

**TECHNICAL MANUAL**

**AVIATION UNIT AND INTERMEDIATE MAINTENANCE  
REPAIR PARTS AND SPECIAL TOOLS LIST  
(INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND  
SPECIAL TOOLS LIST)**

**AUXILIARY POWER UNIT ELECTRONIC SEQUENCE UNIT**

**MULTI-PURPOSE TEST SET**

**PART NUMBER 161226-200**

**NSN 4920-01-121-0605**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**23 DECEMBER 1983**

**Aviation Unit and Intermediate Maintenance  
Repair Parts and Special Tools List  
(Including Depot Maintenance Repair Parts and  
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MULTI-PURPOSE TEST SET  
PART NUMBER 161226-200  
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Current as of 11 February 1983

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any errors, or if you know of a way to improve this manual, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, U.S. Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished to you.

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## Section I. INTRODUCTION

### 1. Scope.

This manual lists repair parts, special tools, special test, measurement, and diagnostic equipment (TMDE), and other special support equipment required for performance of aviation unit maintenance (AVUM) and aviation intermediate maintenance (AVIM) of the Auxiliary Power Unit Electronic Sequence Unit Multi-Purpose Test Set. It authorizes the requisitioning and issue of repair parts as indicated by the source and maintenance codes.

### 2. General.

This Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of authorized parts. Parts lists are composed of functional groups in numeric sequence with the parts in each group listed in figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized for the performance of maintenance.

c. Section IV. National Stock Number and Part Number Index. A list in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

### 3. Explanation of Columns.

a. Illustration. This column is divided as follows:

(1) Figure Number. Indicates the figure number of the illustration on which the item is shown.

(2) Item Number. The number used to identify item called out in the illustration.

b. Source, Maintenance, and Recoverability (SMR) Codes.

(1) Source Code. Source codes indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

| Code | Definition   |
|------|--|
| PA   | - Item procured and stocked for anticipated or known usage.  |
| PB   | - Item procured and stocked for insurance purpose because essentiality dictates that a minimum quantity be available in the supply system.   |
| PC   | - Item procured and stocked and which otherwise would be coded PA except that it is deteriorative in nature.   |
| PD   | - Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent, or additional initial issues or outfittings. Not subject to automatic replenishment.  |
| PE   | - Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.   |
| PF   | - Support equipment which will not be stocked, but which will be centrally procured on demand.   |
| PG   | - Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities would prove uneconomical to reproduce at a later time. |
| KD   | - An item of a depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair.  |
| KF   | - An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at unit or intermediate levels of maintenance.  |
| KB   | - Item included in both a depot overhaul kit and a maintenance kit.  |
| MO   | - Item to be manufactured or fabricated at unit level.   |
| MF   | - Item to be manufactured or fabricated at the intermediate maintenance level.   |
| MD   | - Item to be manufactured or fabricated at the depot maintenance level.  |
| AO   | - Item to be assembled at unit level.  |
| AF   | - Item to be assembled at intermediate maintenance level.  |
| AD   | - Item to be assembled at depot maintenance level.   |

| Code | Definition  |
|------|---|
| XA   | - Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly. |
| XB   | - Item is not procured or stocked. If not available through salvage requisition.  |
| XC   | - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.        |
| XD   | - A support item that is not stocked. When required item will be procured through normal supply channels.                           |

**NOTE: Cannibalization or salvage may be used as a source of supply for any items coded above, except those coded XA and aircraft support items as restricted by AR 700-42.**

(2) Maintenance Code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third or fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance.

| Code | Application/Explanation   |
|------|---|
| O    | - Support item is removed, replaced, used at the unit level.  |
| F    | - Support item is removed, replaced, used at the intermediate level.  |
| D    | - Support items that are removed, replaced, used at depot, mobile depot, or specialized repair activity only. |

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes.

| Code | Application/Explanation  |
|------|--|
| O    | - The lowest maintenance level capable of complete repair of the support item is the unit level.         |
| F    | - The lowest maintenance level capable of complete repair of the support item is the intermediate level. |

| Code | Application/Explanation   |
|------|---|
| D    | - The lowest maintenance level capable of complete repair of the support item is the depot level.   |
| L    | - Repair restricted to (enter applicable designated specialized repair activity), Specialized Repair Activity.  |
| Z    | - Nonreparable. No repair is authorized..   |
| B    | - No repair is authorized. The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of this item. |

(3) Recoverability Code. Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

| Recoverability Code | Definition   |
|---------------------|--|
| Z                   | - Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.   |
| O                   | - Repairable item. When uneconomically repairable, condemn and dispose at unit level.  |
| F                   | - Repairable item. When uneconomically repairable, condemn and dispose at the intermediate level.  |
| D                   | - Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.   |
| L                   | - Repairable item. Repair, condemnation, and disposal not authorized below depot/ specialized repair activity level.   |
| A                   | - Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manuals/directives for specific instructions. |

c. National Stock Number. Indicates the National stock number assigned to the item and which will be used for requisitioning.

d. Federal Supply Code for Manufacturers (FSCM). The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

e. **PART NUMBER.** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards and inspection requirements to identify an item or range of items.

**NOTE: When a stock-numbered item is requisitioned, the item received may have a different part number than the part being replaced.**

f. **Description.** Indicates the Federal item name and, if required, a minimum description to identify the item. Items that are included in kits and sets are listed below the name of the kit or set with the quantity of each item in the kit or set indicated in the quantity incorporated in unit column. When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description. In the Special Tools List, the initial basis of issue (B01) appears at the last line in the entry for each special tool, special TMDE, and other special - support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased accordingly.

g. **Unit of Measure (U/M).** Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr, etc). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

h. **Quantity Incorporated in Unit.** Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable, (e.g., shims, spacers, etc).

#### 4. Special Information.

a. Detailed assembly instructions for items source coded to be assembled are found in TM 55-4920-431-13. Assembly components are listed immediately following the item to be assembled.

b. The following publications pertain to the APU and its components:

TM 55-4920-431-13 Test Set, Operator's, Aviation Unit and Intermediate Maintenance Manual

c. When details of an assembly are found on another text page, the description of that assembly is followed by a notation stating where these details can be located. "Example: 161223-100, Plate Assembly, See Figure 3 for Breakdown." The parts that make up the Plate Assembly will be found on the text listing for figure 3.

5. How to Locate Repair Parts.

a. When National Stock Number or Part Number is Unknown:

(1) First. Using the table of contents, determine the functional group within which the item belongs. This is necessary since illustrations are prepared for functional groups, and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional group to which the item belongs.

(3) Third. Identify the item on the illustration and note the illustration figure and item number of the item.

(4) Fourth. Using the Repair Parts Listing, find the figure and item number noted on the illustration.

b. When National Stock Number or Part Number is Known:

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. This index is in NIIN sequence followed by a list of part numbers in alphanumeric sequence, cross-referenced to the illustration figure number and item number.

(2) Second. After finding the figure and item number, locate the figure and item number in the repair parts list.

6. Abbreviations.

| Abbreviations | Explanation                         |
|---------------|-------------------------------------|
| AMP           | Ampere                              |
| APU           | Auxiliary Power Unit                |
| ASSY          | Assembly                            |
| EA            | Each                                |
| EXH           | Exhaust                             |
| FIG           | Figure                              |
| GRN           | Green                               |
| IDENT         | Identification                      |
| IND           | Indicator                           |
| LED           | Light Emitting Diode                |
| MS            | Military Specification              |
| NHA           | Next Higher Assembly                |
| NIIN          | National Item Identification Number |
| QTY           | Quantity                            |
| RECPT         | Receptacle                          |
| SPDT          | Single Pole Double Throw            |
| TEMP          | Temperature                         |
| U/M           | Unit of Measure                     |
| YEL           | Yellow                              |



Section II. REPAIR PARTS LIST

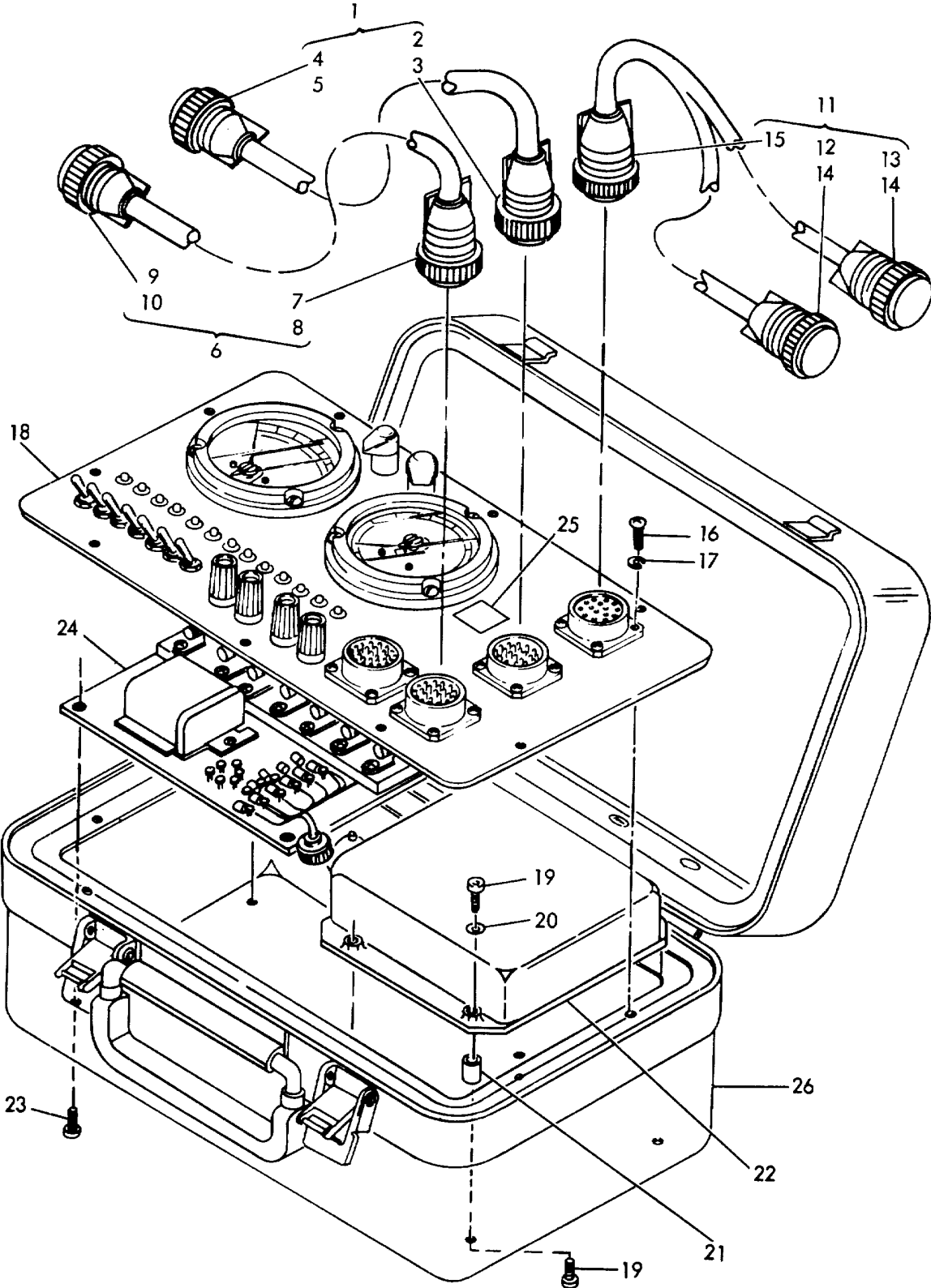


Figure 1. APU Tester

SECTION II

TM 55-4920-431-23P

| (1)<br>ILLUSTRATION |                    | (2)         | (3)                         | (4)   | (5)              | (6)                               | (7) | (8)                      |
|---------------------|--------------------|-------------|-----------------------------|-------|------------------|-----------------------------------|-----|--------------------------|
| (a)<br>FIG<br>NO.   | (b)<br>ITEM<br>NO. | SMR<br>CODE | NATIONAL<br>STOCK<br>NUMBER | FSCM  | PART<br>NUMBER   | DESCRIPTION<br><br>USABLE ON CODE | U/M | QTY<br>INC<br>IN<br>UNIT |
|                     |                    |             |                             |       |                  | GROUP 01 APU TESTER               |     |                          |
| 1                   | 1                  | PBOFF       | 4920-01-138-6967            | 55820 | 161228-200       | HARNESS,WIRING .....              | EA  | 1                        |
| 1                   | 2                  | PBFZZ       | 5935-00-518-3376            | 96906 | MS3476L18-32S    | .CONNECTOR, PLUG, ELEC.....       | EA  | 1                        |
| 1                   | 3                  | PBPZZ       | 5935-01-013-4594            | 96906 | MS3417-18N       | .CLAMP, CABLE, ELECTRI .....      | EA  | 1                        |
| 1                   | 4                  | PBFZZ       | 5935-00-003-2502            | 81349 | M83723-87R1624N  | .CONNECTOR, PLUG, ELEC .....      | EA  | 1                        |
| 1                   | 5                  | PBFZZ       | 5935-00-528-9302            | 96906 | MS3417-16N       | .CLAMP, CABLE, ELECTRI .....      | EA  | 1                        |
| 1                   | 6                  | PBOFF       | 4920-01-138-6968            | 55820 | 161227-200       | HARNESS, WIRING.....              | EA  | 1                        |
| 1                   | 7                  | PBFZZ       | 5935-00-518-3576            | 96906 | MS3476L18-32S    | .CONNECTOR, PLUG, ELEC.....       | EA  | 1                        |
| 1                   | 8                  | PBFZZ       | 5935-01-013-4594            | 96906 | MS3417-18N       | .CLAMP, CABLE, ELECTRI .....      | EA  | 1                        |
| 1                   | 9                  | PBFZZ       | 5935-01-068-0925            | 81349 | M83723-82R-1624N | .CONNECTOR, RECEPTACL .....       | EA  | 1                        |
| 1                   | 10                 | PBFZZ       | 5913-00-528-9302            | 96906 | MS3417-16N       | .CLAMP, CABLE, ELECTRI .....      | EA  | 1                        |
| 1                   | 11                 | PBOFF       | 4920-01-140-9964            | 55820 | 161229-200       | HARNESS, WIRING.....              | EA  | 1                        |
| 1                   | 12                 | PBFZZ       | 5930-00-199-7618            | 81349 | M83723-83R1415N  | .CONNECTOR, RECEPTACL .....       | EA  | 1                        |
| 1                   | 13                 | PBFZZ       | 5935-00-199-7619            | 81349 | M83723-86R1415N  | .CONNECTOR, PLUG, ELEC.....       | EA  | 1                        |
| 1                   | 14                 | PBFZZ       | 5935-00-622-2723            | 96906 | MS3417-14N       | .CLAMP, CABLE, ELECTRI .....      | EA  | 2                        |
| 1                   | 15                 | PBFZZ       | 5935-00-518-3566            | 96906 | MS3476L18-32P    | .CONNECTOR, PLUG, ELEC.....       | EA  | 1                        |
| 1                   | 16                 | PBFZZ       | 5305-00-944-8272            | 96906 | MS2703800806     | SCREW, MACHINE .....              | EA  | 10                       |
| 1                   | 17                 | PBFZZ       |                             | 96906 | M35331-155       | WASHER, LOCK.....                 | EA  | 10                       |
| 1                   | 18                 | XDDDD       |                             | 55820 | 161220-100       | PANEL ASSY, FRONT .....           | EA  | 1                        |
| 1                   | 19                 | PBFZZ       | 5305-00-488-6512            | 96906 | MS3212-23        | SCREW, MACHINE .....              | EA  | 4                        |
| 1                   | 20                 | XDFZZ       |                             | 96906 | MS27183-7        | WASHER .....                      | EA  | 4                        |
| 1                   | 21                 | PAFZZ       | 5340-01-112-2793            | 80205 | NAS1786008-12    | POST, ELECTRICAL-MEC .....        | EA  | 4                        |
| 1                   | 22                 | PBFZZ       | 4920-01-138-6969            | 55820 | 160240-400       | CONTROL ASSY, ANALOG .....        | EA  | 1                        |
| 1                   | 23                 | PBFZZ       | 5301-01-029-0713            | 96906 | MS3212-11        | SCREW, MACHINE .....              | EA  | 4                        |
| 1                   | 24                 | XDFZZ       |                             | 55820 | 161223-100       | PLATE, ASSY, MOUNTING.....        | EA  | 1                        |
| 1                   | 25                 | XCFZZ       |                             | 55820 | 162197-1         | PLATE, IDENT .....                | EA  | 1                        |
| 1                   | 26                 | XAFZZ       |                             | 55820 | 161221-1         | CASE, INSTRUMENT .....            | EA  | 1                        |
| 1                   |                    | XDFZZ       | 5975-00-482-3954            | 96906 | MS3368-5-9E      | STRAP, TIEDOWN, ELECT .....       | EA  | 3                        |
| 1                   |                    | XAFZZ       |                             | 99195 | K/ALKTW-20F-KK   | WIRE, THERMOCCUPLE.....           | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 81349 | M16878           | WIRE, 20AWG TYPE E .....          | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 81349 | M16878           | WIRE, SHIELDED, TY E .....        | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 81349 | MIL-631,TYPEF    | SLEEVING INSULATED .....          | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 81349 | MIL-631,TYPEF    | SLEEVING INSULATED .....          | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 81349 | M16878           | WIRE, SHIELDED TY E .....         | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 81349 | M16878           | WIRE, 20AWG TYPE E .....          | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 99195 | K/ALKTW-20F-KK   | WIRE, THERMOCCUPLE.....           | FT  | V                        |
| 1                   |                    | XDFFZ       | 5975-00-482-3954            | 96906 | MS3368-5-9E      | STRAP, TIEDOWN, ELECT .....       | EA  | 3                        |
| 1                   |                    | XDFFZ       | 5975-00-482-3954            | 96906 | MS3368-5-9F      | STRAP, TIEDOWN, ELECT .....       | EA  | 4                        |
| 1                   |                    | XAFZZ       |                             | 81349 | MIL-I-631TYPEF   | SLEEVING, INSULATED .....         | FT  | V                        |
| 1                   |                    | XAFZZ       |                             | 81349 | M16878           | WIRE, SHIELDED TY E .....         | FT  | V                        |

**SECTION II**

**TM 55-4920-431-23P**

| (1)<br>ILLUSTRATION |                    | (2)         | (3)                         | (4)   | (5)            | (6)                               | (7) | (8)                      |
|---------------------|--------------------|-------------|-----------------------------|-------|----------------|-----------------------------------|-----|--------------------------|
| (a)<br>FIG<br>NO.   | (b)<br>ITEM<br>NO. | SMR<br>CODE | NATIONAL<br>STOCK<br>NUMBER | FSCM  | PART<br>NUMBER | DESCRIPTION<br><br>USABLE ON CODE | U/M | QTY<br>INC<br>IN<br>UNIT |
| 1                   |                    | XAFZZ       |                             | 81349 | M16878         | WIRE, 20AWG TYPE E                | FT  | V                        |
| 1                   |                    | PAFZZ       | 8040-01-009-0317            | 71984 | RTV102         | ADHESIVE                          | TU  | V                        |

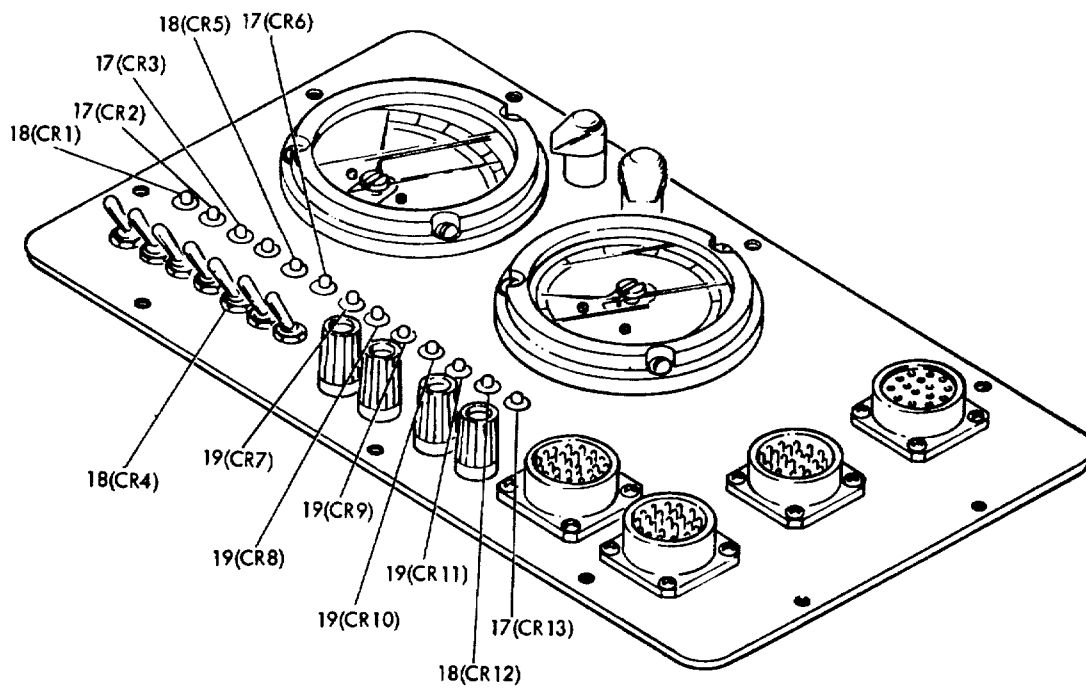
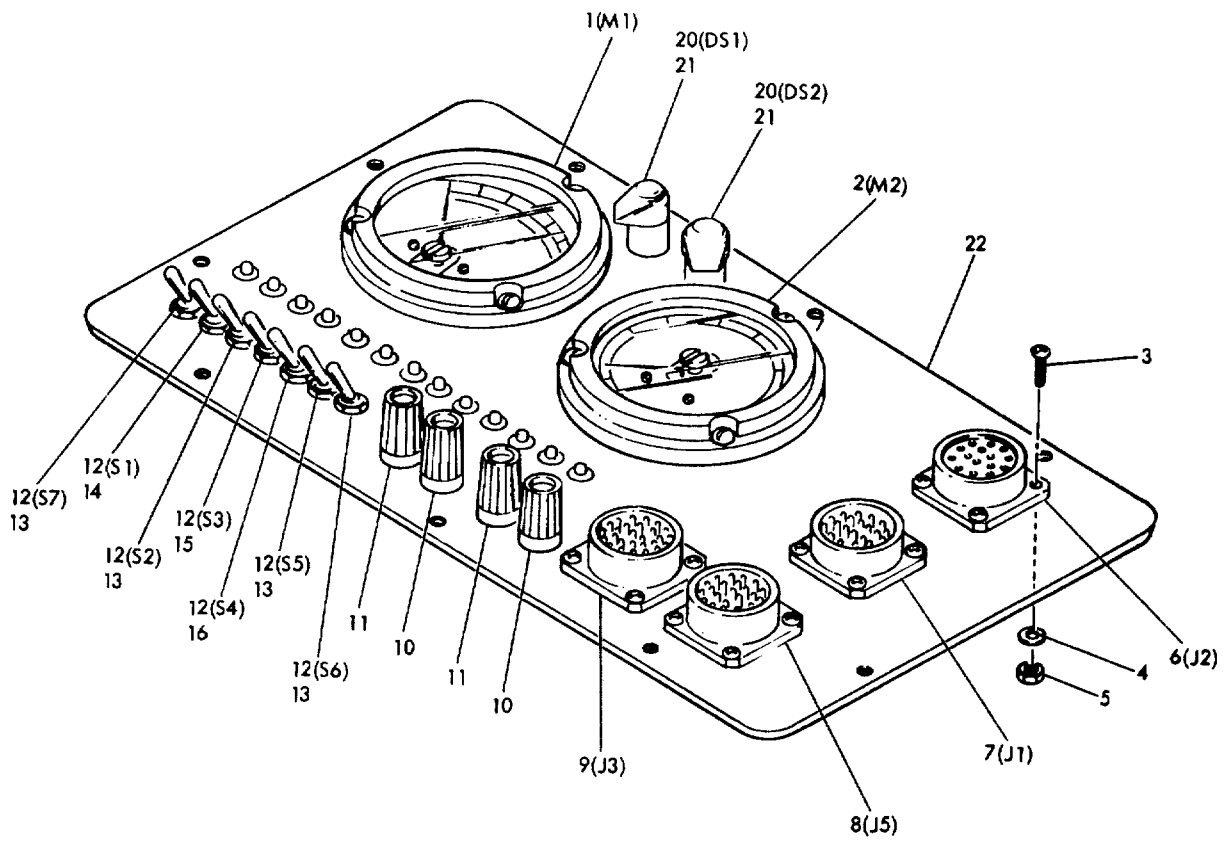


Figure 2. Front Panel Assembly

SECTION II

TM 55-4920-431-23P

| (1)<br>ILLUSTRATION |                    | (2)         | (3)                         | (4)   | (5)            | (6)  | (7) | (8)                      |
|---------------------|--------------------|-------------|-----------------------------|-------|----------------|--|-----|--------------------------|
| (a)<br>FIG<br>NO.   | (b)<br>ITEM<br>NO. | SMR<br>CODE | NATIONAL<br>STOCK<br>NUMBER | FSCM  | PART<br>NUMBER | DESCRIPTION<br><br>USABLE ON CODE          | U/M | QTY<br>INC<br>IN<br>UNIT |
| 2                   |                    | XDDDD       |                             | 55820 | 161220-100     | PANEL ASSY, FRONT SEE FIG. 1 FOR NHA ..... | EA  | 1                        |
| 2                   | 1                  | PBFZZ       | 6680-01-143-9078            | 55820 | 906781C1       | .TACHOMETER .....                          | EA  | 1                        |
| 2                   | 2                  | PBFZZ       | 4920-01-139-1125            | 72619 | 911623C1       | .METER, EXHAUST GAS .....                  | EA  | 1                        |
| 2                   | 3                  | PBFZZ       | 5305-00-054-5649            | 96906 | MS51957-15     | .SCREW, MACHINE .....                      | EA  | 16                       |
| 2                   | 4                  | PBFZZ       | 5310-00-559-0070            | 96906 | MS35333-38     | .WASHER, LOCK.....                         | EA  | 16                       |
| 2                   | 5                  | PBFZZ       | 5310-00-934-9748            | 96906 | MS35649-244    | .NUT, PLAIN, HEXAGON.....                  | EA  | 16                       |
| 2                   | 6                  | PBFZZ       | 5935-00-828-0696            | 96906 | MS3470L18-32S  | .CONNECTOR, RECEPTACL .....                | EA  | 1                        |
| 2                   | 7                  | PBFZZ       | 5935-01-759-8591            | 96906 | MS3470L18-32P  | .CONNECTOR, RECEPTACL .....                | EA  | 1                        |
| 2                   | 8                  | PBFZZ       | 5935-00-759-8591            | 96906 | MS3470L18-32P  | .CONNECTOR, RECEPTACL .....                | EA  | 1                        |
| 2                   | 9                  | PBFZZ       | 5935-00-759-8591            | 96906 | MS3470L18-32P  | .CONNECTOR, RECEPTACL .....                | EA  | 1                        |
| 2                   | 10                 | XDFZZ       | 5940-00-842-6483            | 83330 | 1514-102       | .POST, BINDING, ELECTR .....               | EA  | 2                        |
| 2                   | 11                 | XDFZZ       | 5940-00-044-1583            | 83330 | 1514-103       | .POST, BINDING, ELECTR .....               | EA  | 2                        |
| 2                   | 12                 | PBFZZ       | 5930-00-902-2395            | 96906 | MS75028-23     | .SWITCH, TOGGLE.....                       | EA  | 7                        |
| 2                   | 13                 | XDFZZ       |                             | 95146 | C-10RED        | .CAP, RED.....                             | EA  | 4                        |
| 2                   | 14                 | XDFZZ       |                             | 95146 | C-10GRN        | .CAP, GREEN .....                          | EA  | 1                        |
| 2                   | 15                 | XDFZZ       |                             | 95146 | C-10BLK        | .CAP, BLACK .....                          | EA  | 1                        |
| 2                   | 16                 | XDFZZ       |                             | 95146 | C-10YEL        | .CAP, YELLOW .....                         | EA  | 1                        |
| 2                   | 17                 | PBFZZ       | 6210-01-018-2015            | 72619 | 559-0102-001   | .LIGHT, INDICATOR .....                    | EA  | 4                        |
| 2                   | 18                 | PBFZZ       | 5961-01-075-7553            | 72619 | 559-0201-001   | .LIGHT, INDICATOR .....                    | EA  | 4                        |
| 2                   | 19                 | PBFZZ       | 5961-01-078-9596            | 72619 | 559-0301-001   | .LIGHT EMITTING DIOD.....                  | EA  | 5                        |
| 2                   | 20                 | PAFZZ       | 6240-00-155-7836            | 96906 | MS25237-327    | .LAMP, INCANDESCENT .....                  | EA  | 2                        |
| 2                   | 21                 | PBFZZ       | 6210-00-683-0806            | 72914 | A-8970-327     | .LIGHT, PANEL .....                        | EA  | 2                        |
| 2                   | 22                 | XDDDD       |                             | 55820 | 161219-1       | .FRONT PANEL .....                         | EA  | 1                        |

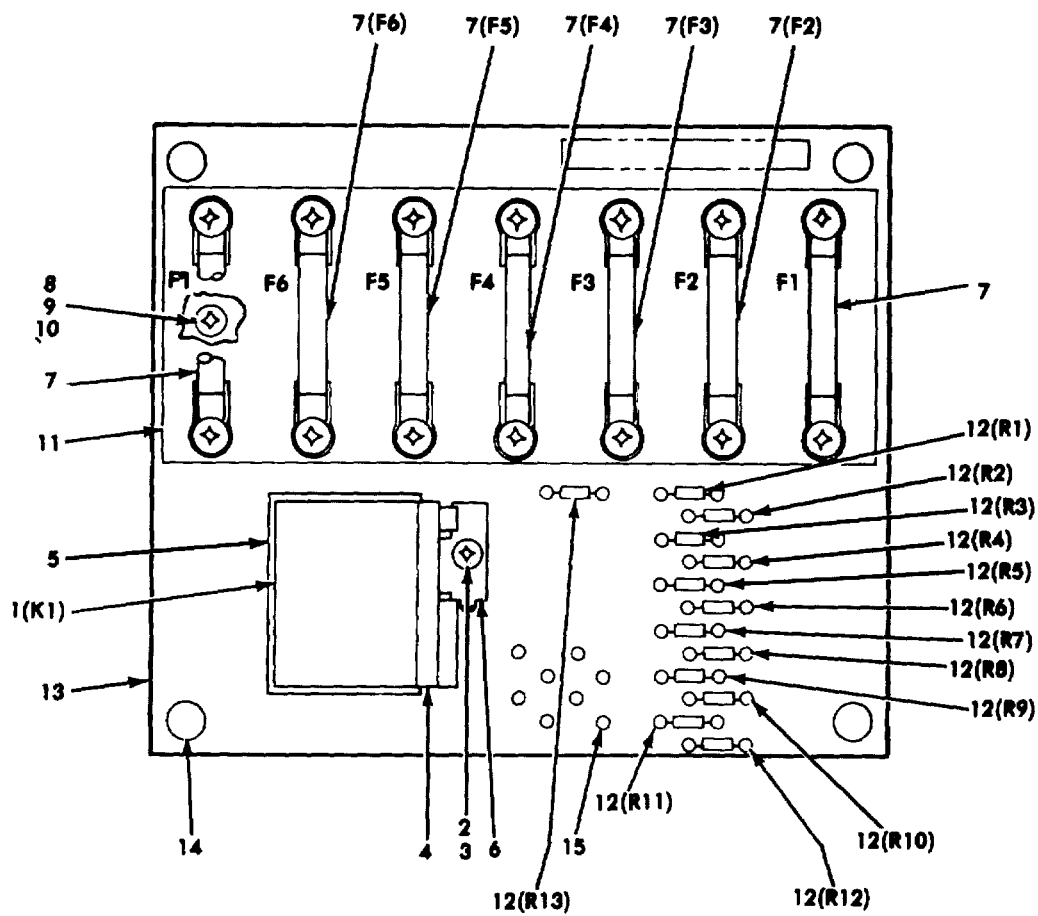


Figure 3. Mounting Plate Assembly.

SECTION II

TM 55-4920-431-23P

| (1)<br>ILLUSTRATION |                    | (2)         | (3)                         | (4)   | (5)            | (6)                               | (7) | (8)                      |
|---------------------|--------------------|-------------|-----------------------------|-------|----------------|-----------------------------------|-----|--------------------------|
| (a)<br>FIG<br>NO.   | (b)<br>ITEM<br>NO. | SMR<br>CODE | NATIONAL<br>STOCK<br>NUMBER | FSCM  | PART<br>NUMBER | DESCRIPTION<br><br>USABLE ON CODE | U/M | QTY<br>INC<br>IN<br>UNIT |
| 3                   |                    | XDDDD       |                             | 55820 | 161223-100     | PLATE ASSEMBLY.....               | EA  | 1                        |
| 3                   | 1                  | PBFZZ       |                             | 77342 | R10E1-X8-V350  | .RELAY, .24DC.....                | EA  | 1                        |
| 3                   | 2                  | PBFZZ       | 5305-00-054-6650            | 96906 | MS51957-26     | .SCREW, MACHINE.....              | EA  | 1                        |
| 3                   | 3                  | PBFZZ       |                             | 96906 | MS35333-154    | .WASHER, LOCK.....                | EA  | 1                        |
| 3                   | 4                  | PBFZZ       | 5935-01-035-6165            | 77342 | 27E211         | .SOCKET, PLUG-IN ELEC.....        | EA  | 1                        |
| 3                   | 5                  | PBFZZ       | 5360-01-046-9674            | 77342 | 20C266         | .SPRING, HELICAL, COMP.....       | EA  | 1                        |
| 3                   | 6                  | PBFZZ       | 5935-01-029-4013            | 77342 | 27E152         | .SOCKET, PLUG-IN ELEC.....        | EA  | 1                        |
| 3                   | 7                  | PBFZZ       |                             | 75915 | 3AG3AMP        | .FUSE, 3AMP.....                  | EA  | 7                        |
| 3                   | 8                  | PBFZZ       | 5305-00-719-5064            | 96906 | MS5159-30      | .SCREW, MACHINE.....              | EA  | 3                        |
| 3                   | 9                  | PBFZZ       |                             | 96906 | MS35333-154    | .WASHER, LOCK.....                | EA  | 3                        |
| 3                   | 10                 | PBFZZ       | 5310-00-982-6813            | 96906 | MS21044C06     | .NUT, SELF-LOCKING, HE.....       | EA  | 3                        |
| 3                   | 11                 | XDFZZ       |                             | 75915 | 356007         | .FUSEBLOCK.....                   | EA  | 1                        |
| 3                   | 12                 | PBFZZ       | 5905-00-104-8362            | 81349 | RCR07G132JS    | .RESISTOR, FIXED, COMP.....       | EA  | 13                       |
| 3                   | 13                 | XDFZZ       |                             | 55820 | 161222-1       | .PLATE MOUNTING.....              | EA  | 1                        |
| 3                   | 14                 | PBFZZ       | 5340-01-088-0524            | 86245 | B1530C-3/8-11  | STANDOFF, THREADED.....           | EA  | 4                        |
| 3                   | 15                 | PBFZZ       | 5940-00-082-4861            | 81349 | SE12XC04       | TERMINAL, STUD.....               | EA  | 34                       |

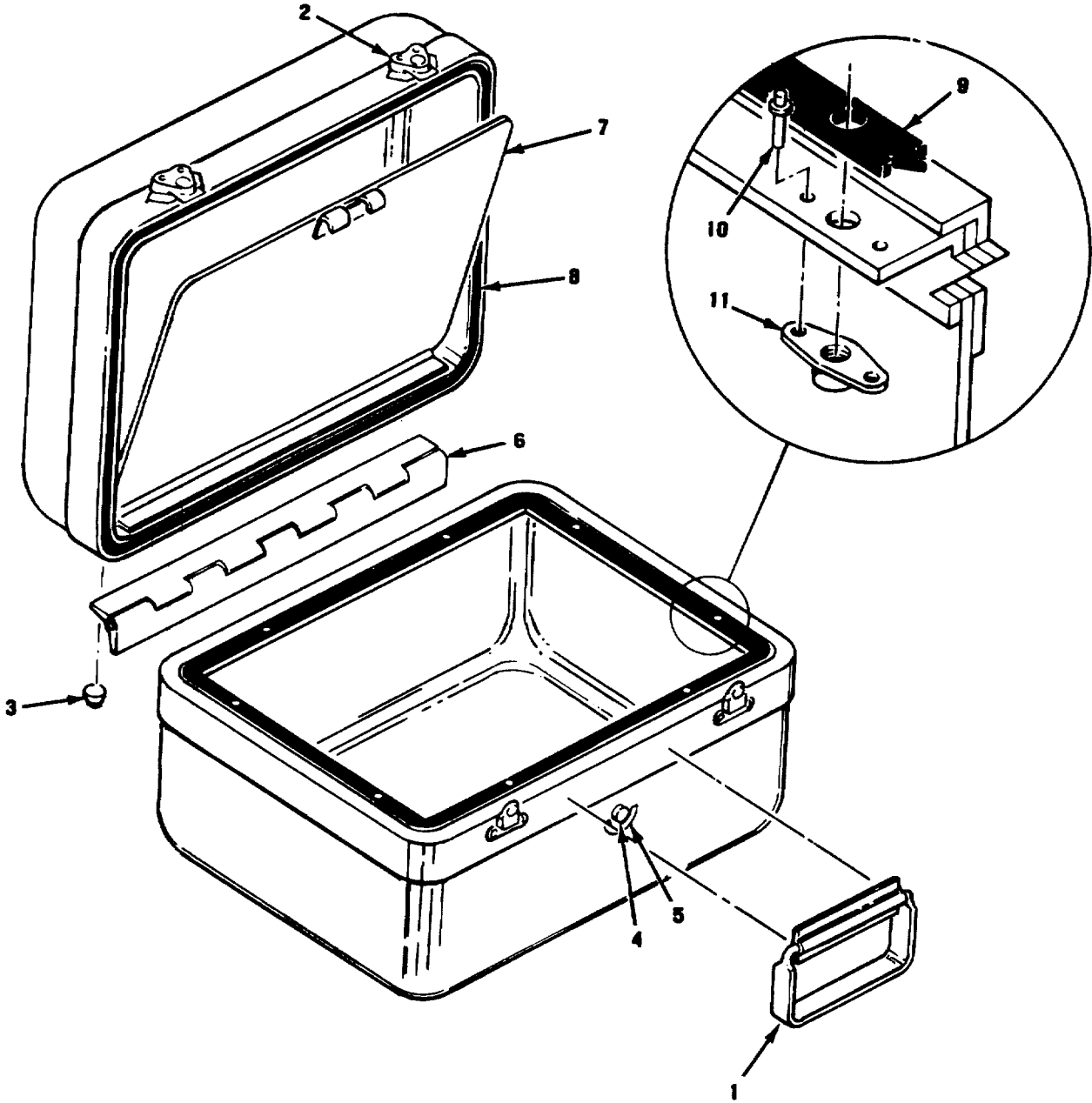


Figure 4. Instrument Case.



SECTION II

TM 55-4920-431-23P

| (1)<br>ILLUSTRATION |                    | (2)<br>SMR<br>CODE | (3)<br>NATIONAL<br>STOCK<br>NUMBER | (4)<br>FSCM | (5)<br>PART<br>NUMBER | (6)<br>DESCRIPTION<br><br>USABLE ON CODE | (7)<br>U/M | (8)<br>QTY<br>INC<br>IN<br>UNIT |
|---------------------|--------------------|--------------------|------------------------------------|-------------|-----------------------|--|------------|---------------------------------|
| (a)<br>FIG<br>NO.   | (b)<br>ITEM<br>NO. |                    |                                    |             |                       |  |            |                                 |
| 4                   |                    | XAFZZ              |                                    | 55820       | 161221-1              | CASE,INSTRUMENT, SEE FIG. 1 FOR NHA..... | EA         | 1                               |
| 4                   | 1                  | XCDDF              |                                    | 53031       | TA50A08G2             | .HANDLE ASSY .....                       | EA         | 1                               |
| 4                   | 2                  | XCDDA              |                                    | 53031       | XTC01P29              | .LATCH ASSY .....                        | EA         | 2                               |
| 4                   | 3                  | XCDDA              |                                    | 53031       | TC61B10N1             | .BUMPER ASSY .....                       | EA         | 4                               |
| 4                   | 4                  | XCDDA              |                                    | 53031       | TC78V01-1             | .VALVE ASSY .....                        | EA         | 1                               |
| 4                   | 5                  | XCDDA              |                                    | 53031       | TA50A06-04            | .LABEL, VALVE .....                      | EA         | 1                               |
| 4                   | 6                  | XCDDA              |                                    | 53031       | TA50A05-011           | .HINGE, ASSY.....                        | EA         | 1                               |
| 4                   | 7                  | XCDDA              |                                    | 53031       | TC76T25-05            | .TRAY ASSY .....                         | EA         | 1                               |
| 4                   | 8                  | XCDDA              |                                    | 53031       | TC20R04               | .SEAL .....                              | IN         | 45                              |
| 4                   | 9                  | XCDDA              |                                    | 53031       | TC10G05N4             | .GASKET.....                             | EA         | 1                               |
| 4                   | 10                 | XCDDA              |                                    | 96906       | MS20805AD3C4          | .RIVET .....                             | EA         | 20                              |
| 4                   | 11                 | XCDDA              |                                    | 53031       | TC10H07               | .NUTPLATE .....                          | EA         | 10                              |

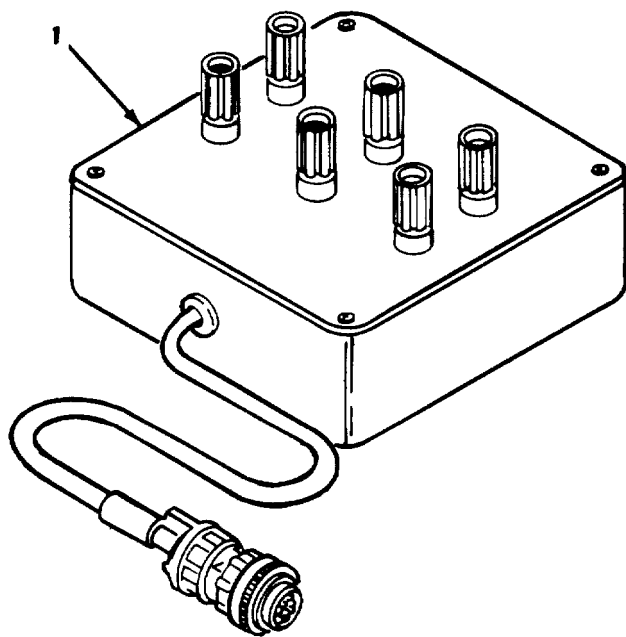


Figure 5. Special Tool.

**SECTION III**

**TM 55-4920-431-23P**

| (1)<br>ILLUSTRATION |                    | (2)         | (3)                         | (4)   | (5)            | (6)  | (7) | (8)                      |
|---------------------|--------------------|-------------|-----------------------------|-------|----------------|--|-----|--------------------------|
| (a)<br>FIG<br>NO.   | (b)<br>ITEM<br>NO. | SMR<br>CODE | NATIONAL<br>STOCK<br>NUMBER | FSCM  | PART<br>NUMBER | DESCRIPTION<br><br>USABLE ON CODE  | U/M | QTY<br>INC<br>IN<br>UNIT |
| 5                   | 1                  | PEFZZ       | 4920-01-135-5985            | 55820 | ST93480        | SECTION III SPECIAL TOOLS LIST<br>GROUP 02 SPECIAL TOOLS<br><br>SIGNAL CONVERTER ..... | EA  | 1                        |

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

SECTION IV

| STOCK NUMBER     | FIGURE NO. | ITEM NO. | STOCK NUMBER     | FIGURE NO. | ITEM NO. |
|------------------|------------|----------|------------------|------------|----------|
| 5935-00-003-2502 | 1          | 4        | 5935-00-828-0696 | 2          | 6        |
| 5940-00-044-1583 | 2          | 11       | 5940-00-842-6483 | 2          | 10       |
| 5305-00-054-5649 | 2          | 3        | 5930-00-902-2395 | 2          | 12       |
| 5305-00-054-6650 | 3          | 2        | 5310-02-934-9748 | 2          | 5        |
| 5940-00-082-4861 | 3          | 15       | 5305-00-944-8272 | 1          | 16       |
| 5905-00-104-8362 | 3          | 12       | 5310-00-982-6813 | 3          | 10       |
| 6240-00-155-7836 | 2          | 20       | 8040-01-005-0317 | 1          |          |
| 5935-00-199-7618 | 1          | 12       | 5935-01-013-4594 | 1          | 3        |
| 5935-00-199-1619 | 1          | 13       | 5935-01-013-4594 | 1          | 8        |
| 5975-00-482-3954 | 1          |          | 6210-01-018-2015 | 2          | 17       |
| 5975-00-482-3954 | 1          |          | 5305-01-029-0713 | 1          | 23       |
| 5975-00-482-3954 | 1          |          | 5935-01-029-4013 | 3          | 6        |
| 5305-00-482-6512 | 1          | 19       | 5935-01-035-6165 | 3          | 4        |
| 5935-00-518-3566 | 1          | 15       | 5360-01-046-9674 | 3          | 5        |
| 5935-00-518-3576 | 1          | 2        | 5935-01-068-0925 | 1          | 9        |
| 5935-00-518-3576 | 1          | 7        | 5961-01-075-7553 | 2          | 18       |
| 5935-00-528-9302 | 1          | 5        | 5961-01-078-9596 | 2          | 19       |
| 5935-00-521-9302 | 1          | 10       | 5340-01-112-2793 | 1          | 21       |
| 5310-00-559-0070 | 2          | 4        | 4920-01-138-6967 | 1          | 1        |
| 5935-00-622-2723 | 1          | 14       | 4920-01-138-6968 | 1          | 6        |
| 6210-00-683-0806 | 2          | 21       | 4920-01-138-6969 | 1          | 22       |
| 5305-00-719-5064 | 3          | 8        | 4920-01-139-1125 | 2          | 2        |
| 5935-00-759-8591 | 2          | 7        | 4920-01-140-9964 | 1          | 11       |
| 5935-00-759-8591 | 2          | 8        | 6680-01-143-9078 | 2          | 1        |
| 5935-00-759-8591 | 2          | 9        |                  |            |          |

| FSCM  | PART NUMBER      | FIGURE NO. | ITEM NO. | FSCM  | PART NUMBER      | FIGURE NO. | ITEM NO. |
|-------|------------------|------------|----------|-------|------------------|------------|----------|
| 72914 | A-8970-1-327     | 2          | 21       | 81349 | M16878           | 1          |          |
| 88245 | 815300-3/8-11    | 3          | 14       | 81349 | M16878           | 1          |          |
| 95146 | C-10BLK          | 2          | 15       | 81349 | M16878           | 1          |          |
| 95146 | C-10GRN          | 2          | 14       | 81349 | M16878           | 1          |          |
| 95146 | C-10RED          | 2          | 13       | 81349 | M16878           | 1          |          |
| 95146 | C-10YEL          | 2          | 16       | 81349 | M16878           | 1          |          |
| 99195 | K/ALKTW-20F-KK   | 1          |          | 81349 | M83723-82R-1624N | 1          | 9        |
| 99195 | K/ALKTW-20F-KK   | 1          |          | 81349 | M83723-83R1415N  | 1          | 12       |
| 81349 | MIL-I-631 TYPE F | 1          |          | 81349 | M83723-86R1415N  | 1          | 13       |
| 81349 | MIL-I-631.TYPE F | 1          |          | 81349 | M83723-87R1624N  | 1          | 4        |
| 81349 | MIL-I-631,TYPE F | 1          |          | 80205 | NAS1786C08-12    | 1          | 21       |
| 96906 | MS21044C06       | 3          | 10       | 81349 | RCR07G132JS      | 3          | 12       |
| 96906 | MS25237-327      | 2          | 20       | 71984 | RTV102           | 1          |          |
| 96906 | MS27039C0806     | 1          | 16       | 77342 | R10-E1-X8-V350   | 3          | 1        |
| 96906 | MS3212-11        | 1          | 23       | 81349 | SE12XC04         | 3          | 15       |
| 96906 | MS3212-23        | 1          | 19       | 53031 | TA50A08G2        | 4          | 1        |
| 96906 | MS3368-5-9E      | 1          |          | 83330 | 1514-102         | 2          | 10       |
| 96906 | MS3368-5-9E      | 1          |          | 83330 | 1514-103         | 2          | 11       |
| 96906 | MS3368-5-9E      | 1          |          | 55820 | 160240-400       | 1          | 22       |
| 96906 | MS3417-14N       | 1          | 14       | 55820 | 161219-1         | 2          | 22       |
| 96906 | MS3417-16N       | 1          | 5        | 55820 | 161220-100       | 1          | 18       |
| 96906 | MS3417-16N       | 1          | 10       | 55820 | 161221-1         | 1          | 26       |
| 96906 | MS3417-18N       | 1          | 3        | 55820 | 161222-1         | 3          | 13       |
| 96906 | MS3417-18N       | 1          | 8        | 55820 | 161223-100       | 1          | 24       |
| 96906 | MS3470L18-32P    | 2          | 7        | 55820 | 161223-100       | 3          |          |
| 96906 | MS3470L18-32P    | 2          | 8        | 55820 | 161227-200       | 1          | 6        |
| 96906 | MS3470L18-32P    | 2          | 9        | 55820 | 161228-200       | 1          | 1        |
| 96906 | MS3470L18-32S    | 2          | 6        | 55820 | 161229-200       | 1          | 11       |
| 96906 | MS3470L18-32P    | 1          | 15       | 55820 | 162197-1         | 1          | 25       |
| 96906 | MS3470L18-32S    | 1          | 2        | 77342 | 20C266           | 3          | 5        |
| 96906 | MS3470L18-32S    | 1          | 7        | 77342 | 27E152           | 3          | 6        |
| 96906 | MS35333-154      | 3          | 3        | 77342 | 27E211           | 3          | 4        |
| 96906 | MS35333-154      | 3          | 9        | 75915 | 3AG3AMP          | 3          | 7        |
| 96906 | MS35333-155      | 1          | 17       | 75915 | 356007           | 3          | 11       |
| 96906 | MS35333-38       | 2          | 4        | 72619 | 559-0101-001     | 2          | 17       |
| 96506 | MS35649-244      | 2          | 5        | 72619 | 559-0201-001     | 2          | 18       |
| 96906 | MS51957-15       | 2          | 3        | 72619 | 559-0301-001     | 2          | 19       |
| 96906 | MS51957-26       | 3          | 2        | 55820 | 906781C1         | 2          | 1        |
| 96906 | MS51959-30       | 3          | 8        | 72619 | 911623C1         | 2          | 2        |
| 96906 | MS75028-23       | 2          | 12       |       |                  |            |          |

SECTION IV

SUPPLEMENTAL INDEX

NATIONAL STOCK NUMBER AND PART NUMBER

| STOCK NUMBER     | FIGURE NO. | ITEM NO. | STOCK NUMBER     | FIGURE NO. | ITEM NO. |
|------------------|------------|----------|------------------|------------|----------|
| 5340-01-088-0524 | 3          | 14       | 4920-01-135-5985 | 5          | 1        |

| FSCM  | PART NUMBER  | FIGURE NO. | ITEM NO. | FSCM  | PART NUMBER | FIGURE NO. | ITEM NO. |
|-------|--------------|------------|----------|-------|-------------|------------|----------|
| 96906 | MS20605AD3C4 | 4          | 10       | 53031 | TC20R04     | 4          | 8        |
| 96906 | MS27183-7    | 1          | 20       | 53031 | TC61B10N1   | 4          | 3        |
| 55820 | ST93480      | 5          | 1        | 53031 | TC78V01-1   | 4          | 4        |
| 53031 | TA50A05-011  | 4          | 6        | 53031 | TC76T25-05  | 4          | 7        |
| 53031 | TA50A06-04   | 4          | 5        | 53031 | XTC01P29    | 4          | 2        |
| 53031 | TC10G05N4    | 4          | 9        | 55820 | 161220-100  | 2          |          |
| 53031 | TC10H07      | 4          | 11       | 55820 | 16221-1     | 4          |          |

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## The Metric System and Equivalents

### *Linear Measure*

1 centimeter = 10 millimeters = .39 inch  
 1 decimeter = 10 centimeters = 3.94 inches  
 1 meter = 10 decimeters = 39.37 inches  
 1 dekameter = 10 meters = 32.8 feet  
 1 hectometer = 10 dekameters = 328.08 feet  
 1 kilometer = 10 hectometers = 3,280.8 feet

### *Weights*

1 centigram = 10 milligrams = .15 grain  
 1 decigram = 10 centigrams = 1.54 grains  
 1 gram = 10 decigrams = .035 ounce  
 1 decagram = 10 grams = .35 ounce  
 1 hectogram = 10 decagrams = 3.52 ounces  
 1 kilogram = 10 hectograms = 2.2 pounds  
 1 quintal = 100 kilograms = 220.46 pounds  
 1 metric ton = 10 quintals = 1.1 short tons

### *Liquid Measure*

1 centiliter = 10 milliliters = .34 fl. ounce  
 1 deciliter = 10 centiliters = 3.38 fl. ounces  
 1 liter = 10 deciliters = 33.81 fl. ounces  
 1 dekaliter = 10 liters = 2.64 gallons  
 1 hectoliter = 10 dekaliters = 26.42 gallons  
 1 kiloliter = 10 hectoliters = 264.18 gallons

### *Square Measure*

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch  
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches  
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet  
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet  
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres  
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

### *Cubic Measure*

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch  
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches  
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

## Approximate Conversion Factors

| <i>To change</i> | <i>To</i>          | <i>Multiply by</i> | <i>To change</i>   | <i>To</i>     | <i>Multiply by</i> |
|------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| inches           | centimeters        | 2.540              | ounce-inches       | Newton-meters | .007062            |
| feet             | meters             | .305               | centimeters        | inches        | .394               |
| yards            | meters             | .914               | meters             | feet          | 3.280              |
| miles            | kilometers         | 1.609              | meters             | yards         | 1.094              |
| square inches    | square centimeters | 6.451              | kilometers         | miles         | .621               |
| square feet      | square meters      | .093               | square centimeters | square inches | .155               |
| square yards     | square meters      | .836               | square meters      | square feet   | 10.764             |
| square miles     | square kilometers  | 2.590              | square meters      | square yards  | 1.196              |
| acres            | square hectometers | .405               | square kilometers  | square miles  | .386               |
| cubic feet       | cubic meters       | .028               | square hectometers | acres         | 2.471              |
| cubic yards      | cubic meters       | .765               | cubic meters       | cubic feet    | 35.315             |
| fluid ounces     | milliliters        | 29.573             | cubic meters       | cubic yards   | 1.308              |
| pints            | liters             | .473               | milliliters        | fluid ounces  | .034               |
| quarts           | liters             | .946               | liters             | pints         | 2.113              |
| gallons          | liters             | 3.785              | liters             | quarts        | 1.057              |
| ounces           | grams              | 28.349             | liters             | gallons       | .264               |
| pounds           | kilograms          | .454               | grams              | ounces        | .035               |
| short tons       | metric tons        | .907               | kilograms          | pounds        | 2.205              |
| pound-feet       | Newton-meters      | 1.356              | metric tons        | short tons    | 1.102              |
| pound-inches     | Newton-meters      | .11296             |                    |               |                    |

## Temperature (Exact)

|    |                        |                            |                     |    |
|----|------------------------|----------------------------|---------------------|----|
| °F | Fahrenheit temperature | 5/9 (after subtracting 32) | Celsius temperature | °C |
|----|------------------------|----------------------------|---------------------|----|



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