

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL

LATHE BRAKE DRUM, FLOOR MOUNTED, 60-INCH
RATED SWING, 9-TO-25-INCH DRUM DIAMETER,
10-INCH MAXIMUM CUTTING DEPTH,
STATIONARY CUTTING TOOL TYPE, WITH GRINDING, PROVISIONS,
1-HORSEPOWER DRIVE MOTOR, AC, 115-VOLT, 60-CYCLE,
SINGLE PHASE, 1/2-HORSEPOWER GRINDING MOTOR,
AC, 115-VOLT, 60-CYCLE, SINGLE PHASE
(AMMCO TOOLS, INC MODEL 7700-7) (4910-516-6192)

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1965

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D C., 15 June 1965

TM 9-4910-445-10 is published for the information and use of all concerned.

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NG: None.

USAR: None.

For explanation of abbreviations used, see AR 320-50

TM 9-4910-445-10

CHANGE No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 14 March 1973

Operator's Manual

**LATHE, BRAKE DRUM: FLOOR MOUNTED, 60-INCH
RATED SWING, 9-TO-25-INCH DRUM DIAMETER,
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(AMMCO TOOLS, INC. MODEL 7700-7) (4910-516-6192)**

This Change is current as of 21 November 1972.

TM 9-4910-445-10, 15 June 1965, is changed as follows:

Page 4. Add the following information after last paragraph.

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. The manufacturer's code (FSCM) listed after part number in table is described in paragraph 3c of the appendix.

Description	Part Number: FSCM	Description	Part Number: FSCM
ADAPTER, CONNECTOR: 2 connectors 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.	5273L:74545	CONE, CENTERING: 3-53/64 X 4-27/64	4778-7:03297
ADAPTER, DRUM: inside, floating (cast iron)	3109-7:03297	CONE, CENTERING: 4-23/64 X 4-31/32	4779-7:03297
ADAPTER, DRUM: outside, floating (aluminum)	3123-7:03297	CONE, CENTERING: 4-57/64 X 5-1/2	4781-7:03297
ADAPTER, RADII: 1-5/8 X 1-7/8	3112-7:03297	CONE, CENTERING: 5-7/16 X 6-1/32	4782-7:03297
ADAPTER, RADII: 1-45/64 in. lg	3893-7:03297	CONE, CENTERING: 5-31/32 X 6-9/16	4783-7:03297
ADAPTER, RADII: 2 X 2-1/2	3547-7:03297	CONE, CENTERING: 6-1/2 X 7-7/16	4784-7:03297
ADAPTER, RADII: 2-1/16 X 2-5/16	31115-7:03297	CONE, CENTERING: 7-1/32 X 7-41/64	4785-7:03297
ADAPTER, RADII: 2-19/64 in. lg	3894-7:03297	CONE, CENTERING: 7-37/64 X 8-11/64	4786-7:03297
ADAPTER, RADII: 2-9116 X 2-13/16	3548-7:03297	CUP, ALINING: large	3581-7:03297
ADAPTER, RADII: 2-5/8 X 3-3/16	3549-7:03297	CUP, ALINING: small	3577:03297
ADAPTER, RADII: 3-5/16 X 3-5/8	3117-7:03297	CUTTER BIT, TOOL: carb-S	4725-1:03297
ADAPTER, TAPERED HUB:	7325:03297	CUTTER BIT, TOOL: HSS	3415-7-1:03297
ARBOR, STEP: 1 in.	3428:03297	GRINDER ATTACHMENT: brake drum	4050:03297
NUT, STEP ARBOR: (included w/arbor 3428)	9107:03297	NUT, ARBOR:	3460:03297
SLEEVE, STEP ARBOR: (included w/arbor 3428)	9108:03297	PEDESTAL: support and roller assembly	3437:03297
ARBOR, TRUCK:	3431:03297	SILENCER, BAND: brake drum	2990:03297
CABINET ASSEMBLY:	3131:03297	SLEEVE ASSEMBLY, BEARING:	7726-S:03297
CONE, CENTERING: 11/16 in. arbor	3118-7:03297	SPACER: 1/2 in., 11/16 in. arbor	3121-7:03297
CONE, CENTERING: 1-45/64 X 2-3/4	3904-7:03297	SPACER:	3120-7:03297
CONE, CENTERING: 1-3/4 X 1-1/16	3902-7:03297	1 in., 11/16 in. arbor	3125-7:03297
CONE, CENTERING: 2-1/4 X 1-3/16	3903-7:03297	SPACER, BORE: 1/2 in. lg	3191-7:03297
CONE, CENTERING: 2-3/8 X 3-3/8	3194-7:03297	SPACER, BORE: 1 in. lg.	3192-7:03297
CONE, CENTERING: 2-7/16 X 2-31/32	3108-7:03297	SPACER, BORE: 2 in. lg	3193-7:03297
CONE, CENTERING: 2-3/4 X 3-11/32	4776-7:03297	SPACER BORE 3 in. lg.	3601-7:03297
CONE, CENTERING: 2-15/16 X 3-1/2	3107-7:03297	SPACER, RADII ADAPTER: 1 in. lg	4479-7:03297
CONE, CENTERING: 3-9/32 X 3-57/64	4777-7:03297	SPACER, RADII ADAPTER: 2 in. lg	3110:03297
CONE CENTERING: 3-7/16 X 4	3106-7:03297	SPRING, SEATING: centering cone	3590:03297
		SPRING, SEATING: centering cone	3473-S:03297
		SUPPORT AND ROLLER ASSEMBLY:	3435-S:0329
		SUPPORT ASSEMBLY: horizontal	

Pages 37, 38, and 39. APPENDIX, Section II 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.
				TOOLS AND EQUIPMENT FOR: LATHE, BRAKE DRUM (03297:Model 7700-7)				
C	O/C			WRENCH, ARBOR NUT: (03297:5722).	ea	1	21	47
C	O/C		5120-277-2307	WRENCH, OPEN END, FIXED: dble-hd type, 15 deg angle of hd, 5/16 and 3/8 in. opngs, 13/64 in. hd thk, 3-5/8 min o/a lg.	ea	1	21	45
C	O/C		5120-752-9730	WRENCH, OPEN END, FIXED: sgle-hd type, 15 deg angle of hd, 1-1/16 in. opng, 5/16 in. hd thk, 9 in. o/a lg.	ea	1	21	44

Page 40, figure 20. All data on page 40, including figure 20 deleted.

Page 41, figure 21. Delete the following item numbers from figure 21: 1 through 43, 46, 46-A, 46-B, and 48 through 50.

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	29-56
	29-65
	29-105
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	37
	57
	57-100

ARNG & USAR: None.

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

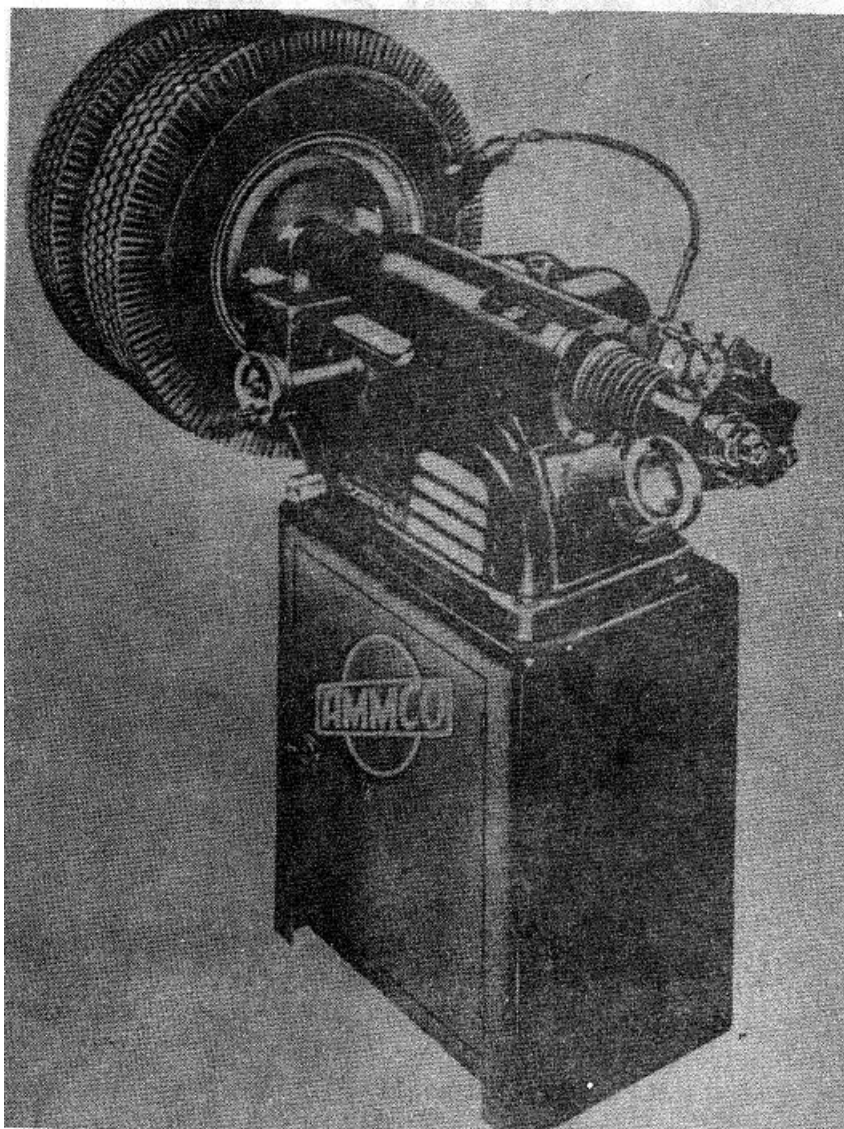
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Operating Instructions

AMMCO MODEL 7700

SAFE-TURN BRAKE DRUM LATHE



AGO 9140A

FEDERAL SPECIFICATION 00-L-90a

FSN 4910-516-6192

OPERATING LIMITS

AMMCO MODEL 7700-7 SAFE-TURN

10" BRAKE DRUM LATHE

SPECIFICATIONS

PHYSICAL CHARACTERISTICS

1. Capacity, Dual Wheel Max. Wt. 1300 Lbs. (With Outboard Support)
2. Capacity, Dual Wheel Over-all Max. Width. (With Outboard Support)
3. Drum Cutting Capacity Range, Diameters, 6" to 28".
4. Drum Cutting Depth, 10 Inches.
5. Speeds, Number of Changes-3.
6. Speeds, Cutting, Range, R.P.M. -30 - 60 -100.
7. Swing, Inches (Min.) - 60.
8. Feed, Inches Per Revolution, Range -.002 -.020.
9. Number of Feeds, Infinitely Variable Between .002 -.020.
10. Motor, 1 H.P., Single Phase, 115 V., 60 Cy., A.C.

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BE SURE TO REFER TO SERIAL NUMBER WHEN CORRESPONDING

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**AMMCO MODEL 7700
SAFE-TURN
BRAKE DRUM LATHE**

The AMMCO SAFE-TURN Brake Drum Lathe was designed to eliminate the complicated set-up and operation necessary with older style Drum Lathes. With very little practice an inexperienced operator can turn drums to factory tolerances and finishes or better.

READ AND THOROUGHLY FAMILIARIZE YOURSELF WITH THESE INSTRUCTIONS. THE MORE YOU KNOW ABOUT YOUR SAFE-TURN, THE MORE PROFITABLE IT WILL BE TO YOU.

RECEIVING

Inspect the shipment carefully before unpacking. If there is any apparent damage, notify the transportation company as well as AMMCO. We can assume no responsibility for damage occurring in transit, but will cooperate 100% in assisting you to file claims for recovery of damages.

SET-UP

The No. 3131 Cabinet should be secured to the floor with 3/8" or 7/16" bolts or with lag screws. Be sure that the Cabinet is as level as possible. Put the Handle on the Cabinet's door.

ADJUST THE V-BELT TENSION AS DESCRIBED AT THE TOP OF PAGE 15. TOO LOOSE A BELT CAN CAUSE SLIPPAGE WHEN TAKING A HEAVY CUT. TOO TIGHT A BELT CAN CAUSE VIBRATION AND POSSIBLE SUB-STANDARD FINISH.

Before turning on or otherwise operating your SAFE-TURN, be sure it is lubricated as follows. Keep your SAFE-TURN as clean as possible. It will pay dividends in trouble-free operation, accuracy, safety, and long Lathe life.

AGO 9140A

LUBRICATION

1. Take out Dip Stick (Figure 1) and pour in approximately one pint of S.A.E. 40 motor oil or enough to bring the level to the mark on the Dip Stick. Keep oil at this level at all times. Drain the oil and refill with clean oil after the first 8 hours of operation. After this the oil need be changed only about once a year.

To drain the oil, take out socket head Drain Plug on the front of the SAFE-TURN to the right of the Cross Feed Assembly. Coat the Drain Plug with liquid sealer or gasket cement before replacing to prevent leakage.

2. The Infimatic* Feed Mechanism is filled with Aero Lubriplate and needs no further internal lubrication.
3. Oil the Infimatic* Feed Control Dial (Figure 2) occasionally through the ball oiler on its face.
4. The Drive Motor (Figure 1) has sealed-for-life ball bearings and does not require any lubrication.
5. Use machine oil to lubricate the Cross Feed Slide every three or four days. Oil through the oiler at back of SAFE-TURN.
6. Oil exposed metal parts periodically to prevent rust.
7. Pull back Protective Boot and oil Feed Mechanism Lead Screw weekly.

GENERAL INFORMATION

Below are U.S.A. passenger car manufacturers' recommendations for the limit that passenger car drums should be turned oversize ON THE DIAMETER. (.060" or 1.5 mm oversize on the diameter means .030" or .75 mm has been worn or cut from the drum wall.)

The car manufacturers must of necessity be conservative. If the lining on the shoes to be used in the drum is safe-arc'd with the AMMCO Model 8000 SAFE-ARC Brake Shoe Grinder for 100% lining to drum contact, it is usually safe to go somewhat beyond these limits. Remember that too thin drums are apt to be weak and springy and do not give the correct amount of heat absorption and dissipation.

Truck and other heavy equipment manufacturers (U.S.A.) generally recommend that about 25 per cent of drum thickness, measured at the thinnest point, can be removed safely. Here again it is best to check the manufacturers' specifications.

Drums should always be carefully inspected for cracks, loose bearings, scoring, heat checks, taper, bell-mouth, or out-of-roundness. Defective drums should be scrapped.

***Trade Mark**

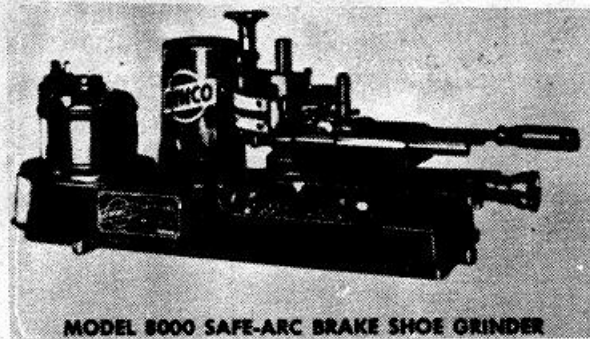
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CAR	mm	mm	CAR	mm	mm
	STANDARD DIAMETER	MAXIMUM OVERSIZE		STANDARD DIAMETER	MAXIMUM OVERSIZE
Buick, 1942-62	241/305mm	1.5 mm	Kaiser, 1947-53	279mm	1.5 mm
Cadillac, 1947-62	279/305mm	1.5 mm	Lincoln, 1939-51	279/305mm	.75mm
Chevrolet, 1942-62	279mm	1.5 mm	1952-59	279/305mm	1.5 mm
Chevy II, 1962	229mm	1.5 mm	1960-62	281mm	1.5 mm
Chrysler, 1946-62 (Except Disc)	279/305mm	1.5 mm	Mercury, 1939-51	305mm	.75mm
Comet, 1961-62	229mm	1.5 mm	1952-60	279/305mm	1.5 mm
Corvair, 1960-62	229mm	.5 mm	1961-62	280mm	.75mm
DeSoto, 1946-60	279/305mm	1.5 mm	Nash, 1941-54	203/229/254mm	.75mm
Dodge, 1942-62	254/279mm	1.5 mm	1955-62	203/229/254. /279mm	1.5 mm
Edsel, 1958-60	279mm	1.5 mm	Oldsmobile, 1942-62	241/279mm	1.5 mm
Falcon, 1960-62	229mm	1.5 mm	Packard, 1941-57	254/279/305mm	1.5 mm
Ford, 1942-48	305mm	.75mm	Plymouth, 1946-62	254/279mm	1.5 mm
1949-55	254mm	1.5 mm	Pontiac, 1942-62	229/279/305mm	1.5 mm
1956-60	279mm	1.5 mm	Studebaker, 1942-62	229/254/279mm	1.5 mm
1961-62	280mm	.75mm	Valiant, 1960-62	229mm	1.5 mm
Frazer, 1947-51	279mm	1.5 mm	Willys Jeep, 1942-62	229mm	1.5 mm
Henry J., 1951-53	229mm	1.5 mm	4, 1946-54	254mm	1.5 mm
Hudson 1941-57 (Jet Models 229mm)	254/279mm	1.5 mm	6, 1951-54	229/254mm	1.5 mm

Scoring, out-of-roundness, bell-mouth, and taper should be corrected by turning. Some drums may appear to have a satisfactory finish, but it is always wise to check them with your AMMCO Model 8500 SAFEMIKE Drum Micrometer and a straight edge.

Heat checks are the result of the tremendous heat generated by hard braking. Drums with heat checks should always be turned or ground as the heat check cracks will cause excessive lining wear. It is considered good practice to turn every drum on every brake job.

The amount that a drum can be out-of-round and still be satisfactorily turned depends on the amount of stock that can be safely removed. It cannot be so out-of-round that there is not enough stock to remove to attain roundness and still not go oversize. Normally, this is the only limiting factor. It is not good practice to try to round drums on a press before turning. The heat generated by hard brake applications may cause them to resume part or all of the out-of-round shape.



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SAFE-TURN OPERATION - GENERAL

Mount the drum (see DRUM MOUNTING instructions, page 10), and wrap the No. 2985-Silencer Band firmly around it. Secure by sliding the buckle finger under the top layer of the Band. The Silencer Band should cover the flange of the drum and not just the flat, as the flange is the point most subject to vibration. The No. 2990 Wide Silencer Band should be used on truck drums or on drums unusually subject to vibration.

Check to make sure the Tool Bit is clamped tightly and correctly in the Boring Bar as described on page 14. Use the Spindle Feed Hand Wheel (Figure 2) to bring the drum as close to the lathe as practical. Secure the Boring Bar in the Clamp (Figure 3) so that the Tool Bit will reach the back of the drum. Set the Boring Bar as short as possible. This will keep the drum close to the SAFE-TURN for maximum rigidity.

The Boring Bar Clamp can be pivoted 180° to make it easier to turn very small or large drums. Many operators do this for drums 13" (330mm) in diameter and larger. Be sure the Tool Post Pivot Set Screw (Figure 3) is tightened after moving the Clamp.

Set the Spindle Speed as described on page 8. Unlock the Cross Feed with the Lock Screw at its base and use the Spindle Feed Hand Wheel (Figure 2) to feed the Tool Bit into the drum beyond the innermost braking surface. Do not strike the drum with the Tool Bit. Use the Cross Feed Hand Wheel (Figure 3) to move the Tool Bit to about 1/32" (.8 mm) from the drum surface. Do not touch the drum with the Tool Bit when the drum is not rotating. To make sure that everything is safely clear, it is wise to turn the drum one full revolution by hand.

Switch on the Lathe and use the Cross Feed Hand Wheel to feed the Tool Bit slowly toward the drum surface until the Tool Bit just starts to cut. Note the reading on the Cross Feed Hand Wheel Dial and slowly feed the Tool Bit into the drum the desired amount. If the Tool Bit is to be fed in more than .005" (.12mm) it is wise to avoid side wear by turning the Spindle Feed Hand Wheel back and forth just enough to keep the groove wider than the Tool Bit. When the desired depth of cut has been set, lock the Cross Feed.

If the drum is heavily scored, the following method can be used to avoid removing more stock than necessary or taking an extra cut. Note the reading on the Cross Feed Hand Wheel Dial when the Tool Bit just starts to cut behind the braking surface. Then back off the Tool Bit from the drum wall and move it opposite the deepest score. Feed the Tool Bit into the score until a continuous cut can be heard and note the Cross Feed Hand Wheel Dial reading. The difference between reading is HALF the amount that the drum diameter will be increased to clean up. If the amount is more than allowed (page 6) the drum should be replaced. If the drum will clean up, move the Tool Bit back to the starting position

and feed it into the drum .001" (.03mm) beyond the reading noted at the score. The drum will then clean up in one cut.

The Spindle Feed is set with the Infimatic: Feed Dial (Figure 2). The Dial is locked with the knurled knob directly behind it. The feed can be adjusted while cutting from a No. 2 to a No. 20 setting. Setting No. 2 represents the finest and No. 20 the coarsest cutting. The infinitely adjustable feed range is equivalent to .002" (.05mm) to .020" (.5mm) per revolution.

Set feed desired. It is best to start with a lower feed and increase as required once cutting has started. Push Feed Throw-In Lever (Figure 2) over to start cut. Adjust feed as desired. Set Feed Stop (Figure 2) so that the SAFE-TURN will automatically stop feeding when the cut is completed.

Drums with mild scoring or distortion should be cleaned up in one cut. Heavily scored drums may have to be cleaned up with roughing and finishing cuts.

For the roughing cuts, set the Feed as high as possible without chatter or strain. The depth of cut will to a great extent determine how much feed can be set. For the finish cut use a slow feed for a fine finish. You will find that a 2 setting will provide as fine a finish as could be desired. A setting of 4 to 6 will provide a satisfactory finish in almost every case.

Tool Bit life depends more on the distance the Tool Bit travels than on the amount of stock it removes. Therefore, it is better to take one fairly heavy cut at finish feed than a medium roughing cut and then a light finishing cut.

SPINDLE SPEEDS

The V-Belt position controls the Spindle speed. It may easily be changed by throwing over the Quick Change Lever (Figure 1). Following are recommendations for Spindle speeds for various applications. They apply to grinding as well as turning. As a general rule, smaller passenger car drums are turned at higher speeds and large truck drums at lower speeds. If chatter or a poor finish results, change to the next slower speed.

100 R.P.M. - is obtained by putting the V-Belt in the outside grooves of the pulleys. 100 R.P.M. is the recommended speed for 14" (355 mm) and smaller drums.

60 R.P.M. - is obtained by putting the V-Belt in the center grooves of the pulleys. 60 R.P.M. is the recommended speed for 15" to 20" (381 to 508 mm).

30 R.P.M. - is obtained by putting the V-Belt in the inside grooves of the pulleys. 30 R.P.M. should be used for drums 21" (533 mm) and over.

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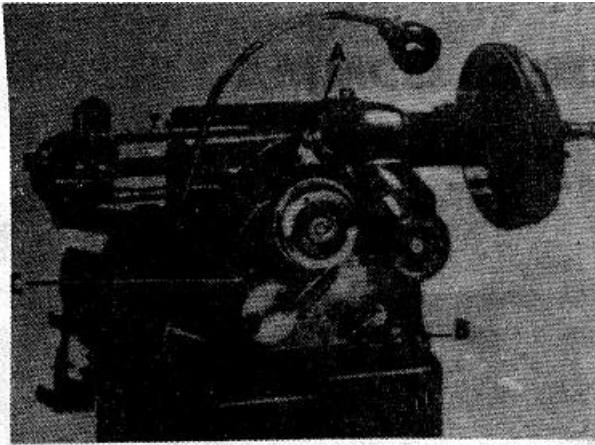


FIGURE 1

- A - OIL FILL HOLE AND DIP STICK KNOB
- B - V BELT AND SPEED ADJUSTMENT LEVER
- C - DRIVE MOTOR
- D - BELT TENSION ADJUSTMENT NUT

FIGURE 2

- A - SPINDLE FEED HAND WHEEL
- B - SPINDLE FEED THROW-IN LEVER
- C - ON-OFF SWITCH
- D - SPINDLE FEED CONTROL DIAL
- E - AUTOMATIC FEED STOP
- F - NO. 3232 GRINDING WHEEL DIAMOND DRESSING UNIT
- G - NO. 4050 GRINDER UNIT PLUG IN
- H - WORK LIGHT SET SCREW

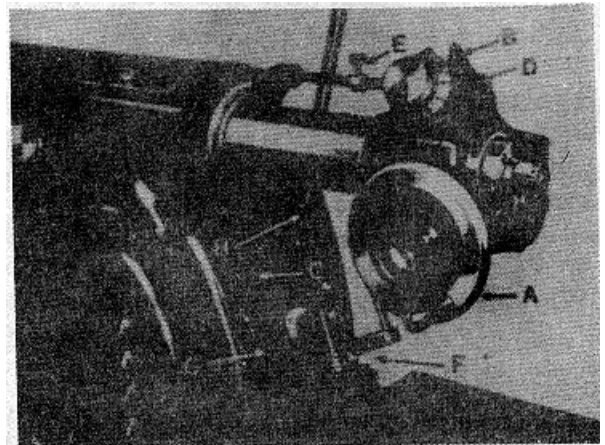
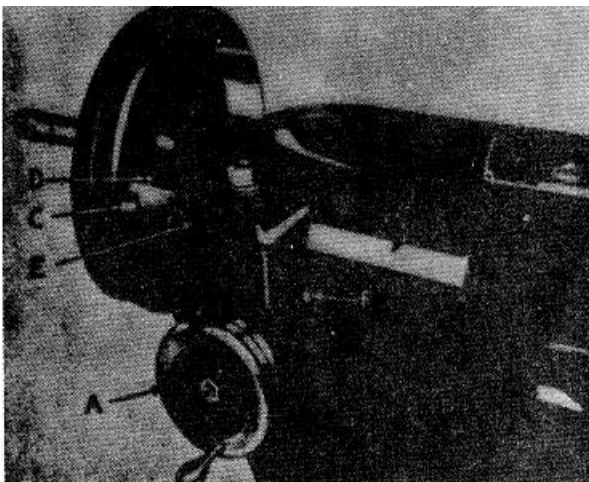


FIGURE 3

- A - CROSS FEED HAND WHEEL
- B - BORING BAR
- C - TOOL BIT HOLDER
- D - TOOL BIT HOLDER SET SCREWS
- E - BORING BAR CLAMP
- F - TOOL POST PIVOT SET SCREW



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ARBORS AND ATTACHMENTS FOR DRUM MOUNTING

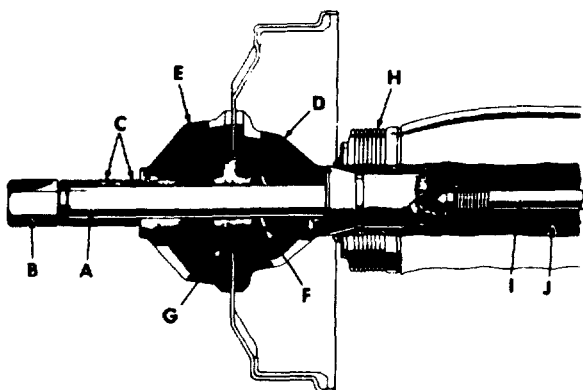


FIGURE 4

- A - NO. 3101 1" ARBOR
- B - NO. 3102 ARBOR NUT
- C - SPACERS
- D - NO. 3109 INSIDE FLOATING DRUM ADAPTOR (Cast Iron)
- E - NO. 3123 OUTSIDE FLOATING DRUM ADAPTOR (Aluminum)

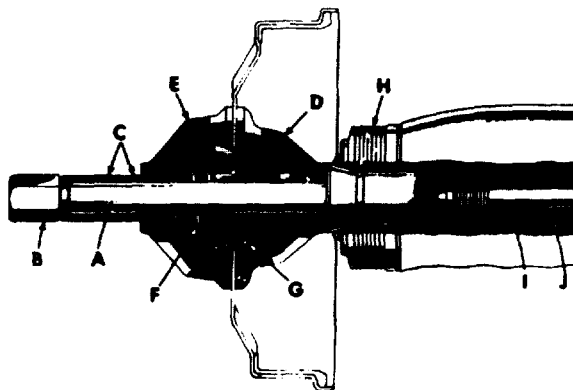


FIGURE 5

- F - NO. 3110 SPRING
- G - CENTERING CONE
- H - PROTECTIVE BOOT
- I - DRAW BAR
- J - SPINDLE

The Arbors, Cones, and Adaptors available for the SAFE-TURN have been machined and ground to extremely close tolerances to provide you with the accuracy you want. Be careful of them. Chips, dirt, or nicks can cause needless inaccuracies.

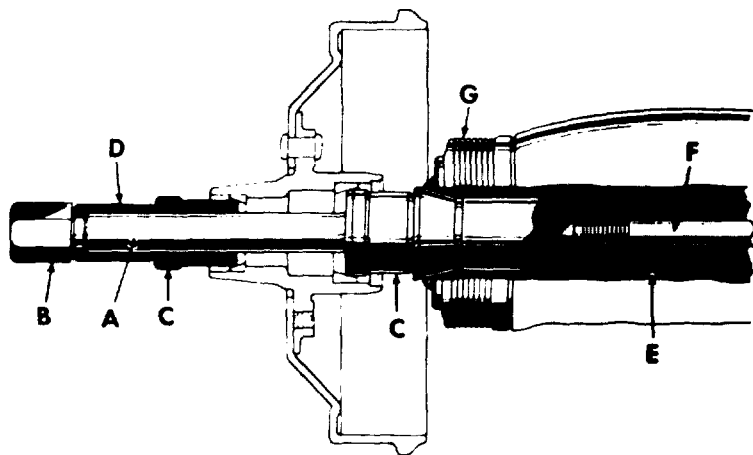


FIGURE 6

- A - NO. 3101 1" ARBOR
- B - NO. 3102 ARBOR NUT
- C - RADII ADAPTOR
- D - SPACER
- E - SPINDLE
- F - DRAW BAR
- G - PROTECTIVE BOOT

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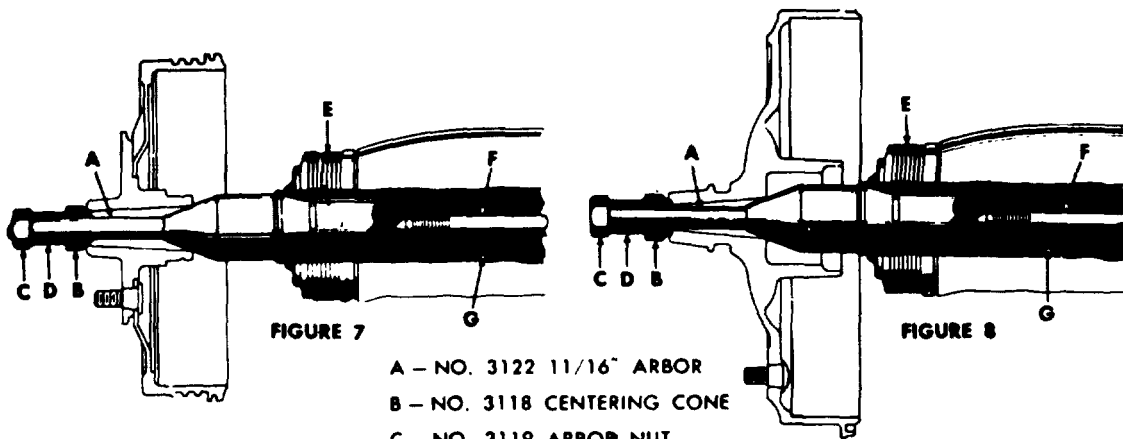


FIGURE 7

FIGURE 8

- A - NO. 3122 11/16" ARBOR
- B - NO. 3118 CENTERING CONE
- C - NO. 3119 ARBOR NUT
- D - NO. 3120 1" SPACER
- E - PROTECTIVE BOOT
- F - DRAW BAR
- G - SPINDLE

FIGURE 7

FIGURE 8

Be sure that the portion of the drum or hub they locate against is clean. Keep them oiled and free from rust. Store them in the Cabinet when not in use.

Secure the Arbors tightly in place with the Draw Bar. Due to the exclusive double taper on the Arbors, they are easily removed without pounding. Be sure they do not fall to the floor when the Draw Bar is loosened.

Spacers are provided for each Arbor. Be sure to note that the Arbors and Arbor Nuts have left-hand thread. Tighten the Arbor Nuts securely.

FLOATING DRUMS - PASSENGER CAR

Use the No. 3101 1" Arbor (Figure 9). Put the cast iron No.3109 Inside Adaptor on first. Choose the Centering Cone to fit the drum. If burrs can interfere with accurate locating, clean the drum with a file. In most cases, the best surface for the Cone to locate accurately is in the inside of the drum. If this is the case, set up as illustrated in Figure 4. Note that the ends of the No. 3110 Spring join and locate on the bosses of the Cone and the No. 3109 Inside Adaptor. Put the No. 3123 Outside Adaptor on after the drum and use Spacers as necessary. Make sure that all pieces are locating accurately and tighten the Arbor Nut.

The No. 3109 Inside Adaptor can be used on the outside if the set-up seems better that way. We specify that it be used primarily on the inside as it has a smaller bell and this gives more room for Tool Bit and Grinder set-up.

If it is necessary or advisable to locate the Centering Cone to the outside of the drum, set up as illustrated in Figure 5. The No. 3110 Spring will then join the bosses of the Cone and the No. 3123 Outside Adaptor. The No. 3106 Centering Cone must be located from the outside due to its size.

FRONT DRUMS WITH NEW DEPARTURE OR TIMKEN BEARING RACES

Use the No. 3101 1" Arbor. Secure it with the Draw Bar. The Radii Adaptors (Figure 9) have a locating radius at both ends (Figure 6). Remove the bearings from the drums. Pick the Radii Adaptors to fit both bearing cups in the hub. Use the largest diameter that will fit. Put the Radii Adaptor for the inside of the drum on first with the radius to locate in the drum towards the outside. Then put the drum in place and put the second Radii Adaptor on with the correct radius located in the bearing cup. Use Spacers as necessary. Checks to make sure everything is locating accurately and tighten the Arbor Nut securely.

REAR DRUMS HAVING TAPERED HUBS

Use the No. 3122 11/16" Arbor as illustrated in Figures 7 and 8. Secure the Arbor with the Draw Bar. Use the conical section of the Arbor to center the inside hub of the drum. Use the No. 3118 Centering Cone to center the outside hub of the drum. Use Spacers as necessary and, after checking to be sure that the drum is centered correctly, tighten the Arbor Nut securely.

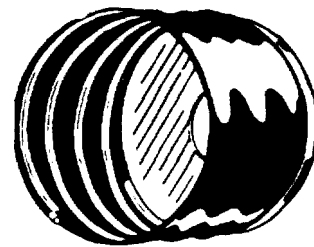
A No. 3901 Centering Cone Set is also available for turning tapered hub drums. It is used with the 1" Arbor and prevents the necessity of having to switch Arbors when switching from front to rear drums. They are also necessary for certain small foreign car drums.



3902 3903 3904
NO. 3901 CENTERING CONE SET

A No. 4282 Drum Bearing Protector is available for use with a 1" Arbor. It goes on the Arbor before the inside Radii Adaptor. The neoprene coated nylon boot covers the drum hub and prevents chips and grinding dust from getting in. It can be left in place when changing drums.

At conservative labor saving and labor cost figures, the No. 4282 will pay for itself in only eight jobs.



NO. 4282 DRUM BEARING PROTECTOR

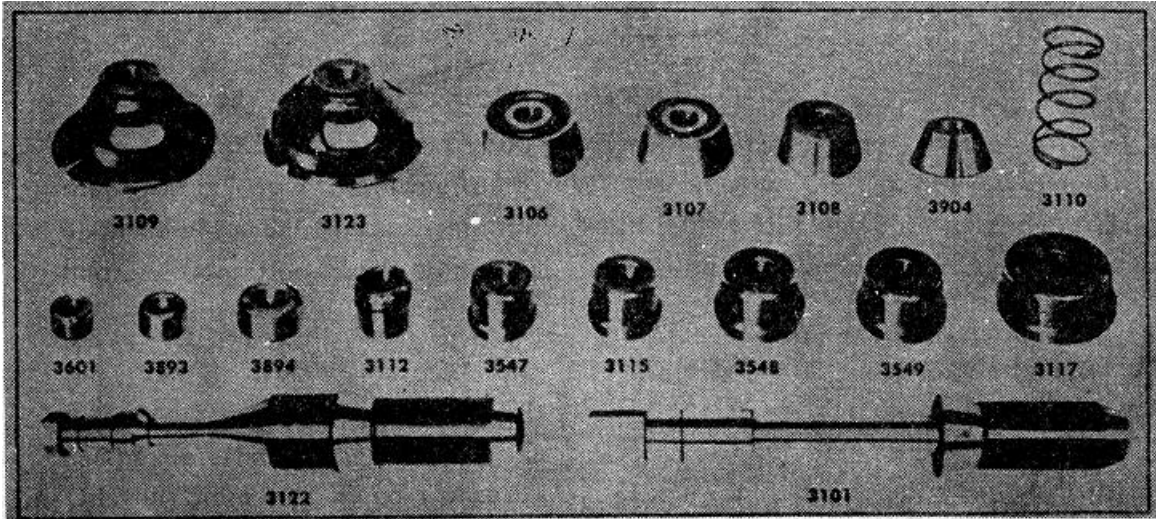
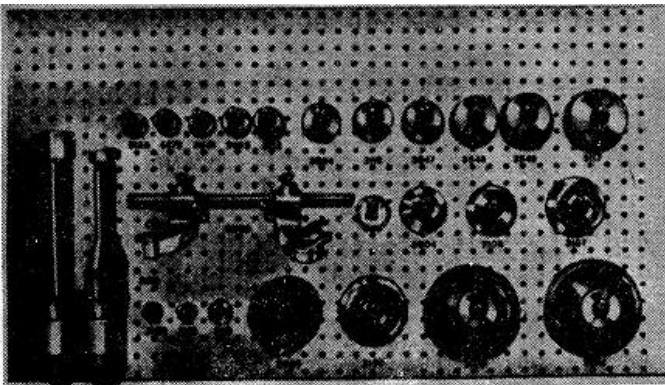


FIGURE 9

PASSENGER CAR, LIGHT AND MEDIUM TRUCK ACCESSORIES

- | | | | |
|-----------------|--|-----------------|---|
| No. 3101 | 1" Arbor | No. 3117 | 3 5/16" X 3 5/8" . 1" Bore Radii Adaptor |
| No. 3102 | Arbor Nut for No. 3101 Arbor | No. 3109 | Inside Floating Drum Adaptor, 1" Bore |
| No. 3125 | 1/2" long x 1" Bore Spacer | No. 3123 | Outside Floating Drum Adaptor. 1" Bore |
| No. 4479 | 2" long x 1" Bore Spacer and Radii Adaptor | No. 3106 | 3 7/16" x 4" x 1" Bore Centering Cone |
| No. 3601 | 1" x 1" Bore Spacer and Radii Adaptor | No. 3107 | 2 15/16" x 3 1/2" x 1" Bore Centering Cone |
| No. 3893 | 1 45/64" x 1" Bore Radii Adaptor | No. 3108 | 2 7/11" x 2 31/32" x 1" Bore Centering Cone |
| No. 3894 | 2 19/64" x 1" Bo-e Radii Adaptor | No. 3904 | 1 45/64" x 2 3/4" x 1" Bore Centering Cone |
| No. 3112 | 1 5/8" x 1 7/8" x 1" Bore Radii, Adaptor | No. 3110 | Spring |
| No. 3547 | 2" x 2 1/2" x 1" Bore Radii Adaptor | No. 3122 | 11/16" Arbor |
| No. 3115 | 2 1/16" x 2 5/16" x 1" Bore Radii Adaptor | No. 3119 | Arbor Nut for No. 3122 Arbor |
| No. 3548 | 2 9/16" x 2 13/16" x 1" Bore Radii Adaptor | No. 3118 | 11/16" Bore Centering Cone |
| No. 3549 | 2 5/8" x 3 3/16" x 1" Bore Radii Adaptor | No. 3121 | 1/2" long x 11/16" Bore Spacer |
| No. 3120 | 1" long x 11/16" Bore Radii Spacer | | |

NO. 8425 ACCESSORY STORAGE BOARD



A colorful and sturdy No. 8425 Accessory Storage Board is available to hang the accessories on neatly and safely. It can be ordered from your AMMCO Distributor.

TOOL BITS

The Double End Carbide Tool Bits fit into the recess in the No. 3137 Tool Bit Holder. They are secured by the No. 3138 Clamp and the No. 262 Set Screw. See the parts illustration breakdown below (Figure 10).

The Tool Bit has 2 cutting edges and can be reversed in the Holder when one edge is dull. They are available as follows:

No. 3205 Box of 3 (6 cutting edges)

No. 3656 Box of 10 (20 cutting edges)

Be sure the Holder is clean before inserting the Tool Bit. Also be sure that it is all the way back in the slot and that the chamfered side is down.

The complete assembly is secured in the Boring Bar (Figure 3) by two square head set screws. Be sure that it is set in fully and tightly.

A No. 4114 Solid Carbide Tipped Tool Bit is also available. It is 3/8" square. The carbide extends down the full depth of the holder. It can be sharpened by grinding across top of carbide parallel with holder. The sides and radius of carbide do not have to be altered when the No. 4114 is to be used on an AMMCO Drum Lathe. Use only diamond or "green" silicon carbide (approximately 60 grit) grinding wheels. A standard grinding wheel will overheat and drainage carbide. Rake may be ground on top of carbide to suit conditions on other makes of lathes.

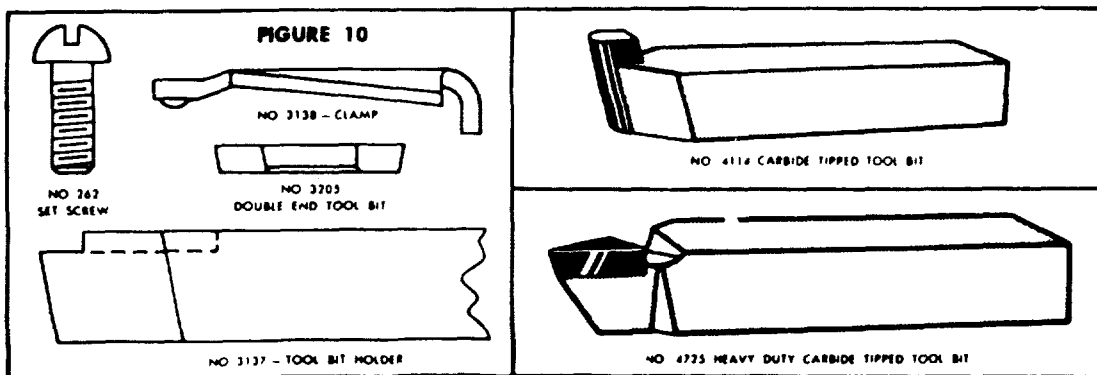
The No. 4725 Heavy Duty Carbide Tipped Tool Bit can be used primarily for heavy duty work such as is encountered with truck drums and drums with hard spots due to heavy braking. This Tool Bit can be resharpened. Sharpening instructions are packaged with each Tool Bit.

It may be necessary to regrind the Tool Bit to obtain desired results on some types of drums.

For deep or thin walled drums, the radius of the Tool Bit should be reduced to approximately 1/64 (0.4 mm) to reduce the tendency to chatter.

To obtain a smoother finish on smaller drums, where chatter is no problem, the Tool Bit radius can be increased to as much as 1/16 (1.5 mm).

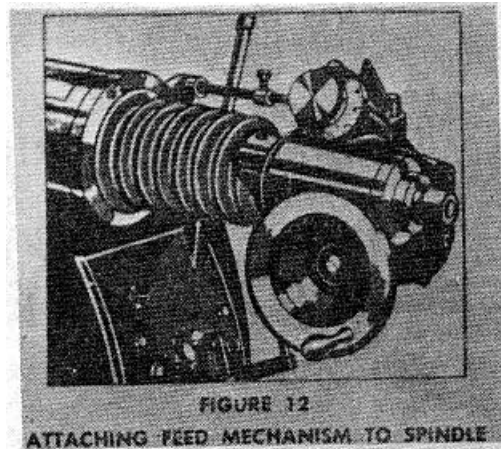
FIGURE 10



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MAINTENANCE

1. Be sure lubricating instructions are followed.
2. Be sure Protective Boots are kept in place.
3. V-Belt Tension can be adjusted by loosening Adjustment Nut (D - Figure 1) with Adjustment Lever (B - Figure 1) in down position. Motor weight will then be all on V-Belt. Squeeze Belt together approximately 1/2"(12mm) on each side and retighten Adjustment Nut.
4. Keep your SAFE-TURN and its accessories clean.
5. Do not try to repair the Feed Mechanism yourself. Return it to AMMCO or Distributor in your area (with a complete explanation of the difficulty). The Feed Mechanism is removed and replaced as follows:
 - a. TO REMOVE - Loosen rear end of Protective Boot to expose set screw on Spindle (Figure 12). Take out Draw Bar and Arbor.



- b. Loosen set screw and remove Feed Mechanism by turning Hand Wheel to disengage Lead Screw.
 - c. TO REPLACE-Insert Automatic Feed Stop Bar in socket and start Lead Screw by turning Hand Wheel. Locate as firmly as possible in Spindle and draw tight by inserting Draw Bar and Arbor and tightening. Retighten set screw and resecure Protective Boot.
6. To make a Lead Screw thrust adjustment, turn the elastic stop nut at the Feed Mechanism end of the Lead Screw clockwise until the action is too tight. Then back off until just free.
7. To make a Lead Screw thread play adjustment, pull back the Protective Boot to expose the Lead Screw Flange Nut. Loosen the two set screws. Insert a 3/16" (4.75mm) pin in one of the holes in the nut and turn clockwise until the action is too tight. Back off until just free. Retighten set screws.

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CAUTIONS

1. The Spindle Feed Hand Wheel will not operate unless the Spindle Feed Throw-In Lever is in the OFF position.
2. Feed should only be adjusted when Spindle is turning.
3. Be sure that drums are mounted and located accurately and squarely before starting cut.
4. Be careful not to let loose clothing, rings, or wrist watches get caught in moving parts.
5. Do not overload your SAFE-TURN (See chart on page 2). It is not good machine tool practice and will shorten the life of the machine.

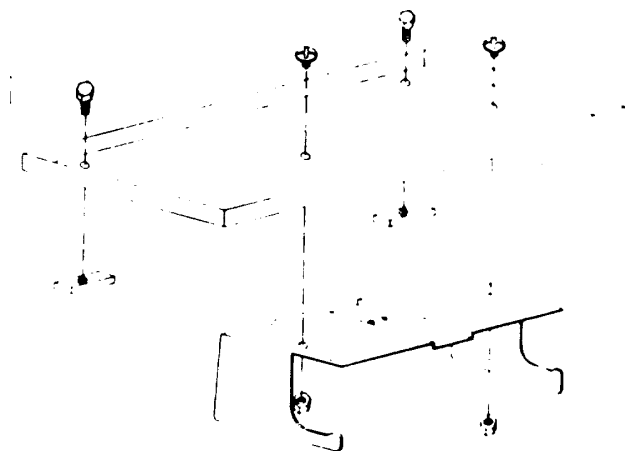
NO. 4050 BRAKE DRUM GRINDER

TOOL TRAY AND GRINDER RACK SET-UP

Assemble to No.3131 Cabinet as illustrated. Make sure all nuts are tightened securely.

The No. 4050 Grinder can be stored in the Rack below the Tool Tray when not in use.

Assemble to No. 8400 or No. 8450 Mobile Bench as follows: Place rack only over the two round holes in the first cross brace at the front of the bench top, and fasten securely with hardware. The No. 4050 Grinder Motor will store toward the lathe end of the bench.



GRINDING AND DRESSING

Mount the drum as you would for turning. Be sure the Silencer Band is tightly in place. Place the Grinder Spindle in the Clamp as illustrated in Figure 13. DO NOT OVERTIGHTEN CLAMP! Be sure to set the Grinder so that the Grinding

AGO 9140A

Wheel will reach the innermost portion of the drum. If the drum is exceptionally large or small, it may be necessary to swivel the Boring Bar Clamp so that access to the drum is easier. Be sure that the Tool Post Pivot Set Screw is retightened so that the Clamp will not accidentally pivot when the Grinder Spindle is taken out, as this would necessitate redressing the Grinding Wheel.

Be sure the Grinder Motor Switch is turned off. Plug the Grinder Motor into the Electrical Panel. Pull out the dummy Safety Jack and put it away. Plug the No. 3232 Diamond Dresser Assembly in its place. As a safety feature, the power to the Lathe Motor is automatically disconnected when the Diamond Dresser is in use.

Place the No. 3232 Grinder Dresser on the drum wall as illustrated in Figure 14 and tighten it securely. It is usually not necessary to remove the Silencer Band. Loosen the No. 3229 Diamond Nib. Set the Diamond Nib inside the drums diameter and retighten its Set Screw. Make sure the Grinding Wheel will clear the drum after passing the Diamond Nib. Use the Cross-feed Hand Wheel to adjust the Grinding Wheel so that it just misses the Diamond Nib. It is important that the Diamond contact the Grinding Wheel at the height of center which is the point where the Grinding Wheel will contact the Drum. This is particularly true when dressing the Wheel at an angle.

Switch on the Grinder and use the Cross-feed Hand Wheel to feed the Grinding Wheel until it just touches the Diamond. Feed the Grinding Wheel back and forth across the Diamond. Increase the depth of cut about .005" (.12mm) per pass. Dress the Wheel until it is parallel to the drum wall along its full width. Do not overdress or use too fine a feed as this will dull the Grinding Wheel.

Rotate the Diamond Nib periodically. This will tend to keep it pointed and prolong its life. The Grinding Wheel should be dressed when it becomes loaded or glazed or when the angle of grind is changed, A new Grinding Wheel should always be dressed to balance it as well as sharpen it.

The Grinding Wheel is removed by turning it off its Holding Screw against the direction of rotation. The threaded shaft has a screwdriver slot so that it can be held while the Wheel is being turned off. When the Grinding Wheel has been dressed, remove the dresser from the drum wall, being sure the Lathe Motor is turned off, and plug it into the Electrical Panel. Do not change the angle of the Grinder Spindle. Adjust the Grinding Wheel so that it is as far back as possible in the drum. It is wise to turn the drum one full revolution by hand to make sure that everything is clear. The Wheel Guard can be moved back by loosening its Clamp Screw to provide more clearance if necessary. This may be necessary on some very small diameter drums. The Wheel Guard can be slid back on the Spindle completely out of the way if necessary.

Set the same Spindle speed you would for turning. Start the Grinder and the Drum Lathe and use the Cross-feed Hand Wheel to move the Grinding Wheel

into contact with the drum wall. Set the depth of grind at .002" to .005" (.05 to .12mm). Do not remove over .005" (.12mm) per grind. Set the Infimatic* Spindle Feed between setting Nos. 6 to 16 and throw it into gear. Set the Automatic Feed Stop so that the Spindle Feed will turn off when the Grinding Wheel clears the drum. Grind the other drums in the set the same way. Remember that it is not necessary to dress a Wheel unless the angle of the Grinder Spindle is changed or unless the Wheel becomes loaded or dull.

It is not necessary to lubricate the Grinder Unit.

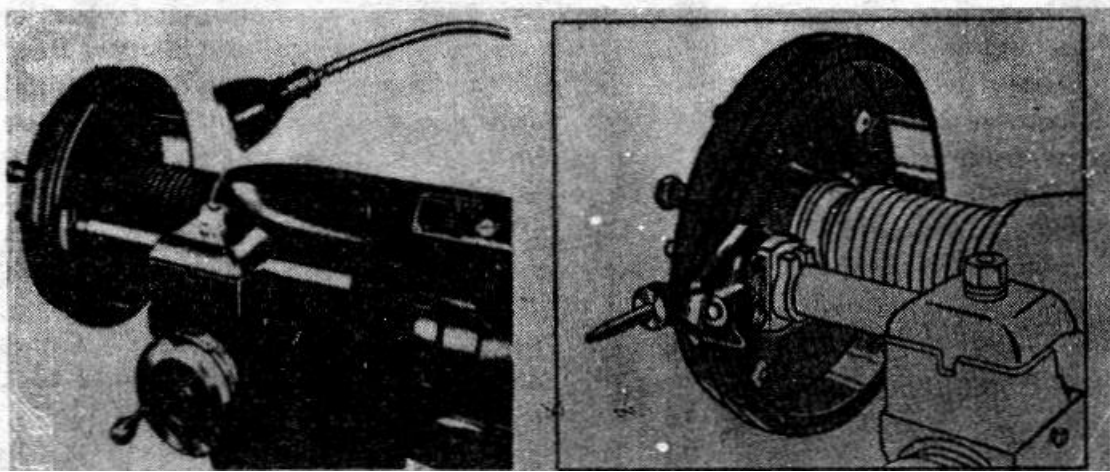


FIGURE 13

FIGURE 14

CAUTIONS

1. The Grinding Wheel turns at a very high R.P.M. Do not be careless with it. Inspect it for defects or cracks before every use.
2. Your eyes are irreplaceable. Wear goggles when grinding.
3. Be sure that drums are mounted and located accurately and squarely before starting to grind.
4. Be careful not to let loose clothing, rings, or wrist watches get caught in the moving parts.
5. After grinding, wipe grinding dust off exposed parts of Drum Lathe.
6. For safety, accuracy, and economy, use only AMMCO No. 3333 Grinding Wheels.
7. If there is evidence of the Grinder Motor slowing excessively due to overload, reduce depth of cut or feed. High speed is needed for accuracy and a good finish.
8. Do not use the Grinder for work other than drum grinding. It is a precision tool and should be treated as such.

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TRUCK DRUM TURNING



FIGURE 19

NO. 3481 HEAVY DUTY ARBOR SET WITH SPACERS

Note the No. 3198 Arbor and its No. 3460 Arbor Nut are sold as one unit with the No. 5722 Arbor Nut Wrench (which is not illustrated). The No. 4775 Truck Hub and Floating Drum Adaptor Set is used with the No. 3198, 1-7/8" Heavy Duty Arbor.

The No. 3481 Heavy Duty Arbor Set and the No. 4775 Cone Set are used for large truck drums. Use the No. 2990 Wide Silencer Band on wide, large drums. **WHEN TURNING DRUMS WITH WHEEL AND TIRES ON, USE WEDGES BETWEEN DRUM AND WHEEL ASSEMBLY TO TRANSFER VIBRATION AWAY FROM DRUM.**

NO. 4775 TRUCK HUBBED AND FLOATING DRUM ADAPTOR SET

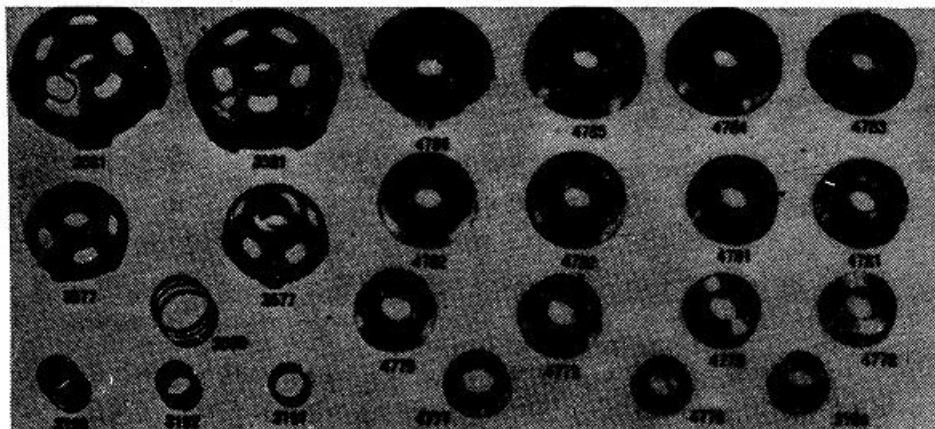


FIGURE 16

- | | |
|---|---|
| 1 No. 3590 Spring | 2 No. 4779 4-23/64" x 4-31/32" x 1-7/8" bore
Centering Cones |
| 2 No. 3581 Aligning Cups, Large (1-7/8" bore) | 2 No. 4781 4-57/64" X 5-1/2" x 1-7/8" bore
Centering Cones |
| 2 No. 3577 Aligning Cups, Small (1-7/8" bore) | 2 No. 4782 5-7/16" x 6-1/32" x 1-7/8" bore
Centering Cones |
| 1 No. 3191 1" long x 1-7/8" bore Spacer | |
| 1 No. 3192 2" long x 1-7/8" bore Spacer | |
| | 1 No. 4783 5-31/32" x 6-9/16" X 1-7/8" bore
Centering Cone |
| 1 No. 3193 3" long x 1-7/8" bore Spacer | |
| 1 No. 3194 2-3/8" x 3-3/8" x 1-7/8" bore
Centering Cone | 1 No. 4784 6-1/2" x 7-7/16" x 1-7/8" bore
Centering Cone |
| 1 No. 4776 2-3/4" x 3-11/32" x 1-7/8" bore
Centering Cone | 1 No. 4785 7-1/32" x 7-41/64" x 1-7/8" bore
Centering Cone |
| 1 No. 4777 3-9/32" x 3-57/64" x 1-7/8" bore
Centering Cone | 1 No. 4786 7-37/64" x 8-11/64" x 1-7/8" bore
Centering Cone |
| 2 No. 4778 3-53/64" x 4-27/64" x 1-7/8" bore
Centering Cones | |

INSTRUCTIONS-Pick Centering Cone (Figure 16) to fit drum. Cone can enter drum from inside or outside...depending on best locating surface. Use the Large Cups with the large Centering Cone and the Small Cups with the small Centering Cones. A typical set-up is illustrated on next page (Figure 17).

Use the No. 3198 1-7/8" Arbor with the No. 4775 Set.

Use Spacers as necessary to keep drum far enough away from Spindle for easy handling. Use Centering Cones as extra Spacers. Additional Spacers can be ordered as required to prevent the necessity of using Cones as Spacers.

The No. 3590 Spring must be used to join the boss inside one of the Cups with the boss at the back of the Centering Cone being used. Make sure that everything is located squarely and tighten the Nut firmly.

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- A – 1-7/8" Arbor**
- B – No. 3460 Nut**
- C – Spacers**
- D – Clamping Cups**
- E – Centering Cone**
- F – Spring**

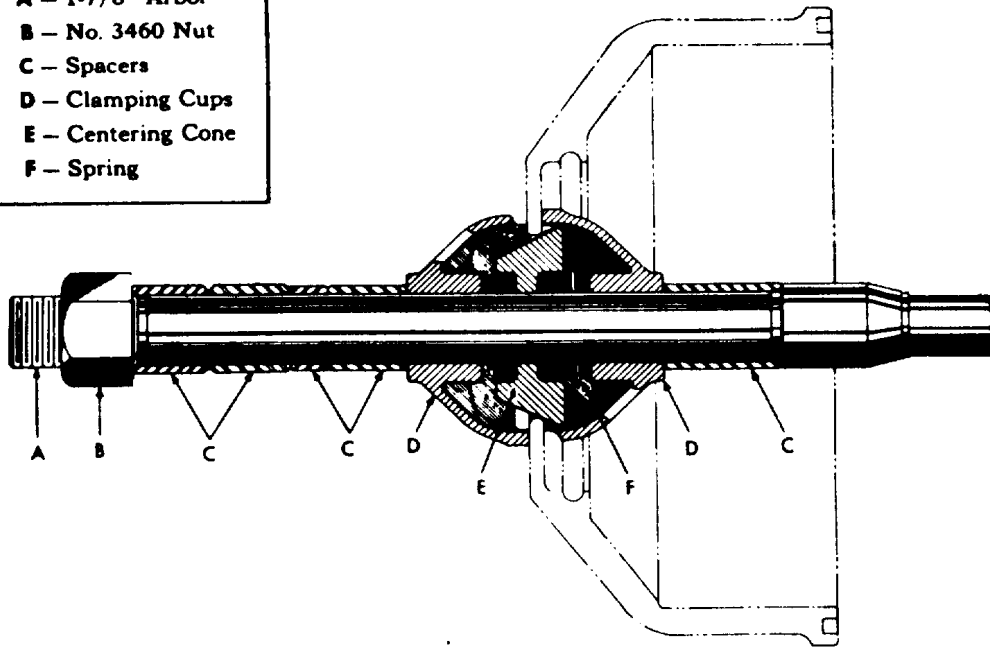
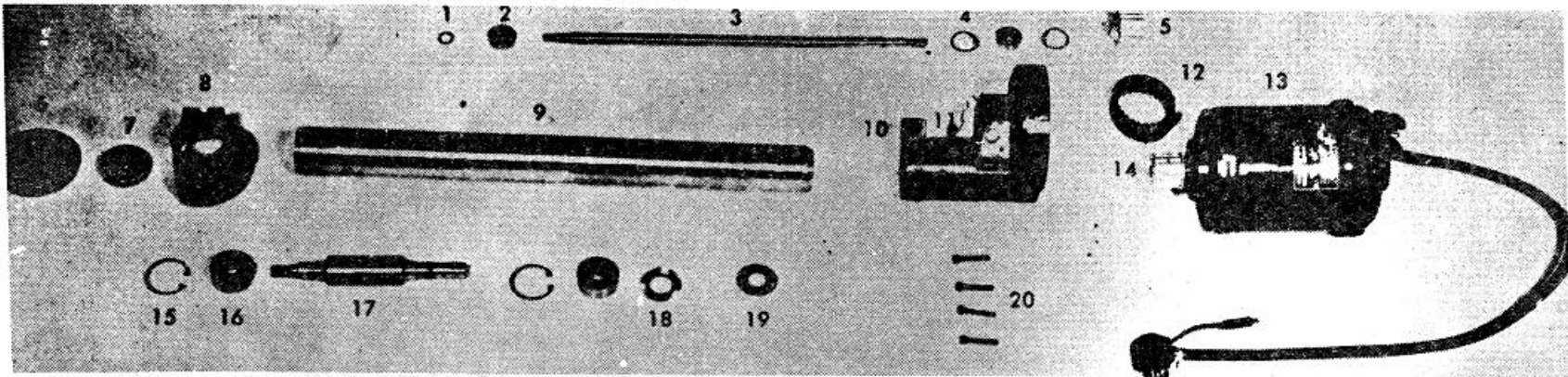


FIGURE 17

FOR BEST RESULTS IN ACCURACY
LINE UP WITNESS MARKS ON ARBORS
WITH THE WITNESS MARK
ON THE NOSE OF THE SPINDLE



PARTS LIST NO. 4050 BRAKE DRUM GRINDER

Key No.	Part No.	DESCRIPTION	Key No.	Part No.	DESCRIPTION
1	4059	Lock Ring		4083	Motor Switch and Cord Assembly (220 Volts, 1 Phase)
2	4062	Ball Bearing		4064	Switch
3	4060	Drive Shaft		3367	Switch Guard
4	4063	Retaining Ring		3342	Cord and Plug Set
5	4054	Driven Pulley		2197	Cord Grip
6	3333	Grinding Wheel (Box of 3)		4089	Brush Cap
7	3353	Grit. Seal Washer	14	4068	Pulley Assembly
8	3346	Wheel Guard		4066	Roll Pin
9	4053	Spindle Housing	15	3357	Tru Arc Ring
10	207	Socket Head Cap Screw		4070S	Spindle and Bearing Assembly
11	4052	Drive Case	16	3359	Ball Bearing
12	4057	Belt	17	4058	Grinder Spindle
13	4067	Motor Switch and Cord Assembly (110 Volts, 1 Phase)	18	3360	Loading Spring
			19	3361	Washer
			20	4069	Socket Head Cap Screw

MODEL 7700-7

NO. 7725-2 OUTBOARD SUPPORT

READ COMPLETELY BEFORE

STARTING SET-UP

1. Assemble Pedestal (A-Figure 18) to Horizontal Support Bar (B-Figure 18) with two hex head screws provided.
2. Put the NO. 7731 Arbor (C-Figure 18) in the Model 3000 SAFE-TURN Drum Lathe and tighten in place with the Draw Bar. BE SURE YOUR NO. 3131 CABINET IS BOLTED TO THE FLOOR.
3. Put the Horizontal Support Assembly in place. Use or improvise a plumb bob and hang it from the Arbor so that it barely clears the Horizontal Support Bar (B). THE HORIZONTAL SUPPORT BAR MUST BE AS NEARLY AS POSSIBLE PARALLEL WITH THE ARBOR AND DIRECTLY UNDERNEATH THE ARBOR ALONG THEIR FULL LENGTHS. It may be necessary to shift the Lathe on the Cabinet slightly to make this aligning possible.

4. Put the Horizontal Support Assembly in place and bolt it finger tight with the two hex head bolts provided. Again, **MAKE ABSOLUTELY SURE HORIZONTAL SUPPORT BAR IS PARALLEL TO AND DIRECTLY UNDERNEATH THE ARBOR ALONG THEIR FULL LENGTHS.** Tighten bolts securing Bracket (D) and after double checking alignment, fasten Pedestal (A) to floor.

5. Loosen Adjusting Bushing Lock Screw (E) and Lock Nut (F). With Cam Handle (K) in up position, place Upright Assembly (G) in position on Horizontal Support Bar as illustrated. Lower Roller Support Bracket (H), if necessary, by turning Upright Stem (I) with pin through hole provided while holding Roller Support Assembly stationary until it will clear Arbor Sleeve (J) with Cam Handle (K) in down position.

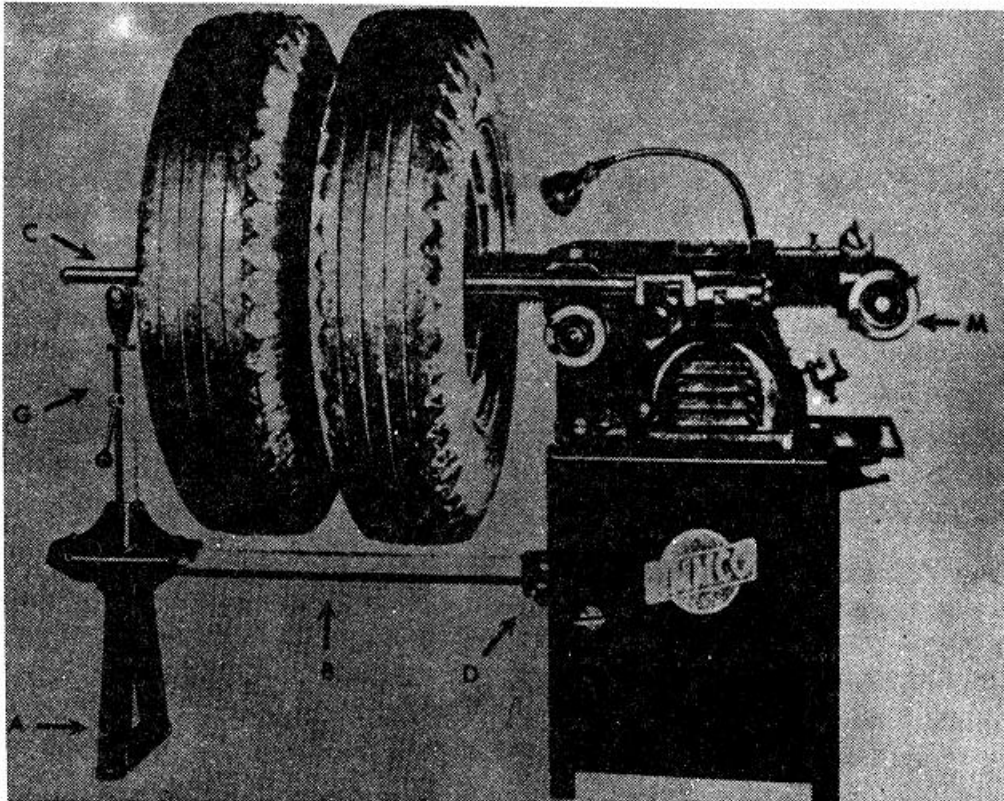
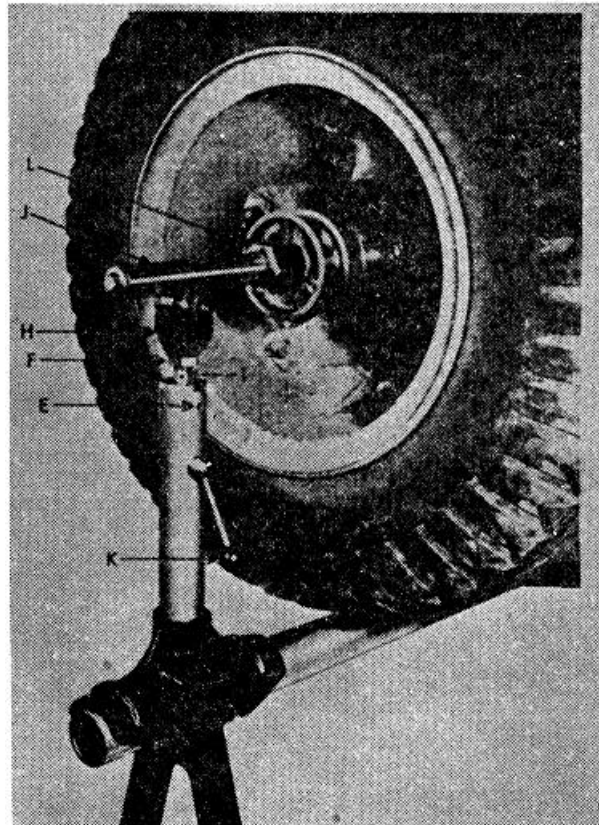


FIGURE 18

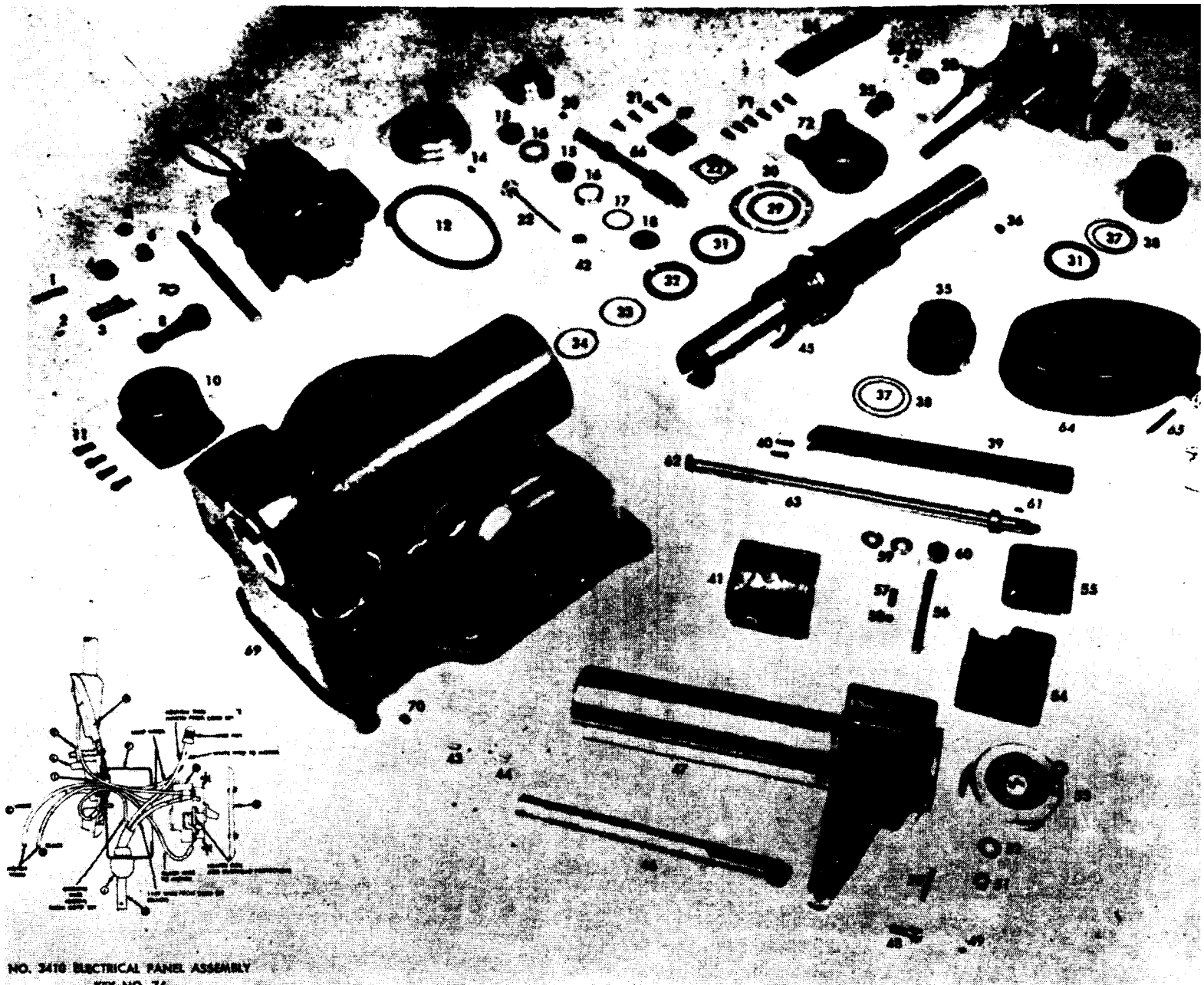
AGO 9140A

6. Adjust Roller Support Bracket (with Cam Handle still down) until Rollers contact Arbor Sleeve snugly. Tighten Adjusting Bushing Lock Screw (E) and Lock Nut (F). Remove Upright Assembly (G) by moving Cam Handle to up position and swinging clear of Arbor.
7. Select dual wheel assembly as close as possible to largest size you expect to do frequently. Use the No. 4775 Heavy Duty Truck Adaptor Set of Cones and Spacers. With a crane or hoist, raise the wheel assembly to the right level. Use Spacers between drum and Spindle so that tires clear Cabinet. Use Centering Cones for extra Spacers as necessary. Tighten No. 3460 Nut (L) tightly with wrench provided, after making sure that everything has located fully and squarely.
8. Replace Upright Assembly. Raise Roller Support Bracket by moving Cam Handle to down position. Remove chain from hoist or crane supporting weight of wheel assembly.

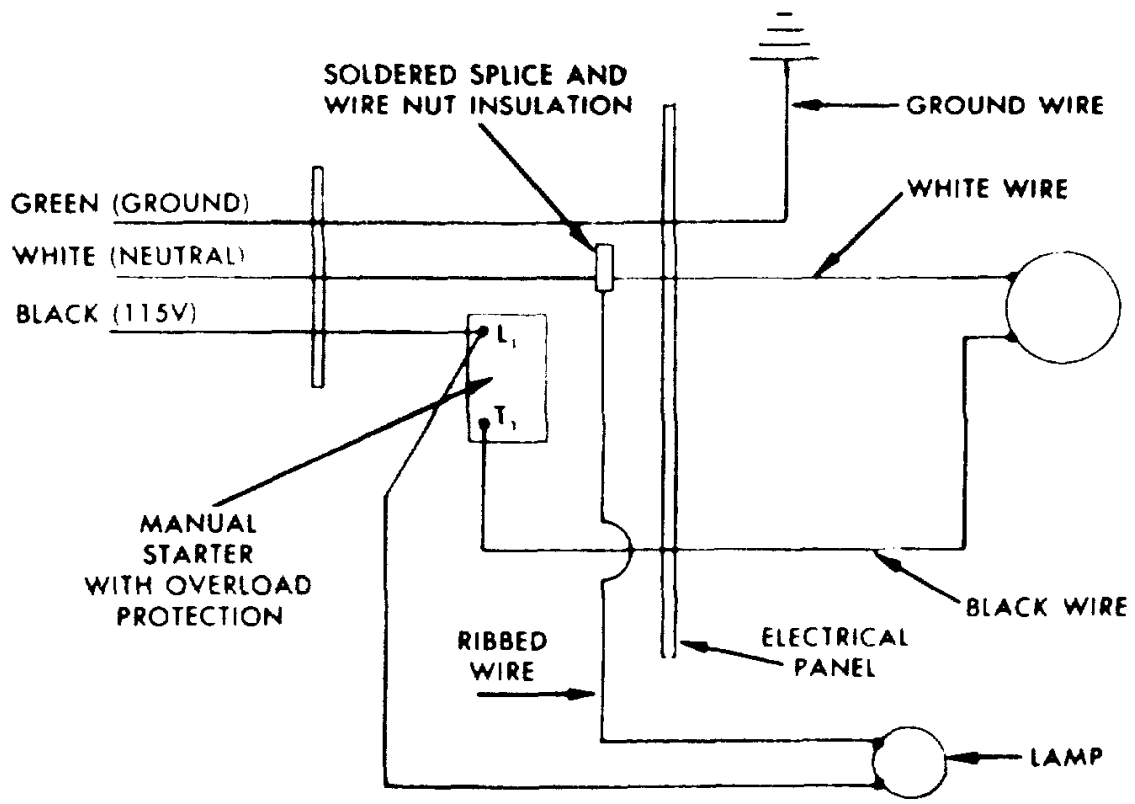


9. Loosen Adjusting Bushing Lock Screw and Lock Nut. Raise Roller Support Bracket slowly by using pin in Upright Stem while trying Spindle Feed Hand Wheel (M). Proper adjustment is obtained when Hand Wheel can be turned at its freest.
10. Tighten Lock Nut and Adjusting Bushing Lock Screw. If at any time, due to variations in wheel assemblies' weight, the Hand Wheel seems tight, readjust Roller Support Bracket as necessary.
11. To remove wheel assembly, support its weight on crane or hoist. (DO NOT ALLOW WHEEL ASSEMBLY'S WEIGHT TO REST ON ARBOR WHEN ARBOR IS NOT SUPPORTED BY UPRIGHT.) Remove Upright Support by turning Cam Handle to up position. Remove Nut, Spacers and Cones, and take wheel assembly off Arbor. LUBRICATION-Apply a light grease through grease fitting at top of Upright Assembly (G-Figure 18) every 30 days. Keep exposed metal parts clean and covered with a light coating of oil.

LUBRICATION - Apply a light grease through grease fitting at top of Upright Assembly (G - Figure 18) every 30 days. Keep exposed metal parts clean and covered with a light coating of oil.



NO. 3476 ELECTRICAL PANEL ASSEMBLY



MODEL 7700-7 10" DRUM LATHE

FSN-4910-516-6192

FEDERAL SPECIFICATION 00-L-90a SIZE II

Equipment Furnished:

Model 7700-7	10" Safe-Turn Lathe
	3420 Standard Passenger Light and Medium Truck Accessories
	3426 Instruction Book
No. 3131	Cabinet Assembly
No. 4775	Heavy Duty Cone and Spacer Set
No. 7730-1	Truck Arbor Assembly
No. 7725-2	Outboard Support

PARTS LIST MODEL 7700-7 SAFE-TURN BRAKE DRUM LATHE

Please give Serial Number of lathe when ordering parts.

Key Part No. No.		Key Part No. No.			
1	3088	Belt Release Handle	53	7705	Cross Feed Handwheel
2	3180	#10-24 x 3/8" Lg. Soc. Hd. Set Scr.	54	3016	Boring Bar Clamp (lower jaw)
3	3035	Belt Release Eccentric Pin	55	3017	Boring Bar Clamp Top Plate
4	320	Belt Release Ball Knob	56	3031	Boring Bar Clamp Stud
5	3377	1/2-20-UN Hex Nut	57	3216	3/8-16 x 3/4" Lg. Set Screw
6	3223	Motor Mount Shaft Bushing	58	3142	Copper Plug
7	2364	Rubber Cushion	59	3165	Self-Aligning Washer Set
8	3015	Belt Tension Lever	60	3029	Boring Bar Clamp Nut
9	3023	Motor Mount Shaft	61	3176	Woodruff Key
10	3007	Cross Feed Scr. Cap	62	3185	5/8-18-Hex Jam Nut
11	209	5/8-18 x 3/4" Soc. Hd. Cap Scr.	63	3211	Lead Screw and Collar Assembly
12	3161	V Belt		317	Gits Oiler
13	3417	Driven Pulley	64	3423	Belt Guard
14	222	5/16-18 x 1/2" Cup Soc. Hd. Set Scr.	65	3371	Pin
15	3393	Bearing Cone	66	3424	Worm and Driveshaft Assembly
16	3394	Bearing Cup	67	3186	Bearing Cap and Seal Assembly
17	3172	Spirolox Ring		3163	Seal
18	3166	2" Welch Plug		3010	Cap
19	3416	Drive Pulley	68		Motor Mount Assembly
20	217	5/16-18 x 5/16" Cup Pt. Soc Hd. Set Scr.		3414	Motor 1 H.P., 1 Ph., 115 V., 60 Cy.
21	236	5/16-18 x 7/8" Hex Hd. Cap Scr.		3023	Shaft
22	3169	Shims .005 (as needed)		3009	Motor Mount
	3170	Shims .007 (as needed)		1602	5/16-18 x 1/2" Lg. Hex Hd. Machine Scr.
	3171	Shims .020 (as needed)		283	5/16-18 Lock Washer
23	3148	Oil Level Stick		3230	3/8 - 16 x 1/2" Lg. Cup Pt. Set Screw
24	7703	Lead Scr. Boot		3412	Black Wire and Terminal Lug Assembly
25	7712	Lead Scr. Nut		3414	White Wire and Terminal Lug Assembly
26	3338	#10-24 x 1/4" Cup Point Set Scr.	69	7704	Main Frame and Bushing Assembly
27	3089	Oil Seal Adaptor Ring		3002	Main Frame
28	4671	Take-up Nut		3089	Oil Seal Adaptor Ring
29	3033	Thrust Washer		3188	Bronze Bushing (front)
30	3032	Spindle Shim	70	1680	3/8-16 x 1/2" Cup Pt Soc. Set Scr.
31	3164	Oil Seal	71	209	5/16-18 x 3/4" Lg. Soc. Hd. Cap Scr.
32	3034	Adaptor Ring	72	7729	Lead Screw Flange Assembly
33	3025	Retaining Ring	73	7702	Feed Mechanism Assembly
34	3159	Tru Arc Ring		3090	Hand Wheel Assembly
35	3085	Spindle Protective Boot		222	5/16-18 x 1/2" Lg. Soc. Hd. Set Scr.
36	3224	Spindle to Feed Mechanism, Cup Point		3084	Feed Dial Lock Screw
		Lock Scr. 1/2-13 x 5/8" Lg. Soc. Hd.		3141	Feed Dial Lock Screw Plug
37	3595	Spindle Boot Spring (small)		3098	1/4-20 x 1/4" Lg. Dog Pt. Set Scr.
38	2045	Spindle Boot Spring (large)		3039	Stop Collar
39	3134	Boring Bar		3221	Eccentric Stop Button Screw
40	3179	Sq. Hd. Set Scr. 5/16-18 x 3/4" Lg.		3042	Feed Throw-out Lever Assembly
41	3087	Cross Feed Boot	74	3410	Electrical Panel Assembly
42	3215	Oil Filler Sleeve	A	3411	Electrical Panel
43	3886	Felt Wick	B	3412	Black Wire and Lug Assembly
44	3884	Gits Oiler	C	3414	White Wire and Lug Assembly
45	7708	Spindle Assembly	D	3409	110 V., #14-3-SO Cord Set
	3028	Drive Key	E	3079	Clamp Strap
	209	5/16 18 x 1/2" Lg. Soc. Hd. Cap Scr.	F	6386	1/2- #4 SSL Electrical Box
	7714	Spindle Body	G	6443	Square "D" #AD-1 Manual Starter
	6486	5/16-18 x 3/4" Lg. Soc. Hd. Cap Scr.	H	6442	#58 C-30 Switch Cover
		Nylock	I	6444	1/2- Chase Nipple
	7713	Drive Quill	J	6440	#SR-18-HEYCO Cord Grip
	3419	Worm Wheel	K	5637	TYPER Scotch-Lok Wire Nut
	283	5/16-18 Shake-proof Washer	L	6441	1 x 1/2" Reducer Washer
	7728	Cross Feed Assembly		7219	Insulation Bushing
46	3027	Guide Bar		3158	Lamp and Terminal Lug Assembly
47	3004	Cross Feed		6445	1/2" Lock Nut
48	3144	Lock Screw Body		5549	#8-32 x 1/2" Lg. TYPE 23 Set Scr,
49	1888	10-24 x 1/4" Soc. Hd. Set Scr.		3183	1/4-20 x 1/2" Lg. Rd. Hd. Machine
50	3145	Lock Scr. Handle			Scr.
51	2309	1/2-20 Elastic Stop Nut		220	5/16-18 x 3/8" Lg. Cup Pt. Set Scr.
52	3214	1/2" Flat Washer		7716	Drawbar

NO. 3420-S

STANDARD PASSENGER CAR, LIGHT AND MEDIUM TRUCK ACCESSORIES

Part No.		Part No.	
3101	1" Arbor	3107-7	2 15/16" x 3 1/2" x 1" Bore Centering Cone
3102-7	Arbor Nut for No. 3101 Arbor	3108-7	2 7/16" x 2 31/32" x 1" Bore Centering Cone
3125-7	1/2" long x 1" Bore Spacer	3902-7	1 3/4" x 1 1/16" x 1" Bore Centering Cone
4479-7	2" long x 1" Bore Spacer and Radii Adaptor	3904-7	1 45/64" x 2 3/4" x 1" Bore Centering Cone
3601-7	1" x 1" Bore Spacer and Radii Adaptor	3903-7	2 1/4" x 1 3/16" x 1" Bore Centering Cone
3893-7	1 46/64" x 1" Bore Radii Adaptor	3110	Spring
3894-7	2 19/64" x 1" Bore Radii Adaptor	3415-7	H.S. Stil. Tool Bit
3112-7	1 5/8" x 1 7/8" x 1" Bore Radii Adaptor	4725	Heavy Duty Carbide Tipped Tool Bit
3547-7	2" x 2 1/2- x 1" Bore Radii Adaptor	3022	1 1/16" x 1 1/4" Open End Wrench
3115-7	2 1/16" x 2 5/16" x 1" Bore Radii Adaptor	3218	5/16" x 3/8" Open End Wrench
3548-7	2 9/16" x 2 13/16" x 1" Bore Radii Adaptor	6026	Grounding Plug Adaptor
3549-7	2 6/8" x 3 3/16" x 1" Bore Radii Adaptor	2990	Wide Silencer Band
3117-7	3 5/16- x 3 5/8" x 1" Bore Radii Adaptor	3426	Instruction Book
3109-7	Inside Floating Drum Adaptor, 1" Bore	7325	Tapered Hub Adaptor
3123-7	Outside Floating Drum Adaptor, 1" Bore	SPARE PARTS	
3106-7	3 7/16" x 4" x 1" Bore Centering Cone	3161	Extra "V" Belt Gates No. 2-2250

NO. 3131 CABINET ASSEMBLY

3131-S	Cabinet Assembly	4-7/16-14-NC Hex Head Nuts
	4-7/16-14-NC x 2" Long Hex Head	4-15/32" I.D. x 15/16" O.D. Flat Washers
	Machine Bolts	

NO. 4775 HEAVY DUTY HUBBED AND FLOATING DRUM SET

Part		Part	
Qty. No.		Qty. No.	
1	3590 Spring	2	4779-7 4 23/64" x 4 31/32" x 1 7/8" Bore Centering Cones
2	3581-7 Aligning Cups, Large (1 7/8" bore)	2	4781-7 4 57/64" x 5 1/2" x 1 7/8" Bore Centering Cones
2	3577-7 Aligning Cups, Small (1 7/8" bore)	2	4782-7 5 7/16" x 6 1/32" x 1 7/8" Bore Centering Cones
1	3191-7 1" long x 1 7/8" Bore Spacer	1	4783-7 5 31/32" x 6 9/16" x 1 7/8" Bore Centering Cone
1	3192-7 2" long x 1 7/8" Bore Spacer	1	4784-7 6 1/2" x 7 7/16" x 1 7/8" Bore Centering Cone
1	3193-7 3" long x 1 7/8" Bore Spacer	1	4785-7 7 1/32" x 7 41/64" x 1 7/8" Bore Centering Cone
1	3194-7 2 3/8- x 3 3/8" x 1 7/8", Bore Centering Cone	1	4786-7 7 11/64" x 8 11/64" x 1 7/8" Bore Centering Cone
1	4776-7 2 3/4- x 3 11/32" x 1 7/8" Bore Centering Cone		
1	4777-7 3 9/32- x 3 57/64" x 1 7/8" Bore Centering Cone		
2	4778-7 3 53/64" x 4 27/64" x 1 7/8" Bore Centering Cones		

NO. 7730-1 HEAVY DUTY TRUCK ARBOR ASSEMBLY

Part No.		Part. No.	
3431	Truck Arbor	3471	Sleeve Retainer
7762-S	Bearing Sleeve Assembly	2994	1/2-20 x 7/8" Lg. Hex Head Cap Scr-
7727	Bearing Sleeve	3460	Arbor Nut 1-7/8-12-N2-LH
2997	B-816 Needle Bearing	5722	Arbor Nut Wrench 2-1/2"
2996	B-2016 Needle Bearing		

NO. 7725-2 OUTBOARD SUPPORT 10"

Part No.		Part No.	
3473-S	Support and Roller Head Assembly	3468-S	Roller Head Assembly
2993	3/8-16 x 3/8" Lg. Soc. Hd. Set Screw	3465	Roller Bracket
2986	1" 14-NC 2 Hex Nut	3466	Roller
3131-S	Vertical Support Assembly	3467	Roller Shaft
3434	Vertical Pipe Support	2998	B-88 Needle Bearing
3455	Support Bracket	2999	Alemite Fitting 1/8 NPT
3461-S	Push Rod and Bushing Assembly	3398	5/16-18-Soc. Hd. Set Screw.
3458	Bushing	3435-S	Horizontal Support Assembly
3459	Push Rod	3436	Horizontal Support
2995	5/16 x 13/16" Lg. Roll Pin	3451	Bracket Attachment
3464-S		3437	Pedestal
3462	Cam	2991	1/2-13-UNC-1 3/4" Lg. Hex Hd. Cap Scr,
3463	Cam Lever	2992	1/2-13-ONC-1 1/4" Lg. Hex Hd. Cap Scr.
218	5/16-18 x 1/4" Lg. Set Screw	3999	1/2 Std. Iron Washer
320	Ball	3476	1/2 Lock Washer
		3479	1/2-13-UNC Hex Nut

**INSTRUCTIONS FOR REQUISITIONING PARTS
NOT IDENTIFIED BY FSN**

FROM AMMCO TOOLS. INC., 2100 COMMONWEALTH AVENUE,
NORTH CHICAGO, ILLINOIS

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

1. Manufacturer's Federal Supply code number (03297).
2. Manufacturer's part number exactly as listed herein.
3. Nomenclature exactly as listed herein, including dimensions if necessary.
4. Manufacturer's model number (7700-7).
5. Manufacturer's serial number
6. Any other information such as type, frame number, and electrical characteristics, if applicable.

DRUM TURNING INFORMATION

Following is a list of front drum Radii Adaptors for use on 1955-64 cars.

Car	Year	Inner	Outer	Car	Year	Inner	Outer		
Buick Except Special and Skylark	1955-60	3549	3547	Hudson	1955-57	3547	3601		
	1961-64	3115	3112	International Scout 4 x 2	1962-64	3115	3112		
		3894	3893			3115	3112		
Buick Special and Skylark Cadillac	1961-64	3547	3601	International Scout 4 x 4	1962-64	3548	3548		
	1955-59	3549	3547			3549	3549		
		1960-64	3115	3112	Kaiser	1955	3115	3112	
Chevrolet	1955	3894	3893	Lincoln	1955-56	3547	3601		
		3894	3112			1957-58	3115	3112	
		3894	3112			1959-64	3115	3112	
	1958-60	3115	3112	Mercury Mercury Comet	1955-64	3547	3601		
	1961-64	3547	3601		1960-61	3112	4479		
Chevrolet Corvair	1962-64	3112	4479	1962-64	3112	3893	4479		
		3893		3893					
Chevrolet Corvette	1955-57	3548	3112	Oldsmobile	1955-56	3549	3112		
	1958-60	3115	3112		1957-61	3549	3547		
	1961-64	3547	3601		1962-64	3547	3601		
Chevy II and Chevelle	1962-64	3112	4479	Oldsmobile F-85	1962-64	3115	3112		
		3293				3894	3893		
Chrysler	1955	3115	3112	Packard	1955	3115	3112		
		3547	3601			1956	3547	3601	
	1956-64	3547	3601		1957-58	3115	3112		
		3894	3893			3547	3601		
		3115	3112						
De Soto	1955	3115	3112	Plymouth	1955-64	3547	3601		
		3547	3601			Plymouth Valiant	1960-61	3112	4479
		3547	3601					1962-64	3112
	1956	3547	3601			3893	4479		
		3894	3893						
		3115	3112						
Dodge	1957-61	3547	3601	Pontiac	1955-57	3547	3112		
		3547	3601			1958-60	3115	3112	
	1955-56	3547	3601	Pontiac Tempest Rambler	1961-64	3547	3601		
		3115	3112			1955-64	3547	3601	
		3894	3893						
1960-64	3547	3601							
Dodge Dart	1962-64	3112	3893	4479	Studebaker	1955	3115	3112	
Dodge Lancer	1961-62	3112	4479	Willys	1956-64	3547	3601		
		3112	4479			1955-56	3115	3112	
Edsel	1958-59	3547	3601	1957-59	3115	3112	3548	3548	
Ford	1955-64	3547	3601						
Ford Falcon	1960-61	3112	4479		1960-61	3115	3112		
		3112	4479			1962-64	3548	3548	
		3893	4479				1962-64	3548	3548
		3893	4479			3549	3549		

AMMCO TOOLS, INC.

2100 Commonwealth Avenue

North Chicago, Illinois

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**APPENDIX
BASIC ISSUE ITEMS LIST**

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, equipment, and repair parts 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 column).

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, 6, 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 is not required.
- (2) *Source* (colm 1b). This column indicates the selection status and source for the listed item. Source code used in this list is-

<i>Code</i>	<i>Explanation</i>
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 1c). This column indicates the category of maintenance authorized to install the listed item. Maintenance level code used in this list is-

<i>Code</i>	<i>Explanation</i>
O/C	Operator or crew maintenance

(4) *Recoverability* (colm 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

<i>Code</i>	<i>Explanation</i>
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). This column indicates the Federal item name and any additional description required for supply operations. The manufacturer's code and part number are also included for reference.

<i>Code</i>	<i>Explanation</i>
03297.....	Ammco Tools, Inc.
24161	Gates Rubber Co.
74545.....	Hubbell Harvey, Inc.

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

4. Abbreviations

<i>Abbreviation</i>	<i>Explanation</i>
carb-S	carbon steel
dia	diameter
deg	degree(s)
fl	flat
hd	head
HSS	high speed steel
o/	overall
stght	straight

5. Errors, Comments, and/or Suggestions

Reports of errors, comments, and suggestions for improving this manual 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 Maint. And Recov. Code				(2) Federal Stock No.	(3) Description	(4) Unit of Issue	(5) Qty. Inc. in Unit	(6) Illustration	
(a) Mater	(b) Source	(c) Maint.	(d) Recov.					(a) Fig. No.	(b) Item No.
			R	4910-516-6192	<p align="center">MAJOR COMBINATION</p> <p>The following item is to be requisitioned for initial issue only.</p> <p>LATHE, BRAKE DRUM (03297:7700-1)</p>	ea		20 and 21	1 through 50.
C	O/C			5935-552-4372	<p align="center">COMPONENTS OF MAJOR COMBINATION</p> <p align="center">None authorized.</p> <p align="center">REPAIR PARTS FOR:</p> <p>LATHE, BRAKE DRUM: (03297; Model 7700-7)</p> <p>BELT, V: drive motor (24161: No. 2-2250)</p> <p align="center">TOOLS AND EQUIPMENT FOR:</p> <p>LATHE, BRAKE DRUM: (03217; Model 7700-7)</p>	ea	1	21	34
C	O/C				ADAPTER, CONNECTOR: 2 connectors mating ends, stght shape, 5 contacts, 1 female, U-hollow, 2 female, fl at one end, 2 male, flat other end, nonlocking, 1.078 lg x 1.438 dia in. (74545:5273L).	ea	1	21	48
C	O/C				ADAPTER, DRUM: inside, floating (cast iron) (03297:3109-7)	ea	1	21	5
C	O/C				ADAPTER, DRUM: outside, floating (aluminum) (03297:3123-7)	ea	1	21	4
C	O/C				ADAPTER, RADII: 1 5/8 x 1 7/8 (03297:3112-7)	ea	1	21	18
C	O/C				ADAPTER, RADII: 1 45/64 in. lg (03297:3893-7)	ea	1	21	28
C	O/C				ADAPTER, RADII: 2 x 2 1/2 (03297:3547-7)	ea	1	21	19
C	O/C				ADAPTER, RADII: 2 1/16 x 2 5/16 (03297:3115-7)	ea	1	21	20
C	O/C				ADAPTER, RADII: 2 19/64 in. lg (03297:3894-7)	ea	1	21	29
C	O/C				ADAPTER, RADII: 2 9/16 x 2 13/16 (03297:3548-7)	ea	1	21	15
C	O/C				ADAPTER, RADII: 2 5/8 x 3 3/16 (03297:3549-7)	ea	1	21	16
C	O/C				ADAPTER, RADII: 3 5/16 x 3 5/8 (03297:3117-7)	ea	1	21	17
C	O/C				ADAPTER, TAPERED HUB: (03297:7325)	ea	1	21	43
C	O/C				ARBOR, STEP: 1 in. (03297:3428)	ea	1	21	46
					NUT, STEP ARBOR: (included w/arbor 3428) (03297:9107)			21	46B
					SLEEVE, STEP ARBOR: (included w/arbor 3428) (03297:9108)			21	46-A
C	O/C				ARBOR, TRUCK: (03297:3431)	ea	1	20	3
C	O/C				CABINET ASSEMBLY: (03297:3131)	ea	1	20	5
C	O/C				CONE, CENTERING: 11/16 in. arbor (03297:3118-7)	ea	1	21	32
C	O/C				CONE, CENTERING: 1 45/64 x 2 3/4 (03297:3904-7)	ea	1	21	25

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Section II. BASIC ISSUE ITEMS-Continued

(1) Source Maint. And Recov. Code				(2) Federal Stock No.	(3) Description	(4) Unit of Issue	(5) Qty. Inc. in Unit	(6) Illustration	
(a) Mater	(b) Source	(c) Maint.	(d) Recov.					(a) Fig. No.	(b) Item No.
					TOOLS AND EQUIPMENT FOR:-Continued LATHE, BRAKE, DRUM (03297: MODEL 7700-7)- Continued				
C	O/C				CONE, CENTERING: 1 3/4 x 1 1/16 (03297:3902-7)	ea	1	21	36
C	O/C				CONE, CENTERING: 2 1/4 x 1 3/16 (03297:3903-7)	ea	1	21	24
C	O/C				CONE, CENTERING: 2 3/8 x 3 3/8 (03297:3194-7)	ea	1	21	35
C	O/C				CONE, CENTERING: 2 3/4 x 3 11/32 (03297:4776-7)	ea	1	21	14
C	O/C				CONE, CENTERING: 2 7/16 x 2 31/32 (03297:3108-7)	ea	1	21	23
C	O/C				CONE, CENTERING: 2 15/16 x 3 1/2 (03297:3107-7)	ea	1	21	22
C	O/C				CONE, CENTERING: 3 9/32 x 3 57/64 (03297:4777-7)	ea	1	21	13
C	O/C				CONE, CENTERING: 3 7/16 x 4 (03297:3106-7)	ea	1	21	21
C	O/C				CONE, CENTERING: 3 53/64 x 4 27/64 (03297:4778-7)	ea	2	21	12
C	O/C				CONE, CENTERING: 4 23/64 x 4 31/32 (03297:4779-7)	ea	2	21	11
C	O/C				CONE, CENTERING: 4 57/64 x 5 1/2 (03297:4781-7)	ea	2	21	10
C	O/C				CONE, CENTERING: 5 7/16 x 6 1/32 (03297:4782-7)	ea	2	21	3
C	O/C				CONE, CENTERING: 5 31/32 x 6 9/16 (03297:4783-7)	ea	1	21	9
C	O/C				CONE, CENTERING: 6 1/2 x 7 7/16(03297:4784-7)	ea	1	21	8
C	O/C				CONE, CENTERING: 7 1/32 x 7 11/64 (03297:4785-7)	ea	1	21	6
C	O/C				CONE, CENTERING: 7 37/64 x 8 11/64 (03297:4786-7)	ea	1	21	7
C	O/C				CUP, ALINING: large (03297:3581-7)	ea	2	21	1
C	O/C				CUP, ALINING: small (03297:3577)	ea	2	21	2
C	O/C				CUTTER BIT, TOOL: carb-S (03297:4725-1)	ea	2	21	50
C	O/C				CUTTER BIT, TOOL: HSS (03297:3415-7-1)	ea	2	21	49
C	O/C				GRINDER ATTACHMENT: brake drum (03297:4050)	ea	1	13	-
C	O/C				NUT, ARBOR: (03297:3460)	ea	1	20	2
C	O/C				PEDESTAL: support and roller assembly (03297:3437)	ea	1	20	7
C	O/C				SILENCER, BAND: brake drum (03297:2990)	ea	1	21	37
C	O/C				SLEEVE ASSEMBLY, BEARING: (03297:7726-S)	ea	1	20	1
C	O/C				SPACER, BORE: 1/2 in. lg (03297:3125-7)	ea	1	21	26
C	O/C				SPACER, BORE: 1 in lg (03297:3191-7)	ea	1	21	42
C	O/C				SPACER, BORE: 2 in. lg (03297:3192-7)	ea	1	21	41
C	O/C				SPACER, BORE: 3 in. lg (03297:3193-7)	ea	1	21	40
C	O/C				SPACER: 1/2 in., 11/16 in. arbor (03297:3121-7)	ea	1	21	31
C	O/C				SPACER: 1 in., 11/16 in. arbor (03297:3120-7)	ea	1	21	33

(1) Source Maint. And Recov. Code				(2) Federal Stock No.	(3) Description	(4) Unit of Issue	(5) Qty. Inc. in Unit	(6) Illustration	
(a) Mater	(b) Source	(c) Maint.	(d) Recov.					(a) Fig. No.	(b) Item No.
C	O/C			5120-277-2307	SPACER, RADII ADAPTER: 1 in. lg (03297:3601-7)	ea	1	21	27
C	O/C				SPACER, RADII ADAPTER: 2 in. lg (03297:4479-7)	ea	1	21	30
C	O/C				SPRING, SEATING: centering cone (03297:3110)	ea	1	21	38
C	O/C				SPRING, SEATING: centering cone (03297:3590)	ea	1	21	39
C	O/C				SUPPORT ASSEMBLY: horizontal (03297:3435-S)	ea	1	20	6
C	O/C				SUPPORT AND ROLLER ASSEMBLY: (03297:3473-S)	ea	1	20	8
C	O/C				WRENCH, ARBOR NUT: (03297:5722)	ea	1	21	47
C	O/C				WRENCH, OPEN END, FIXED: dble-hd type, 15 deg angle of hd, 5/16 and 3/8 in. opngs, 13/64 in. hd thk, 3 5/8 min o/a lg.	ea	1	21	45
C	O/C			5120-752-9730	WRENCH, OPEN END, FIXED: sgle-hd type, 15 deg angle of hd, 1 1/16 in. opng, 5/16 in. hd thk, 9 in. o/a lg.	ea	1	21	44

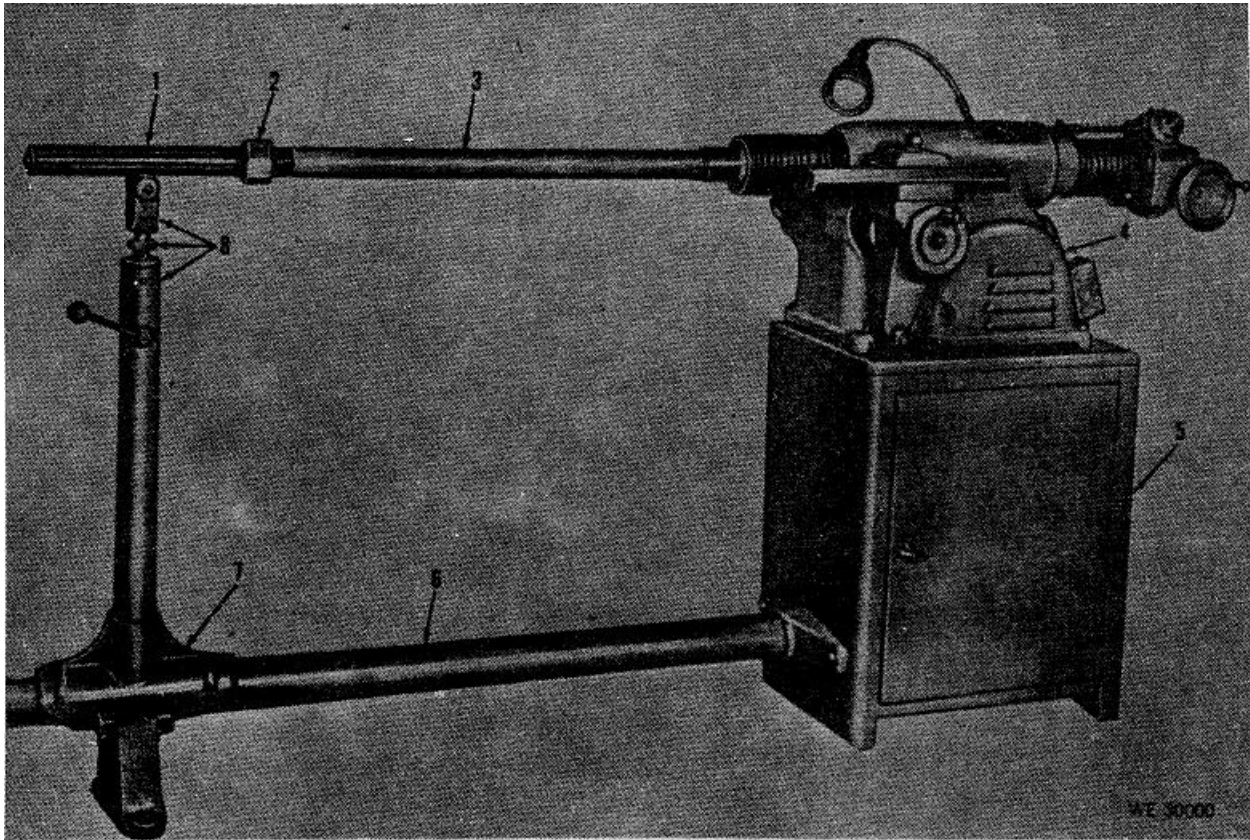
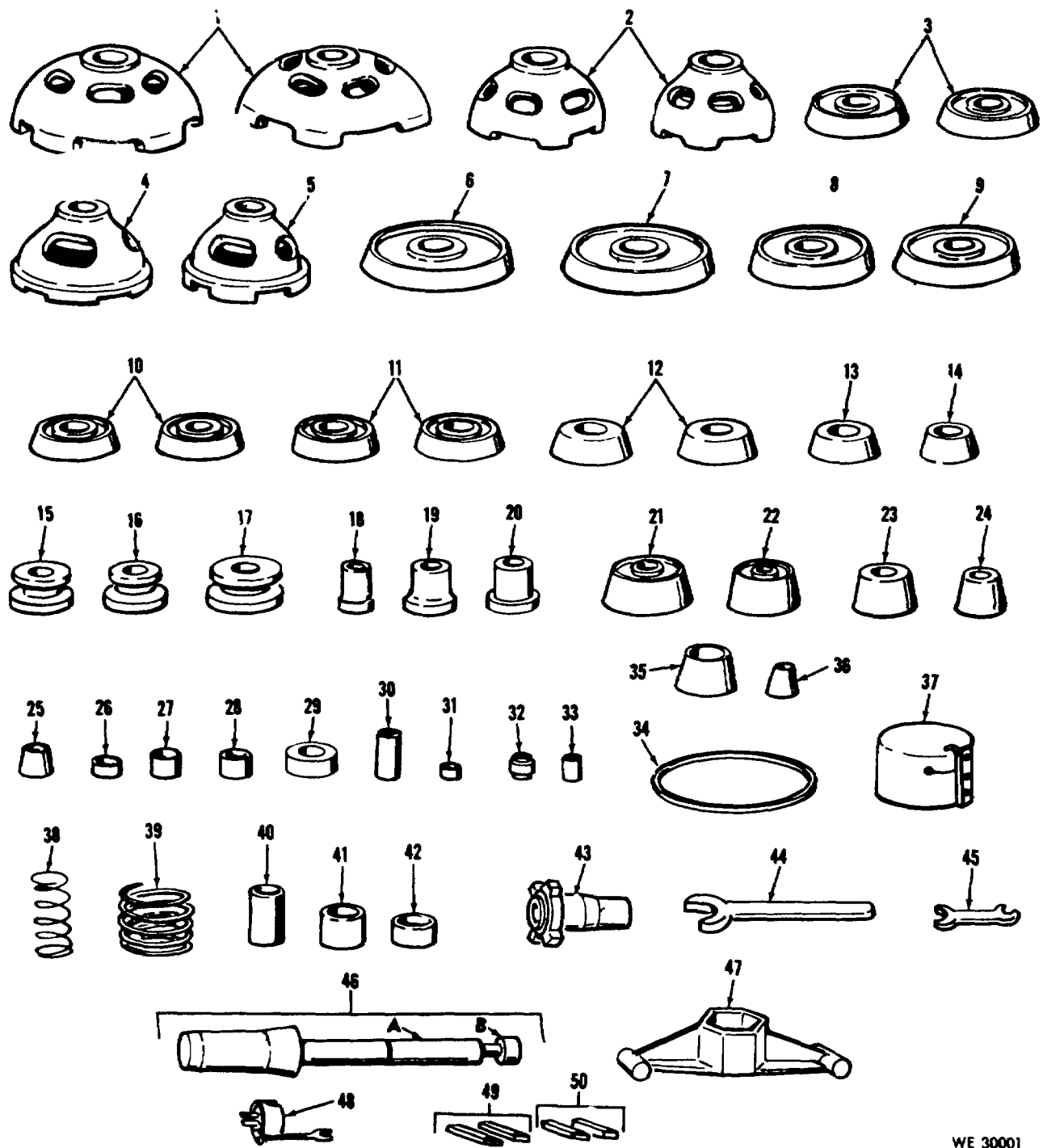


Figure 20. Brake drain lathe w/attached equipment-left ,front views,.



WE 30001

Figure 21. Tools, equipment, and spare parts.

☆ U. S. Government Printing Office: 1983 - 664-028/6129

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

 <p style="font-size: small; margin: 0;"><i>THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.</i></p>		SOMETHING WRONG WITH PUBLICATION	
		FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)	
		DATE SENT	
PUBLICATION NUMBER		PUBLICATION DATE	PUBLICATION TITLE
IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.			
BE EXACT PIN-POINT WHERE IT IS			
PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER		SIGN HERE	

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 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 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

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
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)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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TM 9-4910-445-10 LATHE, BRAKE DRUM, FLOOR MOUNTED, 60-INCH RATED SWING-1965

PIN: 006041-000