TM 9-2320-312-24P

TECHNICAL MANUAL

UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL)

FOR

TRUCK, TRACTOR, YARD TYPE: 46,662 GVWR, DED, 4 X 2, M878A2 (NSN 2320-01-452-5579)

Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

December 2003

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Washington, D.C., 17 December 2003

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UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION 0001 00

SCOPE

a. This RPSTL lists and authorizes spares and repair parts required for performance of Unit, Direct Support, and General Support maintenance of the M878A2 Yard Tractor. It authorizes the requisitioning, issue, and disposition of spares and repair parts as indicated by the source, maintenance, and recoverability (SMR) codes.

b. Common and special tools required to maintain the M878A2 Yard Tractor are listed in the Maintenance Allocation Chart (MAC) and Tool Identification List in TM 9-2320-312-24-1.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages:

a. **Repair Parts Lists Work Package.**

(1) Contains lists of all spares and repair parts authorized by this RPSTL for use in the performance of maintenance. Lists also include parts which must be removed for replacement of the authorized parts.

(2) Parts lists are composed of major assembly groups, as outlined in the MAC (TM 9-2320-312-24-1), in ascending numeric sequence. The parts in each group are listed in ascending figure and item number sequence.

(3) Bulk materials are listed by item name in FIG. BULK at the end of the lists.

(4) Repair parts kits are listed separately in their own functional group.

(5) Items listed are shown on the associated illustrations.

b. **Part Number Cross-Reference Index Work Package.**

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS WORK PACKAGE

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

b. **SMR Code (Column 2).** The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

SOURCE CODE	MAINTENANCE CODE		RECOVERABILITY CODE
XXxxx	xxXXx		xxxxX
1st two positions	3rd position	4th position	5th position
How you get an item.	Who can install, replace or use the item.	Who can do complete repair* on the item.	Who determines disposition action on an unserviceable item.

* *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.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS WORK PACKAGE - CONTINUED

(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 follow:

Code	Application/Explanation
PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the maintenance category indicated by the code entered in the third position of the SMR code. *Items coded PC are subject to deterioration.*
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
MO - Made at Organizational/ AVUM level MF - Made at DS/AVIM Level MH - Made at GS Level ML - Made at SRA MD - Made at Depot	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk materiel which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk materiel group work package of the RPSTL. If the item is authorized to you by the third position 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.
AO-Assembled by Organizational/ AVUM level AF-Assembled by DS/ AVIM level AH-Assembled by GS level AL-Assembled by SRA AD-Assembled by Depot	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 third position 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.
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below).
XB	If an item is not available from salvage, order it using the CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an SD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available.

NOTE

Cannibalization of 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 750-1.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS WORK PACKAGE - CONTINUED

(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) Third Position. 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:

Code	Application/Explanation
C	Crew or Operator maintenance done within Organizational/AVUM maintenance.
O	Organizational Level/AVUM maintenance can remove, replace, and use the item.
F	Direct Support/AVIM maintenance can remove, replace, and use the item.
H	General Support maintenance can remove, replace, and use the item.
L	Specialized Repair Activity (SRA) can remove, replace, and use the item.
D	Depot Maintenance can remove, replace, and use the item.

(b) Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (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.

Code	Application/Explanation
O	Organizational/AVUM is the lowest level that can do complete repair of the item.
F	Direct Support/AVIM is the lowest level that 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 (SRA) 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.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS WORK PACKAGE - CONTINUED

(3) **Recoverability Code.** Recoverability codes are 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 third position of the SMR code.
O	Reparable item. When uneconomically reparable, condemn and dispose of the item at the organizational level maintenance.
F	Reparable item. When uneconomically reparable, condemn and dispose of the item at Direct Support level.
H	Reparable item. When uneconomically reparable, condemn and dispose of the item at General Support level.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are 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 or 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. **NSN - (Column 3).** The NSN for the item is listed in this column.

d. **CAGEC (Column 4).** The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor or Government agency/activity that supplies the item.

e. **PART NUMBER (Column 5).** 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.

f. **DESCRIPTION AND USABLE ON CODE (UOC) (Column 6).** This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) P/Ns of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.

(3) Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.

(4) The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in the repair parts lists.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS WORK PACKAGE - CONTINUED

g. **QTY (Column 7).** 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, 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.

EXPLANATION OF PART NUMBER CROSS-REFERENCE INDEX WORK PACKAGE

a. **Part Number (P/N) Index Work Package Format.** Part numbers in this index are listed 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).

b. **Explanation of Columns.**

(1) **CAGEC Column.** The Commercial and Government Entity Code (CAGEC) is a five-digit code used to identify the manufacturer, distributor or Government agency/activity that supplies the item.

(2) **PART NUMBER Column.** Indicates the P/N assigned to the item.

(3) **NSN Column.** This is the National Stock Number assigned to applicable P/N.

(4) **GROUP Column.** Indicates the major assembly group where the item can be found.

(5) **FIGURE Column.** This column lists the number of the figure where the item is identified/located in the repair parts lists work package.

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

SPECIAL INFORMATION

a. **Usable On Code (UOC).** The UOC appears in the lower left corner of the DESCRIPTION column heading. Usable on codes are shown as "UOC:" in the Description Column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOC's used in the RPSTL are:

Code	Used On
N/A	N/A

b. **Fabrication Instructions.** Bulk materiels required to manufacture items are listed in the Bulk Materiel functional group of this RPSTL. Part numbers for bulk materiel 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 9-2320-312-24-1.

c. **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 P/N Index work package and the bulk materiel list in the repair parts lists work package.

d. **Associated Publications.** The publication(s) listed below pertain to the M878A2 Yard Tractor and their components:

Publication	Short Title
TM 9-2320-312-10	Operator's Manual for M878A2 Yard Tractor
TM 9-2320-312-24	Unit, Direct Support, and General Support Maintenance Manual for M878A2 Yard Tractor

HOW TO LOCATE REPAIR PARTS

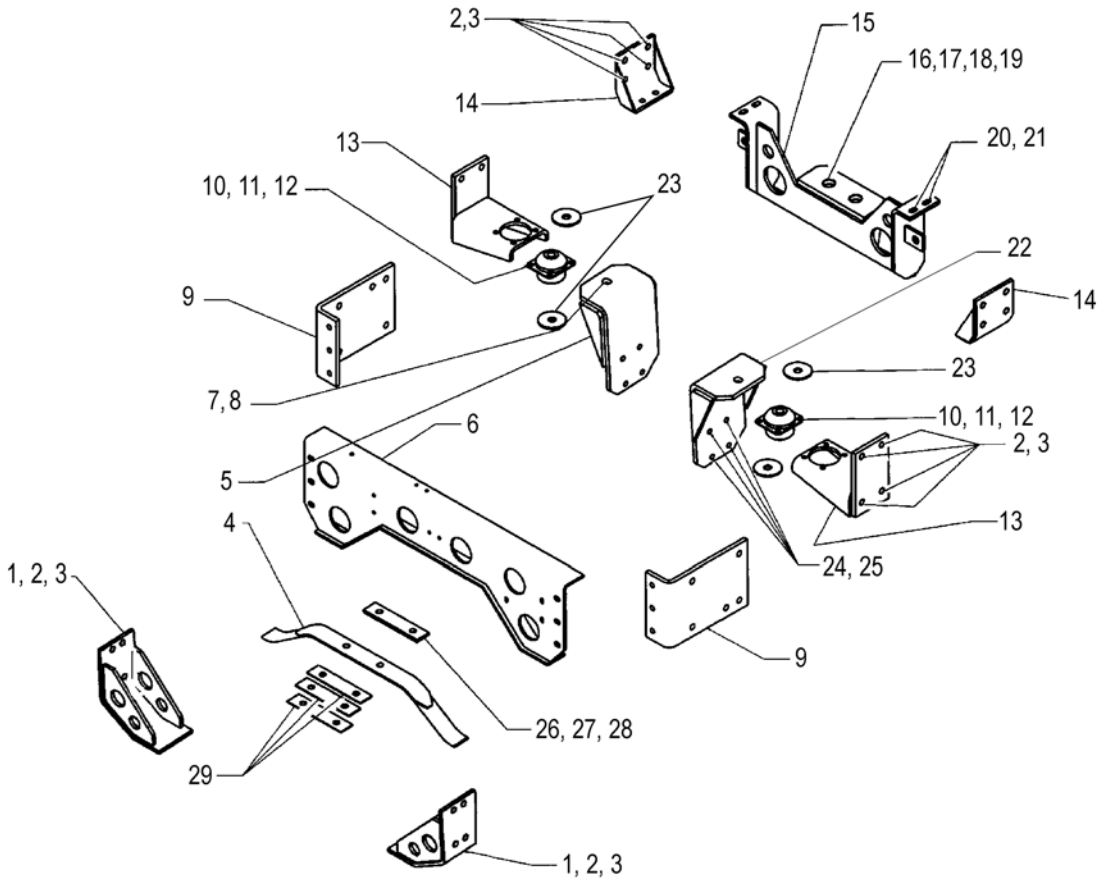
a. **First.** Look in the PART NUMBER column of the P/N index work package. Identify the group, figure, and item number.

b. **Second.** Look up the item on the figure in the applicable group in the repair parts lists work package.

ABBREVIATIONS

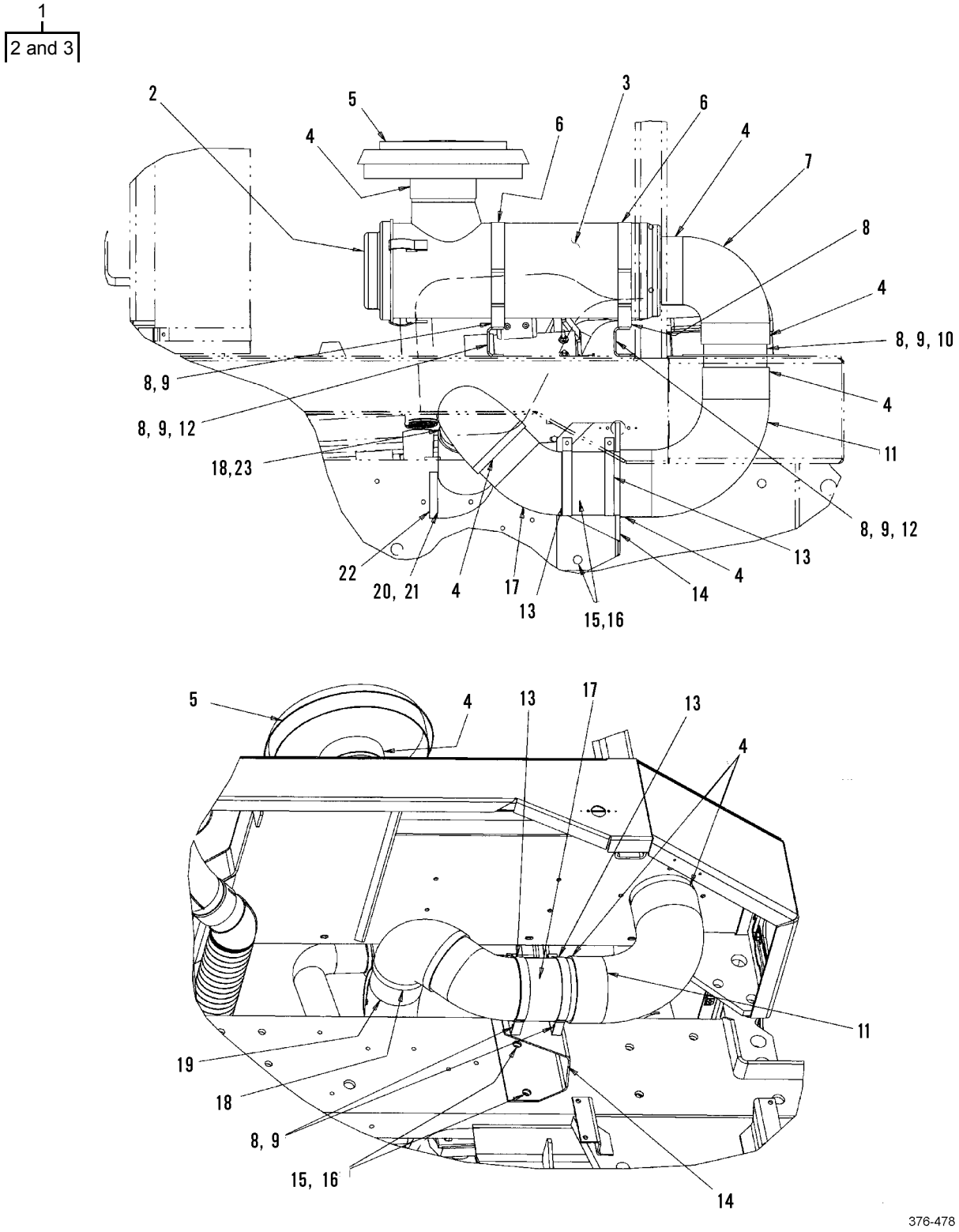
For standard abbreviations see ASME Y14.38-1999, *Abbreviations and Acronyms*.

Abbreviations	Explanation
NIIN	National Item Identification Number (consists of the last 9 digits of the NSN)
RPSTL	Repair Parts and Special Tools Lists
SMR	Source, Maintenance, and Recoverability Code



Group 020, Figure 1. Engine and Transmission Mounting

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 020 ENGINE	
					FIG. 1 ENGINE AND TRANSMISSION MOUNTING	
1	XDFZZ		03533	032-8775	BRACKET,TRANS TAILSHAFT SUPPORT ...	2
2	PAFZZ	5306-01-496-0540	03533	25-503	BOLT,MACHINE	20
3	PAFZZ	5310-01-499-3605	03533	219-0231	NUT,PLAIN,EXTENDED WASHER,HEXAGON .	20
4	PAFZZ	5360-01-503-4303	03533	289-0079	SPRING,FLAT	1
5	XDFZZ		03533	32K-731	BRACKET,MOUNT,ENGINE LH	1
6	XDFZZ		03533	065-2315	CROSSMEMBER,ENGINE	1
7	PAFZZ	5306-01-503-6392	03533	25-509	BOLT,MACHINE	2
8	PAFZZ	5310-01-499-3612	03533	219-232	NUT,PLAIN,EXTENDED WASHER,HEXAGON .	2
9	XDFZZ		03533	242D-0409	BRACKET,MOUNT,ENGINE	2
10	PAFZZ		03533	352A-19	DAMPER,VIBRATION	2
11	PAFZZ	5306-01-503-5943	03533	24-56	BOLT,MACHINE	8
12	PAFZZ	5310-00-013-7719	019L2	21NE070	NUT,SELF-LOCKING,HEXAGON	8
13	XDFZZ		03533	32K-721	BRACKET,MOUNT,ENGINE	2
14	XDFZZ		03533	32J-0174	BRACKET,MOUNT	2
15	XDFZZ		03533	32J-0191	BRACKET,MOUNT,ENGINE	1
16	PAFZZ	5310-01-500-5800	03533	219-116	NUT,PLAIN,HEXAGON H	2
17	PAFZZ		03533	362-52	WASHER,FLAT	4
18	PAFZZ		03533	25-416	BOLT,FLANGE HEAD	2
19	XDFZZ		03533	352A-18	BUSHING	1
20	PAFZZ	5306-01-499-5694	03533	A25-530	BOLT,MACHINE	4
21	PAFZZ	5310-01-500-4503	03533	219-229	NUT,PLAIN,EXTENDED WASHER	4
22	XDFZZ		03533	32K-732	BRACKET,MOUNT,ENGINE RH	1
23	PAFZZ	5310-01-503-5255	03533	367-44	WASHER,SPECIAL,DAMPER	4
24	PAFZZ		03533	25-750	BOLT,MACHINE	8
25	PAFZZ		03533	361-14	WASHER,LOCK	8
26	PAFZZ	5340-01-503-8778	03533	49-50	HOLDER,SPRING	1
27	PAFZZ	5306-01-503-5763	03533	24-109	BOLT,MACHINE	2
28	PAFZZ	5310-00-020-0359	019L2	21NE108	NUT,SELF-LOCKING,HEXAGON	2
29	PAFZZ	5365-01-503-4455	03533	284-0422	SPACER,PLATE	3
					END OF FIGURE	



Group 020, Figure 2. Air Cleaner Assembly and Related Parts

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 020 ENGINE	
					FIG. 2 AIR CLEANER ASSEMBLY AND RELATED PARTS	
1	PAOOO		18265	G092401	FILTER,AIR	1
2	XAOZZ		18265	P151019	.COVER,AIR FILTER	1
3	PAOZZ		18265	P150692	.ELEMENT,FILTER	1
4	PAOZZ	4730-01-503-9502	63208	667-101	CLAMP,HOSE	8
5	PAOZZ		03533	143-268	HOOD,AIR CLEANER	1
6	PAOZZ	5340-01-499-4110	03533	32-7315	CLAMP,LOOP	2
7	PAOZZ		03533	91-8	ELBOW	1
8	PAOZZ	5306-01-500-2006	03533	310-104	BOLT,MACHINE	16
9	PAOZZ	5310-01-499-3693	03533	219-284	NUT,PLAIN,EXTENDED WASHER,HEXAGON .	16
10	PAOZZ		03533	319J-130	TUBE,FLANGE	1
11	PAOZZ		03533	145C-124	HOSE,NONMETALLIC	1
12	XDOZZ		03533	32-8797	BRACKET	2
13	XDOZZ		03533	32-7317	BRACKET	2
14	XDOZZ		03533	32-8798	BRACKET	1
15	PAOZZ	5306-01-499-0510	03533	25-533	BOLT,MACHINE	3
16	PAOZZ	5310-01-495-9469	03533	219-0232	NUT,PLAIN,EXTENDED WASHER,HEXAGON .	3
17	PAOZZ		03533	319J-133	TUBE	1
18	PAOZZ	4730-01-503-9497	63208	667-85	CLAMP,HOSE	2
19	PAOZZ		03533	319H-394	TUBE	1
20	PAOZZ		03533	91-46	ELBOW	1
21	PAOZZ	4730-01-503-6523	03533	113-127	ELBOW,PIPE TO TUBE	1
22	PAOZZ		03533	58-62	CLAMP,SPRING LOADED	1
23	PAOZZ	4720-01-503-9061	03533	91-39	HOSE,PREFORMED	1
					END OF FIGURE	

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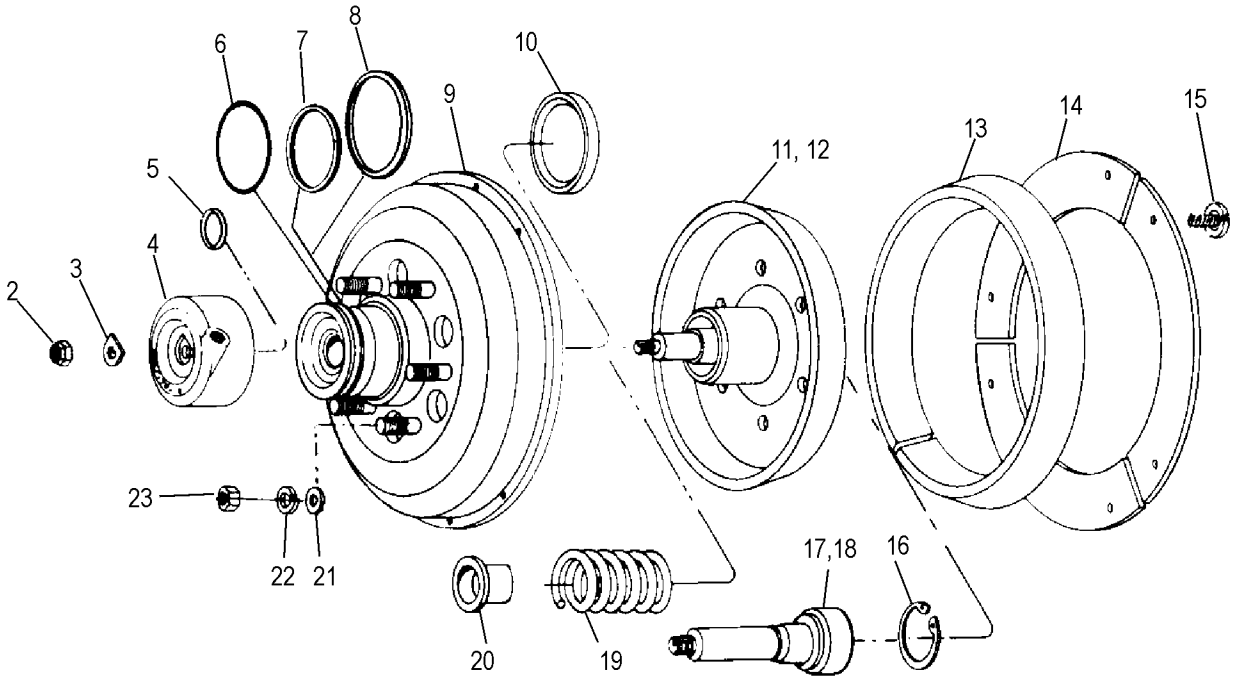
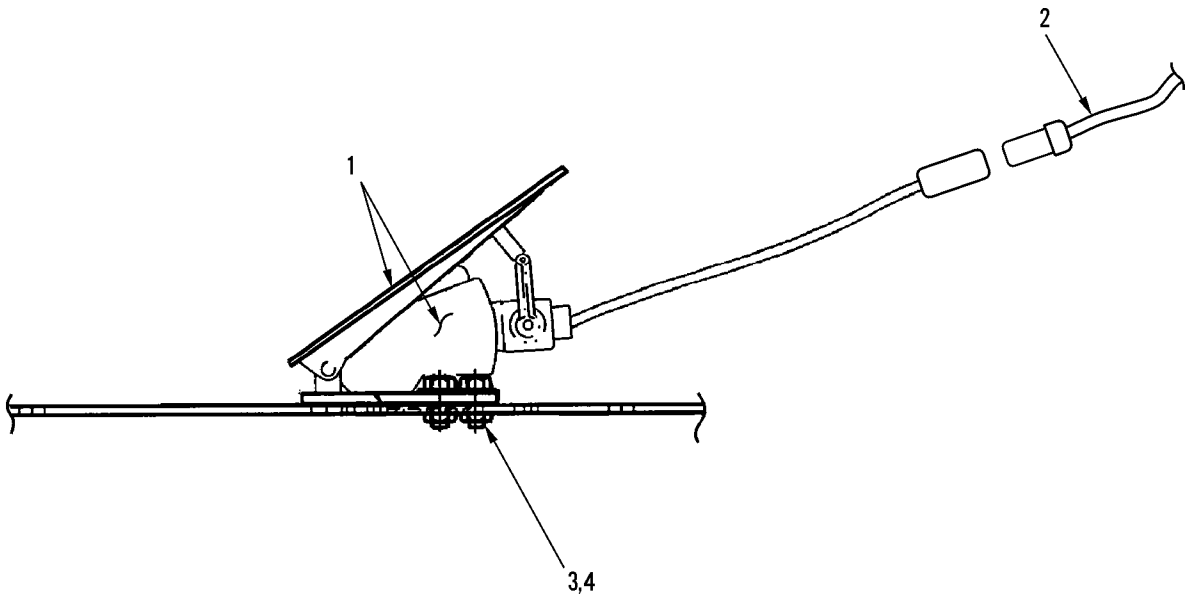


Group 020, Figure 3. Fan Clutch Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 020 ENGINE	
					FIG. 3 FAN CLUTCH ASSEMBLY	
1	PAFFF	2930-01-331-6660	75418	1090-08000-01	CLUTCH,FAN,ENGINE	1
2	KFFZZ	5310-01-194-0481	51377	3029-01371-01	.NUT,SELF-LOCKING,HE PART OF ... KIT,P/N 4043-41130-01	1
3	KFFZZ	5310-01-189-8468	51377	3058-01264-02	.WASHER,FLAT PART OF KIT,P/N ... 4043-41130-01	1
4	KFFZZ		75418	4043-40825-01	.CYLINDER,FAN CLUTCH PART OF ... KIT,P/N 4043-41130-01	1
5	KFFZZ	5331-01-195-1500	51377	9002-00741-58	.O-RING ..... PART OF KIT,P/N 4043-41130-01	1
6	KFFZZ	5331-01-393-5630	51377	9002-00491-68	.O-RING PART OF KIT,P/N 4043-4 . 1130-01	1
7	KFFZZ	5331-01-459-8509	75418	3018-01703-01	.O-RING PART OF KIT,P/N 4043- .. 41130-01	1
8	KFFZZ	5330-01-331-9283	75418	3018-01519-01	.SEAL,PLAIN PART OF KIT,P/N 4043-41130-01	1
9	XAFZZ		75418	4040-41131-01	.HOUSING,CLUTCH,FAN	1
10	XAFZZ		75418	3018-01507-01	.SEAL,PLAIN	1
11	XAFZZ		75418	4079-41132-01	.CLUTCH,POSITIVE	1
12	XAFZZ		51377	9002-00741-58	.O-RING	1
13	KFFZZ	2530-01-246-4400	51377	4026-36900-01	.LINING,FRICTION PART OF KIT, .. P/N 1033-08250-01	1
14	XAFZZ		75418	4073-38444-01	.PLATE,MOUNTING	3
15	KFFZZ	5305-01-462-5303	51377	3042-01684-01	.SCREW,MACHINE PART OF KIT,P/N . 1033-08250-01	6
16	XAFZZ		75418	3038-01510-01	.RING,RETAINING	2
17	XAFZZ		75418	4079-41133-01	.SHAFT,SHOULDERED	1
18	XAFZZ		75418	4001-40691-01	.SPRING CARRIER	1
19	XAFZZ		75418	4088-40615-01	.SPRING,HELICAL,COMP	1
20	XAFZZ		75418	4001-40690-01	.BUSHING BLANK	1
21	PAFZZ	5310-01-389-7014	80205	MS15795-813	.WASHER,FLAT	6
22	PAFZZ	5310-01-130-9065	81337	6-1-5866-17	.WASHER,LOCK	6
23	PAFZZ	5310-00-732-0559	96906	MS51968-8	.NUT,PLAIN,HEXAGON	6
					END OF FIGURE	



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Group 020, Figure 4. Throttle Position Sensor Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 020 ENGINE	
					FIG. 4 THROTTLE POSITION SENSOR ASSEMBLY	
1	PAOZZ	2540-01-504-0774	3F787	224300-001	PEDAL,CONTROL THROTTLE POSITION SENSOR .	1
2	PAOOO	6150-01-503-6796	03533	365C-372	WIRING HARNESS,BRANCHED	1
3	PAOZZ	5305-01-499-1069	03533	310-0087	SCREW,CAP,HEXAGON HEAD	4
4	PAOZZ	5310-01-500-4947	03533	219-0242	NUT,PLAIN,EXTENDED WASHER, ... HEXAGON	4
					END OF FIGURE	