

This is a reprint including Change 1

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

REPAIR PARTS AND SPECIAL TOOLS LIST

FOR

TMDERS MAINFRAME, TEKTRONIX MODEL TM 515

(NSN 6695-01-074-7953)

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8 January 1980

**REPORTING OF ERRORS**

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## Section 1. INTRODUCTION

**1. Scope.** This manual lists spares and repair parts that are required for maintenance of the TMDERS Mainframe, Tektronix Model TM 515. It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

**2. General.** This repair parts and special tools list (RPSTL) is divided into the following sections:

- a. Section I. Introduction.
- b. Section II. Repair Parts List. A list of spares and repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the 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 National Stock Number (NSN) sequence.
- c. Section III. NSN and Part Number Index. A list, in National Item Identification Number (NIIN) sequence, of all NSN's appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. NSN's 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 organizational or intermediate levels of maintenance.
- KB - Item included in both a depot overhaul/repair kit and a maintenance kit.
- MO - Item to be manufactured or fabricated at organizational level.
- MF - Item to be manufactured or fabricated at the direct support maintenance level.
- MH - Item to be manufactured or fabricated at the general support maintenance level.
- MD - Item to be manufactured or fabricated at the depot maintenance level.
- AO - Item to be assembled at organizational level.
- AF - Item to be assembled at direct support maintenance level.
- AH - Item to be assembled at general support maintenance level.
- AD - Item to be assembled at depot maintenance level.
- 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 and 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

- C - Crew or operator maintenance performed within organizational maintenance.
- O - Support item is removed, replaced, used at the organizational level.

- F - Support item is removed, replaced, used at the direct support level.
- H - Support item is removed, replaced, used at the general support 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 organizational level.
- F -        The lowest maintenance level capable of complete repair of the support item is the direct support level.
- H - The lowest maintenance level capable of complete repair of the support item is the general support level.
- 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

Codes            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 organizational level.
- F - Repairable item. When uneconomically repairable, condemn and dispose at the direct support level.

- H - Repairable item. When uneconomically repairable, condemn and dispose at the general support 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 (NSN). Indicates the NSN assigned to the item and which will be used for requisitioning.
- d. 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.

- e. Federal Supply Code for Manufacturer (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.
- f. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. The physical security classification of the item is indicated by the parenthetical entry (insert applicable physical security classification abbreviation, e.g., Phy Sec C1 (C)-Confidential, Phy Sec CI (S)-Secret, Phy Sec C1 (T)-Top Secret). 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 (BOI) appears as the last line in the entry for each special tool, special Test, Measurement, and Diagnostic Equipment (TMDE), and other special support equipment. When density of equipments supported exceeds density spread indicated in the BOI, 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 quantity indicates that no specific quantity is applicable (e.g., shims, spacers, etc).

**4. Special Information**

a. Repair parts for components of standards sets which can be identified as existing in the supply system will be requisitioned through normal supply channels from the appropriate supply commodity manager.

b. Repair parts for components of standards sets which cannot be identified as to proper supply source will be requisitioned from USAMICOM, using routing identifier B64 and furnishing as a minimum, the following as exception data.

(1) Component stock number of the individual end item to be repaired.

(2) Component manufacturer's equipment model number and serial number.

(3) The equipment manufacturer's stock number as listed in the appropriate manual for the desired repair part.

(4) The repair part reference, designation, circuit reference, circuit symbol schematic designation, or reference number as listed in the manufacturer's manual.

(5) The technical specification of the repair part as contained in the appropriate manufacturer's manual.

(6) The title and date of the manufacturer's manual from which the information in paragraphs a, b(3), (4), and (5) above was taken.

**NOTE**

Repair parts should not be requisitioned for plug-in boards identified in the plug-in board exchange program, except by the depot designated to perform the repair. Repair of calibration set components, with plug-in board assemblies or subassemblies designated as program exchange replacements with a recoverability code of L, will be accomplished by replacing the plug-in board.

c. The plug-in board exchange program functions are as follows:

(1) Requisitioning instructions for initial issue plug-in boards will be provided since new instrument boards are included in the program.

(2) As a plug-in board covered by the program fails, a replacement will be requisitioned. Requisitions will be submitted to Commander, US Army Missile Command, B64, Redstone Arsenal, AL 35809.

(3) Simultaneously with c(2) above, the defective board being replaced will be shipped by certified mail, return receipt requested, to the following address:

Transportation Officer  
 Anniston Army Depot  
 M/F Field Service Stock  
 Anniston, AL 36201

When requisitioning a replacement board, the turn-in document number of the replaced board shall be cited on the requisition.

**5. How to Locate Repair Parts**

a. When NSN or reference number is unknown:

(1) First. Using the table of contents, determine the assembly (functional group) within the repair part belongs.

(2) **Second.** Using the repair parts listing, find the functional group to which the repair part belongs and locate the item by description.

b. When NSN or reference number is known:

(1) First. Using the index of NSN's and reference numbers, find the pertinent NSN or reference number. This index is in ascending NSN cross-referenced to the illustration figure number and item number.

(2) Second. Using the repair parts listing, find the figure and item number, and locate the figure and item number in the repair parts list.

**6. Abbreviations.** The abbreviations listed below may appear in this RPSTL:

AC -----	alternating current	FLG -----	flange
ACC -----	accordance	FREQ -----	frequency
ACCUR -----	accuracy	FSCM -----	Federal supply code for manufacturers
AL -----	aluminum	FT-----	foot
AMP -----	ampere	GC -----	gigacycles
ASSY -----	assembly	GEN-----	generator
ASTM -----	American Standard for Testing Materiel	GHZ -----	gigahertz
ATTEN -----	attenuation	GPM -----	gallons per minute
AWG -----	American Wire Gage	GRAD-----	graduation
BAN -----	banana	H -----	high
BLK-----	black	HD-----	head
BR -----	brass	HYDR -----	hydraulic
C -----	centigrade, calibration cycles per second	HZ-----	hertz
CAL -----	calibrate	ID -----	inside diameter
CAP-----	capacitance	IN -----	inch
CD -----	code	INCL -----	inclusive
CER -----	ceramic	K -----	thousand (prefix)
COAX -----	coaxial --	KC -----	kilocycles
COMP-----	composition	KG-----	kilograms
COND -----	conductor	KHZ -----	kilohertz
CONN -----	connector	KMHZ -----	thousand megahertz
CONS-----	consisting	KV -----	kilovolts
CONT-----	continual	LAB-----	laboratory
COP -----	copper	LB -----	pounds
COR-----	corrosion	LG-----	length
CPS -----	cycles per second	LT -----	light
CU -----	cubic		
CUR -----	current		
CYL -----	cylinder		
DB -----	decibel		
DBL-----	double		
DC -----	direct current		
DEG -----	degree		
DET-----	detector		
DIA -----	diameter		
DIM -----	dimension		
DIV -----	division		
DPDT -----	double pole double throw		
DPL-----	deployment		
ELEC -----	electrical		
EQUIPM-----	equipment		
F -----	Fahrenheit		
FED -----	Federal		
FIN -----	finish		

M -----	thousand	RPM -----	revolutions per
MA-----	milliampere		minute
MAX -----	maximum	S -----	single
MC -----	megacycles	SEC -----	seconds
MFD -----	millifarads	SECT-----	section
MFR -----	manufacturer	SERR-----	serrated
MG -----	milligrams	SHK -----	shank
MHZ -----	megahertz	SNG -----	single
MIN -----	minimum, minutes	SPEC -----	specification
ML -----	milliliters	SPL-----	special
MM-----	millimeters	SQ -----	square
MOD -----	modified	STD -----	standard
MSEC -----	milliseconds	STGT-----	straight
MTL -----	material	SW -----	switch
MV -----	millivolts	SWR -----	standing wave
MW -----	milliwatts		ratio
NBS-----	National Bureau	SYS -----	system
	Standards	TEL -----	telescopic
NEG-----	negative	TERM -----	terminal
NO-----	number	THD-----	thread
NOM-----	nominal	THERM -----	thermometer
NPT-----	National Pipe	THK -----	thick
	Thread	TSTR -----	tester
NSN -----	National stock	U -----	unit
	number	UF -----	microfarads
OA -----	overall	UHF -----	ultra high frequency
OD -----	outside diameter	V -----	volts
OPER -----	operating	VAC -----	volts alternating
OZ -----	ounce		current, vacuum
PCS -----	pieces	VDC -----	volts direct current
PCT -----	percent	VHF -----	very high frequency
PF -----	picofarads	VSWR -----	voltage standing
PK -----	peck		wave ratio
PLTD -----	plated	W -----	watts, with, width
PN -----	part number	WT-----	weight
POS-----	positive		
PP-----	peak-to-peak		
PSI -----	pounds per square		
	inch		
PWR-----	power		
REF-----	reference		
REP-----	repetition		
REQ -----	required		
REQMTS-----	requirements		
RES-----	resistance		
RF -----	radio frequency		
RG-----	range		
RH -----	right hand		
RL-----	reel		
RM -----	rack mounted		
RMS -----	root mean square		
ROT -----	rotating		



**SECTION II. REPAIR PARTS LIST**

(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION  USUABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG NO.	(b) ITEM NO.					GROUP 6692 MAINFRAME, TMDERS <b>TM 515</b> <b>MIS30526/1TY3</b> <b>80009 18876</b>		
1	10	PAFZZ	5910-00-943-9192	283-0022-00	80009	CAPACITOR.FIXED CER .....	EA	1
1	20	PAFZZ	5910-00-577-1346	DA149-00108	71590	CAPACITOR, FIXEC.CER.	EA	12
1	30	PAFZZ	5910-01-022-3075	290-0637-00	80009	CAPACITOR.FIXEC.ELE. ....	EA	4
1	40	PAFZZ	5910-00-467-1548	60O10444	56289	CAPACITOR, FIXED, ELE. ....	EA	2
1	50	PAFZZ	5910-00-43E-3382	152-0040-00	80009	CAPACITOR .....	EA	2
1	60	PAFZZ	6695-01-08L-1050	670-4021-00	80009	CIRCUIT CARD. ASSY .....	EA	1
1	70	PAFZZ	6695-01-086-1051	670-4021-01	0009	CIRCUIT CARD ASSY .....	EA	1
1	80	PAFZZ	6695-01-018-1052	670-4364-00	80009	CIRCUIT CARD ASSY .....	EA	1
1	90	PAFZZ	6695-01-086-1053	670-4364-01	00009	CIRCUIT CARD ASSEMBLY.....	EA	1
1	100	PAFZZ	6695-01-086-1054	670-4022-00	80009	CIRCUIT CAPRD ASSY .....	EA	1
1	110	PAFZZ	6695-01-086-1055	670-4022-01	80009	CIRCUIT CARD ASSY .....	EA	1
1	120	PAFZZ	6695-01-086-1056	670-4220-00	80009	CIRCUIT CARD ASSY .....	EA	2
1	130	PAFZZ	6695-01-086-1057	670-4220-01	80009	CIRCUIT CARD ASSY .....	EA	1
1	140	PAFZZ	6695-01-086-1058	670-5204-00	00009	CIRCUIT CARD ASSY .....	EA	2
1	150	PAFZZ	5935-00-599-8548	131-1078-00	80009	CONNECTOR, RECEPTACLE .....	EA	5
1	160	PAFZZ	4140-00-726-9755	WR2AI	82877	FAN.TUOEAXIAL .....	EA	2
1	170	PAFZZ	4140-00-917-3914	AO-86312	82877	FAN.TUEAIAL .....	EA	1
1	180	PAFZZ	5920-00-83S-2318	MDA3	71400	FUSE,CARTRIDGE159-0005-00 FSCM ..	EA	1
1	190	PAFZZ	5920-00-284-7079	AOC21/2	71400	FUSE,CARTRIDGE159-O126-00 FSCM ..	EA	2
1	200	PAFZZ	5905-00-138-4927	RCR42G102JS	81349	RESISTOR.FIXED,COMP .....	EA	5
1	210	PAFZZ	5905-00-494-4622	RCR32G182JS	81349	RESISTOR, FIXED, COMP .....	EA	10
1	220	PAFZZ	5905-00-283-7474	G81025	01121	RESISTOR.FIXEO COMP .....	EA	3
1	230	PAFZZ	5905-00-110-0992	RCR32G51IJS	81349	RESISTOR, FIXED, COMP .....	EA	3
1	240	PAFZZ	5961-00-131-1197	152-0274-00	80009	SEMICONDUCTOR DEVICE .....	EA	2
1	250	PAFZZ	5930-00-377-9979	260-0907-00	800C9	SWITCH.THERMOSTATIC .....	EA	2
1	260	PAFZZ	5950-01-064-1163	120-1031-00	00009	TRANSFORMER.POWER. ....	EA	1
1	270	PPFZZ	5961-00-370-1271	151-0373-00	80009	TRANSISTOR .....	EA	5
1	280	PAFZZ	5961-00-551-0637	151-0436-00	S0009	TRANSISTOR .....	EA	5

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Change 1

**SECTION III. NATIONAL STOCK NUMBER AND PART NUMBER INDEX**

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5905-00-11-C992	1	23C	920-00-839-2318	1	180
5961-00-131-1197	1	24C	414000-0917-3914	1	170
5905-00-138-4927	1	200	5910-0 943-9192	1	10
5905-00-283-1474	1	22C	5913-1-322-3C75	1	30
5920-00-284-7C79	1	19C	5950-01-064-1163	1	260
5961-00-370-1271	1	27C	6695-01-086-1050	1	60
5930-00-377-5579	1	250	6695-01-086-1051	1	70
5910-00-436-3382	1	50	6695-01-086-1052	1	80
5910-00-467-1548	1	40	6695-01-386-1053	1	90
5905-00-494-4622	1	210	6695-01-086-1054	1	100
5961-00-551-C637	1	28C	6695-01-086-1055	1	110
5913-00-577-1346	1	2C	6695-01-0e6-1C56	1	120
5935-00-599-8548	1	15C	6695-01-086-1057	1	130
4140-00-726-5755	1	16C	6695-01-086-1C58	1	140

PART NUMBER	FSCMNO.	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
AGC 2- 1/2	71400	1190	152-0274-00		80009	1	240
A0-86312	82877	1	170	260-3907-00	80009	1	250
DA149-001CB	71590	1	20	283-0022-00	80009	1	10
G81025	01121	1	220	290-0637-00	80009	1	30
MDA3	71400	1	180	670-4021-00	80000	1	63
RCc32G182JS	81349	1	210	670-4021-01	80009	1	70
RCR32G51IJS	81349	1	230	670-4022-00	80009	1	100
RCR42G1O2JS	81349	1	200	673-4022-01	80009	1	110
WR2A1	82877	1	160	670-4220-00	80009	1	120
120-1031-CC	80009	1	260	670-4220-01	80009	1	130
131-1378-CC	80009	1	150	670-4364-00	80009	1	80
151-0373-OC	80009	1	270	670-4364-01	80009	1	90
151-0436-OC	80009	1	280	670-5204-00	80009	1	140
152-0040-00	80009	1	50	68010444	56289	1	40

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