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TECHNICAL MANUAL

**UNIT MAINTENANCE REPAIR PARTS AND
SPECIAL TOOLS LISTS**

**TRACTOR, WHEELED, DED, LOADER BACKHOE:
WITH HYDRAULIC IMPACT TOOL
AND WITH HYDRAULIC EARTH
AUGER ATTACHMENT**

JOHN DEERE MODEL JD410 (CCE)

**WITH BUCKET, IMPACTOR,
AND EARTH DRILL
NSN 2420-00-567-0135**

This copy is a reprint which includes current pages from Change 1.

This manual supersedes TM 5-2420-222-20P, 28 February 1986.

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CHANGE
NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 29 September 1993

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Current as of 18 June 1993

TM 5-2420-222-20P, dated 25 February 1992, is changed as follows.

1. Remove old pages and insert new pages.
2. New or changed material is indicated by an asterisk or by a vertical bar in the margin of the page.

Remove Pages

v and vi
1-1 through Figure 4
5-1 through Figure 8
9-1 through Figure 13
14-1 through Figure 16
18-1 through Figure 20
22-1 and Figure 23
24-1 and Figure 25
26-1 through Figure 29
44-1 and Figure 45
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61-1 and Figure 62
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68-1 and Figure 69
71-1 and Figure 72
73-1 through Figure 75
78-1 through Figure 80
85-1 and Figure 86
93-1 through Figure 95
96-1 and Figure 97

Insert Pages

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9-1 through Figure 13
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78-1 through Figure 80
85-1 and Figure 86
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96-1 and Figure 97

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Remove Pages (Con't)

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3. File this change sheet in front of the publication for reference purposes.

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NSN 2420-00-567-0135
 Current as of 18 June 1991

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, 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, direct to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

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**UNIT MAINTENANCE REPAIR
PARTS AND SPECIAL
TOOLS LISTS**

SECTION I. INTRODUCTION

1. Scope.

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of Unit Maintenance of the Loader Backhoe Wheeled Tractor. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

2. General.

In addition to Section I. Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. *Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the 1st 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 ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair kits are listed separately in their own functional group within Section II. Repair parts for reparable special tools are also listed in the section. Items listed are shown on the associated illustration(s)/figure(s).

b. *Section III. Special Tools List.* A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

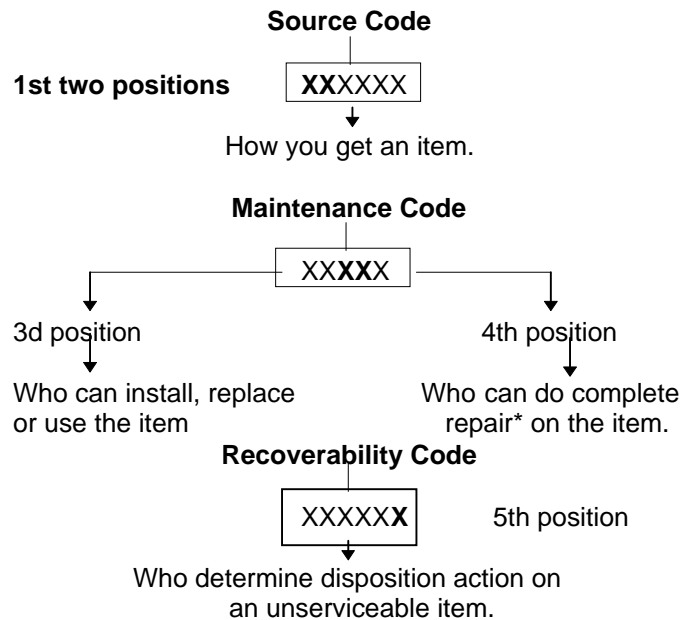
c. *Section IV. Cross-reference Indexes.* A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing; in the listings. National stock numbers and part numbers are cross-referenced to each illustration/figure and item number appearance. The figure and item number index lists figure and item

numbers in alphanumeric sequence and cross-references NSN, CAGE, and part numbers.

3. Explanation of Columns (Sections II and III).

a. *ITEM NO. (Column (1)).* Indicates the number used to identify items called out in the illustration.

b. *SMR CODE (Column (2)).* The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout.



**Complete Repair.* Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) *Source Code.* The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follows:

<u>Code</u>	<u>Application/Explanation</u>
PA	Stocked items, use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code
PB	
PC**	
PD	
PE	
PF	** Items coded PC are subject to deterioration.
PG	
KD	Items with these codes are not to be requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
KF	
MO-(Made at UMI AVUM Level)	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in this RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
MF-(Made at DS/ AVUM Level)	
MH-(Made at GS Level)	
ML-(Made at Specialized Repair Activity (SRA))	
MD-(Made at Depot)	
AO-(Assembled by UMI AVUM Level)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
AF-(Assembled by DS/AVIM Level)	
AH-(Assembled by GS Category)	
AL-(Assembled by SRA)	
AD-(Assembled by Depot)	
XA -	Do not requisition an "XA"-coded item. Order its next higher assembly. (Also refer to the NOTE following.)
XB -	If an "XB" item is not available from salvage, order it using the CAGE and part number given.
XC -	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by the manufacturer's part number.

XD - Item is not stocked Order an "XD"-coded item through normal supply channels using the CAGE and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

(2) *Maintenance Code.* Maintenance codes tell you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

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

<u>Code</u>	<u>Application/Explanation</u>
C -	Crew or operator maintenance done within unit maintenance or aviation unit maintenance.
O -	Unit maintenance or aviation unit category can remove, replace, and use the item.
F -	Direct support or aviation intermediate level can remove, replace, and use the item.
H -	General support level can remove, replace, and use the item.
L -	Specialized repair activity can remove, replace, and use the item.
D -	Depot level can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions).

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes. This position will contain one of the following maintenance codes:

<u>Code</u>	<u>Application/Explanation</u>
O -	Unit maintenance or aviation unit is the lowest level that can do complete repair of the item.
F -	Direct support or aviation intermediate is the lowest level than can do complete repair of the item.

- H - General support is the lowest level that can do complete repair of the item.
 - L - Specialized repair activity is the lowest level that can do complete repair of the item.
 - D - Depot is the lowest level that can do complete repair of the item.
 - Z - Nonreparable. No repair is authorized.
 - B - No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B"-coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.
- (3) *Recoverability Code.* Recoverability codes assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:
- | Code | Application/Explanation |
|------|--|
| Z - | Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the 3d position of the SMR code. |
| O - | Reparable item. When uneconomically repairable, condemn and dispose of the item at unit maintenance or aviation unit level. |
| F - | Reparable item. When uneconomically repairable, condemn and dispose of the item at the direct support or aviation intermediate level. |
| H - | Reparable item. When uneconomically repairable, condemn and dispose of the item at the general support level. |
| D - | Reparable Item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level. |
| L - | Reparable item. Condemnation and disposal of item not authorized below specialized repair activity (SRA). |
| A - | Item requires special handling condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions. |
- c. *CAGEC (Column (3)).* The Commercial and Government Entity (CAGE) Code (C) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

d. *PART NUMBER (Column (4)).* 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 you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. *DESCRIPTION AND USABLE ON CODE (UOC) (Column (5)).* This column includes the following information:

- (1) The Federal item name and, when required, a minimum description to identify the item.
- (2) Physical security classification. Not Applicable.
- (3) Items that are included in kits and sets are listed below the name of the kit or set on Figure KIT.
- (4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.
- (5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.
- (6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).
- (7) The usable on code, when applicable (see paragraph 5, Special Information).
- (8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) 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 proportionately.
- (9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

f. *QTY (Column (6)).* The QTY (quantity per figure column) 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 the quantity is variable and the quantity may vary from application to application.

4. Explanation of Columns (Section IV).

a. *NATIONAL STOCK NUMBER (NSN) INDEX.*

(1) *STOCKNUMBER column.* This column lists the NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last nine.

NSN

digits of the NSN (i.e., 5305-01-674-1467). When

NIIN

using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) *FIG. column.* This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) *ITEM column.* The item number identifies the item associated with the figure listed in the adjacent FIG. Column. This item is also identified by the NSN listed on the same line.

b. *PARTNUMBER INDEX.* Part numbers in this index are listed by part number. In ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group. In order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) *CAGEC column.* The Commercial and Government Entity (CAGE) Code (C) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) *PART NUMBER column.* Indicates the primary number used by the manufacturer (individual, 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.

(3) *STOCK NUMBER column.* This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGE columns to the left

(4) *FIG. column.* This column lists the number of the figure where the item is identified/located in Sections II and III.

(5) *ITEM column.* The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. *FIGURE AND ITEM NUMBER INDEX.*

(1) *FIG. column.* This column lists the number of the figure where the item is identified/located in Sections II and III.

(2) *ITEM column.* The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

(3) *STOCK NUMBER column.* This column lists the NSN for the item.

(4) *CAGE column.* The Commercial and Government Entity (CAGE) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(5) *PART NUMBER column.* Indicates the primary number used by the manufacturer (individual, 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.

5. Special Information.

a. This manual covers end items purchased under two contracts. One contract covers serial numbers 235786 through 235999; the other contract covers serial numbers 319995 through 342573. Although the model number remains the same, there are minor design changes in the end items. Check the maintenance manuals for the location of the serial numbers.

WARNING

Installation of wrong part numbers may result in injury to personnel or damage to equipment.

b. *USABLE ON CODE.* The usable on code appears in the lower left corner of the description column heading. Not Applicable.

c. *FABRICATION INSTRUCTIONS.* Bulk materials required to manufacture items are listed in the Bulk Material Functional Group of this RPSTL. Part numbers for bulk materials are also referenced in the Description column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication Instructions for items source coded to be manufactured or fabricated are found in TM 5-2420-222-20.

d. *ASSEMBLY INSTRUCTIONS.* Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in TM 5-2420-222-20. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

e. *KITS.* Line item entries for repair parts kits appear in group 9401 in Section II. Not Applicable.

f. *INDEX NUMBERS.* Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk material list in Section II.

g. *ASSOCIATED PUBLICATIONS.* The publications listed below pertain to the Loader Backhoe Wheeled Tractor and its components:

<u>Publication</u>	<u>Short Title</u>
LO 5-2420-222-12	Tractor, Wheeled, Loader Backhoe
TM 5-2420-222-10	Tractor, Wheeled, Loader Backhoe
TM 5-2420-222-20-1	Tractor, Wheeled, Loader Backhoe
TM 5-2420-222-20-2	Tractor, Wheeled, Loader Backhoe
TM 5-2420-222-20-3	Tractor, Wheeled, Loader Backhoe

h. *ILLUSTRATIONS-LISTING.* The illustrations in this RPSTL are identical to those published in TM 5-2420-222-34P. Only those parts coded "C" or "O" in the third position on the SMR code are listed in the tabular listing; therefore, there may be a break in the item number sequence. Only illustrations containing Unit authorized items appear in this RPSTL

6. How to Locate Repair Parts.

a. *When National Stock Number or Part Number is Not Known:*

(1) *First.* Using the table of contents, determine the assembly group or subassembly group to which the RPSTI item belongs. This is necessary

since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) *Second.* Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) *Third.* Identify the item on the figure and use the Figure and Item Number Index to find the NSN.

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

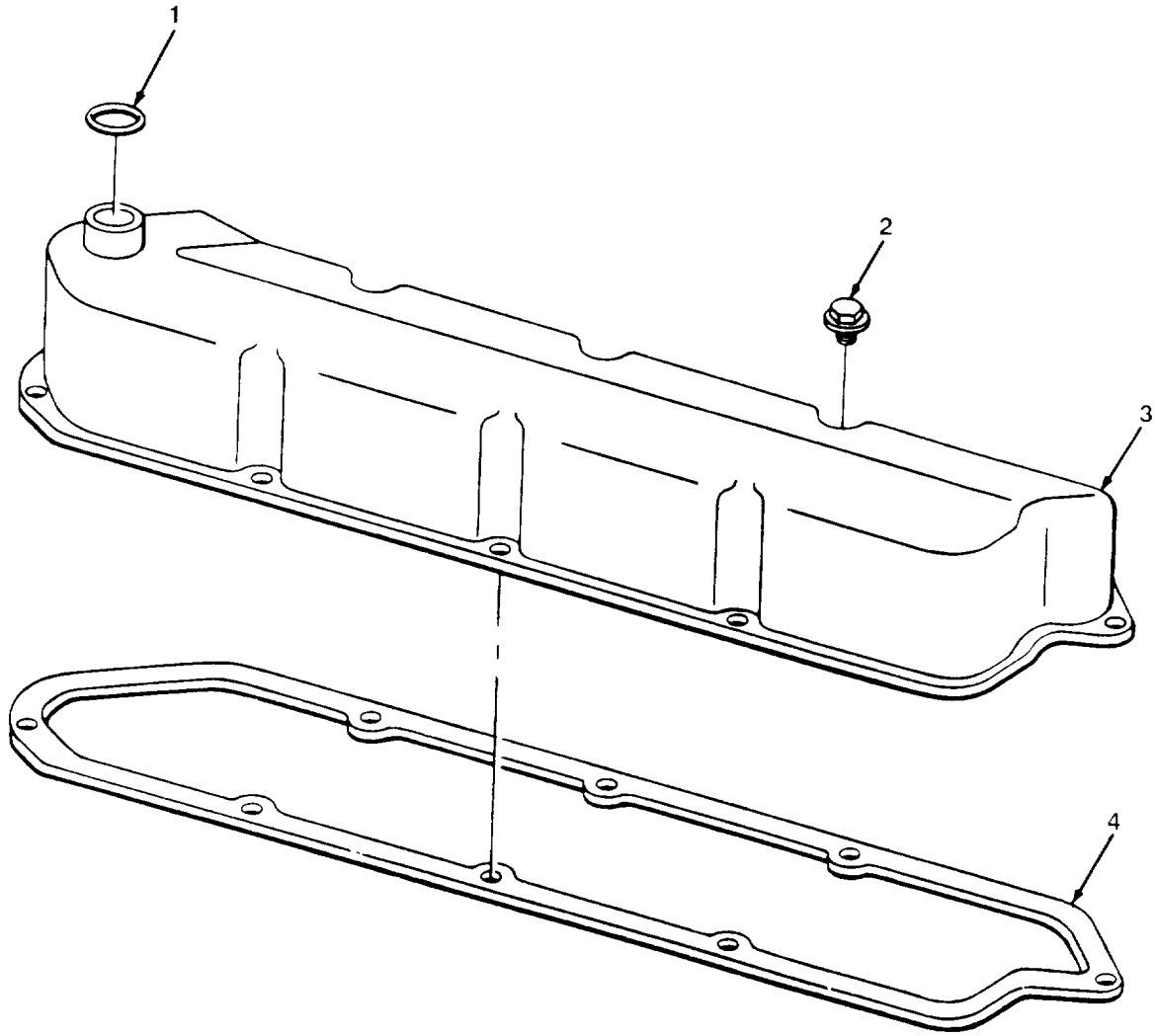
(1) *First.* Using the National Stock Number or Part number Index, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see paragraph 4.a.(1)). The part numbers in the Part Number Index are listed in ascending alphanumeric sequence (see paragraph 4.b). Both indexes cross-reference you to the Illustration/figure and item number of the item you are looking for.

(2) *Second.* Turn to the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

7. Abbreviations.

For standard abbreviations see MIL-STD-12D, Military Standard Abbreviations for Use on Drawings, Specifications, Standards, and in Technical Documents.

<u>Abbreviations</u>	<u>Explanation</u>
NIIN	National Item Identification Number (consists of the last 9 digits of the NSN)
RPSTL.....	Repair Parts and Special Tools List



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FIGURE 1. ROCKER ARM COVER.

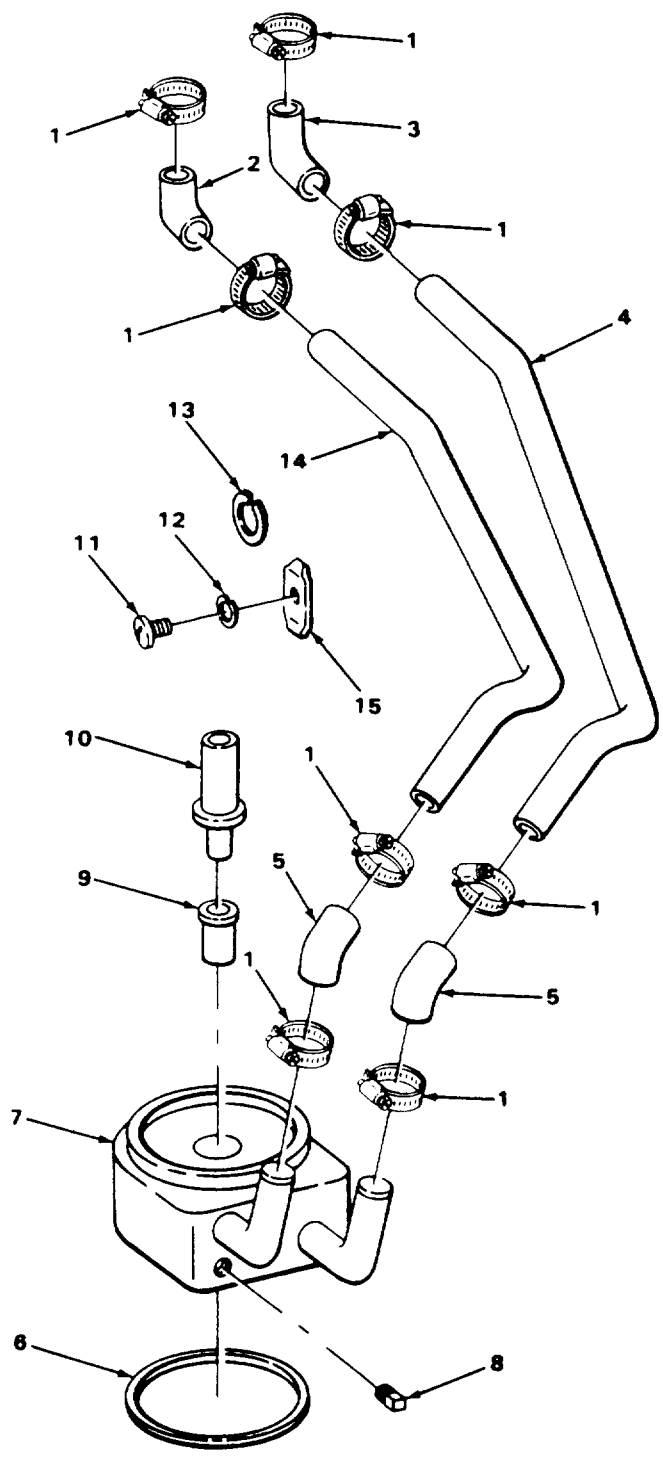
SECTION II

TM 5-2420-222-20PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 01 ENGINE	
				GROUP 0105 VALVES, CAMSHAFTS, AND TIMING SYSTEM	
				FIG. 1 ROCKER ARM COVER	
*	1	PAOZZ 75160	R495R	PACKING, PREFORMED PART OF KIT P/N AR97191 PART OF KIT P/N AR100426 PART OF KIT P/N RE38857	1
	2	PAOZZ 75160	AR45530	BOLT, ASSEMBLED WASH	8
	3	PFOZZ 75160	AT18015	ROCKER ARM COVER	1
*	4	PAOZZ 75160	AR100596	GASKET PART OF KIT P/N AR97191 PART OF KIT P/N AR100426 PART OF KIT P/N RE38857	1

END OF FIGURE

7
8 AND 9



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FIGURE 2. ENGINE OIL COOLER.