FEDERAL SUPPLY CLASS
5120

RATIONALE

AS81969/8 PERMITS THE CANCELLATION AND SUPERSESSION OF MIL-I-81969/8 WITH THIS DOCUMENT. IT INCLUDES ENGINEERING POSITION LETTERS, MILITARY SPECIFICATION AMENDMENTS, INLINE CONFIGURATION TOOLS TO ACCOMMODATE LANYARD RELEASE CONNECTORS, SIZE 23 TO ACCOMMODATE NEW CONTACT SIZES (REFERENCE AS39029/121 AND /123), AND MINOR TECHNICAL CHANGES REQUIRED TO REFLECT THE APPROVED QUALIFIED TOOLS. GOVERNMENT DOCUMENTATION REFERENCES ARE REMOVED.

NOTICE

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

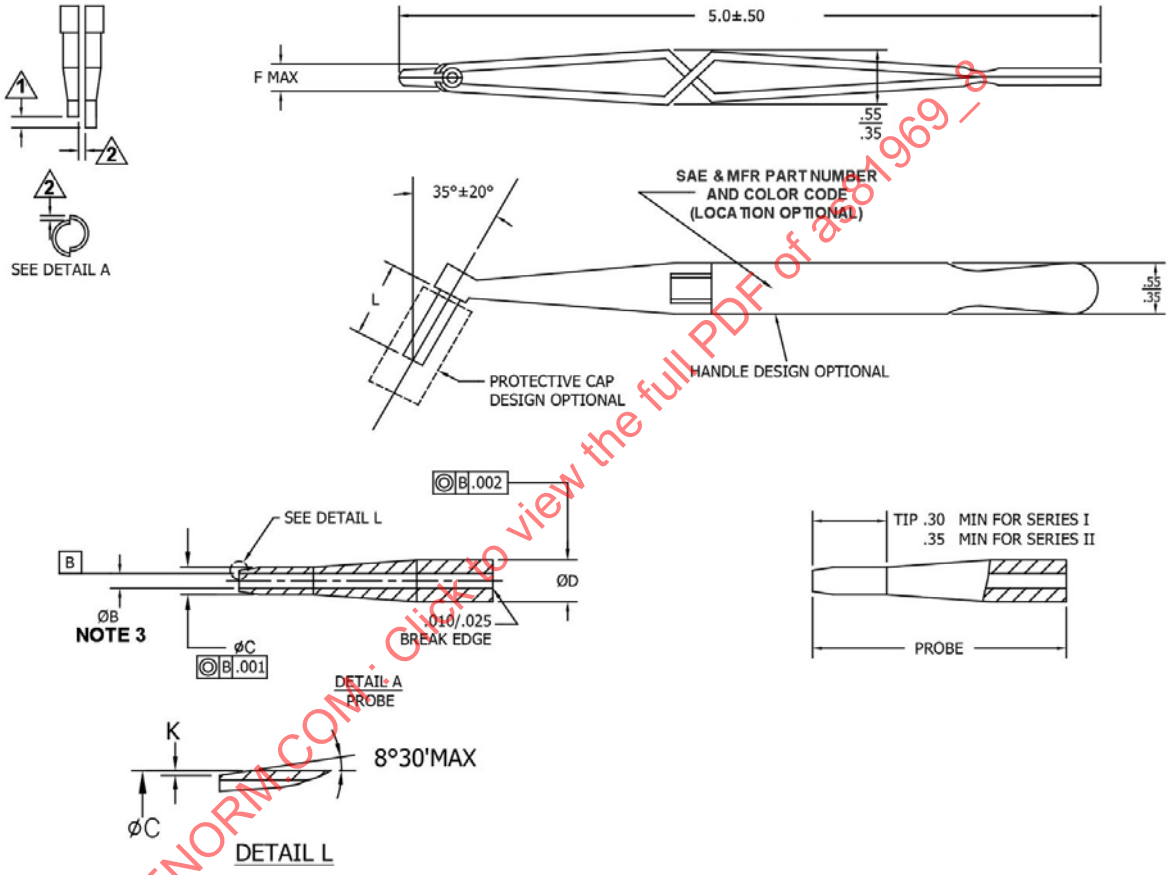

FIGURE 1 - ANGLE PROBE INSTALLING TOOL CONFIGURATION (-01,-03,-05,-07,-09,-11,-13,-15,-205,-207,-209) (SEE TABLE 1)

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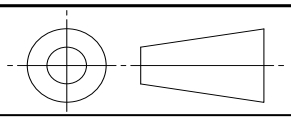
THIRD ANGLE PROJECTION



ISSUED 2014-04

CUSTODIAN: AE-8/AE-8C2

PROCUREMENT SPECIFICATION: AS81969

SAE INTERNATIONAL

AEROSPACE STANDARD

INSTALLING AND REMOVAL TOOLS, CONNECTOR ELECTRICAL CONTACT, TYPE I & II, CLASS 2, COMPOSITION A

AS81969/8
SHEET 1 OF 8

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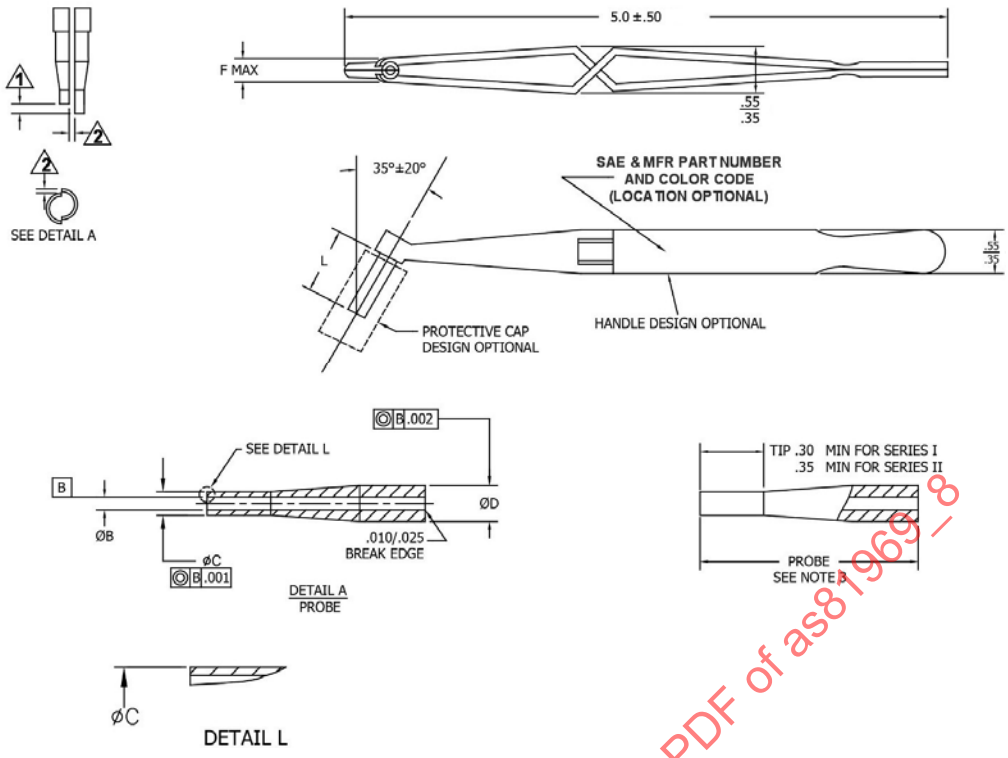

FIGURE 2 - ANGLE PROBE REMOVAL TOOL CONFIGURATION
(-02,-04,-06,-08,-10,-12,-14,-16,-206,-208, AND -210) (SEE TABLE 2)

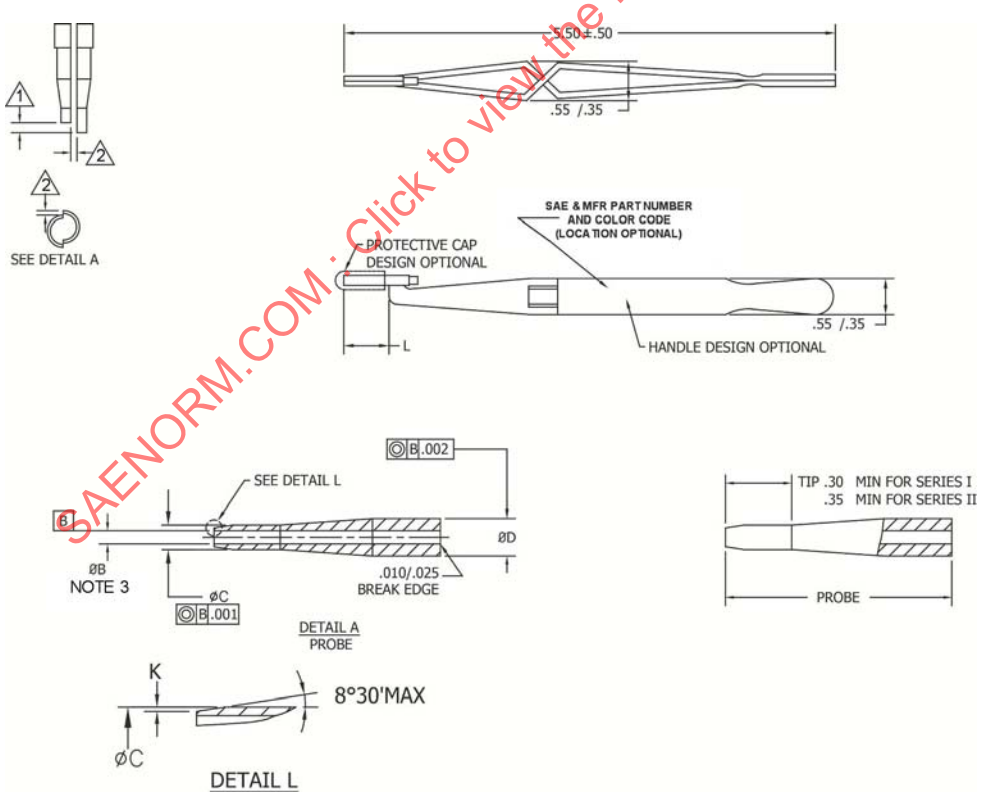

FIGURE 3 - INLINE PROBE INSTALLING TOOL CONFIGURATION
(-301,-303,-305,-307,-309,-311, -313, AND -315) (SEE TABLE 1)

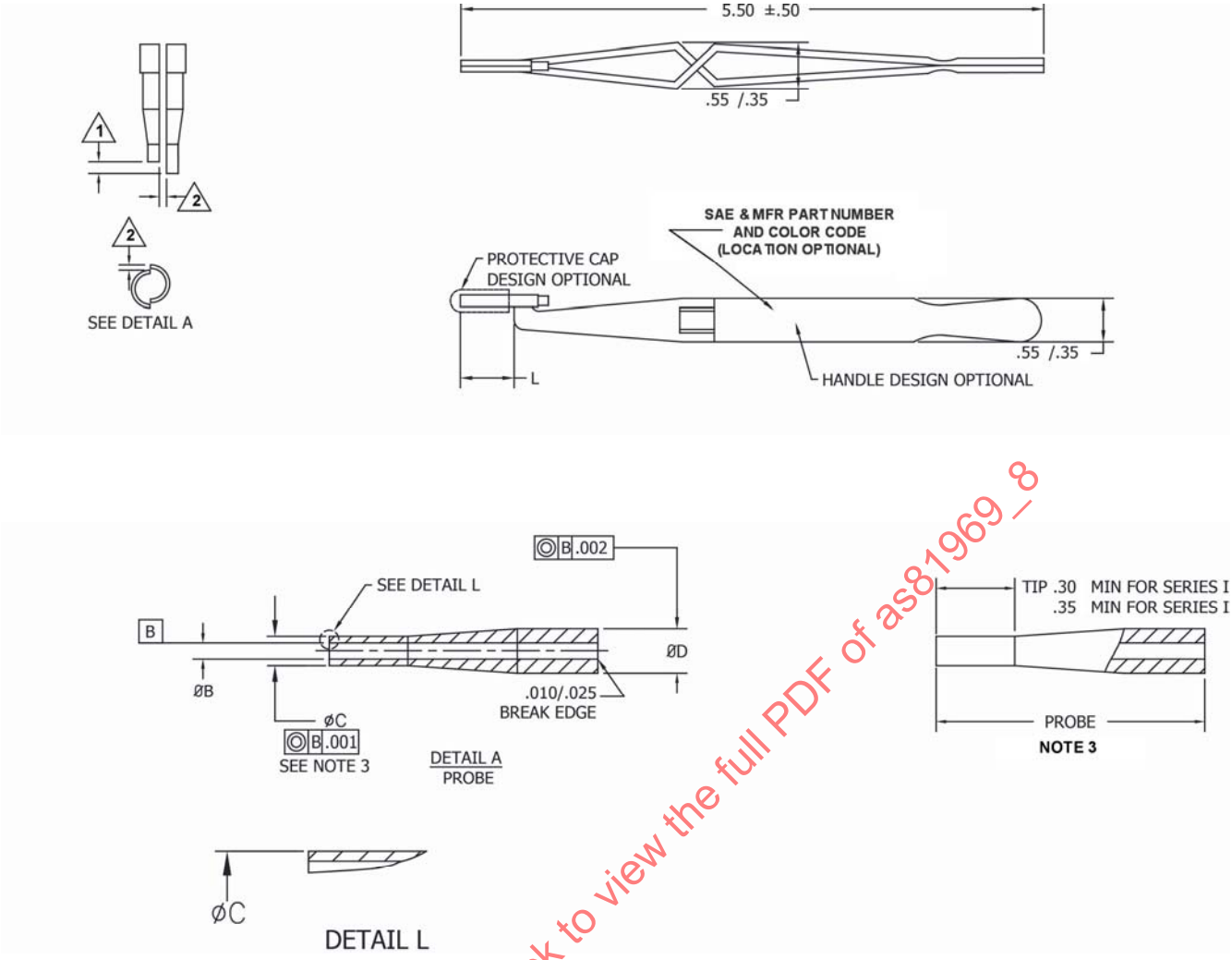

FIGURE 4 - INLINE PROBE REMOVAL TOOL CONFIGURATION
(-002-302,-304,-306,-308,-310,-312, -314, AND -316) (SEE TABLE 2)

DRAWING NOTES (APPLIES TO FIGURES 1, 2, 3, AND 4):

NOTE 1 - WITH PROBES IN THE FREE STATE POSITION, THE PROBES SHALL END-ALIGN WITHIN .005 INCH.

NOTE 2 - WITH PROBE CLOSED AROUND "A" DIAMETER PIN, THE PROBE SHALL ALIGN THEMSELVES WITHIN .001 INCH THROUGHOUT THE "L" LENGTH AND CLEARANCE BETWEEN PROBE SHALL BE .000 TO .006 INCH FOR THE INSTALLING TOOL AND .000 TO .002 FOR REMOVAL TOOL FOR THE ENTIRE LENGTH OF THE PROBE. THIS CLEARANCE SHALL BE CENTRAL TO THE CENTER LINE OF THE C DIAMETER WITHIN ±.002 INCHES

NOTE 3 - "B" DIAMETER TOLERANCE SHALL BE ±.001 FOR TIP AND +.010/ -.001 FOR BALANCE OF PROBE.

TABLE 1 - INSTALLING TOOL CONFIGURATION (SEE FIGURES 1 AND 3)

SIZE	DASH NO.	FIG.	HANDLE COLOR CODE			PIN GAGE 1/					RING GAGE 3/	PIN GAGE 3/		
			NO. 1	NO. 2	NO. 3	ØA +.0000 -.0002	ØB 2/ +.001 -.001	ØC +.000 -.001	ØD +.003 -.003	F MAX	ØH +.0000 -.0002	ØJ +.0002 -.0000	K	L +.015 -.015
ANGLE PROBE INSTALLING TOOL FOR MIL-DTL-38999, MIL-DTL-55302, AS81714, AND MIL-DTL-83733 CONNECTORS (SEE TABLE 3)														
23	-15	1	BLACK	--	--	.0515	.050	.058	.113	.232	.0585	.0485	.002/ .000	.650
22D 22M	-01		GREEN	---	---	.0545	.053	.0645	.113	.232	.0645 4/	.0515	.004/ .002	.650
22	-03		BROWN	---	---	.0625	.061	.074	.113	.236	.0745	.0595	.0045/ .0025	.650
20	-05		RED	---	---	.0855	.084	.097	.113	.254	.0975	.0825	.0045/ .0025	.650
16	-07		BLUE	---	---	.1115	.110	.133	.135	.287	.1335	.1085	.007/ .005	.650
12	-09		YELLOW	---	---	.1595	.158	.187	.189	.335	.1875	.1565	.008/ .006	.650
10	-11		GREEN	---	---	.2165	.215	.249	.251	.401	.2495	.2135	.010/ .008	.650
8	-13		RED	---	---	.2795	.278	.317	.320	.475	.3175	.2765	.016/ .012	1.100
ANGLE PROBE INSTALLING TOOL FOR AS50151, MIL-DTL-26482, AS81703, AS81714, MIL-DTL-83723, AND MIL-DTL-83733 CONNECTORS (SEE TABLE 3)														
20	-205	1	RED	---	BLACK	.0855	.084	.104	.113	.262	.1045	.0825	.005/ .003	.950
16	-207		BLUE	---	BLACK	.1115	.110	.134	.137	.291	.1345	.1085	.007/ .005	1.200
12	-209		YELLOW	---	BLACK	.1625	.161	.191	.194	.343	.1915	.1595	.008/ .006	1.200
INLINE PROBE INSTALLING TOOL FOR FOR MIL-DTL-38999, MIL-DTL-55302, AS81714, AND MIL-DTL-83733 CONNECTORS (SEE TABLE 3)														
23	-315	3	BLACK	---	---	.0515	.050	.058	.113	.232	.0585	.0485	.002/ .000	.650
22D 22M	-301		GREEN	---	---	.0545	.053	.0645	.113	.232	.0645 4/	.0515	.004/ .002	.650
22	-303		BROWN	---	---	.0625	.061	.074	.113	.236	.0745	.0595	.0045/ .0025	.650
20	-305		RED	---	---	.0855	.084	.097	.113	.254	.0975	.0825	.0045/ .0025	.650
16	-307		BLUE	---	---	.1115	.110	.133	.135	.287	.1335	.1085	.007/ .005	.650
12	-309		YELLOW	---	---	.1595	.158	.187	.189	.335	.1875	.1565	.008/ .006	.650
10	-311		GREEN	---	---	.2165	.215	.249	.251	.401	.2495	.2135	.010/ .008	.650
8	-313		RED	---	---	.2795	.278	.317	.320	.475	.3175	.2765	.016/ .012	1.100

1/ SEE DRAWING NOTE 2
2/ SEE DRAWING NOTE 3
3/ SEE DRAWING NOTE 2 AND RING GAGE REQUIREMENT 1
4/ TOLERANCE +.0002, -.0000

TABLE 2 - REMOVAL TOOL CONFIGURATION (SEE FIGURES 2 AND 4)

SIZE	DASH NO.	FIG.	HANDLE COLOR CODE NO. 1	HANDLE COLOR CODE NO. 2	HANDLE COLOR CODE NO. 3	PIN GAGE 1/ ØA +.0000 -.0002	TOOL TIP 2/ ØB +.001 -.001	ØC +.000 -.001	ØD +.003 -.003	F MAX	RING GAGE 3/ ØH +.0000 -.0002	PIN GAGE 3/ ØJ +.0002 -.0000	L +.015 -.015
ANGLE PROBE REMOVAL TOOL FOR FOR MIL-DTL-38999, MIL-DTL-55302, AS81714, AND MIL-DTL-83733 CONNECTORS (SEE TABLE 3)													
23	-16	1	BLACK	- -	- -	.0515	.050	.058	.113	.232	.0585	.0485	.650
22D 22M	-02		GREEN	WHITE	---	.0545	.053	.0645	.113	.232	.0645 4/	.0515	.650
22	-04		BROWN		---	.0625	.061	.074	.113	.236	.0745	.0595	.650
20	-06		RED		---	.0855	.084	.097	.113	.254	.0975	.0825	.650
16	-08		BLUE		---	.1115	.110	.133	.135	.287	.1335	.1085	.650
12	-10		YELLOW		---	.1595	.158	.187	.189	.335	.1875	.1565	.650
10	-12		GREEN		---	.2165	.215	.249	.251	.401	.2495	.2135	.650
8	-14		RED		---	.2795	.278	.317	.320	.475	.3175	.2765	1.100
20	-206		RED		BLACK	.0855	.084	.104	.113	.262	.1045	.0825	.950
16	-208		BLUE		BLACK	.1115	.110	.134	.137	.291	.1345	.1085	1.200
12	-210		YELLOW		BLACK	.1625	.161	.191	.194	.343	.1915	.1595	1.200
INLINE PROBE REMOVAL TOOL FOR MIL-DTL-38999, MIL-DTL-55302, AS81714, AND MIL-DTL-83733 CONNECTORS (SEE TABLE 3)													
23	-316	1	BLACK	WHITE	---	.0515	.050	.058	.113	.232	.0585	.0485	.650
22D 22M	-302		GREEN		---	.0545	.053	.0645	.113	.232	.0645 4/	.0515	.650
22	-304		BROWN		---	.0625	.061	.074	.113	.236	.0745	.0595	.650
20	-306		RED		---	.0855	.084	.097	.113	.254	.0975	.0825	.650
16	-308		BLUE		---	.1115	.110	.133	.135	.287	.1335	.1085	.650
12	-310		YELLOW		---	.1595	.158	.187	.189	.335	.1875	.1565	.650
10	-312		GREEN		---	.2165	.215	.249	.251	.401	.2495	.2135	.650
8	-314		RED		---	.2795	.278	.317	.320	.475	.3175	.2765	1.100

1/ SEE DRAWING NOTE 2
2/ SEE DRAWING NOTE 3
3/ SEE DRAWING NOTE 2 AND RING GAGE REQUIREMENT 1
4/ TOLERANCE +.0002, -.0000

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

1. DESIGN:

   TOOLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURES 1, 2, 3, 4, AND DRAWING NOTES.

   DIMENSIONS ARE IN INCHES AS SPECIFIED IN THE FIGURES, TABLES 1 AND 2. UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE ±.005 INCH. DIMENSIONING AND TOLERANCES IS IN ACCORDANCE WITH ANSI Y14.5M.

   HANDLE CONFIGURATION OPTIONAL WITHIN MAXIMUM DIMENSIONS AND ORIENTATION OF THE TIP TO THE HANDLE AS SHOWN IN FIGURES 1 THROUGH 4.

   TWEEZERS SHALL BE REVERSE ACTION WITH BOX JOINT.

   TIP CONCENTRICITY SHALL BE MAINTAINED FOR A LENGTH OF .250 INCHES MINIMUM.

   THE PROBES SHALL ACCEPT A RING GAGE OF “H” DIAMETER TO A DEPTH OF .300 INCH MIN. FOR TYPE I TOOLS AND .350 INCH MIN. FOR TYPE II TOOLS WITH THE PROBES IN THE RING GAGE, A PIN OF “J” DIAMETER SHALL ENTER THE PROBES TO A DEPTH OF .300 INCH MINIMUM FOR TYPE I TOOLS AND .350 INCH MINIMUM FOR TYPE II TOOLS. AS AN OPTION, THE PIN MAY BE INSERTED PRIOR TO THE RING GAGE. THE “A” DIAMETER PIN SHALL NOT ENTER THE TOOL (SEE TABLES 1 AND 2).

   TOOL SIZES ARE IDENTIFIED BY THE COLOR SCHEMES LISTED IN TABLES 1 AND 2.

2. IDENTIFICATION MARKING:

   EACH TOOL SHALL BE LEGIBLY AND PERMANENTLY MARKED ON TOOL BODY IN ACCORDANCE WITH MIL-STD-130 (LOCATION OPTIONAL). SUPPLIER SYMBOL, IF USED, SHALL BE ACCORDANCE WITH AIR1351. HANDLE SHALL BE COLOR CODED IN ACCORDANCE WITH TABLE 1 AND 2 (LOCATION OPTIONAL).

3. MATERIALS (SEE AS81969):

   HANDLE: CORROSION RESISTANT STEEL OR QQ-S-700 STEEL TREATED TO RESIST CORROSION; 410, 416 STAINLESS STEEL, 300 MARAGING STEEL, OR MARSTENITIC STEEL.

   PROBES: SAE 4130, AMS5643, AMS6370, 410 STEEL, 416 STAINLESS STEEL, 300 MARAGING STEEL, OR CROLOY 16-6PH. PROBES SHALL BE HEAT TREATED TO ROCKWELL RC 35-45. FOR MATERIAL TOO THIN FOR ACCURATE ROCKWELL MEASUREMENT, THE KNOOP HARDNESS SCALE SHALL BE USED. KNOOP HARDNESS (500 GRAM LOAD MINIMUM) SHALL BE 350-460.

4. PLATING: FOR NON-CORROSION RESISTANT STEEL, ELECTROLESS NICKEL IN ACCORDANCE WITH AMS-C-26074.

5. PLUNGER FORCE: NOT APPLICABLE.

6. PART NUMBER

M81969 /8 -01
- -01 — DASH NUMBER (SEE TABLES 1 AND 2)
- /8 — DETAIL SPECIFICATION NUMBER
- M81969 — BASIC SPECIFICATION NUMBER