CONFIGURATIONS ARE OPTIONAL WITHIN MAXIMUM DIMENSIONS SHOWN.
4. PROBE SHALL BE REMOVABLE FROM THE HANDLE ASSEMBLY BY UNSCREWING WITHOUT SPECIAL TOOLS FOR REPLACEMENT. THREAD SHALL BE IN ACCORDANCE WITH FIGURES 1, 2, AND 4.
5. PLUNGER SHALL EXTRACT AND EXTEND FREELY.
6. EACH TOOL SET SHALL INCLUDE A CONTAINER CONSISTING OF ONE HANDLE AND PLUNGER ASSEMBLY AND THE DESIGNATED PROBES AS SPECIFIED IN TABLE 4.

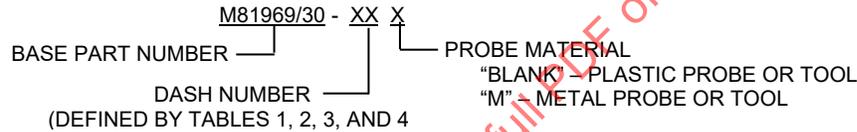
**MATERIALS:**

1. PROBE (PLASTIC VERSION): DELRIN PLASTIC OR APPROVED EQUIVALENT.
2. PROBE (METAL VERSION): STAINLESS STEEL OR APPROVED EQUIVALENT.
3. PLUNGER: 302, 303 STAINLESS STEEL, OR APPROVED EQUIVALENT.
4. KNOB AND BODY: ALUMINUM ALLOY, PLASTIC, OR APPROVED EQUIVALENT.

**FINISH:**

1. ALL METAL PARTS SHALL BE SUITABLY PROTECTED TO RESIST CORROSION.
2. ALL PARTS SHALL BE SMOOTH AND FREE FROM BURRS AND SHARP EDGES.

**SAE PART IDENTIFICATION NUMBER (PIN):**



**DASH NUMBER DESIGNATIONS:**

TABLES 1, 2, AND 4 CONSIST OF TOOL HANDLE WITH PROBE (COMPLETE TOOL) OR PROBE ONLY PART NUMBERS.  
 TABLE 3 CONSISTS OF TOOL HANDLE ONLY.  
 TABLE 4 CONSISTS OF ONE TOOL HANDLE WITH MULTIPLE PROBES.

**MARKING:**

1. ALL MARKING SHALL BE LEGIBLY AND PERMANENTLY MARKED IN ACCORDANCE WITH MIL-STD-130.
2. TOOL HANDLE MARKING SHALL INCLUDE, AS A MINIMUM, THE SAE PART NUMBER (SEE PIN) AND SUPPLIER NAME OR SYMBOL IN ACCORDANCE WITH AIR1351.
3. PLASTIC PROBE MARKING SHALL BE A CONTINUOUS COLOR ON ALL OUTER SURFACES WITH A COLOR BAND OR A DOT. METAL PROBE MARKING SHALL INCLUDE, AS A MINIMUM, THE SAE PART NUMBER (SEE PIN) AND CONTACT SIZE AS SPECIFIED IN TABLE 2.
4. THE SET MARKING SHALL INCLUDE, AS A MINIMUM, THE SAE PART NUMBER SHOWN IN TABLE 4. MARK SHALL BE ON THE TOP OF THE CONTAINER OR VISIBLE THROUGH THE TOP OF THE CONTAINER.

**APPLICATION NOTES:**

1. THE PLASTIC PROBE COLOR DESIGNATES THE CONTACT SIZE THE PROBE CAN REMOVE FROM THE CONNECTOR (SEE TABLE 1).
2. THE PLASTIC PROBE COLOR BAND OR COLOR DOT DESIGNATES THE CONNECTOR SERIES GROUP BY SPECIFICATION OR PART NUMBER (SEE TABLE 1).
3. THE METAL PROBE COLOR DOT DESIGNATES THE CONTACT SIZE AND CONNECTOR SERIES USED WITH THE PROBE (SEE TABLE 2).

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