TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS LIST FOR

LATHE, ARMATURE AND UNDERCUTTER MODEL B-10 (FRANK N. WOOD CORPORATION) (NSN 4940-00-263-3077)

HEADQUARTERS, DEPARTMENT OF THE ARMY MARCH 1983

Technical Manual

No. 9-4940-462-14&P

HEADQUARTERS DEPARTMENT OF THE ARMY WASHINGTON, DC, 10 March 1983

Operator's, Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts List For

LATHE, ARMATURE AND UNDERCUTTER MODEL B-10 (FRANK N. WOOD CORPORATION) (NSN 4940-00-263-3077)

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, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island, IL 61299. A reply will be furnished direct to you.

NOTE

This manual is published for the purpose of identifying an authorized commercial manual for the use of the personnel to whom this equipment is issued.

Manufactured by: Frank N. Wood Corp. PO Box 945 Waukesha, WI 53186 Procured under Contract No. DAAA09-77-M-8052

This technical manual is an authentication of the manufacturers' commercial literature and does not conform with the format and content specified in AR 310-3, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

INSTRUCTIONS FOR REQUISITIONING PARTS

NOT IDENTIFIED BY NSN

When requisitioning parts not identified by National Stock Number, it is mandatory that the following information be furnished the supply officer.

- 1- Manufacturer's Federal Supply Code Number. 79795
- 2- Manufacturer's Part Number exactly as listed herein.
- 3- Nomenclature exactly as listed herein, including dimensions, if necessary.
- 4 Manufacturer's Model Number. B-10
- 5 Manufacturer's Serial Number (End Item).
- 6 Any other information such as Type, Frame Number, and Electrical Characteristics, if applicable.
- 7- If DD Form 1348 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, 5,6, list manufacturer's Federal Supply Code Number -79795 followed by a colon and manufacturer's Part Number for the repair part.

Any other pertinent information such as Frame Number, Type, Dimensions, etc.

Instructions for Operating Lathes & Undercutter

(Numbers in parenthesis indicate part numbers as shown on reverse side)

Remove shipping boards and mount on a substantial bench with a level top. FASTEN SECURELY with four screws. A sub-base is advisable if bench is not level.

OILING:

Oil Undercutter Spindle (200) and Idlers (203) with light oil every time machine is used. Keep oil off the belt.

Oil Undercutter Base (208) sliding surfaces occasionally.

Oil chuck jaws and threads occasionally.

Always oil surfaces of armature shafts that come in contact with chuck jaws and thrust plugs (120).

TO MOUNT MOTOR: Bolt motor to base (130) so that motor pulley (134) will be on right hand side as you face the machine. Belt tension adjusting post (132) should be at rear. Motor base fastens on rod (131) to rear of bed (100). Rotation is Counter Clockwise when facing shaft extension.

TO PLACE ARMATURE IN MACHINE: Loosen thumb screws (119) holding Thrust Plugs of Chucks. Open chucks sufficiently to receive ends of shaft, by turning outer chuck shells (115). Slip flat belt (136) over armature core and insert armature shaft in Chucks. Loosen Tailstock Lock Nut (125). Move tailstock (123) so that Chuck Jaws are in line and ride on bearing surfaces of shaft. Be sure the shaft surfaces that contact chuck jaws are free from any roughness, thus avoiding damage to chuck jaws. Tighten Tailstock securely.

ADJUSTMENT OF CHUCKS: Adjust Chuck Jaws sufficiently tight so that when revolved by hand, armature has a slight drag.

ADJUSTMENT OF THRUST PLUGS: Headstock Thrust Plug (120) is always adjusted to end of armature shaft so that distance between end of commutator and face of chuck is sufficient to allow starting of cut. On late model armatures the shaft is so short that this is not possible without the use of our No. 242 Double Cup Center. Cup center is placed in chuck and held by chuck jaws. Armature shaft with bearing removed is placed in smaller cup center. If bearing is not removed, it may be placed in the larger cup center. (See catalog for other special adapters.) Tailstock Thrust Plug is then adjusted to opposite end of shaft to eliminate all end play. Lock both Thrust Plugs with Thumb Screws (1 19) in both Head and Tailstock.

Tailstock Thrust Plug is always used when refinishing generator and most starter armatures. On some starters with exceptionally long armature shafts, the Tailstock Thrust Plug is removed and armature shaft allowed to extend through the Tailstock (123). End play is eliminated by moving Tailstock so that sides of Chuck Jaws rest against the shoulder of the shaft.

MACHINING COMMUTATORS: Revolve armature by hand and be sure there is no end play before proceeding and that armature has a slight drag. Position motor so that pulley (134) is opposite armature core. Place Blat Belt over armature core and Pulley. With belt tension Adjusting Post, raise or lower motor to secure proper belt tension. This will best be determined by experience, but in no case allow motor to be entirely supported by the belt. The Adjusting Post should always be in contact with the bench. Loosen Tool Holder Lock Screw (1 12) slightly. Retract tool (111) by turning Tool holder Feed Wheel (1 13) counter clockwise, so that it clears the commutator. Tighten Lock Screw (112) to prevent toolholder (1 10) from turning in carriage block (109). There should be a slight drag on toolholder when adjusting for depth of cut. Move Tool by turning Ball Crank (106) so that it is opposite the highest part of the commutator. Advance Tool so that it just touches the highest part. Move Tool to right of commutator and advance it one numbered division on graduated scale of Feed Wheel. Tighten lock Screw securely and machine commutator by turning on motor and turning Ball Crank Handle slowly. Repeat, taking several light cuts, by advancing Feed Wheel another numbered division. For finish cut advance tool 1/4 to 1/2 of one numbered division on hand wheel. It is customary to use 00 sandpaper after making finish cut.

UNDERCUTTING COMMUTATORS: Adjust for depth of cut by turning vertical Adjusting Screw (219). Do not adjust for too deep a cut. When adjusted for depth of cut, set lock screw (207). For B-10 Model only: –remove Flat Belt and position motor and line up so that Motor Pulley is directly opposite commutator. Mount Rubber Belt (211) so that it runs from left side of Spindle Pulley (202) to underside of top idler (203), then to top of motor pulley (134), around motor Pulley to underside of lower Idler (203), as shown in the illustration on back of this page. Adjust belt tension suitable for cut.

CAUTION: Do not damage saw retaining screw (206) when changing saws, as it is a LEFT HAND SCREW.

TO REMOVE TOOLHOLDER (110): Loosen small Thumb Screw (113A) at left of carriage block (109). This releases Feed Wheel, allowing Toolholder to be removed. Tool Bit (1 11) is removed from Toolholder by loosening Set Screw. When placing Tool Bit back in Toolholder, make sure that top is parallel with the flat on top of the Toolholder **AND THAT TOOL BIT DOES NOT EXTEND MORE THAN 5/8" BEYOND TOOLHOLDER.** Tighten Tool Bit Set Screw securely and insert Toolholder in Carriage Block. Be sure the flat on the Toolholder is to the top.

SHARPENING TOOL BIT (111): Tool Bit will be sharpened correctly when shipped. Always keep it sharp to get the best results, MAIN-TAINING SAME ANGLES AND CLEARANCES–(see diagram). Keep tool bit cool when grinding to prevent drawing temper. Any grinding required should be done ONLY ON THE 15 DEGREE ANGLES AT THE CUTTING END OF THE TOOL. The 10 degree angles should NOT BE GROUND SINCE THEY ARE ALREADY GROUND TO A LENGTH SUITABLE FOR THE LIFE OF THE TOOL.



Showing Correct Angles to Grind Tool Bit.

TM 94940462 14&P





TM9-4940-462-14&P PARTS LIST THE FOLLOWING PARTS LIST IS IN ORDER OF APPEARANCE IN MANUAL. ORDER BY STOCK NUMBER. STOCK NO. DESCRIPTION LATHE, WITH 26" BED, MOTORIZED UNDERCUTTER, 2-24DA, 1-111C SP-B15 B-15 LATHE, WITH MOTORIZED UNDERCUTTER LATHE, WITH BELT DRIVEN UNDERCUTTER B-10 (NONE OF THE ABOVE INCLUDES M-160 MOTOR) M-160 MOTOR, FOR TURNING ARMATURE OR RATOR, ORDER SEPARATELY GMA CUP CENTER, FOR DOUBLE BALL BEARING GENERATORS CHR ADAPTER, FOR LATE MODEL STARTER ARMATURES STEEL CENTER, FOR CENTERED SHAFTS 240A DOUBLE CUP CENTER, FOR ARMATURES WITH SHORT SHAFTS 242 ALTERNATOR KIT, COMPLETE AK – 1 AK-1ALTERNATOR KIT, COMPLETEAK-123ROTOR DRIVE BELT, 23" X 1"AK-1BHBUSHING HOLDERAK-669BUSHING FOR .669" DIAMETER SHAFTSAK-3935BUSHING FOR .669" DIAMETER SHAFTSAK-111OFFSET CARBIDE TIPPED TOOL BIT ARMATURE TESTER ATM-1 AT-2 ARMATURE GROWLER REDUCER ATTACHMENT ATJ 3000 MOTORIZED UNDERCUTTER ASSEMBLY NO-MAR HAMMERS 1A ALUMINUM ALLOY, 1-5/8" X 3-7/8" HEAD, 12" HANDLE 2A ALUMINUM ALLOY, 1-5/8" X 4-7/8" HEAD, 14" HANDLE ALUMINUM ALLOY, 2" X 2" X 5" HEAD, 14" HANDLE 3A BRASS, 1-5/8" X 1-7/8" X 4-3/4" HEAD, 14" HANDLE 2B COPPER, 1-5/8" X 1-7/8" X 4-3/4" HEAD, 14" HANDLE 2C BVJ BRASS VISE JAWS CVJ COPPER VISE JAWS ABT-1 ALTERNATE BENCH TESTER POWER TIMING LIGHT AS-2 DT-2 DWELL-TACH DT-3 DWELL-TACH IT-1IGNITION TESTER VA - 2VOLT-AMP TESTER VOLTAGE CONTROL CPR-1 CARBON PILE CP-1 STARTER - BATTERY TESTER SB-1 STARTER - BATTERY TESTER STARTER - BATTERY TESTER SB-2 SB-5 STARTER - BATTERY TESTER, HEAVY DUTY MP-1MANUAL UTILITY PRESS, COMPLETE W/ATTACHMENTSMP-1PPRESS ONLY, WITH BED PLATES AND MOUNTING RODSMP-1AATTACHMENTS ONLY, SOLE SHOE SUPPORT AND SCREWDRIVERND -1AATTACHMENTS ONLY, SOLE SHOE SUPPORT AND SCREWDRIVER PB-3 PHILLIPS SCEWDRIVER BIT, NO. 3 SIZE PHILLIPS SCREWDRIVER BIT, NO. 4 SIZE PB-4

STOCK NO. DESCRIPTION

PH-1F PH-1B PH-25F PH-2	HYDRAULIC FLOOR PRESS, W/ADJUSTABLE BED ONLY, 10 TON HYDRAULIC BENCH PRESS, W/ADJUSTABLE BED ONLY, 10 TON HYDRAULIC FLOOR PRESS, W/ADJUSTABLE BED ONLY, 25 TON DOLE SHOE SCREWDRIVER FOR 10 TON PRESSES ONLY
111 2	EXTRA SCREWDRIVER BITS, 3/32" STRAIGHT, 7/32" OR 9/32" SQUARE
PH-3	HANGING PULLER BARS, FOR 10 TON PRESSES ONLY
PH-4	POLE SHOE EXPANDER UNIT
PH-4A	EXTRA PAIR OF EXTENSION PLATES, FOR PH-4
PH-6	V-BLOCKS, NEW, FOR EITHER 10 OR 25 TON PRESS
PH-8	V-REST, FOR 10 TON PRESSES ONLY
PH-9	AXLE BEARING FIXTURE, NEW FOR EITHER 10 OR 25 TON PRESS
RB-6	CARBIDE BRAKE DRUM TOOL - RIGHT HAND
	REFLACEABLE TITE CARDIDE BRAKE DROM TOOLS
A-6	FOR CONVENTIONAL DRUMS
R-6	FOR CONVENTIONAL DRUMS & DISC BRAKES
L-6	FOR DISC BRAKES, USED WITH R-6
T-8	REPLACEABLE CARBIDE TIPS, FOR ABOVE
600	BRAKE HUB & DRUM FIXTURE
FBP	GENERATOR BEARING PULLER, FOR 11/16" SHAFT
FBP-W	STALLED WASHER, OPTIONAL FOR ABOVE, FOR $3/4$ " SHAFT
UJ-1	UNIVERSAL JOINT FIXTURE
TR	TAILSTOCK REST, SPECIFY NO. 1, NO. 2, OR NO. 3 TAPER
30	UNDERCUTTER
30-C	CENTERS, FOR NO. 30 UNDERCUTTER ABOVE
40-L	UNDERCUTTER ATTACHMENT, SPECIFY SLOT SIZE

4

TM9-4940-462-14&P PARTS LIST FOR ALL LATHES AND UNDERCUTTER (EXCEPT AS NOTED)

STOCK NO.	DESCRIPTION
100	LATHE BED (EXCEPT SP-B15)
100SP	LATHE BED (SP-B15 ONLY)
101	HEADSTOCK CASTING
104	CARRIAGE RAIL
105	CARRIAGE LEAD SCREW
106	BALL CRANK, SET SCREW, & WASHER
107	CARRIAGE RAIL NUT
109	CARRIAGE BLOCK CASTING & TAKE UP SCREW
110	TOOLHOLDER
111	TOOL BIT (STANDARD, EXCEPT SP-B15)
111C	CARBIDE TRIPPED TOOL BIT (NOT STANDARD, EXCEPT SP-B15)
112	LACK SCREW
113	TOOLHOLDER FEED WHEEL
113A	TOOLHOLDER FEED WHEEL SPRING, CLIP, AND THUMB SCREW
114	TOOLHOLDER FEED WHEEL KNURLED SCREW, OLD STYLE
115	CHUCK OUTER SHELL
116	SET OF 6 CHUCK JAWS
116A	SET OF 3 CHUCK JAWS
117	CHUCK JAW SPRING
118	CHUCK CHIP SHIELD
119	THRUST PLUG THUMB SCREW
120	THRUST PLUG
122	TAILSTOCK WRENCH WITH SPECIAL NUT
123	TAILSTOCK CASTING
125	TAILSTOCK LOCK BOLT & WASHER
130	MOTOR BASE
131	MOTOR BASE PIVOT PIN
132	MOTOR BASE ADJUSTING POST
133	MOTOR BASE LOCK SCREW
134	MOTOR PULLEY, 1/2" BORE
136	ARMATURE DRIVE BELT 19" X 1" (STANDARD)
136A	ARMATURE DRIVE BELT 17" X 1", FOR SMALL DIAMETER CORES
200 200M	UNDERCUTTER SPINDLE, COLLAR, AND SAW RETAINING SCREW (B-10 ONLY) UNDERCUTTER SINDLE, SET SCREW, AND SAW RETAINING SCREW (SP-B15, B15 & NO. 3000)
201	UNDERCUTTER BODY CASTING & IDLER PULLEY PINS (B-10 ONLY)
201M	UNDERCUTTER MOTOR BODY CASTING (SP-B15, B-15 & NO. 3000)
202	UNDERCUTTER SPINDLE DRIVE PULLEY & SET SCREW (B-10 ONLY)
203	UNDERCUTTER IDLER PULLEY & FIBER WASHERS (B-10 ONLY)
206L 206R	UNDERCUTTER SAW RETAINING SCREW LH - THREAD (ALL LATHES & NO.30) UNDERCUTTER SAW RETAINING SCREW RH - THREAD (NO. 40-L UNDERCUTTER ONLY)
207A 208	UNDERCUTTER ADJUSTING SCREW COLLAR & SET SCREW

TM9-4940-462-14&P STOCK NO. DESCRIPTION

210 UNDERCUTTER SAWS, 5/16" O.D. X .127" I.D. AVAILABLE IN .010-.012-.015 (STANDARD) -.018-.020-.025 INCH WIDTHS. MAY BE USED IN COMBINATIONS OF ABOVE FOR ODD 211 UNDERCUTTER BELT, MOLDED BELT COMPOUND (B-10 ONLY)

- 212 UNDERCUTTER LEVER, LINK, BUSHINGS, & HANDLE
- 214 UNDERCUTTER LEVER HANDLE, WOOD
- 215 LATHE BED CHIP SHIELD
- 217 UNDERCUTTER COIL SPRING
- 219 UNDERCUTTER ADJUSTING SCREW (B-10 ONLY)
- 219M UNDERCUTTER ADJUSTING SCREW (B-15 & NO. 3000 ONLY)
- 219SPUNDERCUTTER ADJUSTING SCREW (SP-B15 ONLY)220UNDERCUTTER BODY POST (B-10, B-15, & NO. 300
- 220UNDERCUTTER BODY POST (B-10, B-15, & NO. 3000)220SPUNDERCUTTER BODY POST (SP-B15 ONLY)
- 240 UNDERCUTTER BODY POST SET SCREW



ASSEMBLED PARTS

1010	Headstock with Chuck Assembly
1100	Toolholder Assembly
1150	Toolholder Carriage Assembly
1200	Tailstock with Chuck Assembly
1300	Mator Base Assembly
2000	Undercutter without Carriage Assembly (B-10 only)
2010	Undercutter Carriage Assembly
2020	Undercutter Body Assembly (B-10 only)
	, , , , , , , , , , , , , , , , , , ,



NO. AK-1

Lathe with motorized undercutter and special 26" bed. Handles truck and bus as well as passenger car and small motor armatures. See AK-1 Kit for alternators. Includes all parts illustrated plus 2 #240A steel centers and 1 #111C carbide tipped tool bit, but does not include M-160 motor.

22½" maxin 1364" to 1 Space between chucks Chuck capacities Swing over bed Handles commutators to 31/5" diameter, 21/5" len Bench space needed 14¹/₂" x 28

LATHE WITH MOTORIZED UNDERCUTTER NO. B-15

Faster and more convenient than using undercutter drive belt, also saves cost of belt replacement. Complete as illustrated, but does not include M-160 motor.

SPE	CIFICATIONS:
Space between chucks	12½" maximum
Chuck capacities	1½" to 1½"
Swing over bed	7"
Handles commutatars to	3½" diameter, 2½" length
Bench space needed	14" x 18¾"

LATHE WITH BELT DRIVEN UNDERCUTTER NO. B-10 Uses M-160 motor to turn armature or rotor and to drive undercutter. Undercutter belt molded of special belt compound. Complete as illustrated, but does not include M-160 motor. SPECIFICATIONS: Same as Model No. B-15 above.

NO. M-160 MOTOR, 1/4HP, 115V 60C, 1725 RPM, CCW facing shaft end. Used on all lathes to turn armature or rotor and on No. B-10 to drive undercutter. Not included with lathes. Order separately.

CHR

242



SPECIAL PURPOSE ADAPTERS

double ball bearing generators. NO. GMA for Saves time and cost of removing and replacing commutator end bearing.

NO. CHR for late model starter armatures. Bushing rotates with geared shaft on commutator end. Cup seats short shaft on opposite end.

NO. 240A for centered shafts over 1 1/16" or under 13/64" diameter or without bearing surfaces. Replaces thrust plug in head or tailstock or both. Standard with No. SP-B15 only.

NO. 242 for armatures with short shaft on commutator end. Double cup seats either bearing or shaft with bearing removed.

ALTERNATOR KIT

GMA

240A

For any model lathe. Includes extra length drive belt for rotors, bushing holder and bushings to give clearance between dip rings and headstock, offset carbide tipped tool bit to clear pole piece. Handles most alternators, but not those with fan welded to rotor or with one ring on pole piece.





NO. ATM-1 ARMATURE TESTER

The basic unit for armature repair. Extra laminations and winding for strong magnetic field. Has 0-30 ampere meter and double prods to locate open and short circuits. Shock-proof test circuit with ruby light and single prods to locate grounds. Used with 115V 60C current. 12" x 6" x 8 1/2" high.

NO. AT-2 ARMATURE GROWLER

Has same laminations and winding os ATM-1. Locates shorts, opens, and grounds by means of a hack saw blade. Used with 115V 60C current. 4 1/2" x 4 3/4" x 6" high.



NO. ATJ REDUCER ATTACHMENT

NO. 3000

For testing small armatures. Reduces throat opening on ATM-1 and AT-2 from 1 1/4" to 5/16". Keeps armature up in magnetic field. Clamps on growler jaws.

MOTORIZED UNDERCUTTER ASSEMBLY

For converting No. B-10 lathe to newer No. B-15 type with motorized undercutter. Complete as shown with 115V 60C motor.





NOS. 1A, 2A, & 3A NO-MAR HAMMERS

The strongest, safest, most reliable fiberglass handles made are epoxy-bonded to unique aluminum aloy heads that are non-marring, non-sparking, and non-spalling. Heads will not crack, loosen, fly-off, or become misaligned. Handles have rubber grips to provide a secure cushioned hold that reduces vibration and user fatigue. Minimum rebound. Long life.

NOS. 2B & 2C NO-MAR HAMMERS

These combine the safety and comfort features of our nonmarring, non-sparking, non-spalling aluminum alloy hammers with the heavier blow of brass or copper. Epoxy-bonded to fiberglass handles, as above. No. 2B Brass is more durable, No. 2C Copper is softer; but both are long-lasting, heavy duty hammers.

NO. BVJ BRASS VISE JAWS

These heavy brass inserts help prevent damage to expensive parts that are clamped in a vise. Faces are 3/8" thick, 1 3/4" deep, and 4" wide. Spring straps easily slip over the vise jaws to hold inserts in place and to center them automatically. The faces have flats, plus both vertical and horizontal grooves to grasp round parts. These cast brass inserts will save their initial cost many times over long years of service.





NO. CVJ COPPER VISE JAWS

Cast from #1 copper, these jaws provide soft, flat faces that taper from $4 \, 11/16$ " top width to $4 \, 1/2$ " bottom width, are $1 \, 5/16$ " deep, and are at least 1/8" thick. Tabs can be bent to hold inserts an the vise. An inexpensive way to avoid chewing up parts with standard steel jaws.

TM 9-4940462-14&P UTILITY PRESS & ATTACHMENTS NO. MP-1

Versatile, inexpensive bench press, Easily bandies difficult small jobs. Manual operation gives more sensitive control. Keeps larger press free, Extends beyond bench - open on bottom and sides. Uses bed with flat or V-rest.

SPECIFICA	TIONS:	
Bench space needed 6" x 10"	Height	16¾"
Opening in uprights	Bed to ram	111/2"
Space between uprights	Screw travel	5''
Bed opening 0 to 10 ¹ / ₂ "	Screw diameter	. 1"

NO. MP-1 MANUAL UTILITY PRESS complete, includes both MP-1P and MP-1A as illustrated, and as listed below,

NO. MP-1P PRESS only, includes frame, screw, bed plates, and mounting rods as shown.

NO. MP-1A ATTACHMENTS only, includes support plate to hold pole shoe against case, plus screwdriver unit with 1 straight bit 3/32" wide and 2 square bits 7/32" and 9/32", as shown. No. PB-3 Phillips Bit (#3 size) and No. PB-4 Phillips Bit (#4 size) are also available.



FLOOR & BENCH - 10 & 25 TONS Save time and effort. Save damage to costly parts. Limitless uses and opportunities for new profits. Hydraulic unit is mov-

PH-1F

10 Ton

4"

52"

11/4

15%

3

19¾"

28" x 28

2"

6

able between uprights. Sides are open.

SPECIFICATIONS:

Capacity Bed to ram

Screw travel Screw diameter

Ram travel

Ram diameter

Opening in bed

Space for base

Opening in uprights

Space between uprights

HYDRAULIC PRESSES . . .

PH-1B

10 Ton

18%

3"

2"

193/4"

61'' x 24'

PH-25F

25 Ton

47"

None

None

6¹2″

33/4

2' 2 20'

28" x 31"

PH-1F

PRESS APPLICATIONS ILLUSTRATED

1. PH-1F press used with puller plates and PH-9 fixture to remove axle bearings. PH-25F press is preferable because extra power permits more jobs and puts less strain on the hvdraulic unit.

2. PH-1B press with PH-3 puller bars to remove pulleys. Press mounted between two benches, or with opening in bench, permits PH-3 bars to hang from base of press frame for extra lenath.

3. PH-1B (or PH-1F) press with PH-2 screwdriver, PH-4 pole shoe expander, and PH-8 V-rest to remove or insert pole shoe screws.







PH3



HYDRAULIC PRESS ATTACHMENTS (not included with presses)

*PH-2 POLE SHOE SCREWDRIVER, includes 1 straight bit 312" wide and 2 square bits 7/32" & 9/32". Also see Nos. PB-3 and PB-4 optional Phillips Bits.

*PH-3 HANGING PULLER BARS, one pair

PH-4 POLE SHOE EXPANDER, for cases with inner diameter 2 3/4" to 3 3/4"

PH-4A EXTRA EXTENSION PLATES, one pair, each pair increases maximum diameter of PH-4 by 3/8". PH-6 V-BLOCKS, one pair PH-8 V-REST

PH-9 AXLE BEARING FIXTURE

* For use with 10 ton (PH-1F and PH-1B) presses only

10



NOS. RB-6 & LB-6 CARBIDE BRAKE DRUM TOOLS Solid tools with large, high quality carbide tip. Sandwich brazing gives better heat dissipation and longer cutting life. Painted to prevent rust. Packaged 2 per plastic box to provide one for spare.

BRAKE HUB & DRUM FIXTURE

Removes old studs, swages shoulders on new studs, heads and sets rivets, including pilot rivets. Efficient one-man operation. Spring-loaded fingers keep toolholder up while drum is rotated. Used with heavy duty press like No. PH-25F.

NOS. A-6, R-6 & L-6 CARBIDE BRAKE DRUM TOOLS With 3 replaceable carbide tips. Each tip has 6 factory ground cutting edges. When one edge gets dull, loosen screw and reset tip to new edge. Quick, convenient, less cost than resharpening.

NO. T-8 REPLACEABLE CARBIDE TIPS, set of 3 (18 cutting edges) for above.



NO. FBP GENERATOR BEARING PULLER

Removes generator bearings without damage. Held in vise when used. Supplied with one slotted washer (%" opening) for Ford. No. FBP-W slotted washer (3/4" opening) optional for GM.



NO. TR TAILSTOCK REST

An accurate self-centering tailstock rest for use in general purpose engine lathes. Unusually large capacity, 1/4" to 1". Specify #1, 2, or 3 Morse Taper Arbor.



NO. UJ-1 UNIVERSAL JOINT FIXTURE

MICA UNDERCUTTER

For bearings on cross and yoke type U-joints. Hand tightened to hold in position, then pressed in vise with 5" opening. Not a C clamp. A third hand when working on U-joints.

Adjusts for variations in shaft lengths and diameters, also for length and depth of undercutting. Convenient direct motor drive. No. 30-C Centers available but not included. Handles





armatures up to 7" core diameter and 13" between V-rests; commutators up to 6" diameter and 3 1/2" length. Motor is

115V 60C.

NO. 30

NO. 600

NO. 40-1 MICA UNDERCUTTER ATTACHMENT

For general purpose engine lathes. Easily attaches to lathe in place of tool post. Handles commutators up to 6" diameter. Other specifications depend upon lathe being used. 115V

60C motor. When ordering, you <u>must</u> state dimensions A and B on compound rest to get proper size slot nut for your lathe.



All products are guaranteed, without exception, against defective material or workmanship. We reserve the right to discontinue or to change any product without notice.



By Order of the Secretary of the Army:

Official:

E. C. MEYER General, United States Army Chief of Staff

ROBERT M. JOYCE

Major General, United States Army The Adjutant General

				Someti	MNG WRONG WITH THIS PUBLICATIO
کم			THEN DOPE AL FORM, C	JOT DOWN THE BOUT IT ON THIS AREFULLY TEAR IT	FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS) Your mailing address
		₹ l	IN THE	MAIL	CATE SENT Date you filled out this form
UBLICAT TM 9-	10N NUME 4940-4	er 62-14&	P	PUBLICATION D 10 Mar 83	DATE PUBLICATION TITLE Lathe, Armature and Undercutter Model B-10
PAGE NO.	PARA- GRAPH	FIGURE	TABLE NO	IN THIS SPACE TELL I AND WHAT SHOULD E	WHAT IS WRONG BE DONE ABOUT IT:
over				Title shows Lathe number is B–10.	e as being Model b-15. Correct model
				S	AMPLE
				_	
INTED N. JOHI	ame. gradi V SMIT	E OR TITLE. H SP	AND TELEP		SIGN HERE:





F	RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS
7 11	SOMETHING WRONG WITH THIS PUBLICATION?
THEN DOPE AE FORM, C OUT, FOI IN THE	JOT DOWN THE BOUT IT ON THIS AREFULLY TEAR IT ILD IT AND DROP IT MAIL'
PUBLICATION NUMBER	PUBLICATION DATE PUBLICATION TITLE Lathe, Armature and
IM 9-4940-462-14&P	10 Mar 83 Under cutter Model B-10
PAGE DARA-I FIGURE TABLE NO.	AND WHAT SHOULD BE DONE ABOUT IT:
PRINTED NAME, GRADE OR TITLE, AND TELEP	PHONE NUMBER SIGN HERE:
DA 1 JUL 70 2028-2	REVIOUS EDITIONS P.SIF YOUR OUTFIT WANTS TO KNOW ABOUT YOU RE OBSOLETE. RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

ł





Commander US Army Armament Materiel Readiness Command ATTN: DRSAR-MAS Rock Island, 11 61299

	Something	B WRONG WITH THIS PUBLICATION?
THEN. JO DOPE ABOU FORM, CAR	T DOWN THE UT IT ON THIS REFULLY TEAR IT	A: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
IN THE MA	TI AND DROP II	SENT
TM 9-4940-462-14&P	PUBLICATION DATE	PUBLICATION TITLE Lathe, Armature and Undercutter Model B-10
BE EXACT PIN-POINT WHERE IT IS I PAGE PARA- FIGURE TABLE A NO. GRAPH NO. NO.	N THIS SPACE TELL WHAT AND WHAT SHOULD BE DO	IS WRONG NE ABOUT IT:
PRINTED NAME, GRADE OR TITLE, AND TELEPHO	NE HUMBER SIGN I	167E:



	517	\mathbf{N}			SOMET	THING	B WRONG	WITH THIS PUBLICATION?
2			THEN DOPE AE FORM, C OUT, FO	JOT DO OUT IT AREFUL LD IT A	WN THE ON THIS LY TEAR IT ND DROP IT	FROM	: (PRINT YOUR UN	HT'S COMPLETE ADORESS)
		RI	IN THE	MAIL'		DATE	SENT	
PUBLIC TM	ATION NUMI 9-4940-4	вея 462–14&	P		PUBLICATION 10 Mar 8	DATE 33	PUBLICATION TIT Undercutter	∿E Lathe, Armature and Model B-10
BE EX PAGE	ACT. PIN-	FIGURE	RE IT IS	IN THE	SPACE TELL	WHAT I	S WRONG E ABOUT IT:	
	Í							
			Ì					
		-	-					



Commander US Army Armament Materiel Readiness Command ATTN: DRSAR-MAS Rock Island, 11 61299

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches 1 Meter= 100 Centimeters = 1000 Millimeters = 39.37 Inches 1 Kilometer=1000 Meters= 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces

1 Kilogram =1000 Grams =2.2 Lb

1 Metric Ton =1000 Kilograms =1 Megagram =1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches

1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet

1 Sq Kilometer= 1,000,000 Sq Meters= 0.386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu M Ilimeters = 0.06 Cu Inches

1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

2-

5

ŝ

V

TEMPERATURE

5/9 (${}^{0}F = 32$) = ${}^{0}C$ 212 0 Fahrenheit is equivalent to 100 0 Celsius 90 0 Fahrenheit is equivalent to 32.2 0 Celsius 32 0 Fahrenheit is equivalent to 0 0 Celsius 9/5 C 0 + 32 = F 0

APPROXIMATE C	ONVERSION FACTORS		{
TO CHANGE	<u>T0</u>	MULTIPLY BY	 -
Inches	Centimeters	2.540	1 ±
Feet	Meters	0.305	I E
Yards	Meters	0.914	1 ∷-∓
Miles	Kilometers	1.609	` ₽
Square Inches	Square Centimeters	6.451	🖡
Square Feet	Square Meters	0.093	
Square Yards	Square Meters	0.836	- I
Square Miles	Square Kilometers.	2.590	±
Acres	Square Hectometers	0.405	ΙŁ
Cubic Feet	Cubic Meters	0.028	=-E
Cubic Yards	Cubic Meters	0.765	ΙŦ
Fluid Ounces	Milliliters	29.573	Ŧ
Pints	Liters	0.473	2 - ∓
Quarts	Liters	0.946	[≩
Gallons	Liters	3.785	
Ounces.	Grams.	28.349	1. E
Pounds	Kilograms	0.454	I°∓-
Short Tons	Metric Tons	0.907	1 -
Pound-Feet.	Newton-Meters	1.356	- F-
Pounds per Square Inch.	Kilopascals	6.895	∞−∓
Miles per Gallon.	Kilometers per Liter	r0.425	1 1
Miles per Hour.	Kilometers per Hour	1.609	1 1
		••••••	
	τo		
TOCHANGE	10		-
Centimeters	Inches	0.394	⊸ - F
Meters	feet	3.280	1
Meters	Yards	1.094	-
Kilometers	Miles	0.621	L. Ł
Square Centimeters	Square Inches	0.155	1 °' - 1
Square Meters	Square Feet	10.764	I Ł
Square Meters	Square Yards	1.196	E
Square Kilometers	Square miles	0.386	▼ − ₹
Square Hectometers	ACT'ES	2.4/1	F
Cubic Meters	Cubic Feet	35.315	1
Lubic Meters	LUDIC Yards	1.308	m_
Mililiters	Fluid Ounces	0.034	±
Liters	Pints	2.113	- { -
Liters	Quarts	1.057	£
Liters	Gallons	0.264	l∼- F -
Grams	Ounces	0.035	s. ∓
Kilograms	Pounds	2.205	Ŭ 🛃
Metric Tons	Short Tons	1.102	
Newton-Meters	Pound-Feet	0.738	E
Kilopascals	Pounds per Square In	ich . 0.145	E
Kilometers per Liter	Miles per Gallon	2.354	<u>,</u> .₹
Kilometers per Hour	Miles per Hour	0.621	

TA089991

INCHES

TM 9-4940-462-14&P LATHE, ARMATURE & UNDERCUTTER, MODEL B-10 - 1983

This fine document...

Was brought to you by me:



Liberated Manuals -- free army and government manuals

Why do I do it? I am tired of sleazy CD-ROM sellers, who take publicly available information, slap "watermarks" and other junk on it, and sell it. Those masters of search engine manipulation make sure that their sites that sell free information, come up first in search engines. They did not create it... They did not even scan it... Why should they get your money? Why are not letting you give those free manuals to your friends?

I am setting this document FREE. This document was made by the US Government and is NOT protected by Copyright. Feel free to share, republish, sell and so on.

I am not asking you for donations, fees or handouts. If you can, please provide a link to liberatedmanuals.com, so that free manuals come up first in search engines:

<A HREF=<u>http://www.liberatedmanuals.com/</u>>Free Military and Government Manuals

Sincerely
Igor Chudov
<u>http://igor.chudov.com/</u>
Chicago Machinery Movers