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REV.
B

AS22520™/5

FEDERAL SUPPLY CLASS
5120

RATIONALE

REVISION REQUIRED TO CORRECT FIGURE 10 DETAIL B DIMENSIONS, REMOVE APPENDIX B, AND MAKE MINOR TECHNICAL CHANGES AS NEEDED.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS22520.

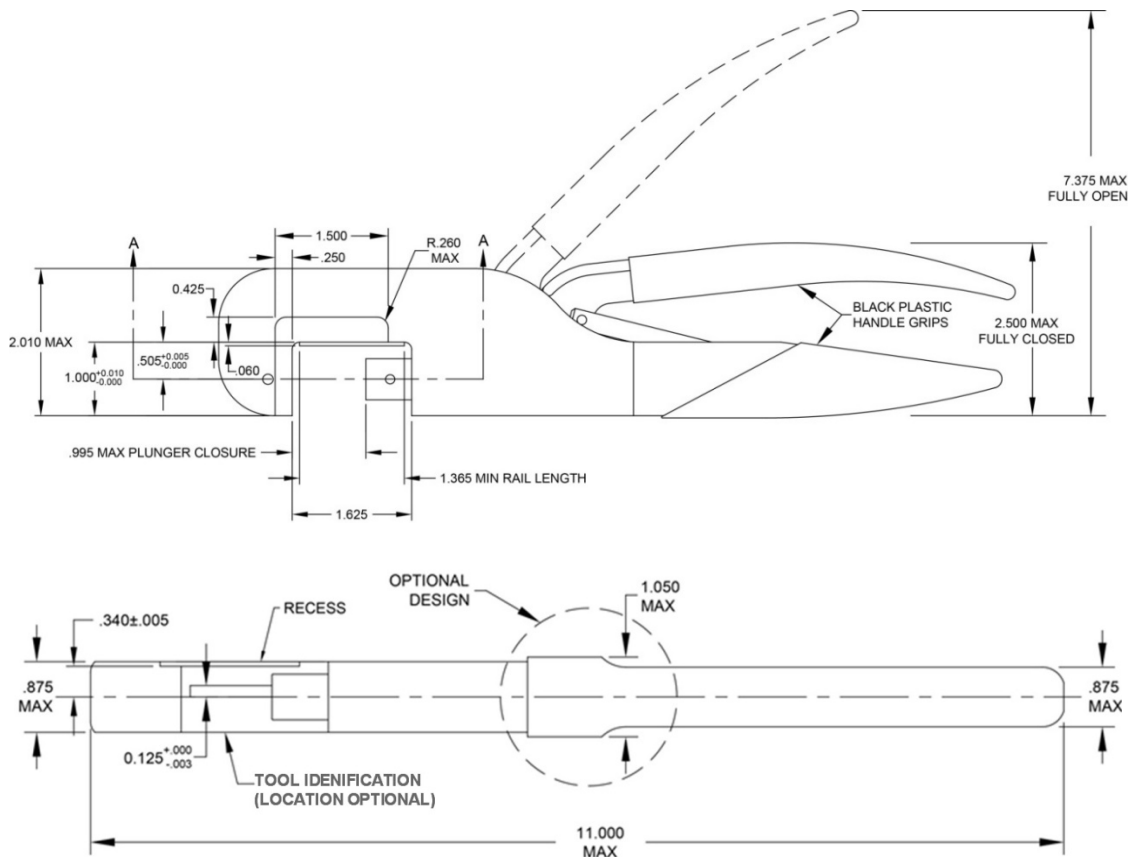
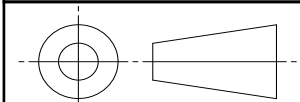


FIGURE 1 - M22520/5-01 TOOL

For more information on this standard, visit
<https://www.sae.org/standards/content/AS22520/5B>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/-AE-8C2

PROCUREMENT SPECIFICATION: AS22520



AEROSPACE STANDARD

CRIMPING TOOLS, TYPE 2, TERMINAL, HAND,
WIRE TERMINATION, FOR COAXIAL, TWIN AXIAL, TRIAXIAL,
SHIELDED CONTACTS AND FERRULES, TERMINAL LUGS,
SPLICES, AND END CAPS

AS22520™/5
SHEET 1 OF 19

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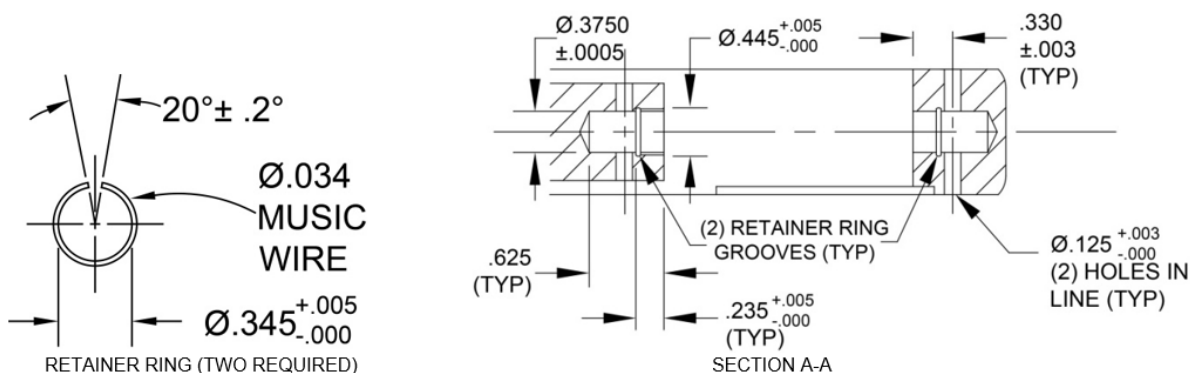
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PART NO.	BODY COLOR	HANDLE GRIP COLOR
M22520/5-01	GOLD	BLACK

FIGURE 1 - M22520/5-01 TOOL (CONTINUED)

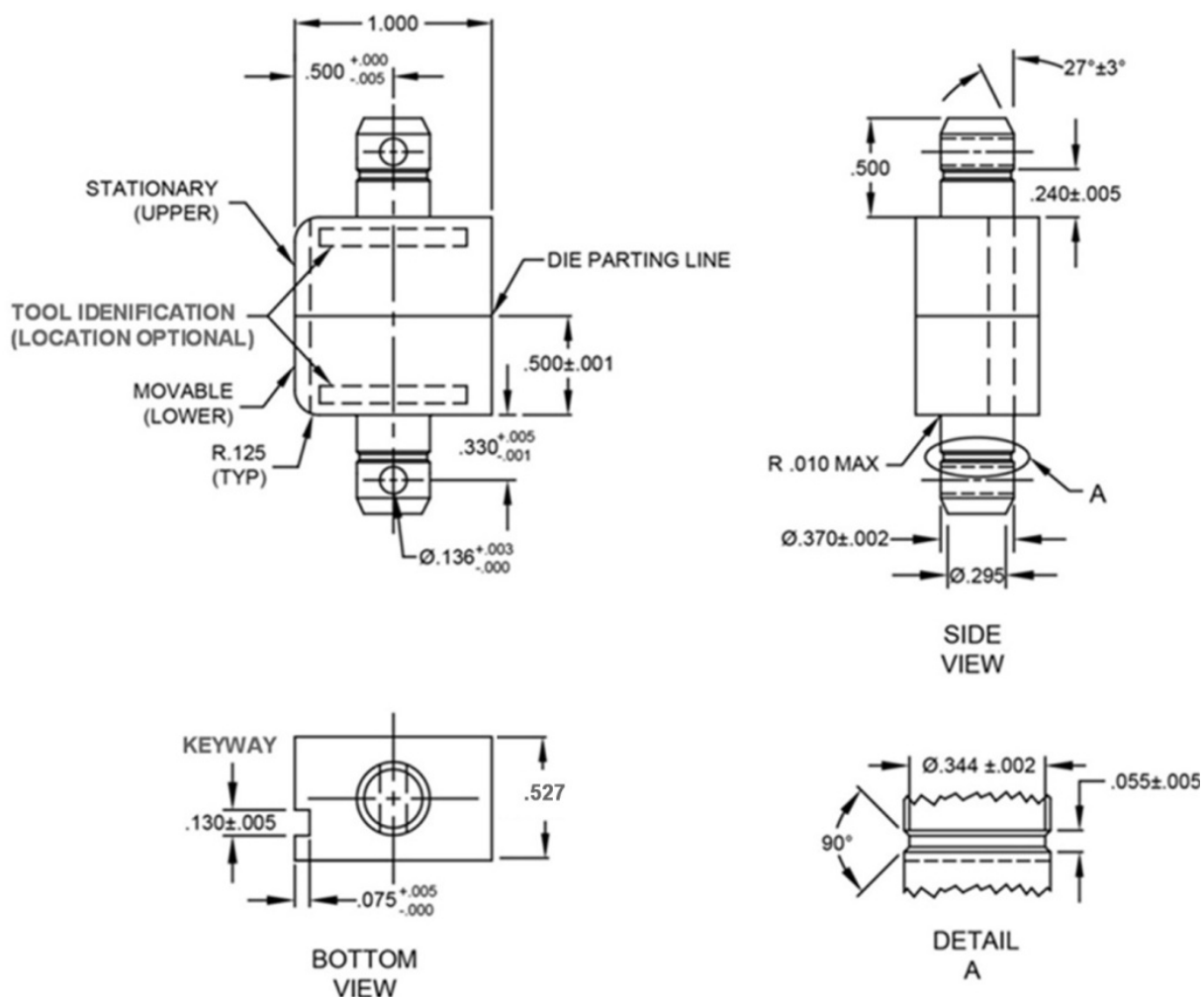


FIGURE 2 - BASIC DIE DIMENSIONS (DIMENSIONS ARE APPLICABLE TO BOTH DIE HALVES)

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	CRIMPING TOOLS, TYPE 2, TERMINAL, HAND, WIRE TERMINATION, FOR COAXIAL, TWIN AXIAL, TRIAXIAL, SHIELDED CONTACTS AND FERRULES, TERMINAL LUGS, SPLICES, AND END CAPS		



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REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS22520.

1. TOOL CONFIGURATION:

BASIC TOOL CONFIGURATION SHALL BE IN ACCORDANCE WITH FIGURE 1. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES: DECIMALS $\pm .010$, ANGLES $\pm 1/2$ DEGREE. OUTLINE CONFIGURATION AND TOOL CONSTRUCTION OPTIONAL WITHIN MAXIMUM DIMENSIONS SHOWN. REMOVE ALL BURRS AND BREAK ALL EDGES AND CORNERS.

2. DIE CONFIGURATION:

BASIC DIE CONFIGURATION SHALL BE IN ACCORDANCE WITH FIGURE 2. DETAIL DIE CONFIGURATION SHALL BE AS SPECIFIED FOR EACH SPECIFIED COMPONENT DIE (SEE TABLE 2 AND DETAIL DIE DRAWINGS). DIES ARE INTERCHANGEABLE WITHIN M22520/5-01 BASIC TOOL. ALL DIES SHALL HAVE A FULL LENGTH KEYWAY. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES: DECIMALS $\pm .010$ AND ANGLES $\pm 1/2$ DEGREE. ALL RADII SHALL BE BLEND RADII. REMOVE ALL BURRS AND BREAK ALL EDGES AND CORNERS. FOR CRIMP DIE CLOSURE DETAILS SEE DIE DETAIL SPECIFICATION DRAWINGS.

3. LOCATOR CONFIGURATION:

COMPONENT LOCATOR (WHEN REQUIRED), UNLESS OTHERWISE SPECIFIED, SHALL BE ATTACHED TO THE LOWER DIE, SHALL PROVIDE A POSITIVE STOP FOR LOCATING THE COMPONENT TO BE CRIMPED, AND RETAIN THE COMPONENT IN PLACE WITHOUT BEING HELD BY THE OPERATOR. DURING THE CRIMPING OPERATION, THE LOCATOR SHALL BE FREE TO MOVE AS NECESSARY TO PREVENT THE CRIMPED ITEM FROM BENDING IN ACCORDANCE WITH AS22520.

4. TOOL MARKING:

TOOL IDENTIFICATION (SEE FIGURE 1) SHALL BE IN ACCORDANCE WITH MIL-STD-130, STAMP AND WHITE FILL OR LASER MARKED. UNLESS OTHERWISE SPECIFIED, THE STAMPED MARKING HEIGHT IS .093 MINIMUM. PART NUMBER AND COLORS SHALL BE AS SPECIFIED. TOOL IDENTIFICATION SHALL INCLUDE THE M22520/5-01 PART NUMBER, MANUFACTURER'S IDENTIFICATION OR SYMBOL, AND THE MANUFACTURER'S PART NUMBER. IF SYMBOLS ARE USED ON TOOL FRAME, IT SHALL BE IN ACCORDANCE WITH AIR1351. LABEL PERMITTED ON TOOL FRAME, PROVIDING THAT IT IS STILL LEGIBLE AFTER ALL ENVIRONMENTAL TESTING REQUIRE BY AS22520.

5. DIE MARKING:

DIE IDENTIFICATION (SEE FIGURE 2) ON EACH HALF SHALL INCLUDE THE M22520/5-XXX PART NUMBER, AND MANUFACTURER'S IDENTIFICATION OR SYMBOL. IF SYMBOLS ARE USED ON THE DIES, IT SHALL BE IN ACCORDANCE WITH AIR1351. DIES CAVITIES SHALL BE MARKED IN ACCORDANCE WITH THE DETAIL DIE DRAWING. UNLESS OTHERWISE SPECIFIED, THE MARK SHALL BE STAMPED (LETTERING HEIGHT .062 MINIMUM) AND WHITE FILL OR LASER MARKED.

6. TOOL MATERIALS:

UNLESS OTHERWISE SPECIFIED, MATERIAL IS IN ACCORDANCE WITH AS22520. SURFACE TEXTURE SHALL BE 63 RMS OVER ALL IN ACCORDANCE WITH ASME B46.1 (AMERICAN NATIONAL STANDARDS INSTITUTE). TOOL BODY SHALL BE 7075-T6 ALUMINUM OR EQUIVALENT. MOVABLE HANDLE AND INTERNAL PARTS SHALL BE STEEL. PUSHROD AND DIE HOLDER SHALL BE 400 SERIES STAINLESS STEEL. ALUMINUM COMPONENTS SHALL BE ANODIZED AND STEEL COMPONENTS SHALL BE BLACK OXIDE OR PLATED TO RESIST CORROSION.

7. DIE MATERIALS:

DIES SHALL BE ALLOY TOOL STEEL HARDEN TO ROCKWELL C52-58. FINISH SHALL BE BLACK OXIDE PER MIL-DTL-13924 OR EQUIVALENT. SURFACE TEXTURE ON CRIMPING SURFACE SHALL BE 63 RMS, UNLESS OTHERWISE SPECIFIED, IN ACCORDANCE WITH ASME B46.1.

8. INSPECTION GAGE:

INSPECTION GAGES ARE SPECIFIED WITH EACH DIE DETAIL DRAWING.

9. WEIGHT:

TOOL WEIGHT SHALL NOT EXCEED 2.0 POUNDS. DIE WEIGHT SHALL NOT EXCEED .50 POUNDS.

10. TOOL COMPRESSION FORCE:

COMPRESSION FORCE SHALL BE IN ACCORDANCE WITH TABLE 1 USING THE SPECIFIED DIE AND COMPONENT.

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TABLE 1 - COMPRESSION FORCE REQUIREMENTS

DIE PART NUMBER	TEST CABLE	TEST FERRULE ($\pm .002$)	COMPRESSION FORCE (POUND MAX)
M22520/5-61	RG214/U	.440 ID/.495 OD	120

11. TOOL CYCLE CONTROL RATCHET:

RATCHET RELEASE FORCE ON THE HANDLE SHALL BE 30 POUNDS MINIMUM TO 50 POUNDS MAXIMUM WHEN THE TOOL IS CLOSED ON A 1.000 INCH $\pm .0005$ INCH GAGE BLOCK OR DIE SET. THE TOOL SHALL BE MADE WITH A TAMPER-PROOF RATCHET WHICH LIMITS THE MOVEMENT OF THE TOOL HANDLE IN BOTH DIRECTIONS AND ASSURES A COMPLETE CLOSURE OF THE TOOL HANDLE PRIOR TO RELEASE.

12. DIE INTERFACE:

THE DIE FACES SHALL TOUCH AT COMPLETION OF CRIMPING CYCLE.

13. ASSEMBLY INSTRUCTIONS:

ASSEMBLY AND APPLICATION INSTRUCTION SHALL BE PROVIDED WITH EACH TOOL. THE ASSEMBLY INSTRUCTION SHALL PROVIDE INSTALLATION DETAILS ON HOW TO PERMANENTLY ATTACH DIE ASSEMBLIES TO THE TOOL FRAME.

14. WARNING:

AS22520/5 CONFIGURATION IS FOR HAND CRIMPING APPLICATIONS ONLY.

USE OF HAND CRIMPING TOOLS COVERED BY THIS SPECIFICATION AS A COMPONENT IN ANY POWERED "PRESS" MAY VIOLATE OSHA REGULATIONS CFR 1910.211.

SUPERSESION INFORMATION:

- AS22520/5 SUPERSEDES MIL-DTL-22520/5D AND MIL-C-0022520/5E (USAF). PART NUMBERS REMAIN UNCHANGED.

APPLICATION NOTES:

- M22520/5-01 CRIMP TOOL FRAME IS INTENDED FOR USE WITH INTERCHANGEABLE CRIMP DIES TO TERMINATE COAXIAL CONNECTORS, TRI-AXIAL CONNECTORS, SHIELDED CONTACTS, TERMINALS, WIRE SPLICES, END CAPS, AND SIMILAR WIRE TERMINATING DEVICES.
- WHEN THE DIE ASSEMBLY IS REQUIRED TO BE PERMANENTLY ATTACHED TO THE TOOL, AN MS171526 SPRING PIN IS RECOMMENDED (REFER TO NASM 171526 AND THE TOOL MANUFACTURER INSTRUCTIONS FOR DETAILS).
- DIE CRIMP PERFORMANCE IS VERIFIED BY INSPECTION GAGING THE CRIMP CAVITY AS RECOMMENDED IN APPENDIX A.
- CLOSE TOLERANCE HEX CAVITIES GAGING WITH AS22520 GAGES IN FIELD INSPECTION APPLICATIONS MAY REQUIRE SPECIAL HANDLING. APPENDIX A PROVIDES A RECOMMENDED PROCESS FOR THESE TYPES OF INSPECTIONS.
- THE M22520/5-104 DIES WERE DESIGNED TO BE USED TO CRIMP INNER CONDUCTOR AND OUTER SHIELDING OF MIL-C-39029/95 AND /96 CONTACTS WHICH WERE UNPUBLISHED. M22520/5-104 WAS CANCELED WITHOUT REPLACEMENT DUE TO CONTACT STATUS.
- THE M22520/5-106, -107, AND -108 DIES ARE USED TO CRIMP TERMINALS AND SPLICES WITH INSULATED SUPPORT CUP CRIMP BARRELS. THE DIES SIMULTANEOUSLY CRIMPS THE WIRE INSULATION SUPPORT CUP AND THE INSULATED CRIMP BARREL.
- THE VARIOUS COMPONENTS CRIMPED BY AS22520/5 DIES ARE LISTED IN TABLE 2.

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TABLE 2 - TOOL/DIE COMPONENT CRIMP APPLICATIONS

CRIMP TOOL FRAME M22520/5-01 (SHEET 2) 1/		
COMPONENT DETAIL SPECIFICATION	DIE PART NUMBER	WIRE BARREL SIZE
MIL-PRF-39012 CONNECTORS (SEE APPENDIX A) AS39029/102 AND -/103 OUTER CONTACT	M22520/5-02 THROUGH -63	REFER TO MIL-PRF-39012 DETAIL SPECIFICATIONS
AS39029/59 AND /60 SHIELD CRIMP SLEEVE	M22520/5-05	8
AS39029/67 AND /68 SHIELD CRIMP OUTER CONTACT	M22520/5-33, -35, -41, -19	FOR RG -178B/U, - 174/U AND 316/U, -180B/U, -58C/U AND 303/U, 1428/U AND 223/U
AS7928/1, /2, /4, /5, /6, /8-/13, AS17143, AS25036, AS25274, AND AS27429 (CANCELED)	M22520/5-100	12 THROUGH 10 26 THROUGH 14
AS7928/2, /5, /6, AND /9	M22520/5-101	26 THROUGH 20
AS81824/1, /6, /7, /8, /9, /10, /11, /14, AND AS7928/10	M22520/5-102	16 THROUGH 12
AS81824/1, /6, /7, /8, /9, /10, /11, AND /14	M22520/5-103	26 THROUGH 20 20 THROUGH 16
MIL-C-39029/95 AND /96 CONTACTS (UNPUBLISHED, SEE APPLICATION NOTE 5)	M22520/5-104 (CANCELED)	CONTACT SHIELD SLEEVE
AS39029/90-529, /91-530, /113-625, AND /114-628	M22520/5-105	CONTACT SHIELD SLEEVE
AS7928/1, /2, /4, /5, /6, /8-/13, AS17143, AS25036, AS25274, AND AS27429	M22520/5-106	22 THROUGH 18
AS7928/1, /4, /5, /6, /7, /8-/13, AS17143, AS25036, AS25274, AND AS27429	M22520/5-107	16 THROUGH 14
AS7928/1, /2, /4, /5, /6, /8-/13, AS17143, AS25036, AS25274, AND AS27429	M22520/5-108	10 THROUGH 12 WITH INSULATION SUPPORT CUP CRIMP
AS21608 SHIELD TERMINATION FERRULES	REFER TO AS22520/5 FOR DASH NUMBERS	14 THROUGH 16 WITH INSULATION SUPPORT CUP CRIMP
APPENDIX A - HEX CAVITY INSPECTION PROCESS	--	10 THROUGH 12 WITH INSULATION SUPPORT CUP CRIMP

1/ IN THE EVENT OF CONFLICT BETWEEN THIS LIST AND THE COMPONENT SPECIFICATION, THE COMPONENT SPECIFICATION SHALL TAKE PRECEDENCE. IN SOME CASES, THE COMPONENT SPECIFICATION MAY LIST A TOOL NOT INCLUDED IN THE TABLE.

SPECIFICATION NOTE:

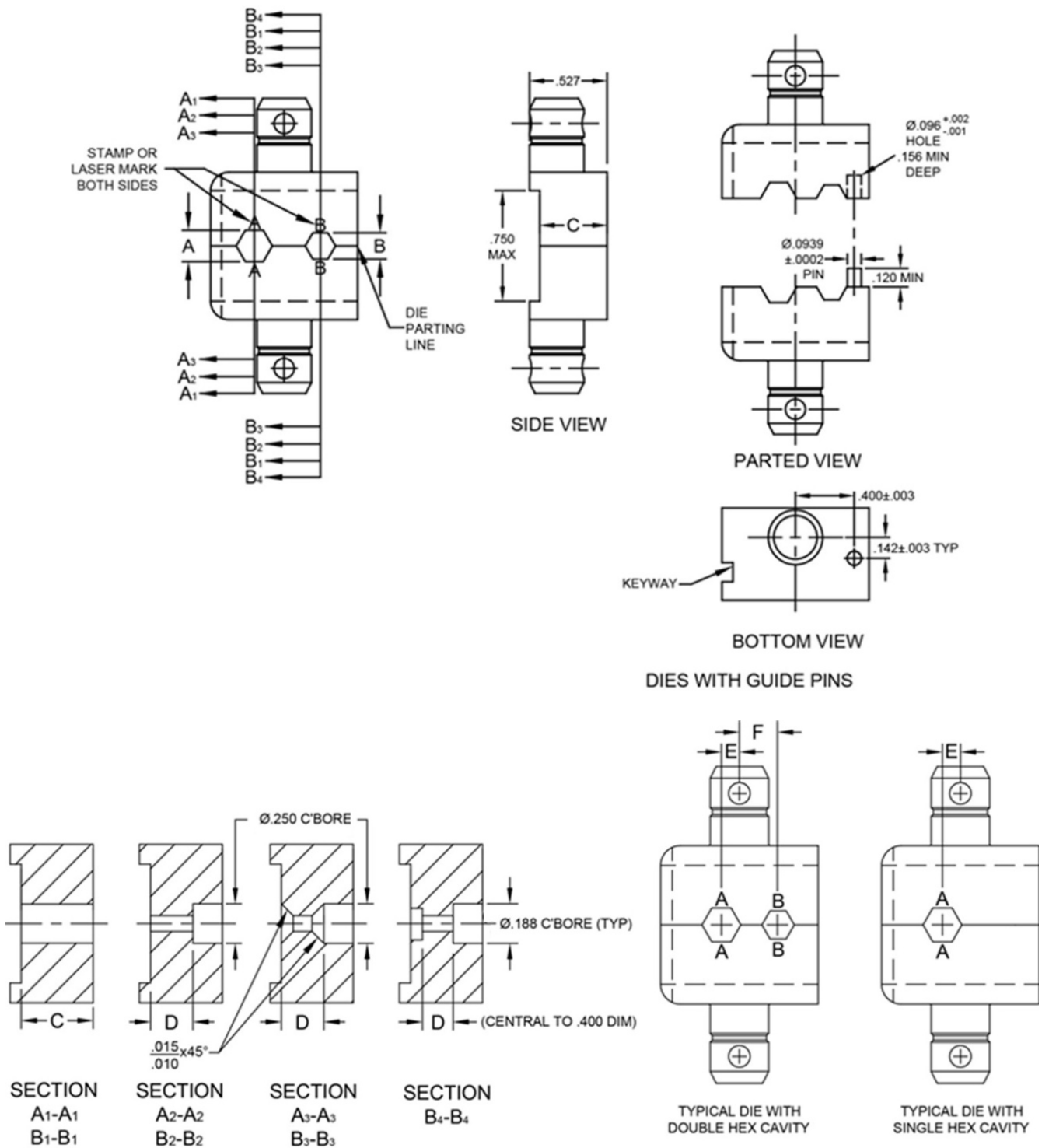
1. REVISION INDICATOR: A CHANGE BAR (I) LOCATED IN THE LEFT MARGIN IS FOR THE CONVENIENCE OF THE USER IN LOCATING AREAS WHERE TECHNICAL REVISIONS, NOT EDITORIAL CHANGES, HAVE BEEN MADE TO THE PREVIOUS ISSUE OF THIS DOCUMENT. AN (R) SYMBOL TO THE LEFT OF THE DOCUMENT TITLE INDICATES A COMPLETE REVISION OF THE DOCUMENT, INCLUDING TECHNICAL REVISIONS. CHANGE BARS AND (R) ARE NOT USED IN ORIGINAL PUBLICATIONS, NOR IN DOCUMENTS THAT CONTAIN EDITORIAL CHANGES ONLY.

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PART NO.	DIE COLOR	DIE IN-SERVICE INSPECTION GAGE
M22520/5-XX (SEE TABLE 3)	BLACK	SEE TABLE 3

FIGURE 3 - M22520/5-02 THROUGH -63 HEX DIES (SEE FIGURE 2)