

# TM 9-3415-226-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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OPERATOR'S MANUAL

GRINDING MACHINE, DRILL  
(BLACK DIAMOND SAW AND  
MACHINE WORKS, INC.,  
MODEL DD2)  
(3415-517-1050)

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*HEADQUARTERS, DEPARTMENT OF THE ARMY*

WAGO 9072-A--June

*JUNE 1965*



Change }  
No. 1 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, D. C., 2 April 1973

**Operator's Manual**  
**GRINDING MACHINE, DRILL:**  
**(BLACK DIAMOND SAW AND**  
**MACHINE WORKS, INC.,**  
**MODEL DD2)**  
**(3415-517-1050)**

*This Change is current as of 21 February 1973*

TM 9-3415-226-10, 10 June 1965, is changed as follows:

*Page 3.* Add the following paragraphs.

**Reporting of Errors**

The reporting of errors omissions and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forward direct to Commander, US Army Weapons Command, ATTN: AMSWE-MAS, Rock Island, IL 61201.

**Parts Included With End Item**

Parts included with end item and considered a component or part of item configuration are listed in the following table. All items are manufactured by the BLACK DIAMOND SAW AND MACHINE WORKS, INC. (Manufacturer's Code 07448).

<i>Part</i>	<i>Part Number</i>	<i>Part</i>	<i>Part Number</i>
ACORN NUT:	D21	KNURLED LOCKING SCREW:	D29
ADJUSTING SCREW:	D32	LIP REST:	D23
CALIPER JAW:	D22	LOCKING SCREW:	D23A
CHAIN AND PIN:	D15A	NUTS: (set of 2)	D9E
CUP WHEEL:	331	OUTSIDE CONE:	D9C
DIAMOND DRESSER CASTING:	D9	RUBBER PACKING:	D15B
DIAMOND HOLDER:	D11	SHAFT FOR DIAMOND DRESSER:	D9A
DIAMOND MOUNTED:	D10	SLEEVE:	D15
ECCENTRIC BUSHING:	D17	SLEEVE:	D31
FOOT STOP:	D27	SLEEVE HANDLE:	D15C
GRADUATED COLLAR:	D18	STRAIGHT WHEEL:	332
HAND WHEEL:	D19	STUD AND WASHERS:	D26A
HAND WHEEL AND STUD:	D28	SWIVEL WITH STUD:	D16
HEART PIECE:	D30	THREADED STUD: 5/16-inch	D20
HOLDER WITH VEE PIECE, STUD AND		VEE PIECE:	D26
WASHER:	D25	WASHER:	D21A
INSIDE CONE:	D9B	WASHER:	D28A
JOINT BOLT AND NUT:	D24	WASHER:	D9D
KNURLED LOCK SCREW:	D11A	WRENCH:	D33

*Pages 7 thru 10.* APPENDIX is rescinded.

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS  
*General, United States Army*  
*Chief of Staff*

Official:

VERNE L. BOWERS  
*Major General, United States Army,*  
*The Adjutant General.*

Distribution:

*Active Army:*

DCSLOG (3)

CNGB (1)

TSG (1)

COE (5)

Dir of Trans(1)

OCC-E (1)

CONRAC (2)

ARADCOM (2)

ARADCOM Rgn (2)

Armies (3) except

Seventh (5)

Eighth (5)

AMC (12)

OS Maj Comd (2)

LOGCOMD (2)

WECOM (10)

AVSCOM (2)

Ft Belvoir (2)

LEAD (2)

LEAD (2)

TEAD (16)

Units org under fol TOE:

11-587 (2)

NG: None

USAR: None

For explanation of abbreviations used, see AR 310-50.

**OPERATING  
INSTRUCTIONS**

for



**DRILL GRINDERS**



### *Drill Size*

Adjust gauge jaws at the left of holder to loosely fit diameter of drill to be ground.



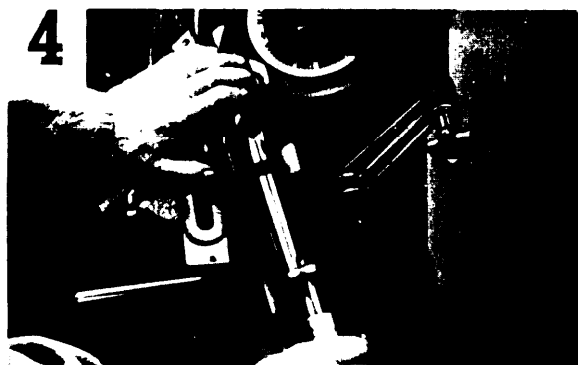
### *Positioning Drill*

Place drill in V with outer corner of cutting lip firmly against lip rest and project end of drill about 1/16" beyond it Adjust tail-stock to length of drill.



### *Positioning Holder*

Move and clamp the entire holder to a position where the drill will be about 1/16" from the grinding wheel when holder is at right angles to it.



### *Grinding*

With left hand holding drill firmly with the lower lip against the lip rest as shown, use the right hand to swing the holder back and forth Feed with micrometer screw. Finish grinding both lips with the same adjustment,

## *Clearance*

To change clearance, loosen handwheel and adjust eccentric bushing as shown. After adjustment, holder should again be set for distance as in fig. 3.



## *Included Angle*

To change included angle at point of drill, loosen nut at side of holder and set for desired angle. After adjustment, holder should again be set for distance as in fig. 3.



## *Two-Lip Drills*

Stop pin removed.

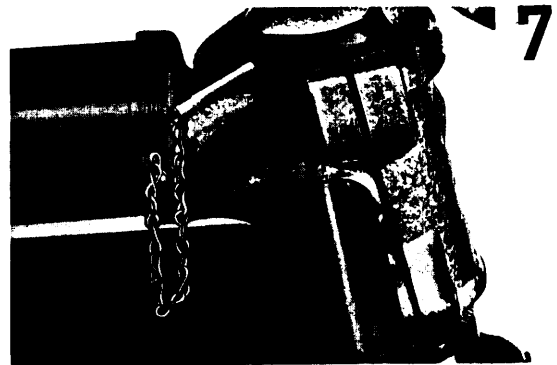
## *Three-Lip Drills*

Insert stop pin in #3 hole.



## *Four-Lip Drills*

Insert stop pin in #4 hole.



## *Dressing*

With grinding wheel stopped, adjust diamond to slightly scratch wheel surface when drawn across it. Start motor and dress wheel slowly and evenly. One pass each way is usually sufficient.



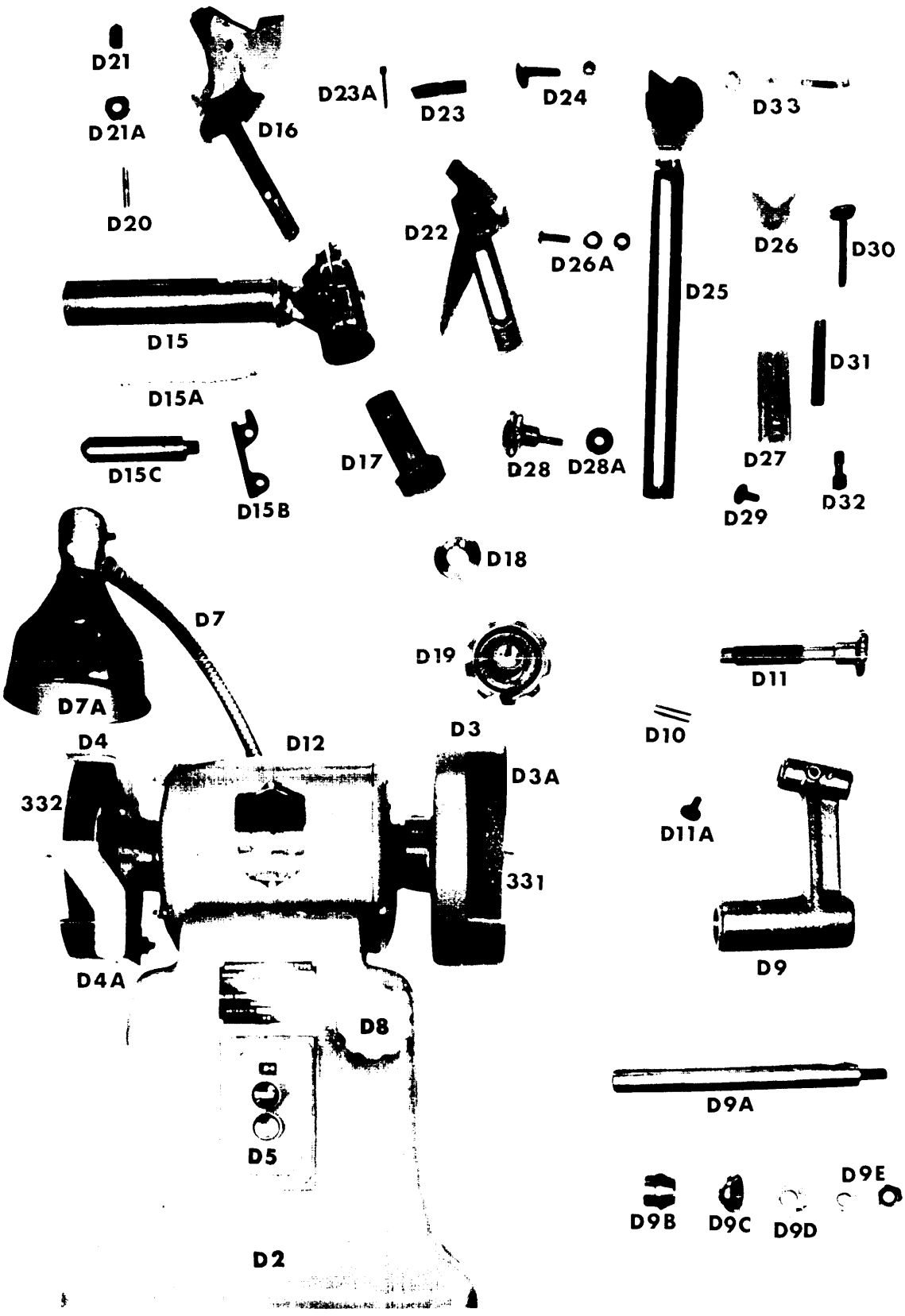
# *Model DD2*

## **WORCESTER DRILL GRINDER MODEL DD2**

Base .....	D2
Cup Wheel Guard .....	D3
Guard Cover .....	D3A
Straight Wheel Guard .....	D4
Tool Rest .....	D4A
Switch and Plate .....	D5
Cord, Plug and Adaptor (not shown) .....	D6
Cord Grip (not shown) .....	D6A
Lamp with Shade .....	D7
Shade only .....	D7A
Sleeve Binder .....	D8
Diamond Dresser Casting .....	D9
Shaft for Diamond Dresser .....	D9A
Inside Cone .....	D9B
Outside Cone .....	D9C
Washer .....	D9D
Nuts (2) .....	D9E
Diamond Mounted .....	D10
Diamond Holder .....	D11
Knurled Lock Screw .....	D11A
Motor 115V 60 cycle 1 phase .....	D12
Cup Wheel Flanges and Nut, Set (not shown) .....	D12RH



Straight Wheel Flanges and Nut, Set (not shown) . . . . .	<b>D 12 LH</b>
Cup Wheel .....	<b>331</b>
Straight Wheel .....	<b>332</b>
Sleeve .....	<b>D 15</b>
Chain and Pin .....	<b>D 15 A</b>
Rubber Packing .....	<b>D 15 B</b>
Sleeve Handle .....	<b>D 15 C</b>
Swivel with Stud .....	<b>D 16</b>
Eccentric Bushing .....	<b>D 17</b>
Graduated Collar .....	<b>D 18</b>
Hand Wheel .....	<b>D 19</b>
5/16" Threaded Stud .....	<b>D 20</b>
Acorn Nut .....	<b>D 21</b>
Washer .....	<b>D 21 A</b>
Caliper Jaw .....	<b>D 22</b>
Lip Rest .....	<b>D 23</b>
Locking Screw .....	<b>D 23 A</b>
Joint Bolt and Nut .....	<b>D 24</b>
Holder with Vee Piece, Stud and Washers .....	<b>D 25</b>
Vee Piece .....	<b>D 26</b>
Stud and Washers .....	<b>D 26 A</b>
Foot Stop .....	<b>D 27</b>
Hand Wheel and Stud .....	<b>D 28</b>
Washer .....	<b>D 28 A</b>
Knurled Locking Screw .....	<b>D 29</b>
Heart Piece .....	<b>D 30</b>
Sleeve .....	<b>D 31</b>
Adjusting Screw .....	<b>D 32</b>
Wrench .....	<b>D 33</b>



# APPENDIX

## BASIC ISSUE ITEMS LIST

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### Section I. INTRODUCTION

#### 1. General

This appendix is a list of basic issue items. It is composed of those items which make up the major end item of equipment and the operator's tools and equipment that are issued with the equipment and are required for stockage.

#### 2. Requisitioning a Part to Which FSN Has Not Been Assigned

When requisitioning a C source (local procurement) item identified only by a manufacturer's part number, it is mandatory that the following information be furnished the supply officer:

- a. Manufacturer's code number (5 digit No. preceding the colon in the descriptive colm).
- b. Manufacturer's part number (the No., and sometimes letters, following the colon, (1) above). Dashes, commas, or other marks must be included exactly as listed.
- c. Nomenclature exactly as listed herein, including dimensions if necessary.
- d. Name of manufacturer of end item (from cover of TM or manufacturer's nameplate).
- e. Federal stock number of end item (from TM).
- f. Manufacturer's model number (from TM or name/data plate, preferably name/data plate).
- g. Manufacturer's serial number (from name/data plate).
- h. Any other information such as type, frame number, and electrical characteristics, if applicable.
- i. If DD Form 1348 (DOD Single Line Items Requisition System Document (Manual)) is used, fill in all blocks except 4, 5, 6, and Remarks field, in accordance with AR 725-50. Complete form as follows:

- (1) In blocks 4, 5, and 6, list manufacturer's code, and manufacturer's part number (as listed in description column).
- (2) In Remarks field, list noun name (repair part), end item application (FSN of end

item), manufacturer, model number (end item), serial number (end item), and any other pertinent information such as frame number, type, etc.

#### 3. Explanation of Columns

a. *Source, Maintenance, and Recoverability Code* (colm 1).

(1) *Materiel numerical codes* (colm 1a). This column not required.

(2) *Source* (colm 1b). This column indicates the selection status and source for the listed item. Source code used in this list, are—

code	Explanation
C-----	-- Obtain through local procurement. If not obtainable from local procurement, requisition through normal supply channels with a supporting statement of nonavailability from local procurement.

(3) *Maintenance level* (colm 1 c). This column indicates the category of maintenance authorized to install the listed item. Maintenance level code used in this list is—

code	Explanation
O/C-----	Operator or crew maintenance

(4) *Recoverability* (colm 1 d). This column indicates whether unserviceable items should be returned for recovery or salvage. When no code is indicated, the item will be considered expendable. Recoverability code used in this list is—

Code	Explanation
R-----	Items which are economically repairable at direct and general support maintenance activities and normally are furnished by supply on an exchange basis.

b. *Federal Stock Number* (Colm 2). Self explanatory.

c. Description (colm 3). The following manufacturer's code is included in this column.

Code Explanation  
 07448 ----- Black Diamond Saw and Machine Works, Inc., Natick, Mass.

d. Unit of Issue (colm 4), Quantity Authorized (colm 5), and Illustration (colm 6). Self explanatory.

**4. Abbreviations**

Not applicable.

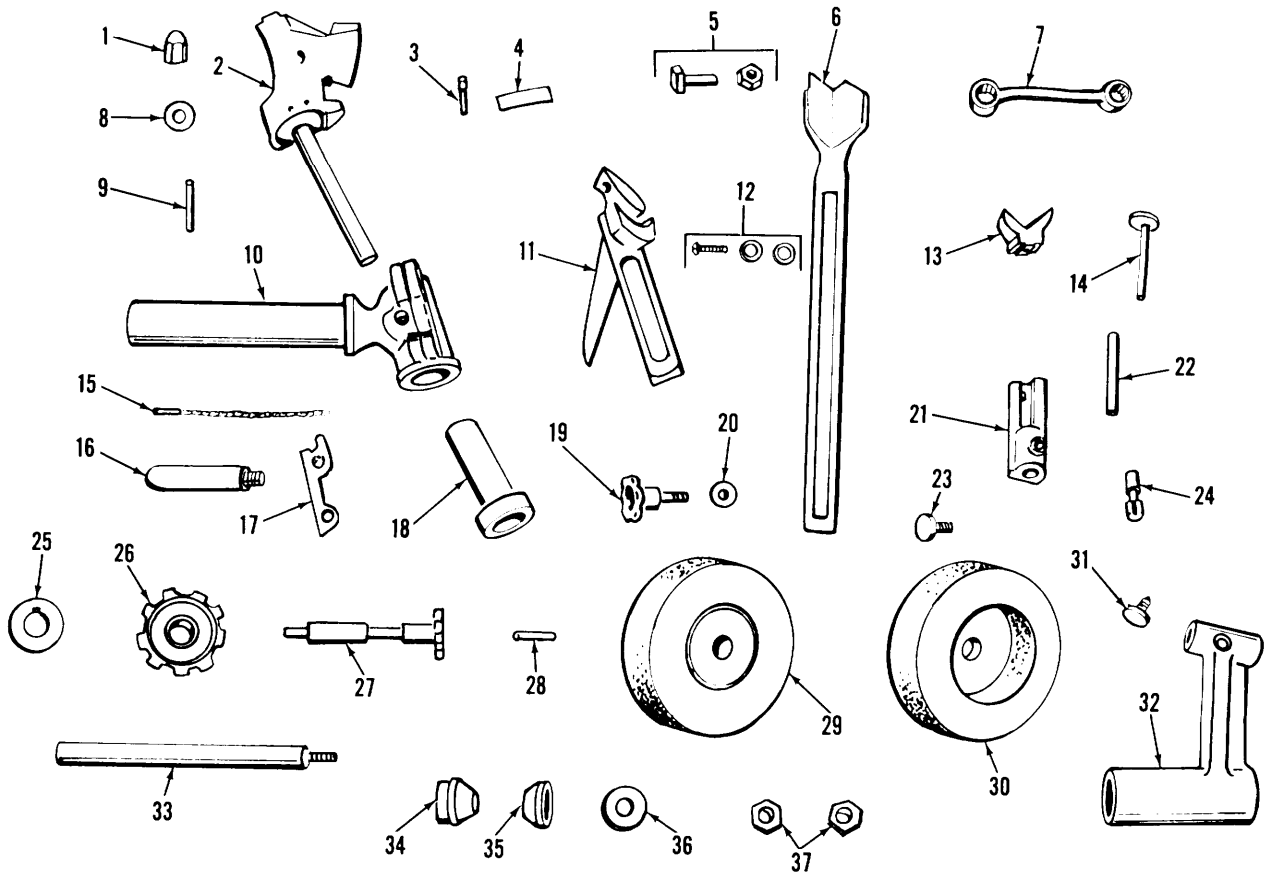
**5. Errors, Comments, and/or Suggestions**

Reports by the individual user, of errors, comments and suggestions are encouraged. They should be reported on DA Form 2028 (Recommended Changes to DA Publications) and forwarded directly to Commanding General, Headquarters, U.S. Army Weapons Command, ATTN: AMSWE-SMM-P, Rock Island Arsenal, Rock Island, Ill. 61202.

**Section II. BASIC ISSUE ITEMS**

(1) Source, maintenance, and recoverability code				(2)	(3)	(4)	(5)	(6) Illustration	
(a) Material code	(b) Source	(c) Maintenance level	(d) Recoverability	Federal stock No.	Description	Unit of issue	Quantity authorized	(a) Figure No.	(b) Item No.
			R	3415-517-1050	<p>MAJOR COMBINATION</p> <p>The following item is to be requisitioned for initial issue only.</p> <p>GRINDING MACHINE, DRILL: (07448 :DD2)- --</p> <p>COMPONENTS OF MAJOR COMBINATION</p> <p>None authorised.</p> <p>REPAIR PARTS</p> <p>None authorized.</p> <p>TOOLS AND EQUIPMENT FOR: GRINDING MACHINE, DRILL: (07448:DD2)</p>	ea			
C	O/C			-----	ACORN NUT: (07448:D21)-----	ea	1	1	1
C	O/C			-----	ADJUSTING SCREW: (07448:D32)- -----	ea	1	1	24
C	O/C			-----	CALIPER JAW: (07448:D22)-----	ea	1	1	11
C	O/C			-----	CHAIN AND PIN (07448:D15A)-----	ea	1	1	15
C	O/C			-----	CUP WHEEL (07448:331)-----	ea	1	1	30
C	O/C			-----	DIAMOND DRESSER CASTING: (07448:D9)- --	ea	1	1	32
C	O/C			-----	DIAMOND HOLDER: (07448:D11)- -----	ea	1	1	27
C	O/C			-----	DIAMOND MOUNTED: (07448:D10) -----	ea	1	1	28
C	O/C			-----	ECCENTRIC BUSHING: (07448:D17)-----	ea	1	1	18
C	O/C			-----	FOOT STOP (07448:D27)-----	ea	1	1	21
C	O/C			-----	GRADUATED COLLAR: (07448:D18)-----	ea	1	1	26
C	O/C			-----	HAND WHEEL: (074:D19)-----	ea	1	1	26
C	O/C			-----	HAND WHEEL AND STUD: (07448:D28)-----	ea	1	1	19
C	O/C			-----	HEART PIECE: (07448:D30)-----	ea	1	1	14
C	O/C			-----	HOLDER WITH VEE PIECE, STUD AND WASHER (07448:D25).	ea	1	1	6
C	O/C			-----	INSIDE CONE: (07448:D30)-----	ea	1	1	34
C	O/C			-----	JOINT BOLT AND NUT: (07448:D24)-- -----	ea	1	1	5
C	O/C			-----	KNURLED LOCK SCREW: (07448:D11A)--- ----	ea	1	1	31
C	O/C			-----	KNURLED LOCKING SCREW (07448:D29)- ---	ea	1	1	23
C	O/C			-----	LIP REST: (07448:D23)-----	ea	1	1	4
C	O/C			-----	LOCKING SCREW: (07448:D23A)- -----	ea	1	1	3

(1) Source, maintenance, and recoverability code				(1) Federal stock No.	(a) Description	(4) Unit of issue	(6) Quantity author- ized	(6) Illustration	
(a) Ma- terial code	(b) Sourced	(c) Main- - tenance level	(d) Re- cover- ability					(a) Fig- ure No.	(b) Item No.
					GRINDING MACHINE, DRILL: (07448:DD2) -Continued				
C		O/C			NUTS: (set of 2) (07448:D9E)-----	ea	1	1	37
C		O/C			OUTSIDE CONE: (07448:D9C)-----	ea	1	1	35
C		O/C			RUBBER PACKING: (07448:D15B)-----	ea	1	1	17
C		O/C			SHAFT FOR DIAMOND DRESSER: (07448:D9A).	ea	1	1	33
C		O/C			SLEEVE: (07448:D31)-----	ea	1	1	22
C		O/C			SLEEVE: (07448:D15)-----	ea	1	1	10
C		O/C			SLEEVE HANDLE (07448:D15C)-----	ea	1	1	16
C		O/C			STRAIGHT WHEEL: (07448:W2)-----	ea	1	1	29
C		O/C			STUD AND WASHERS: (07448:D26A)-----	ea	1	1	12
C		O/C			SWIVEL WITH STUD: (07448:D16)-----	ea	1	1	2
C		O/C			THREADED STUD: 5/16-inch (07448:D20)-----	ea	1	1	9
C		O/C			VEE PIECE: (07448:D26)-----	ea	1	1	13
C		O/C			WASHER (07448:D28A)-----	ea	1	1	20
C		O/C			WASHER (07448:D9D)-----	ea	1	1	36
C		O/C			WASHER: (07448:D21A)-----	ea	1	1	8
C		O/C			WRENCH: (07448:D33)-----	ea	1	1	7



WE 30013

Figure 1. Tools and equipment.

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D. C., 10 June 1965

TM 9-3415-226-10 is published for the information and use of all concerned.

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,  
*General, United States Army,*  
*Chief of Staff.*

Official:

J. C. LAMBERT,  
*Major General, United States Army,*  
*The Adjutant General.*

Distribution:

*Active Army:*

DCSLOG (1)

CNGB (1)

TSG (1)

CofEngrs (6)

CofSpts (2)

Dir of Trans (1)

OCC-E (2)

USCONARC (3)

USAMC (12)

ARADCOM (2)

ARADCOM Rgn (2)

USASMC (6)

Armies (3) except

Second (2)

Seventh and EUSA (5)

Corps (2)

USAC (2)

OS Maj Cored (1)

LOGCOMD (3)

USAAVCOM (10)

USAWECOM (75)

Ft Belvoir (2)

LEAD (2)

TEAD (16)

Lexington Blue Grass Army Dep (1)

Units org under fol TOE:

11-587 (2)

*NG:* None.

*USAR:* None.

For explanation of abbreviations used, see AR 320-50.

\* U.S. Government Printing Office: 1965-750512

