

TM 9-4910-432-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL

**GRINDING KIT, VALVE SEAT, ELECTRIC
35 DEGREE ANGLE TYPE
CONCENTRIC DRIVE,
1/4 HORSEPOWER, AC/DC,
SINGLE PHASE, 115-VOLT,
14000 RPM RATED NO LOAD
SPEED (K. O. LEE COMPANY
MODEL P300BB) (4910-060-9983) AND
(K. O. LEE COMPANY MODEL P300BB-M2)
(4910-473-6437)**

HEADQUARTERS, DEPARTMENT OF THE ARMY

25 FEBRUARY 1965

CHANGE

No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON , D.C., 22 January 1973

Operator's Manual

GRINDING KIT, VALVE SEAT, ELECTRIC:

35 DEGREE ANGLE TYPE

CONCENTRIC DRIVE,

1/4 HORSEPOWER, AC/DC,

SINGLE PHASE, 115 VOLT

14000 RPM RATED NO LOAD

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MODEL P300BB) (4910-060-9983) AND

(K. O. LEE COMPANY MODEL P300BB-M2)

(4910-473-6437)

This change is current as of 1 December 1972

TM 9-4910-432-10, 25 February 1965, is changed as follows:

Page 2. Add following two paragraphs at the beginning of page 2.

Reporting of Equipment Publication Improvements

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

Parts Included with End Item

The items in the following tables, formerly included as part of the Basic Issue Items List on pages 9-17, are now designated as components or parts of the end item configuration. Table I contains the components for Grinding Kit Model P300BB (4910-060-9983) , and table II contains those for Model P300BB-M2 (4910-473-6437) . Appendix I, paragraph 3c provides manufacturers' codes for the items in both tables.

Table I (4910-060-9983)

Part	FSCM/Part No.
ADAPTER, CONNECTOR: 2 connector mating ends stght shape, 5 contacts, 1 female, U hollow, 2 female, fl at one end, 2 male, fl at other end, nonlocking, 1.078 lg X 1.438 dia in.	74545:5273L
BALL, TERMINAL: hex, electric driver	35472:P223
BRUSH, ELECTRICAL CONTACT: w/spring	35472:R3838
DRESSER, ABRASIVE W H E E L : w/P176D diamond screw	35472:P372
DRIVE, ANGLE: 1/2 in. hex, electric driver	35472:P360
DRIVER, ELECTRIC:	35472:P422MIL
HOLDER, ABRASIVE WHEEL: ball bearing, 4 in. lg, 1/2 in. hex socket, 11/16 in. thd end	35472:P196X
PILOT, EXPANDING: valve guide hole, 7/16 in.	35472:P86M
PILOT, EXPANDING: valve guide hole, 15/32 in.	35472:P94M
PILOT, EXPANDING: valve guide hole, 1/2 in.	35472:P87M
PILOT, EXPANDING: valve guide hole, 9/16 in.	35472:P88M
WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/2 dia, 30 deg bevel, 11/16-16 thd insert, all purpose	07429:50669
WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 3 dia, 30 deg bevel, 11/16-16 thd insert, all purpose	07429:50671
WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50687
WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50689
WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 3 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50692

Table II (4910-473-6437)

Part	FSCM/Part No.
ADAPTER, CONNECTOR: 2 connector mating ends, stght shape, 5 contacts, 1 female, U-hollow, 2 female, fl at one end, 2 male, fl at other end, nonlocking, 1.078 lg X 1.438 dia in.	74545:5273L

Table II (4910-473-6437)-Continued

Part	FSCM Part No.
BALL TERMINAL: hex, electric driver	35472:P223
CHUCK, COLLET: (for P215A shaft)	35472:P217
DRESSER, ABRASIVE W H E E L : w/P176D diamond screw	35472:P372
DRIVE, ANGLE, GEARED: 1/2 in. hex, 1 to 1 gear ratio, electric driver	35472:P460
HOLDER, ABRASIVE WHEEL: ball bearing, 4 in. lg, 1/2 in. hex socket, 11/16 in. thd end	35472:P196X
INDICATOR: valve seat	35472:P350
PILOT, EXPANDING: valve guide hole:	
1/4 in.	35472:P95
9/32 in.	35472:P96
5/16 in.	35472:P83
11/32 in.	35472:P84
11/32 in.	35472:P84M
3/8 in.	35472:P85
13/32 in.	35472:P97
7/16 in.	35472:P86
1/2 in.	35472:P87
9/16 in.	35472:P88
5/8 in.	35472:P89
PILOT, SOLID: valve guide hole, (for Ford V8 and V85)	35472:P91
SHAFT, DRIVE, FLEXIBLE: 1/2 in. hex, electric driver	35472:P215A
WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk:	
1-1/2 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50643
1-5/8 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50644
1-3/4 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50645
2 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50647
2-1/4 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50649
2-1/2 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50651
2-3/4 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50652

Table II (4910-473-6437)—Continued

Part	FSCM/Part No.
WHEEL ABRASIVE: al-oxide, 80 gr size, 3/4 thk: Continued	
3 dia, 15 deg bevel, 11/16-16 thd insert, all purpose	07429:50653
1-1/2 dia, 30 deg bevel, 11/16-16 thd insert, all purpose	07429:50661
1-5/8 dia, 30 deg bevel, 11/16-16 thd insert, all purpose	07429:50662
1-3/4 dia, 30 deg bevel, 11/16-16 thd insert, all purpose	07429:50663
2 dia, 30 deg bevel, 11/16-16 thd insert, all purpose	07429:50665
2-1/4 dia, 30 deg bevel, 11/16-16 thd insert, all purpose	07429:50667
1-1/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50679
1-3/8 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50680
1-1/2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50681
1-5/8 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50682
1-3/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50683
2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50685
2-1/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50687
2-1/2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50689
2-3/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50691
3 dia, 45 deg bevel, 11/16-16 thd insert, all purpose	07429:50692

Page 8. Paragraph 5 is deleted.

Page 9, appendix I. Section II, Basic Issue Items, is superseded as follows:

Section II. BASIC ISSUE ITEMS LIST

(1) Source Maint. and Recov. Code			(2) Federal Stock No.	(3) Description	(4) Unit of Issue	(5) Qty. Inc. in Unit	(6) Illustration	
(a) Source	(b) Maint.	(c) Recov.					(a) Fig. No.	(b) Item No.
				<p>BASIC ISSUE ITEMS LIST—Section II, BIIL is a list in alphabetical sequence of items which are furnished with, and which must be turned in with, the end item.</p> <p>MODEL P300BB (4910-060-9983)</p>				
C	O/C	—	NA	BRUSH, TUBE CLEANING: abrasive wheel holder (35472:P189)	EA	1	1	10
C	O/C	—	NA	CHEST, TOOL: (35472:P500B)	EA	1	1	1
C	O/C	—	NA	WRENCH: expanding pilot (35472:P61)	EA	1	1	21
				MODEL P300BB-M2 (4910-473-6437)				
C	O/C	—	NA	BRUSH, TUBE CLEANING: abrasive wheel holder (35472:P189)	EA	1	2	6
C	O/C	—	NA	CHEST, TOOL: (35472:P300B)	EA	1	2	4
C	O/C	—	NA	WRENCH: expanding pilot (35472:P61)	EA	1	2	13
				Federal stock numbers are being assigned for items marked NA and then numbers will be published at a later date.				

Page 18, figure 1. Delete the following item numbers from figure 1: 2 thru 9, 11 thru 20, and 22.

Page 19, figure 2. Delete the following item numbers from figure 2: 1 thru 3, 5, 7 thru 12, 14 thru 25.

Page 20. Delete figure 3.

By Order of the Secretary of the Army:

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

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

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Active Army

DCSLOG (3)
CONARC (3)
USAMC (12)
ARADCOM (2)
ARADCOM Rgn (2)
COE (6)
OS Maj Cored (1)
AVSCOM (10)
LOGCOMD (3)
WECOM (10)
Armies (3) except
 7th USA (5)
 8th USA (5)
Ft Belvoir (2)
LEAD (2)
LBAD (1)
TEAD (16)
4th USASA Fld Sta (1)

NG: None

USAR: None

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

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GRINDING KIT, VALVE SEAT, ELECTRIC

35 DEGREE ANGLE TYPE

CONCENTRIC DRIVE, 1/4 HORSEPOWER, AC/DC,

SINGLE PHASE, 115-VOLT, 14000 RPM RATED NO LOAD

SPEED (K. O. LEE COMPANY

MODEL P300BB) (4910-060-9983) AND

(K. O. LEE COMPANY MODEL P300BB-M2)

(4910-473-6437)

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Operating instructions -----	2, 3
Repair parts list:	
P372 diamond wheel dresser -----	4
P350 valve seat indicator -----	4
P61 pilot wrench -----	4
P215A flexible drive shaft -----	5
P360 angle drive attachment -----	5
P460 geared angle drive -----	5
P422 MIL utility electric driver -----	5
APPENDIX Basic issue items list -----	6-15

SEAT GRINDER OPERATING INSTRUCTIONS

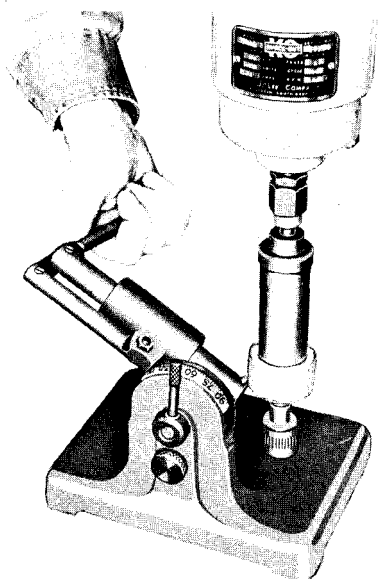
Wheel Holder

Before grinding any valve seats, it is important that the sleeve bearing of the wheel holder be thoroughly cleaned with gasoline, using the tube brush furnished for this purpose. This will prolong the life of both wheel holders and pilots.

After cleaning the holder, select a grinding wheel of proper size. Mount the wheel on the holder, screwing it firmly against the shoulder.

Wheel Dresser

A sharp and true wheel is essential for fast and accurate grinding of valve seats. A new wheel should always be dressed before using. Likewise, an old wheel should be redressed before starting each job.



The swivel on the wheel dresser base is indexed with 1° graduations from 0° to 90°. The swivel head assembly has locating holes for positive setting every 15°. Set the swivel head to the proper angle. Clean the dresser pilot and put on a couple drops of thin oil. Place the holder (with grinding wheel) on the dresser pilot, adjusting the wheel to the proper height by means of the threaded knurled sleeve at the bottom of the pilot. When dressing large wheels, also wheels of 15° angle, it is necessary to place $\frac{3}{4}$ " spacer collar on the dresser pilot above the knurled sleeve. This is done to increase the range of adjustment. Adjust the diamond screw in the plunger so it just touches the face of the grinding wheel. Insert the hexagonal ball of the driver in the top of the wheel holder and start the motor. Holding the Driver in a vertical position proceed to dress the wheel. The Driver *must* be held down just firm enough on the wheel holder to overcome the vertical vibrating action of the holder.

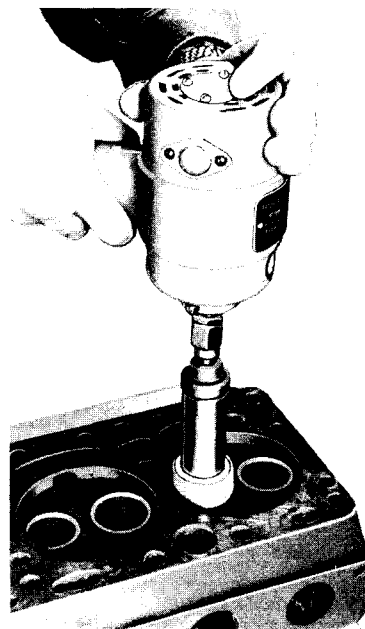
For roughing, pass the diamond across the face of the wheel in one direction only. For smoother finish of the seat, pass the diamond slowly across the face of the wheel in both directions. If the wheel does not "clean up" on the first setting of the diamond screw, it is necessary to adjust it again and repeat the dressing operation.

All K. O. Lee Valve Seat Grinding Wheels are furnished with 45° bevel. Other angles are obtained by cutting with the wheel dresser. Several passes across the wheel are necessary of course to change the angle on the wheel. Always keep a few wheels on hand dressed at 15° angle for narrowing seats.

Grinding the Seat

Never exert any downward pressure on the Driver when grinding valve seats, regardless of size. Even the weight of the driver is too much except in the case of large wide seats. On small narrow seats, hold most of the weight of the driver off the wheel holder. Inspect the seat frequently to prevent excessive grinding.

Never stop the motor while wheel is in contact with Valve seat as this will produce a rough finish on the seat. Lift motor to raise wheel holder and wheel away from seat, but keep the wheel holder on the pilot until wheel rotation is stopped.



When a wheel is used at too slow a speed, it is sure to break down, and if too fast it will "load". Oil and carbon will also cause loading. Dressing the wheel several times may be necessary if the valve seats have not been cleaned first with a wire brush. Time can be saved using two wheel holders, one with a wheel dressed for roughing, and one for finishing. It always pays to keep wheels sharp by frequent dressing.

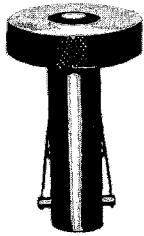
Clean Carbon

Remove all oil, grease and carbon from the top of block, combustion chamber and valve ports.

Clean Valve Guides

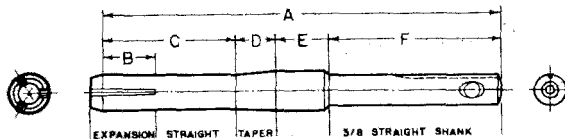
Carbon should be cleaned from the guides to prevent the valve stems from sticking. This work should be done before starting to grind the valve seats. We recommend the use of a reamer as the most practical tool for this job because it does not increase the size of the hole.

Pilot



Select the proper size expanding pilot and insert in the valve guide, using the Lee pilot wrench furnished. Push the pilot down as far as possible and tighten or lock it by turning slightly. Wipe the upper part of the pilot and put on a drop or two of light oil. To remove pilot, turn with

Pilot Wrench and lift out.



Grinding wheels must be kept free of oil. A greasy wheel will not cut. Only a thin film of oil should be put on the pilot because any surplus oil will be scraped down by the wheel holder and subsequently be thrown by centrifugal force onto the wheel. A greasy wheel can be washed in gasoline.

P215A Flexible Drive Shaft



Flexible shaft No. P215A can also be used with a 1/4" high speed electric drill to grind inconvenient valve seats located under the dash.

P215A Flexible Drive Shaft (5 1/2" long) 1/2" Hex.

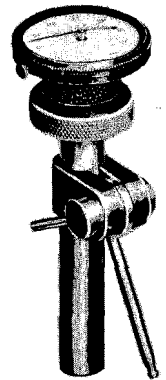
P360 Angle Drive Attachment



The K-O Angle Drive Attachment can be used when grinding airplane cylinders and hard-to-get-at seats in automobile motors. Fits all drivers. Overall length 11"; net weight 14 oz.

Dial Indicator No. P350

The quality of workmanship on your valve seat grinding job, beyond visual inspection, can be checked with the use of the indicator. The indicator must be used only after grinding the valve seat and before removing the expanding pilot from the valve guide hole. Do not attempt to check the eccentricity of the valve seat angle if the pilot position has been altered in any way from its original position used when grinding the valve seat.



Place the column of the indicator assembly over the 3/8" end of the spring pilot, loosen the locking screw and arm on the side of the column, position the end of the swinging arm on, or near, the center of the finished angle on the valve seat and raise or lower column until indicator needle moves several thousandths of an inch from its free resting position. Tighten the locking screw and arm on the column.

Grasping the knurled thumb collar very lightly with the thumb and middle finger, rotate indicator slowly and observe the amount of eccentricity by the movement of the pointer on the dial of the indicator.

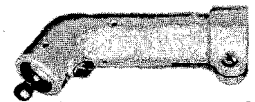
Naturally, the less the pointer on the dial indicator moves, the better your seat grinding job. While no set limit is adopted, we find it is not uncommon to attain reading of .0015 total indicator reading and with experience with the K. O. Lee valve seat grinding tools this reading can be reduced to less than .0005.

Checking

After each valve seat has been ground, use the dial indicator again to be sure the job is accurate.

P460 Geared Angle Drive-60°

A rugged angle drive designed especially for close quarters such as the back valve seats on Kaiser, Frazer, Studebaker Trucks, etc.



P-160 Geared Angle Drive (1 to 1, 1/2" hex drive)

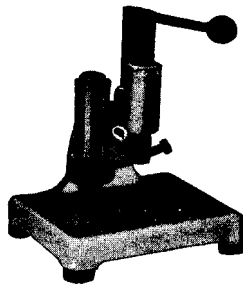
SEAT GRINDER TOOL BOX

P500B Seat Grinder Box (10" high x 14" wide x 11" deep—wt. 21 lbs.)
P300BC Handle Clamps, only

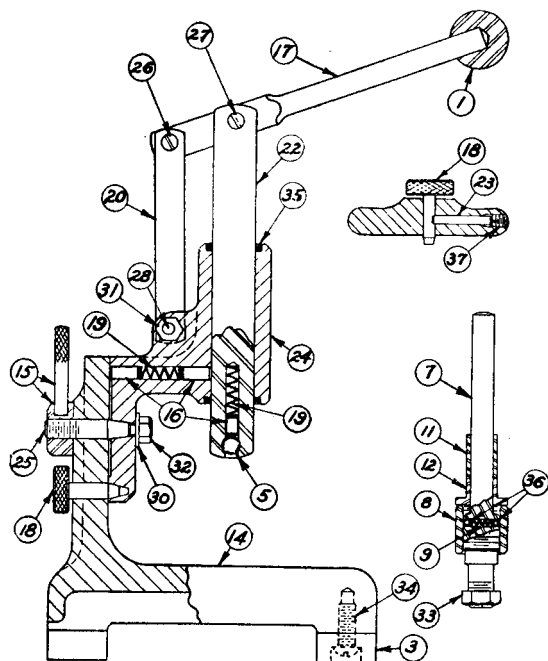
REPAIR PARTS LIST

P372 DIAMOND WHEEL DRESSER

P372 Diamond Wheel
Dresser, complete
with Diamond
Screw



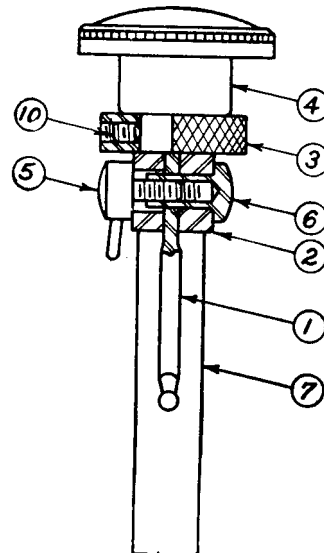
Part	Index No.	Quan. Req'd.	Description
K44E	1	1	Knob
P171P	3	4	Rubber Pads
P176D	5	1	Diamond Screw
P178	7	1	Pilot
P178N	8	1	Pilot Adjusting Sleeve
P178S	9	1	Compression Spring
P179L	11	1	Thrust Collar - long
P179S	12	1	Thrust Collar - short
P372B	14	1	Base
P372C	15	1	Clamp Nut
P372D	16	3	Plugs
P372H	17	1	Handle
P372I	18	1	Index Pin
P372J	19	2	Compression Spring
P372L	20	1	Link
P372P	22	1	Plunger
P372R	23	1	Keeper Rod
P372S	24	1	Swivel
P372T	25	1	Taper Stud
P372U	26	1	Screw
P372V	27	1	Screw
P372W	28	1	Screw



30	1	3/16 S.A.E. Washer
31	1	1/4 N.F. Hex Jam Nut
32	1	3/16 N.F. Hex Jam Nut
33	1	3/16 N.F. Hex Jam Nut
34	4	1/4 x 1/2 Oven Hd. Stove Bolts

35	2	Garloc
36	2	1/8 Steel Balls
37	2	No. 10 - 24 x 3/8 Set Screw

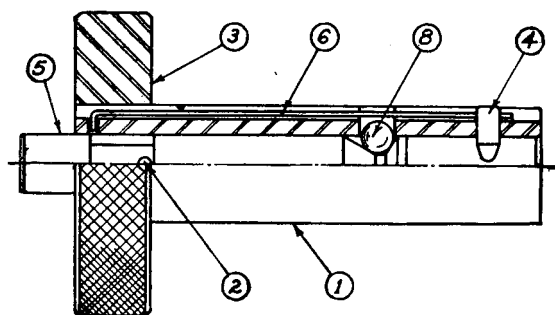
P350 VALVE SEAT INDICATOR



P350 Valve Seat Indicator, complete

Part No.	Index No.	Description
P350A	1	Swinging Arm
P350C	2	Clamp
P350H	3	Knurled Thumb Collar
P350I	4	Indicator
P350M	5	Locking Screw and Arm
P350N	6	Locking Pin
P350S	7	Column for 3/8" pilots
	10	10 24x3/8 Halls. Set Sc.

P61 PILOT WRENCH



P61 Pilot Wrench, complete

P361 Special "K-O" Pilot Wrench for Crosley

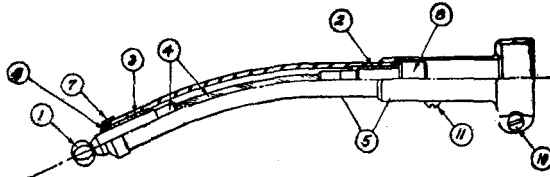
Part No.	Index No.	Quan. Req'd.	Description
P61B	1	1	Body
P61C	2	1	Stop Pin
P61D	3	1	Disc
P61L	4	2	Lock Pin
P61P	5	1	Plunger
P61S	6	2	Spring
	8	2	3/32" Steel Ball

DRIVE ATTACHMENTS FOR "KNOCK-OUT" UTILITY DRIVER

P215A FLEXIBLE DRIVE SHAFT

- P215A Flexible Drive Shaft (5½" long)
 ½ Hex
 P215B Flexible Drive Shaft (5½" long)
 ⅝ Hex
 P217 Collet Chuck Adapter Required

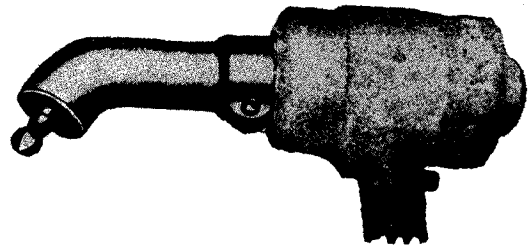
P360 ANGLE DRIVE ATTACHMENT



P360 Angle Drive Attachm't, complete
 (Available in ½" Hex Drive Only)

Part No.	Index No.	Description
P360B	1	Hex Ball Shaft
P360C	2	Bushing (1/8" Diam. Shoulder)
P360D	3	Bushing (25/32" Diam. Shoulder)
P360F	4	Flexible Shaft Ass'bly
P360H	5	Housing Ass'bly
P360I	7	Felt Retainer
P360R	8	Hex Socket Shaft
P360S	9	Felt Washer (¾"x⅝"x⅞" T.)
P360W	10	¼"x⅝" U.S.S. Fill. Hd. Cap. Sc.
	11	10-32 x ¼ Rd. Hd. Mach. Sc.
P361		Pilot Wrench (4" long)

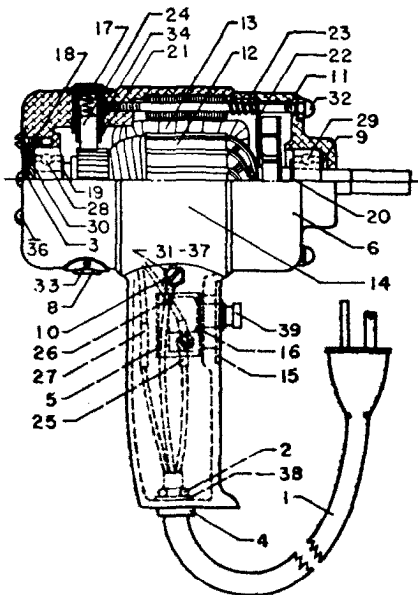
P460 GEARED ANGLE DRIVE



- P460 Geared Angle Drive (1 to 1, ½" Hex Drive)
 P461 Geared Angle Drive (1½ to 1, ½" Hex Drive)
 P462 Geared Angle Drive (1 to 1, ⅝" Hex Drive)
 P463 Geared Angle Drive (1½ to 1, ⅝" Hex Drive)

P460B	Hex Ball Shaft
P460C	Bearing Cage (2)
P460E	Hex Socket Shaft
P460G	Gear
P460H	Housing
P460P	Pinion
P460S	Oil Plug
38KD	Bearing
10-24x⅝	Hdls. Cup Pt. Set Screw (4)
¼x⅝ U.S.S.	Fill. Hd. Mach. Sc. (HB)
10-32x⅝	Socket Set Screw Cup Pt. (2)

P422MIL Utility Electric Driver



Part No.	Index No.	Quan. Req.	Description
P422W	1	1	Power Cord
A637MB	3	1	Brg. Cover
P211L	5	1	Switch Insulation
P212D	6	1	Front End Shield
P212H	8	2	Shield Assembly
P212W	9	1	Washer
P321	10	1	Special Screw

P422S	11	2	Stud
P422AM	12	1	Armature (115V)
P422FM	13	1	Field (115V)
P422M			Data Plate
P422T			Varnished Tubing
P522HB	2		Capacitor Bracket
P522HM	14	1	Housing and End Shield
P522HP	15	1	Switch Plate
P522HW	16	1	Switch Washer
P3949	17	2	Brush Plugs
P5620	18	1	Washer
	19	1	Strip Washer
	20	1	Strip Washer
	21	2	Brush Holder
PKB47	22	1	Baffle
R2944	23	2	Spring
R3838	24	2	Brush and Spring Assembly
31881	25	1	Terminal
31891	2		Terminal
34070	27	1	Connector
39KVTDF-S.50.000			
	28	1	Ball Bearing
201KTD-FS.50.000			
	29	1	Ball Bearing
5Z	30	1	Adjusting Spring
78P10404S12	2		Capacitor (Sprague)
81136			(.1 MF. D.-400 D.C.)
103P14	2		Capacitor (Sprague)
81137			(.01 MF. D.-100 D.C.)
6-32	6		Hex Nut (N.P.)
10-32	31	1	Hex Nut, Brass
6-32x⅝	6		Round Head Machine Screw (N.P.)
8-32x⅝	4		Round Head Machine Screw (N.P.)
6-32x⅝	36	4	S.T. Round Head Screw (N.P.)
No. 2 x ⅝	2		S.T. Round Head Screw (N.P.)
No. 6	12		Internal Lock Washer
No. 8			Internal Lock Washer
No. 10	37		Internal Lock Washer
6502	38	1	Cord Grip Connector
26593C	39	1	Switch

APPENDIX I

BASIC ISSUE ITEMS LIST

Section I PREFACE

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, equipment, and repair parts that are issued with the equipment and are required for stockage.

2. REQUISITION NOTES

a. Repair Part Identified by Federal Stock Number.

- (1) If the exact item requisitioned is not furnished, or if other action is necessary, the exact nature of the action taken by the commodity command will be indicated by standard symbols on prescribed forms.
- (2) When requisitioning an item, the requesting agency will order the listed item. However, the commodity command will take necessary action to issue the exhaust stock item until stock is exhausted, whether it be an individual item, kit, set, or assembly.
- (3) Requisition for replacement of items that are the responsibility of commodity commands will be submitted to the commodity command indicated in column 1a, Materiel Code Number.

b. 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:

- (1) Manufacturer's code number (5 digit number preceding the colon in the descriptive column).
- (2) Manufacturer's part number (the number and sometimes letters, following the colon, (1) above). Dashes, commas, or

other marks must be included exactly as listed.

- (3) Nomenclature exactly as listed herein, including dimensions if necessary.
- (4) Name of manufacturer of end item (from cover of TM or manufacturer's name plate).
- (5) Federal stock number of end item (from TM).
- (6) Manufacturer's model number (from TM or name/data plate, preferably name/data plate).
- (7) Manufacturer's serial number (from name/data plate).
- (8) Any other information such as type, frame number, and electrical characteristics, if applicable.
- (9) 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:
 - (a) In blocks 4, 5, and 6, list manufacturer's code, and manufacturer's part number (as listed in description column).
 - (b) 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 (Col. 1).

- (1) Materiel numerical codes (col. 1a). This column indicates the responsible commodity command for the materiel. The commodity commands responsible for supply of items in this list are:

<u>Code</u>	<u>Type Materiel</u>
9	Ordnance materiel
11	Signal materiel

- (2) Source (col. 1b). This column indicates the selection status and source for the listed item. Source code used in this list is:

<u>Code</u>	<u>Explanation</u>
C	Obtain through local procurement. If not obtainable from local procurement, requisition through normal supply channels with a supporting statement of non-availability from local procurement.

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

<u>Code</u>	<u>Explanation</u>
O/C	Operator or crew maintenance.

- (4) Recoverability (col. 1d). 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:

CodeExplanation

R

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

b. Federal Stock Number (Col. 2). This column indicates the Federal stock number which has been assigned by the Cataloging Division, Defense Logistics Services Center.

c. Description (Col. 3).

- (1) This column indicates the Federal item name (shown in capital letters) and any additional description required for supply operations. The manufacturer's code and part number are also included for reference.

<u>Code</u>	<u>Explanation</u>
35472	K. O. Lee Company
07429	Black and Decker Mfg. Co.
74545	Hubbell Harvey, Inc.

- (2) When an item is listed in this column as a replacement for an initial basic issue item, the replaced item(s) is listed directly below for reference purposes.

d. Unit of Issue (Col. 4). This column indicates the quantity to be requisitioned.

e. Quantity Authorized (Col. 5). This column indicates the quantity of the listed item authorized for stockage to constitute the prescribed load.

f. Illustration (Col. 6). This column indicates the figure number of the illustration that depicts the listed item. When more than one item appears on an illustration, the item number is also indicated.

4. ABBREVIATIONS

<u>Abbreviation</u>	<u>Explanation</u>
al-oxide -----	aluminum oxide
deg -----	degree(s)
fl -----	flat
gr -----	grain(s)
stght -----	straight
w/ -----	with

5. SUGGESTIONS AND RECOMMENDATIONS

The direct reporting by the individual user, of errors, omissions, and recommendations for improving this manual, is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting these improvements. This form may be completed using pencil, pen, or typewriter. DA Form 2028 will be completed by the individual using the manual and forwarded direct 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

SOI MAINTENANCE RECOVERABILITY		MAINTENANCE LEVEL		(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QUANTITY AUTHORIZED	(6) ILLUSTRATION			
(a) MATERIEL CODE	(b) SOURCE	(c)	(d) RECOVERABILITY					(a) FIGURE NUMBER	(b) ITEM NUMBER		
MAJOR COMBINATIONS											
The following items are to be requisitioned for initial issue only.											
9		-	R	4910-060-9983	GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB).	ea	-	1	1 through 22		
9		-	R	4910-473-6437	GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB-M2).	ea	-	2 & 3	1 through 56		
COMPONENTS OF MAJOR COMBINATION											
The item listed below is issued only as a component of the major combinations above and is not to be requisitioned by the using troops.											
		-		---	DRIVER, ELECTRIC: (35472 :P422MIL).	ea	1	1 2	2 1		
REPAIR PARTS FOR:											
GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB) and (35472: model P300BB-M2).											
9	C	O/C		---	BRUSH, ELECTRICAL CONTACT: w/spring (35472:R3838).	ea	2	1 2	5 3		
TOOLS AND EQUIPMENT FOR:											
GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB).											
11	C	O/C		5935-552-4372	ADAPTER, CONNECTOR: 2 connector mating ends, stght shape, 5 contacts, 1 female, U-hollow, 2 female, fl at one end, 2 male, fl at other end, nonlocking, 1.078 lg x 1.438 dia in. (74545 -5273 L).	ea	1	1	3		
9	C	O/C		---	BALL TERMINAL: hex, electric driver (35472:P223).	ea	1	1	3		
9	C	O/C		---	BRUSH, TUBE CLEANING: abrasive wheel holder (35472:P189).	ea	1	1	0		
9	C	O/C		---	CHEST, TOOL: (35472 :P500B).	ea	1	1	.		
9	C	O/C		---	DRESSER, ABRASIVE WHEEL: w/P176D diamond screw (35472:P372).	ea	1	1	3		
9	C	O/C		---	DRIVE, ANGLE: 1/2 in. hex, electric driver (35472:P369).	ea	1	1	3		
9	C	O/C		---	HOLDER, ABRASIVE WHEEL: ball bearing, 4 in. lg, 1/2 in. hex socket, 11/16 in. thd end (35472:P196X).	ea	1	1	12		
9	C	O/C		---	PILOT, EXPANDING: valve guide hole, 7/16 in. (35472:P86M).	ea	2	1	20		
9	C	O/C	-	---	PILOT, EXPANDING: valve guide hole, 15/32 in. (35472 :P94M).	ea	2	1	9		
9	C	O/C	-	---	PILOT, EXPANDING: valve guide hole, 1/2 in. (35472 :P87M).	ea	2	1	8		

(1)				(2)	(3)	(4)	(5)	(6)	
SO MAINTENANCE RECOVERABILITY				FEDERAL STOCK NUMBER	DESCRIPTION	UNIT OF ISSUE	QUANTITY AUTHORIZED	ILLUSTRATION	
(a) MATERIAL CODE	(b) SOURCE	(c) MAINTENANCE RECOVERABILITY	(d) RECOVERABILITY					(e) FIGURE NUMBER	(f) ITEM NUMBER
					TOOLS AND EQUIPMENT FOR - continued:				
					GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P309BB) - Continued				
9	C	O/	-		PILOT, EXPANDING: valve guide hole, 9/16 in. (35472 :P88M).	ea	2	1	17
9	C	O/	-	4910-603-9145	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/2 dia, 30 deg bevel, 11/16-16 thd insert, all purpose (07429:50669). Replacement for:	ea	1		
					WHEEL, ABRASIVE: roughing, valve seat, 3/4 thk, 2-1/2 dia, 30 deg bevel (35472:P251R30).		-	1	4
9	C	O/	-	4910-603-9146	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 3 dia, 30 deg bevel, 11/16-16 thd insert, all purpose (07429:50671). Replacement for:	ea	1		
					WHEEL, ABRASIVE: roughing, valve seat, 3/4 thk, 3 dia, 30 deg bevel (35472:P259R30).		-	1	11
9	C	O/	-	4910-603-9263	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50687). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 2-1/4 dia, 45 deg bevel (35472:P247F45).		-	1	14
					WHEEL, ABRASIVE: roughing, valve seat, 3/4 thk, 2-1/4 dia, 45 deg bevel (35472:P247R45).			1	15
9	C	O/	-	4910-603-9269	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50689). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251F45).			1	13
					WHEEL, ABRASIVE: roughing, valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251R45).			1	16
9	C	O/	-	4910-603-9278	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 3 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50692). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 3 dia, 45 deg bevel (35472:P259F45).			1	12
					WHEEL, ABRASIVE: roughing, valve seat, 3/4 thk, 3 dia, 45 deg bevel (35472:P259R45).			1	7
9	C	O/C	-		WRENCH: expanding pilot (35472 :P61).	ea	1	1	21

(1) SOL MAINTENANCE RECOVERABILITY				(2)	(3)	(4)	(5)	(6) ILLUSTRATION	
MATERIEL CODE	SOURCE	MAINTENANCE LEVEL	RECOVERABILITY	FEDERAL STOCK NUMBER	DESCRIPTION	UNIT OF ISSUE	QUANTITY AUTHORIZED	(a)	(b)
								FIGURE NUMBER	ITEM NUMBER
					TOOLS AND EQUIPMENT FOR:				
					GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P30JBB-M2).				
11	C	O/C		5935-552-4372	ADAPTER, CONNECTOR: 2 connector mating ends, stght shape, 5 contacts, 1 female, U- hollow, 2 female, fl at one end, 2 male, fl at other end, nonlocking, 1.078 lg x 1.438 dia in. (74545 -5273 L).	ea	1	2	10
9	C	O/I		---	BALL TERMINAL: hex, electric driver (35472:P223).	ea	1	2	11
9	C	O/I		---	BRUSH, TUBE CLEANING: abrasive wheel holder (35472:P189).	ea	1	2	6
9	C	O/I		---	CHEST, TOOL: (35472 :P300B)	ea	1	2	4
9	C	O/I		---	CHUCK, COLLET: (for P215A shaft) (35472:P217).	ea	1	2	7
9	C	O/I			DRESSER, ABRASIVE WHEEL: w/P176D diamond screw (35472:P372).	ea	1	2	3
9	C	O/I		---	DRIVE, ANGLE, GEARED: 1/2 in. hex, 1 to 1 gear ratio, electric driver (35472:P469).	ea	1	2	5
9	C	O/I		---	HOLDER, ABRASIVE WHEEL: ball bearing, 4 in. lg, 1/2 in. hex socket, 11/16 in. thd end (35472:P196X).	ea	1	2	12
	C	O/I			INDICATOR: valve seat (35472:P350)	ea	1	2	2
9	C	O/I		---	PILOT, EXPANDING: valve guide hole, 1/4 in. (35472:P95).	ea	1	2	14
9	C	O/C	-	---	PILOT, EXPANDING: valve guide hole, 9/32 in. (35472:P96).	ea	1	2	15
9	C	O/C	-	---	PILOT, EXPANDING: valve guide hole, 5/16 in. (35472:P83).	ea	2	2	16
9	C	O/C	-		PILOT, EXPANDING: valve guide hole, 11/32 in. (35472:P84).	ea	1	2	17
9	C	O/C	-	---	PILOT, EXPANDING: valve guide hole, 11/32 in. (35472:P84M).	ea	1	2	18
9	C	O/C	-		PILOT, EXPANDING: valve guide hole, 3/8 in. (35472:P85).	ea	2	2	19
9	C	O/C		---	PILOT, EXPANDING: valve guide hole, 13/32 in. (35472:P97).	ea	1	2	20
9	C	O/C		---	PILOT, EXPANDING: valve guide hole, 7/16 in. (35472:P86).	ea	1	2	21
9	C	O/C		---	PILOT, EXPANDING: valve guide hole, 1/2 in. (35472:P87).	ea	1	2	22
9	C	O/C		---	PILOT, EXPANDING: valve guide hole, 9/16 in. (35472:P88).	ea	1	2	23
9	C	O/C		---	PILOT, EXPANDING: valve guide hole, 5/8 in. (35472:P89).	ea	1	2	24
9	C	O/C		---	PILOT, SOLID: valve guide hole, (for Ford V8 and V85) (35472:P91).	ea	1	2	25

MATERIAL CODE	SOL MAINTEN RECOVER CC	AND LITY	(d) RECOVERABILITY	(2)	(3)	(4)	(5)	(6)	
	(a) SOURCE	(b) MAINTENANCE LEVEL		FEDERAL STOCK NUMBER	DESCRIPTION	UNIT OF ISSUE	QUANTITY AUTHORIZED	ILLUSTRATION	
								(a) FIGURE NUMBER	(b) ITEM NUMBER
					TOOLS AND EQUIPMENT FOR - Continued:				
					GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P303BB-M2) - continued				
	C	/C			SHAFT, DRIVE, FLEXIBLE: 1/2 in. hex, electric driver (35472:P215A).	ea	1	2	8
	C	/C		910-603-8994	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-1/2 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50643). Replacement for:	ea	1		
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 1-1/2 dia, 15 deg bevel (35472:P235-15).		-	3	1
	C	O/C		4910-603-9006	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-5/8 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50644). Replacement for:	ea	1		
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 1-5/8 dia, 15 deg bevel (35472:P237-15).		-	3	2
	C	O/C		4910-603-9020	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-3/4 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50645). Replacement for:	ea	1		
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 1-3/4 dia, 15 deg bevel (35472:P239-15).		-	3	3
	C	O/C		4910-603-9026	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50647). Replacement for:	ea	1		
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 2 dia, 15 deg bevel (35472:P2343-15).			3	4
	C	O/C		4910-603-9029	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/4 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50649). Replacement for:	ea	1		-
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 2-1/4 dia, 15 deg bevel (35472:P247-15).			3	5
	C	O/C		4910-603-9030	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/2 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50651). Replacement for:	ea	1		-
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 2-1/2 dia, 15 deg bevel (35472:P251-15).			3	6
	C	O/C		4910-603-9034	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-3/4 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50652). Replacement for:	ea	1		-
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 2-3/4 dia, 15 deg bevel (35472:P255-15).			3	7

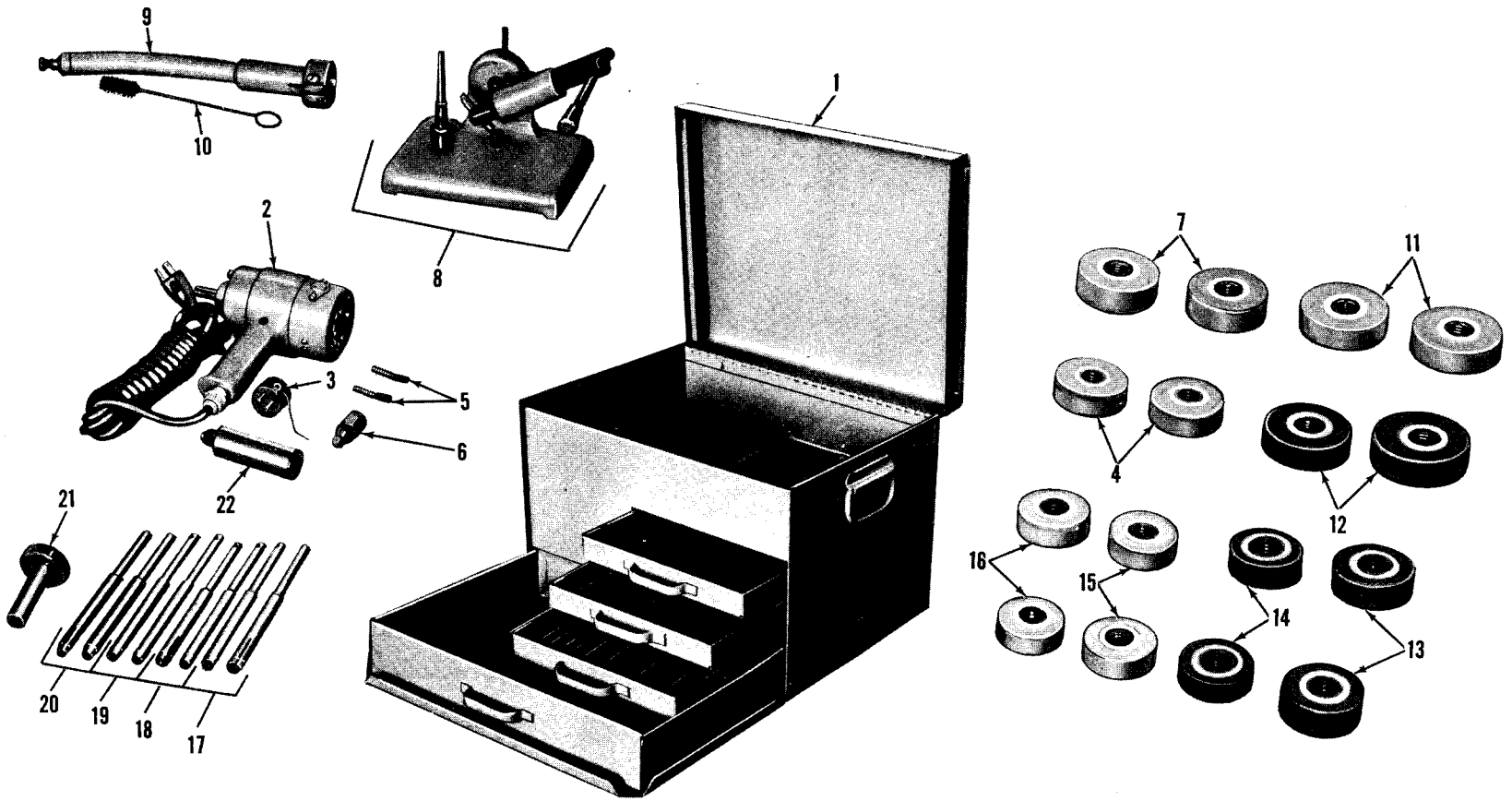
(1) SOURCE, MAINTENANCE, AND RECOVERABILITY CODE				(2) FEDERAL STOCK NUMBER	DESCRIPTION	(4) UNIT OF ISSUE	(5) QUANTITY AUTHORIZED	(6) ILLUSTRATION	
(a) AVAILABILITY CODE	(b) SOURCE	(c) MAINTENANCE LEVEL	(d) RECOVERABILITY					(a) FIGURE NUMBER	(b) ITEM NUMBER
					TOOLS AND EQUIPMENT FOR - Continued:				
					GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB-M2) continued				
9	C	O/C		4910-603-9105	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 3 dia, 15 deg bevel, 11/16-16 thd insert, all purpose (07429:50653). Replacement for:	ea	1		
					WHEEL, ABRASIVE: general purpose, valve seat, 3/4 thk, 3 dia, 15 deg bevel(35472:P259-15).	-		3	8
9	C	O/C		4910-603-9140	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-1/2 dia, 30 deg bevel, 11/16-16 thd insert, all purpose (07429:50661). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-1/2 dia, 30 deg bevel (35472:P235F30).	-		3	45
					WHEEL, ABRASIVE: roughing, (cast iron), seat, 3/4 thk, 1-1/2 dia, 30 deg bevel(35472:P235-30).	-		3	29
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-1/2 dia, 30 deg bevel(35472:P235R30).	-		3	13
9	C	O/C		4910-603-9141	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-5/8 dia, 30 deg bevel, 11/16-16 thd insert, all purpose (07429:50662). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-5/8 dia, 30 deg bevel (35472:P237F30).	-		3	44
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-5/8 dia, 30 deg bevel(35472:P237-30).	-		3	28
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-5/8 dia, 30 deg bevel (35472:P237R-30).	-		3	12
9	C	O/C		4910-603-9142	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-3/4 dia, 30 deg bevel, 11/16-16 thd insert, all purpose (07429:50663). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-3/4 dia, 30 deg bevel (35472:P239F30).	-		3	43
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-3/4 dia, 30 deg bevel (35472:P239-30).	-		3	27
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-3/4 dia, 30 deg bevel (35472:P239R30).	-		3	11

(1) SOURCE MAINTENANCE, AND RECOVERABILITY C				(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QUANTITY AUTHORIZED	ILLUSTRATION	
(a) MATERIEL CODE	(b) SOURCE	(c) MAINTENANCE LEVEL	(d) RECOVERABILITY					a FIGURE NUMBER	b ITEM
					TOOLS AND EQUIPMENT FOR - Continued:				
					GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P303BB-M2) - continued				
9	C	O/C	-	4910-603-9143	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2 dia, 30 deg bevel, 11/16-16 thd insert, all purpose (07429:50665). Replacement for:	ea	1	-	-
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 2 dia, 30 deg bevel (35472:P243F30).	-	-	3	42
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2 dia, 30 deg bevel (35472:P243-30).	-	-	3	26
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2 dia, 30 deg bevel (35472:P243R30).	-	-	3	10
9	C	O/C		4910-603-9144	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/4 dia, 30 deg bevel, 11/16-16 thd insert, all purpose (07429:50667). Replacement for:	ea	1	-	-
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 2-1/4 dia, 30 deg bevel (35472:P247F30).	-	-	3	41
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2-1/4 dia, 30 deg bevel (35472:P247-30).	-	-	3	25
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2-1/4 dia, 30 deg bevel (35472:P247R30).	-	-	3	9
C		O/C		4910-603-9154	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-1/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50679). Replacement for:	ea	4	-	-
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-1/4 dia, 45 deg bevel (35472:P231F45).	-		3	56
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-1/4 dia, 45 deg bevel (35472:P231-45).	-		3	40
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-1/4 dia, 45 deg bevel (35472:P231R45).	-		3	23
					* WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-1/4 dia, 45 deg bevel (35472:P231FT45).	-		3	55
					* WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-1/4 dia, 45 deg bevel (35472:P231T45).	-		3	56

C SOUR MAINTENA RECOVER COI				(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QUANTITY AUTHORIZED	(6) ILLUSTRATION	
(a) FPM/ILL CODE	(b) SOURCE	(c) RECOVER LEVEL	(d) RECOVERABILITY					(a) FIGURE NUMBER	(b) ITEM NUMBER
					TOOLS AND EQUIPMENT FOR - Continued: GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB-M2) - continued				
					* WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-1/4 dia, 45 deg bevel (35472 :P231RT45).			3	24
					For replacement, dress 4910-603-9154 brasive wheel to either 60 degrees or 75 egrees as required, for narrowing valve eats on the inside diameter.				
9	C	O		4910-603-9281	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-3/8 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50680). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-3/8 dia, 45 deg bevel (35472:P233F45).			3	54
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-3/8 dia, 45 deg bevel (35472:P233-45).			3	38
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-3/8 dia, 45 deg bevel (35472:P233R45).			3	22
9	C	O		4910-603-9205	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-1/2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50681). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-1/2 dia, 45 deg bevel (35472:P235F45).			3	53
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-1/2 dia, 45 deg bevel (35472 :P235-45).			3	37
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-1/2 dia, 45 deg bevel (35472:P235R45).			3	21
9	C	O		4910-603-9245	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-5/8 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50682). Replacement for:	ea	2		
					WHEEL, ABRASIVE: finishing valve seat, 3/4 thk, 1-5/8 dia, 45 deg bevel (35472:P237F45).			3	52
					WHEEL, ABRASIVE: roughing (cast iron) valve seat, 3/4 thk, 1-5/8 dia, 45 deg bevel (35472:P237-45).			3	36
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-5/8 dia, 45 deg bevel (35472:P237R45).			3	20
9	C	O		4910-603-9258	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-3/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50683). Replacement for:	ea	1		

(1) SOURCE MAINTENANCE AND RECOVERABILITY CODE				(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QUANTITY AUTHORIZED	(6) ILLUSTRATION	
(a) MATERIEL CODE	(b) SOURCE	(c) MAINTENANCE LEVEL	(d) RECOVERABILITY					(a) FIGURE NUMBER	(b) ITEM NUMBER
9	C	O/C		4910-603-9	TOOLS AND EQUIPMENT FOR - Continued: GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB-M2) continued WHEEL, ABRASIVE: (continued) WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-3/4 dia, 45 deg bevel (35472:P239F45). WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-3/4 dia, 45 deg bevel (35472:P239-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-3/4 dia, 45 deg bevel (35472 :P239R45).			3	51
9	C	O/C		4910-603-9	WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-3/4 dia, 45 deg bevel (35472:P239-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-3/4 dia, 45 deg bevel (35472 :P239R45). WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50685). Replacement for: WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 2 dia, 45 deg bevel (35472:P243F45). WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2 dia, 45 deg bevel (35472:P243-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2 dia, 45 deg bevel (35472 :P243R45).	ea	1	3	50
9	C	O/C		4910-603-9	WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2 dia, 45 deg bevel (35472:P243-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2 dia, 45 deg bevel (35472 :P243R45). WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50687). Replacement for: WHEEL, ABRASIVE: finishing valve seat, 3/4 thk, 2-1/4 dia, 45 deg bevel (35472:P247F45). WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2-1/4 dia, 45 deg bevel (35472:P247-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2-1/4 dia, 45 deg bevel (35472 :P247R45).	ea	1	3	49
9	C	O/C		4910-603-9	WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2-1/4 dia, 45 deg bevel (35472:P247-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2-1/4 dia, 45 deg bevel (35472 :P247R45). WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-1/2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50689). Replacement for: WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251F45). WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251R45).	ea	1	3	48
9	C	O/C		4910-603-9	WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251-45). WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251R45). WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-3/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50691). Replacement for:	ea	1	3	32
9	C	O/C		4910-603-9	WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 2-1/2 dia, 45 deg bevel (35472:P251R45). WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 2-3/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50691). Replacement for:	ea	1	3	16

C SOUR MAINTENA RECOVER COI				(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QUANTITY AUTHORIZED	(6) ILLUSTRATION	
(a) FPM/ILL CODE	(b) SOURCE	(c) RECOVER LEVEL	(d) RECOVERABILITY					(a) FIGURE NUMBER	(b) ITEM NUMBER
					TOOLS AND EQUIPMENT FOR - Continued: GRINDING KIT, VALVE SEAT, ELECTRIC: (35472: model P300BB-M2) - continued				
					* WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-1/4 dia, 45 deg bevel (35472 :P231RT45).			3	24
					For replacement, dress 4910-603-9154 brasive wheel to either 60 degrees or 75 egrees as required, for narrowing valve eats on the inside diameter.				
9	C	O,		4910-603-9281	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-3/8 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50680). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-3/8 dia, 45 deg bevel (35472:P233F45).			3	54
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-3/8 dia, 45 deg bevel (35472:P233-45).			3	38
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-3/8 dia, 45 deg bevel (35472:P233R45).			3	22
9	C	O,		4910-603-9205	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-1/2 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50681). Replacement for:	ea	1		
					WHEEL, ABRASIVE: finishing, valve seat, 3/4 thk, 1-1/2 dia, 45 deg bevel (35472:P235F45).			3	53
					WHEEL, ABRASIVE: roughing (cast iron), valve seat, 3/4 thk, 1-1/2 dia, 45 deg bevel (35472 :P235-45).			3	37
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-1/2 dia, 45 deg bevel (35472:P235R45).			3	21
9	C	O,		4910-603-9245	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-5/8 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50682). Replacement for:	ea	2		
					WHEEL, ABRASIVE: finishing valve seat, 3/4 thk, 1-5/8 dia, 45 deg bevel (35472:P237F45).			3	52
					WHEEL, ABRASIVE: roughing (cast iron) valve seat, 3/4 thk, 1-5/8 dia, 45 deg bevel (35472:P237-45).			3	36
					WHEEL, ABRASIVE: roughing (hard steel & stellite), valve seat, 3/4 thk, 1-5/8 dia, 45 deg bevel (35472:P237R45).			3	20
9	C	O		4910-603-9258	WHEEL, ABRASIVE: al-oxide, 80 gr size, 3/4 thk, 1-3/4 dia, 45 deg bevel, 11/16-16 thd insert, all purpose (07429:50683). Replacement for:	ea	1		



ORD F8760

Figure 1. Grinding Kit (35473:Model P300 BB) w/equipment and repair parts.

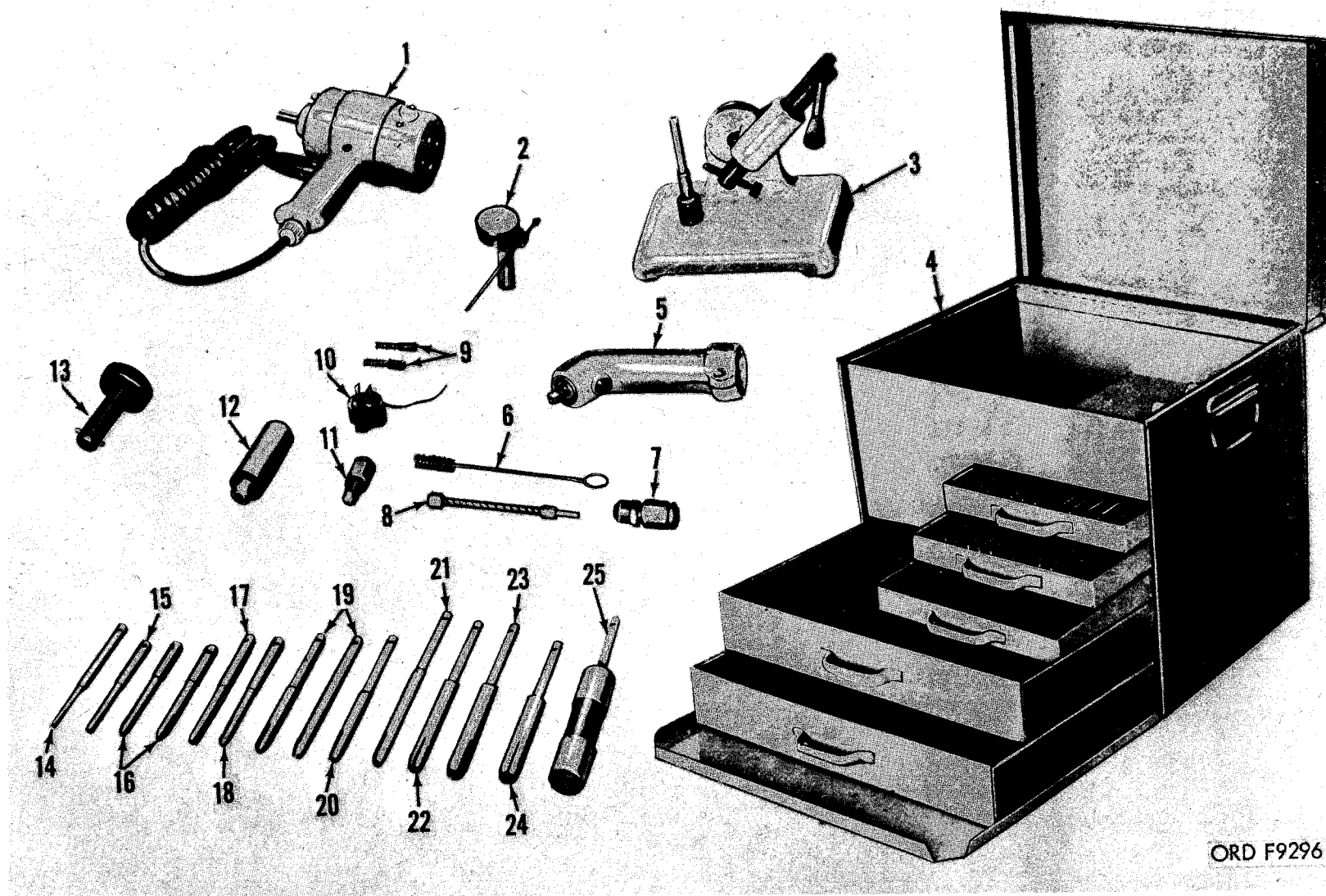
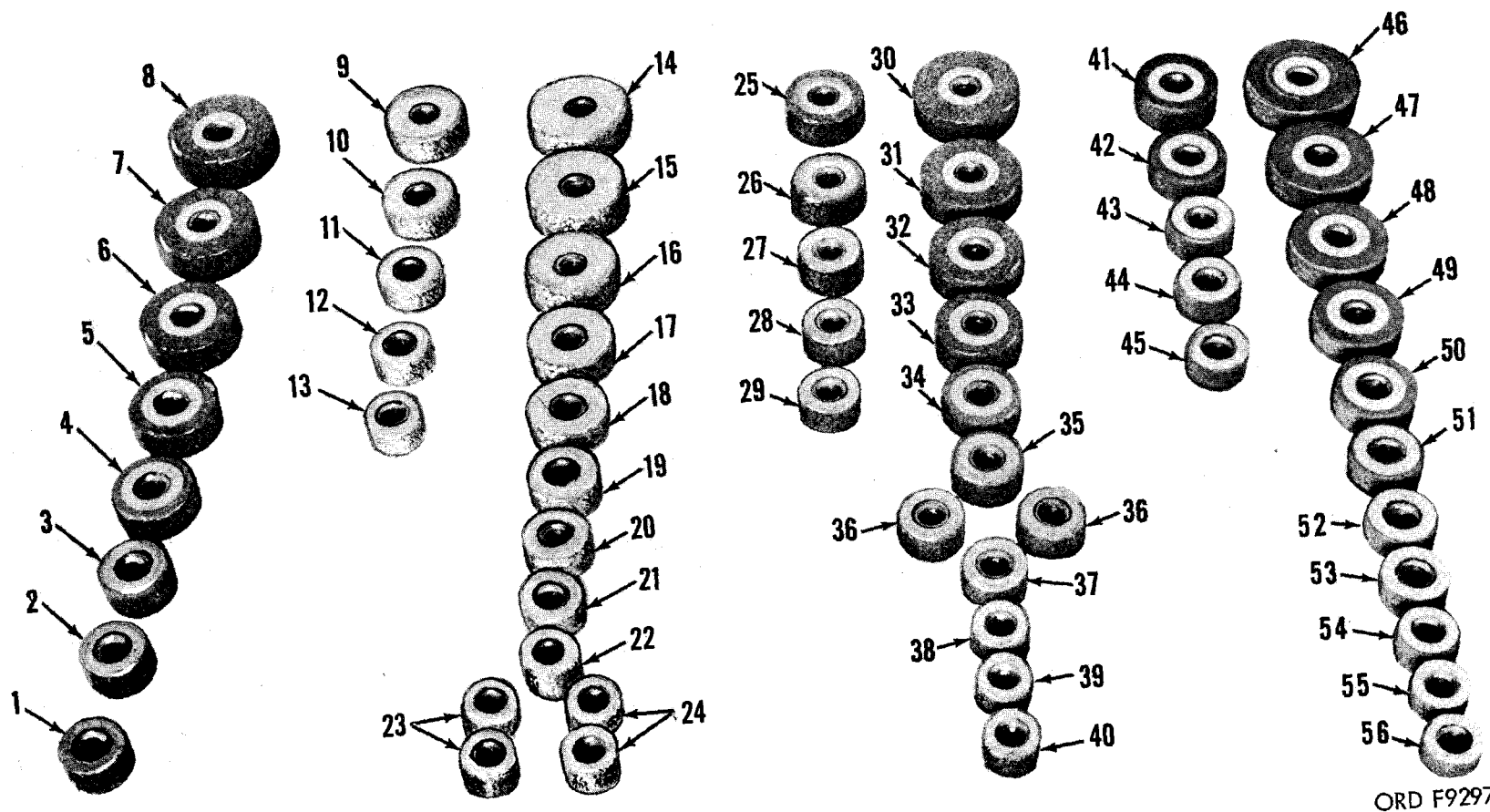


Figure 2. Grinding kit w/equipment and repair parts (for 35472: model P300BB-M2).



ORD F9297

Figure 3. Equipment (for 35472: model P300BB-M2).

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 25 February 1965

TM 9-4910-432-10 is published for the information and guidance of all concerned.

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NG: None.

USAR : None

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

* U.S. Government Printing Office: 1965-750-509/7733A

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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 dekagram = 10 grams = .35 ounce
 1 hectogram = 10 dekagrams = 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

To change	To	Multiply by	To change	To	Multiply by
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)

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