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AMMCO #8

1978

NATLSCO
National Loss Control Service Corporation

Long Grove, IL 60049 • 312 | 540-2400
TWX 910 | 651-3571

a subsidiary of
Kemper CORPORATION

July 7, 1978

Mr. Robert S. Hampton, Jr.
Product Engineering Manager
Ammco Tools, Inc.
2100 Commonwealth Avenue
North Chicago, Illinois 60064

Dear Mr. Hampton:

Enclosed are three copies of our Product Safety Report on the Models 8000, 880, and 890 Brake Shoe Grinders and the Model 1250 Brake Assembly Washer.

If you have any questions or comments, please feel free to contact me.

Sincerely,

E. L. Ziemba/JVK

E. L. Ziemba
Manager, Product Safety Services
Direct Dial Number: 312/540-2016

ELZ/jbc

Enc.

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ILLUSTRATION 8



INSTALLATION INSTRUCTIONS

WARNING - These instructions must be followed to insure safe and proper operation of the motor or generator.

A. Before coupling motor or generator to load or applying power:
1. Check for shipping or handling damage.
2. Check for proper wiring. Line wiring must be of sufficient size to carry the current required in accordance with the NATIONAL ELECTRIC CODE and local codes.
3. Check for proper fuse size as required by the NATIONAL ELECTRIC CODE and local codes.
4. Shaft must be free to turn by hand.
5. Line voltage and frequency must match the motor or generator nameplate voltage and frequency.
6. Motor must be electrically grounded per NATIONAL ELECTRIC CODE and local codes.

B. Before coupling motor to load, apply power to determine whether:
1. Motor runs properly.
2. Rotation is correct.

C. After coupling motor or generator to load and applying power, make sure motor comes up to speed and is not overloaded.

RUNNING OVERLOAD PROTECTION

TIME DELAY FUSES AND THERMAL CUTOFFS - Use 125% of full load amps as shown on the nameplate for motors with 40 degree C rise or service factor over 1.0. Use 115% of full load amps, shown on the nameplate, for all other motors.

THERMAL PROTECTOR - Motors equipped with built in thermal protection have the words "Thermally Protected" on the name plate. Thermal protectors open the motor circuit electrically when the motor becomes too hot or is overloaded. Motors with a red button (manual) may be then restored by pressing the red button after the motor cools. Motors with internal protectors (automatic) will reset themselves after the motor cools.

WARNING - DISCONNECT POWER BEFORE WORKING ON MOTOR DRIVEN EQUIPMENT. MOTORS W. TH AUTOMATIC THERMAL PROTECTORS WILL AUTOMATICALLY RESTART WHEN THE PROTECTOR TEMPERATURE DROPS SUFFICIENTLY. DO NOT USE MOTORS WITH AUTOMATIC THERMAL PROTECTORS IN APPLICATIONS WHERE AUTOMATIC RESTART WILL BE HAZARDOUS TO PERSONNEL OR EQUIPMENT.

LUBRICATION*

SLEEVE BEARINGS - Read with Standard Super Permalube #SW 30 oil or equivalent for every 2000 hours of motor operation for belted motors or for every 3000 hours of motor operation for direct connected motors.

BALL BEARINGS - Sealed lubricated bearings require no attention during the life of the bearing. Motors with provisions for regreasing should have bearing grease added every 7000 hours of motor operation. Use SHELL OIL CO. ALVANIA #2 or equivalent grease having a 200° F. safe operating temperature.

*NOTE - If lubrication instructions are shown on motor, they will supercede this general instruction.

REPAIR PARTS

Do not use unauthorized repair parts. These can affect proper operation and safe operation if wrong. Use authorized service stations and parts only.

ILLUSTRATION 9

MOTOR CONNECTIONS

Connect power supply of proper voltage and frequency to motor.

For motors with a connection diagram on nameplate or decal, refer to them for proper connections.

For motors with two terminal posts, connect one power line to each post.

For motors with two leads, connect one power line to each lead.

Wire Size For 115 & 230 Volt Single Phase Circuits								
Distance -- Motor To Fuse Or Meter Box -- Feet								
Motor	100 Ft.		200 Ft.		300 Ft.		500 Ft.	
HP	115V.	230V.	115V.	230V.	115V.	230V.	115V.	230V.
1/4	#14	#14	#10	#12	#8	#10	#6	#8
1/3	#12	#14	#10	#12	#6	#10	#4	#8
1/2	#10	#12	# 8	#10	#6	# 8	#4	#6
3/4	#10	#12	# 6	#10	#4	# 8	#2	#6
1	# 8	#10	# 6	# 8	#4	# 6		#4
1½	# 4	#10	# 0	# 8		# 6		#4
2		# 8		# 6		# 4		#2
3		# 8		# 6		# 4		#2
5		# 6		# 4		# 2		#0

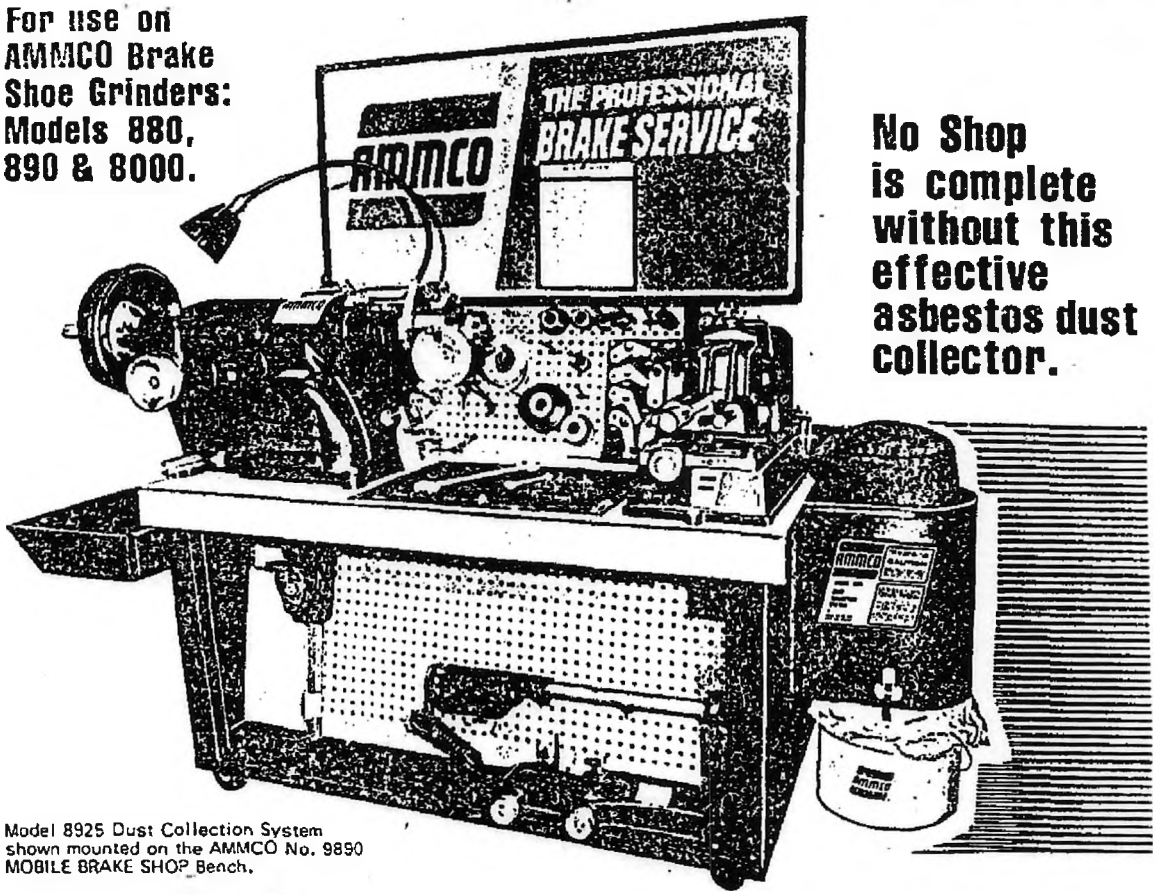
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ILLUSTRATION 10

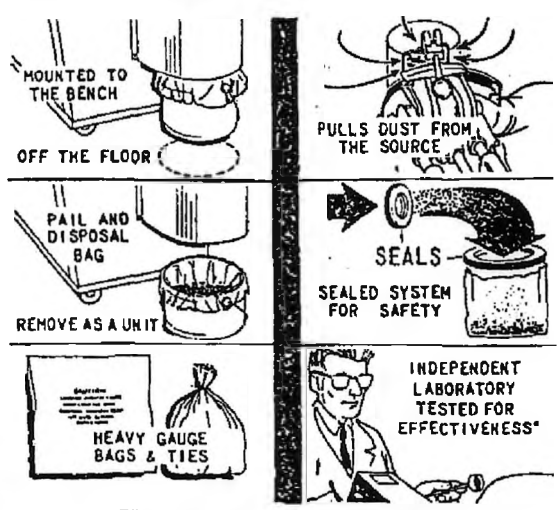
DUST COLLECTION SYSTEM MODEL 8925

For use on AMMCO Brake Shoe Grinders: Models 880, 890 & 8000.

No Shop is complete without this effective asbestos dust collector.



Model 8925 Dust Collection System shown mounted on the AMMCO No. 9890 MOBILE BRAKE SHOP Bench.



*TEST RESULTS ARE AVAILABLE ON REQUEST

- MEETS OR EXCEEDS FEDERAL CLEAN AIR STANDARDS SET BY THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1972.
- FITS MODEL 8000, 890 & 880 AMMCO BRAKE SHOE GRINDERS -- OLD AND NEW.
- EASY TO INSTALL ■ NO POWER REQUIRED

The AMMCO Model 8925 Dust Collection System provides a highly efficient means of collecting, containing and disposing of dangerous asbestos dust. The powerful suction fan built into each AMMCO Brake Shoe Grinder pulls dust from the surface of the brake shoe and deposits the dust in a sealable plastic bag.

Once properly installed, the system requires only the periodic replacement of the disposal bag to maintain safe operating conditions.

AMMCO TOOLS, INC.
2100 COMMONWEALTH AVENUE
NORTH CHICAGO, ILLINOIS 60064

10238-9-73

Printed in U.S.A.



MOUNTING INSTRUCTIONS

No. 9890 Mobile Bench: Tape the folded Drilling Template in position on the end of the Bench. Center punch and drill the four mounting holes. Mount the Guard Assembly.

Other Benches: Mounting hole location can be established by taping the fully open Drilling Template in reference position over the exhaust port of the Shoe Grinder.

ASSEMBLY INSTRUCTIONS

Refer to the illustration at right for parts positioning.

1. Replace the threaded Locking Screw above the Shoe Grinder exhaust port with the Stud, No.1192.

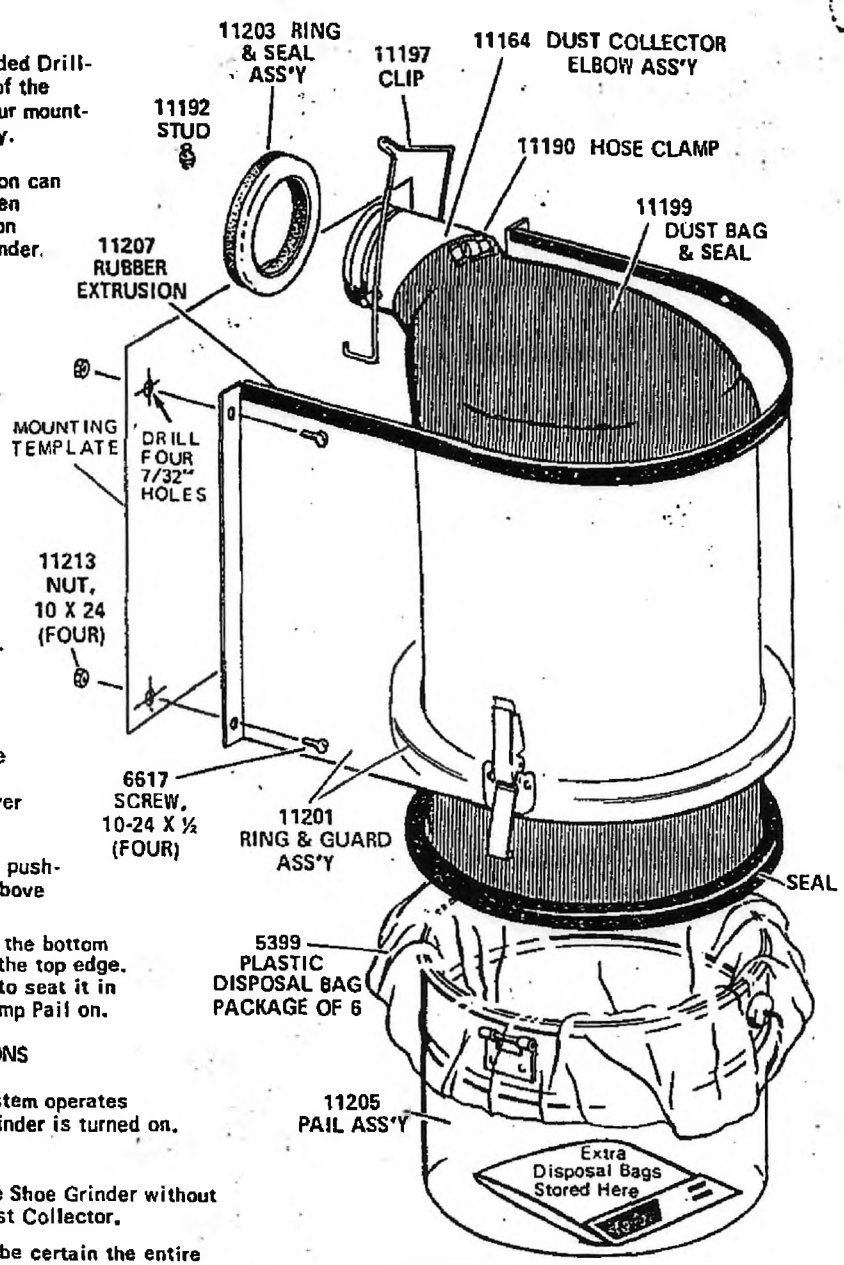
2. Thread the Hose Clamp through the neck of the Dust Bag. Slip the neck of the Dust Bag over Collector Elbow and tighten the Clamp.

3. Slip the Ring and Seal onto the Collector Elbow and join the Dust Collector to the Grinder exhaust port.

4. The Clip, No. 11197, straddles the Elbow behind the two protruding lugs. The "feet" of the clip hook under the Grinder Base to provide the necessary grip to seal the two units together when the Clip is snapped over the Stud.

5. The Dust Bag and rubber Seal are pushed down through the Guard to hang above the Pail.

6. Press a plastic Disposal Bag into the bottom of the Pail and fold the excess over the top edge. Lift the Pail against the rubber Seal to seat it in the Ring of the Guard Assembly. Clamp Pail on.



OPERATING INSTRUCTIONS

The Model 8925 Dust Collection System operates automatically each time the Shoe Grinder is turned on.

CAUTIONS

DO NOT attempt to operate the Brake Shoe Grinder without a Disposal Bag in the Pail of the Dust Collector.

BEFORE STARTING, always check to be certain the entire system is correctly assembled.

SEAL and REPLACE a Disposal Bag when it is half full. DO NOT empty and reuse a Disposal Bag. DO NOT subject yourself or others to exposure to breathing asbestos dust. Read and understand the Disposal Bag replacement instructions on the Label of the Guard Assembly.

The AMMCO Warranty covers defective materials and workmanship, under normal usage, for a year from the date of purchase. Parts may be ordered routinely through your AMMCO Jobber. Please specify Model, Part Number and Part Description on the order.

Because of AMMCO's constant program of improvement, specifications are subject to change without notice.

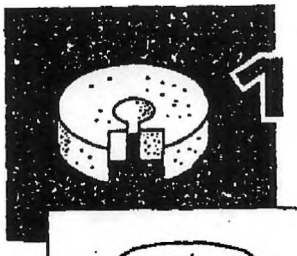
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ILLUSTRATION 12

ARBOR PLUG NO. 11181

AMMCO TOOLS, INC. / 2100 COMMONWEALTH AVENUE / NORTH CHICAGO, ILLINOIS 60064 / (312) 689-1111

FOR USE ON AMMCO BRAKE SHOE GRINDERS MODELS 8000, 880 and 890



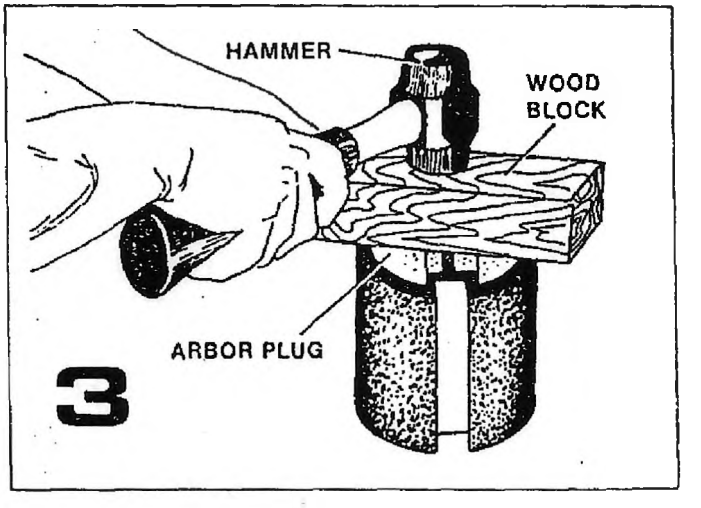
This foam Arbor Plug is provided to prevent brake shoe dust build-up in the Arbor and to improve the air flow through the Abrasive Belt Guard to the Dust Collection System.

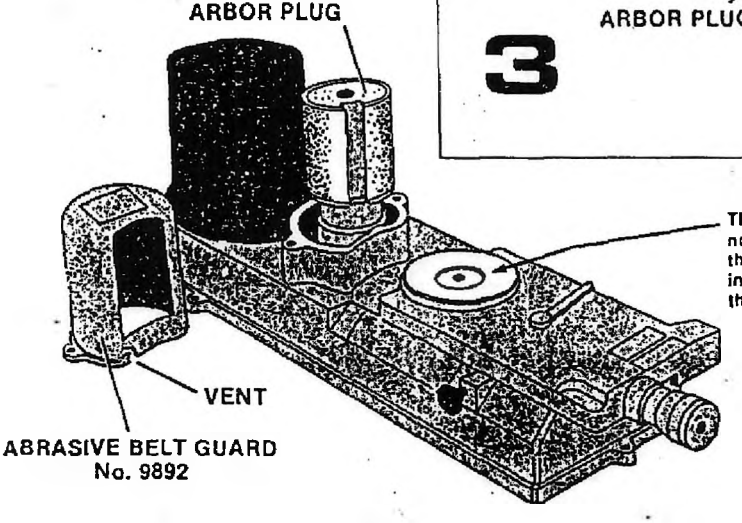
INSTALLATION

To install the Arbor Plug, simply remove the Abrasive Belt Guard which covers the Arbor and place the Plug in position on top. (Figure 2). Be sure to align the opening in the Arbor Plug with the Abrasive Retaining Clip. Drive the Plug into the Arbor carefully using a wood block and tapping with a hammer (Figure 3) until the Plug is flush with the Arbor top.

NOTE: The Abrasive Belt and the Retainer Clip should be left in place during the installation of the Plug. Also, the Arbor Plug need not be removed when replacing the Abrasive Belts.







The Brake Shoe Clamp need not be removed when installing the Arbor Plug. It is not shown in place here to simplify the illustration.

11303-11-77

Printed in U.S.A.

PRODUCT SAFETY SURVEY

FOR

AMMCO TOOLS, INC.

NORTH CHICAGO, ILLINOIS

JULY 7, 1978

NATLSCO
National Loss Control Service Corporation
Long Grove, IL 60049

NATLSCO
National Loss Control Service Corporation

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NATLSCO
National Loss Control Service Corporation

INTRODUCTION

A Product Safety Survey was conducted by National Loss Control Service Corporation (NATLSCO) for Ammco Tools, Inc. in North Chicago, Illinois.

The purpose of the survey and report was to review the product liability exposures associated with the Model Numbers 880, 890 and 8000 brake shoe grinders, as well as the Model Number 1250 brake washer. Included in this review is an analysis of the product liability exposures and methods used to minimize these exposures in each of the following corporate functional areas:

Engineering

Quality Control

Assembly and Operating Instructions

The report includes recommendations on the types of additional activities, or on the types of revisions to existing service manuals and warning labels, which should be implemented to further control potential liability exposures.

We wish to express our appreciation to Mr. Robert Hampton for the courtesy and cooperation extended during our survey.

All recommendations developed in this report are based upon information supplied by the client, sound engineering and management practices, and the professional judgment of NATLSCO's consulting staff.

The report is divided into the following four segments:

I. General Conclusions - This section summarizes our findings regarding the product liability exposures associated with the four products studied.

II. Product Lines - This section describes the four products which were studied and the potential product liability exposures of each.

III. Corporate Functions - This section describes the exposures associated with the corporate operations and recommends solutions in greater detail.

IV. Recommendations - This section summarizes all recommendations made in the body of the report.

GENERAL CONCLUSIONS

The major product liability exposure associated with the use or misuse of the Model Numbers 880, 890 or 8000 brake shoe grinders and the Model No. 1250 brake assembly washer is the potential of personnel operating these machines to inhale asbestos fibers present in the environment as a result of the brake grinding or brake washing operation.

Ammco has recently developed a new dust collection system for the brake grinders, which is designed to provide a more effective system of dust collection and to reduce the potential for operator exposure to asbestos fibers. However, the ultimate effectiveness of this dust collection system is, to a large degree, dependent upon the customer properly installing, operating, and maintaining both the dust collection system as well as the brake shoe grinder.

The primary way in which an operator could be exposed to asbestos dust while using the brake assembly washer is by failing to purge the air from the system when the washer has not been used for an extended period of time. There is also some product liability exposure associated with the potential for the customer to misuse the product by using flammable solvents or gasoline in the unit to wash other automotive parts, rather than the detergent solution. These exposures can most effectively be addressed through instructional material provided on or with the product.

It is extremely important that Ammco provide adequate instructional material and sufficiently warn the customer of the proper installation, use and maintenance of their equipment, as well as the consequences of improper use, installation or maintenance.

Much of this report is concerned with additional measures Ammco can take in both the warning information on the product itself and the maintenance and installation instructions which are provided in pamphlet form with the product. Such information serves two purposes - it can reduce the number of incidents in the field by better informing personnel who use these products of the proper use and maintenance of the products, and can serve as evidence of Ammco's efforts to fulfill their "duty to warn" of the proper installation, use, and maintenance of the products, as well as the consequences of misuse of these products. This can greatly assist in Ammco's defense should there be allegations of product defects related to a failure to warn.

I. PRODUCT LINES

Models 880, 890 and 8000 Brake Shoe Grinders - These machines basically function to automatically grind automotive brake shoes in order that the shoe fits the curvature of the brake drum. Models 880, 890 and 8000 differ only in the type of clamp which is utilized to hold the shoe in place during the grinding operation. The Model 890 is provided with a Model Number 8250 fixed anchor brake shoe clamp, the Model 880 is provided with a Model Number 8150 cam action brake shoe clamp, and the Model 8000 is provided with a Model Number 8050 universal brake shoe clamp.

These products are normally used by car dealers, independent garages, service stations, brake specialists, tire dealers, or other facilities who custom grind brake shoes to match a specific set of brake drums. The machines all bear the Underwriters Laboratories listing mark.

The primary product liability exposure associated with the brake shoe grinders is the fact that brake lining material is normally fabricated from an asbestos compound, and during the grinding operation there is a possibility of introducing asbestos fibers into the air. The operator operating the equipment could conceivably breathe these fibers. Ammco has addressed this potential hazard through a dust collection system which, if properly installed and maintained, is designed to protect the operator from breathing asbestos fibers. The system operates primarily by a blower which takes the material ground off the brake shoes and conveys this to a disposable plastic bag for removal. This system represents an improved version of a dust collection system. The new dust collection system was initially marketed for retrofitting on existing machines, but is now also standard equipment on all brake grinders. The old version of the dust collection system consisted of a fabric bag which had to be emptied by the machine operator when it was filled to a certain level and then reinstalled on the machine. The new system, which is now standard on all brake grinders, consists of a disposable plastic bag which fits into a metal canister. The disposable bag is fabricated from a heavy gauge, red plastic and is marked with the wording "CAUTION - Contains Asbestos Fibers - Avoid Creating Dust - Breathing Dust May Cause Serious Bodily Harm." The metal canister has holes in the bottom, so that if the customer attempted to use the dust collection system without the plastic bag installed, the grinding dust would fall on the floor.

Model 1250 Brake Assembly Washer - The Model 1250 assembly washer is intended to enable a mechanic to wash the entire brake shoe assembly without causing asbestos fibers to enter the air. This system was developed as an alternative to the practice which has been in wide use by brake mechanics of blowing the asbestos dust from the brake shoes by means of compressed air prior to beginning work on the brake assemblies. This practice tends to create a great deal of asbestos dust in the air. The Model 1250 brake assembly washer consists of a gun assembly and a wash pan assembly. Basically, the operation consists of spraying a detergent solution over the brake drum to wet down the brake parts and allow the dust and asbestos fibers to fall suspended in water into the wash pan assembly.

Although the brake assembly washer is a product intended to reduce the potential hazards associated with cleaning the asbestos particles from the brake assembly, there is still some product liability exposure associated with the use of the system. For example, when the washer has not been in use over an extended period of time, the detergent fluid will drain into the sump, and there will be some initial air coming out of the gun prior to the solution. This could result in asbestos dust being blown around the area. This situation is addressed in the brake assembly washer operating and assembly instructions, included as Illustrations 1 and 2 of this report.

In addition, there is some liability exposure associated with the potential misuse of the brake assembly washer in that this product could be used with flammable solvents for parts washing and degreasing. This is an undesirable application, particularly since there is no cover provided over the top of the wash pan assembly.

Warning Labels

Models 880, 890 and 8000 Brake Shoe Grinders - There are several warning labels provided on the brake shoe grinders. The label included as Illustration 3 of this report is provided on the top of the abrasive belt guard. The label included as Illustration 4 of this report is provided on the metal ring and guard assembly of the dust collection system. The label included as Illustration 5 of this report is riveted to the main base assembly of the brake shoe grinder.

In addition, there are several precautionary and instructional tags which are provided on each brake grinder. Illustrations 6 and 7 represent the caution tag which is provided to indicate operating voltage for which the grinder is factory wired. Illustrations 8 and 9 represent the motor manufacturer's recommendations for installation, running overload protection, lubrication, and sizing of branch circuit conductors.

Model 1250 Brake Assembly Washer - At the present time, there are no precautionary or warning labels provided on the brake assembly washer. We recommend that such a label be developed, and include several items:

1. The brake washer assembly utilizes a nonflammable detergent solution in water. Ammco sells packets of detergent to be added to one gallon quantities of water. Because of the utility and simplicity of the brake assembly washer, it may be attractive for service or maintenance personnel using the equipment for parts washing to substitute a petroleum base solvent for the detergent. Such solvents would act as a more effective degreasing agent and be used to clean other parts or for other applications in the service area. Although the present instructions for this unit include a cautionary statement indicating "DO NOT USE GASOLINE OR FLAMMABLE SOLVENTS," such a statement is not marked on the product itself. It is recommended that a cautionary label be developed and applied to the unit. The content or wording of such a label should be similar to the wording which is presently contained on the back of the assembly and operating instructions, included as Illustration 2 of this report.

2. It is not uncommon for the brake drums to be corroded to the wheel hub and stud assembly, requiring that the drum be hit with the hammer in order to loosen it prior to removal. These striking blows to the drum can often create significant amounts of dust. It is recommended that the warning label for the brake assembly washer include instructions for the user to wet down the entire brake drum assembly with the solution prior to removal of the brake drum itself.

3. In addition, it is recommended that the warning label placed on the wash pan assembly caution the user regarding the necessity to start the pumping action by aiming the gun into the pan and depressing the trigger, prior to commencing washing of the brake assembly.

For a warning label to be effective, it is important that the label remain legible throughout the life of the product on which it is applied. The warning label on the abrasive belt guard (Illustration 3) is coated with a plastic film, while the label on the dust collector (Illustration 4) is fabricated from uncoated paper. We recommend that Ammco carefully evaluate the various types of labels, inks, and adhesives available, and select the type of label which exhibits the optimum durability over an extended period of time.

II. ENGINEERING

In an effort to evaluate the effectiveness of the new dust collection system in controlling the emissions of asbestos fibers from the brake grinders, Ammco recently hired an independent consulting firm to measure the extent to which an operator is exposed to asbestos when operating the brake shoe grinding machine. Tests were performed on both a well maintained unit and a poorly maintained unit. The test report for these tests concluded that "asbestos concentrations as determined do seem to indicate that the present OSHA ceiling limits would not be exceeded during brake dressing on a properly maintained brake shoe grinder."

Ammco has recently instituted some changes to the new dust collection system on the brake shoe grinders. The plastic dust collection bag has been decreased in size. Originally, a standard size plastic bag was utilized, but this bag was too large, and the installation of the oversize bag could result in a bunching of the plastic bag around the outer rim of the metal collection drum. This could result in small gaps around the rubber gasket where the drum is fastened to the underside of the collection system's fabric bag, resulting in emissions of asbestos fibers during operation of the machine. Ammco has discontinued the use of this larger bag and now supplies a smaller bag designed specifically for the dust collection system, eliminating the problem of the collection bag bunching up.

Ammco has also recently developed an arbor plug for use on its Models 880, 890 and 8000 brake shoe grinders. The purpose of this plug is to prevent brake shoe dust build-up in the arbor and to improve the air flow through the abrasive belt guard to the dust collection system. The installation instruction sheet for the arbor plug is included as Illustration 12 of this report.

III. QUALITY CONTROL

When each brake shoe grinder is completely assembled, each unit is calibrated by adjusting the settings for specific shoe sizes. In addition, each unit is tested, but this test consists basically of operating the unit to verify that the motor is electrically operable. A log is kept of the serial numbers for each unit versus the motor size and type which is provided, as there are several different motors available for the brake shoe grinders. It is at this final inspection point that all appropriate warning labels are put on the units, and the units are tagged with the tags which normally are put on the unit. The service and maintenance information is put along with the unit into the packing crate.

Aside from the log of serial numbers which is kept, there is no record kept of the calibration or quality control inspection or tests which are performed. We recommend that Ammco develop a quality control checklist to be used as a final check on the assembly of the brake shoe grinders. This checklist should list all the critical items which the operator should check prior to shipping the machine. For example, the following items should be verified.

1. All warning labels firmly secured in place.
2. Calibration of the unit.
3. Operation of the unit.
4. Inclusion of the service manual.

It is recommended that a checklist form be developed for this purpose, and that the form include a space for the inspector to record the serial number of each machine checked, the manufacturing date, and the verification that all of the various inspections and tests have been performed. These completed forms should be kept as part of the permanent quality control records of the machine.

IV. ASSEMBLY AND OPERATING INSTRUCTIONS

Brake Assembly Washer Model 1250

The brake assembly washer is presently being provided with the assembly and operating instructions included as Illustrations 1 and 2 of this report. As discussed earlier in this report, it is not uncommon for a brake mechanic to hammer on a corroded drum to attempt to loosen it prior to removal of the drum for servicing the brakes. These striking blows to the drum can create significant amounts of dust, and asbestos particles inside the brake assembly can be blown into the air. This fact was borne out by the analysis conducted by the independent test laboratory. We recommend that the brake assembly washer instructions be modified to include an initial step in the process where the entire brake drum assembly is wetted down with solution prior to removal of the brake drum itself. This should be depicted in the instructions by means of a photograph, as well as written copy. In addition, a separate set of cautionary instructions should be included on this instruction sheet. These precautionary instructions should precede the operating instructions and should be printed in red or some other brightly contrasting color for emphasis. The following areas should be emphasized in the set of precautionary or safety instructions:

1. The fact that the entire brake drum should be wetted down prior to removal of the drum.

2. The fact that the user should assure that the pumping action of the detergent solution has been started prior to aiming the gun into the brake assembly.

3. The fact that the brake assembly washer should never be used with gasoline or other flammable solvents.

Models 880, 890 and 8000 Brake Shoe Grinders

At the present time, the Models 880, 890 and 8000 brake shoe grinders are provided with an "Operating Instructions and Parts Identification" manual. This manual is an 8½ x 11 brochure which is some 12 pages long and is intended to be kept in a looseleaf binder by the customer.

It is extremely important that this manual effectively communicate the proper operation and maintenance procedures for the brake shoe grinders, since, to a large degree, the effectiveness of the dust collection system in controlling the asbestos dust exposure is dependent upon proper installation and maintenance of the system. In addition, it is important that Ammco warn the user not only of the proper procedures and steps to be taken in operating and maintaining the equipment, but also of the consequences of the user not following these instructions. We have reviewed the present manual referenced above (Ammco Publication No. 8818-6-76) and have the following recommendations for additional information and revisions to the manual:

1. It is recommended that the inside front cover of the manual have a set of safety instructions printed in red or some other brightly contrasting color and entitled "IMPORTANT." These instructions should be a summary of the information presently dispersed throughout the manual related to the proper use and maintenance of the dust collection system, as well as other precautions which must be taken to assure the environmental safety of the individual operator. The areas addressed in these safety instructions should include, but not be limited to, the following:

   a) A statement indicating that breathing asbestos dust may cause serious bodily harm.

   b) A statement indicating that the dust collection system must be properly cleaned and maintained for continued safe operation.

   c) A statement indicating that the grinder should never be operated without the disposal bag properly installed.

   d) A statement indicating that only Ammco replacement bags should be used.

   e) A statement cautioning the user to only use Ammco abrasive belts.

   f) A statement cautioning the user not to remove more than .005" on any one cut.

2. Page 3 of the manual should illustrate the new dust collection system, which we understand is now standard on all models. In addition, the appropriate instructions for this dust collection system (see Illustrations 10 and 11) should also be included on Page 3.

3. Page 4 of the manual contains instructions for replacing the abrasive belt, which actually does the grinding of the brake shoe material. Replacement of this belt requires removal of the cylindrical abrasive belt guard. In addition to protecting the user from accidental contact with the grinding surface of the machine, the guard housing serves as a means for collecting the asbestos dust from the grinding operation before it is sucked into the collection bag. Therefore, the abrasive belt guard is somewhat critical to the safe operation of the machine. We recommend that the instructions for replacing the abrasive belt include a step advising the user to replace the abrasive guard after the belt has been installed. This should be shown both graphically and also indicated in the copy of the instructions.

4. Page 4 of the manual also includes some lubrication instructions for the machine, as well as a paragraph stating: "In general, keep a clean work area. For your environmental safety, do not allow asbestos dust to accumulate anywhere but in the Ammco dust bag or in closed containers." It is recommended that this paragraph be highlighted by printing in a different color, printing in bold print, or some other graphic technique in order to emphasize its importance. In addition, the paragraph should include a statement to the effect that any accumulation of dust could be an indication that the dust collection system is either not functioning properly or the dust collection bag needs to be changed.

5. Page 4 of the Introduction Manual includes a set of statements under the general heading "CAUTIONS." These cautionary statements should also be highlighted by means of contrasting color, bold print, or other graphic techniques. In addition, it is recommended that the statement "DO NOT REMOVE MORE THAN .005 INCHES ON ANY ONE CUT - MORE WILL ONLY SLOW THE MOTOR AND REDUCE DUST COLLECTION EFFICIENCY" be expanded to provide a more specific indication of the consequences of having reduced dust collection efficiency and the potential dangers associated with asbestos dust.

6. Page 5 of the Instruction Manual contains general operating instructions. The right-hand column on this page begins with the heading "GRINDING THE SHOE: BEFORE STARTING THE MOTOR...." It is recommended that this section of the instructions be expanded to include some copy indicating that the operator should verify that the dust collection system, as well as the abrasive belt guard, are properly installed on the machine prior to starting the motor.

7. Pages 6 through 11 of the manual are basically replacement parts lists and illustrations. When the manual is revised, the parts list should include the new dust collection system parts, including the replacement bags. These bags are a heavy-gauge red plastic, designed and sized specially for the brake shoe washer, and include a cautionary statement. Because these bags are quite similar to commonly available plastic trash collection bags, it is foreseeable that the user of the machine would substitute such bags rather than order the proper bags through Ammco. It is recommended that the replacement parts portion of the manual include a statement to the effect that the bags have been specially designed for use with the asbestos dust collection system and other bags should not be substituted.

8. At the present time, the motor manufacturer's installation, running overload protection, lubrication, and branch circuit conductor sizing instructions are included on a tag which is attached to the brake shoe grinders when they are shipped to the customer. We believe that it is highly likely that this tag will be discarded once the machine is installed. Since the tag contains important information related to the safe use and operation of the equipment, it is recommended that the motor manufacturer's information be duplicated and provided as part of Ammco's assembly and operating instructions manual.

Arbor Plug Instruction Sheet (No. 11181)

The arbor plug is intended to be installed in the arbor for the abrasive belt, and is intended to prevent brake shoe build-up in the arbor in order to improve the air flow through the abrasive belt guard to the dust collection system. In order

to install the arbor plug, the abrasive belt guard must be removed. Since the abrasive belt guard is critical to the safe operation of the machine and the effective operation of the dust collection system, it is recommended that the instructions for the arbor plug installation include, as a final step, instructions to reinstall the abrasive belt guard.

V. SUMMARY OF RECOMMENDATIONS

WARNING LABELS

1. It is recommended that a precautionary or warning label be developed for the Model 1250 brake assembly washer. This label should address the potential exposures associated with using a flammable solvent with the brake assembly washer, not wetting down the brake assembly prior to removal of the drum, and the potential for air coming out of the gun assembly when the unit has not been used over an extended period of time.

2. Ammco should review the physical characteristics of warning labels and determine the label material, ink, and adhesive which will afford the optimum durability over an extended period of time.

QUALITY CONTROL

3. We recommend that Ammco develop a quality control checklist to assist assembly personnel in the final inspection of the brake shoe grinders, as well as to serve as a record of the fact that such inspections have been conducted.

ASSEMBLY AND OPERATING INSTRUCTIONS

Brake Assembly Washer

4. It is recommended that the brake assembly washer instructions be modified to include an initial step in the process where the entire brake drum assembly is wetted down prior to removal of the brake drum itself.

5. A set of precautionary instructions should be included and should be printed in red or other brightly contrasting color for emphasis. These instructions should precede the operating instructions.

Brake Shoe Grinders

6. It is recommended that the inside front cover of the instruction manual have a set of safety instructions printed in red or brightly contrasting color, and entitled "IMPORTANT."

7. The manual should illustrate the new dust collection system which is now standard on all models, and should include appropriate instructions for this system.

8. The instructions for replacing the abrasive belt should include a step instructing the user to replace the abrasive guard after the belt has been installed.

9. It is recommended that on Page 4 of the manual, under the "Lubrication Instructions," the paragraph relating to asbestos dust include a statement indicating that any accumulation of dust could be an indication that the dust collection system is either not functioning properly or the dust collection bag needs to be changed.

10. It is recommended that the statement "DO NOT REMOVE MORE THAN .005 INCHES ON ANY ONE CUT - MORE WILL ONLY SLOW THE MOTOR AND REDUCE DUST COLLECTION EFFICIENCY" be expanded to include specific indications of the consequences of having reduced dust collection efficiency and the potential dangers associated with asbestos dust.

11. It is recommended that the instructions "BEFORE STARTING MOTOR..." include instructions to the operator to verify that the dust collection system, as well as the abrasive belt guard, are properly installed on the machine prior to starting the motor.

12. The parts list section of the manual should include the parts for the new dust collection system, including replacement bags.

13. It is recommended that the manual include a statement indicating that the collection bags have been specially designed for use with the dust collection system, and other bags should not be substituted.

14. It is recommended that the motor manufacturer's instructions related to installation, running overload protection, lubrication, and branch circuit conductor sizing be duplicated in Ammco's manual.

15. The arbor plug instruction sheet should include, as a final step, instructions to reinstall the abrasive belt guard.

Respectfully submitted,

E. L. Ziemba/SVK

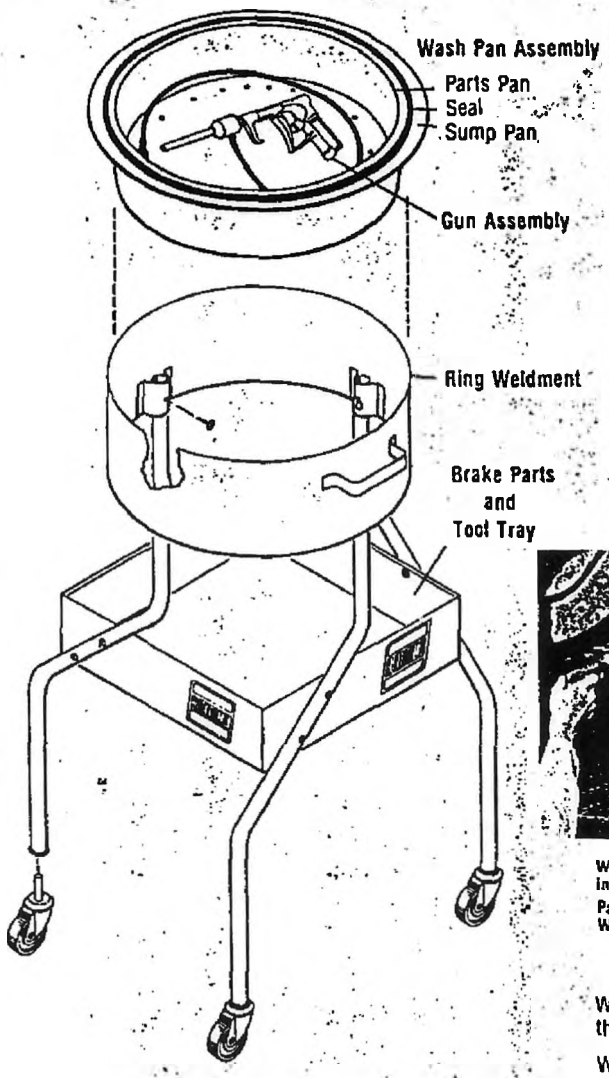
E. L. Ziemba
Manager, Product Safety Services
Direct Dial Number: 312/540-2016

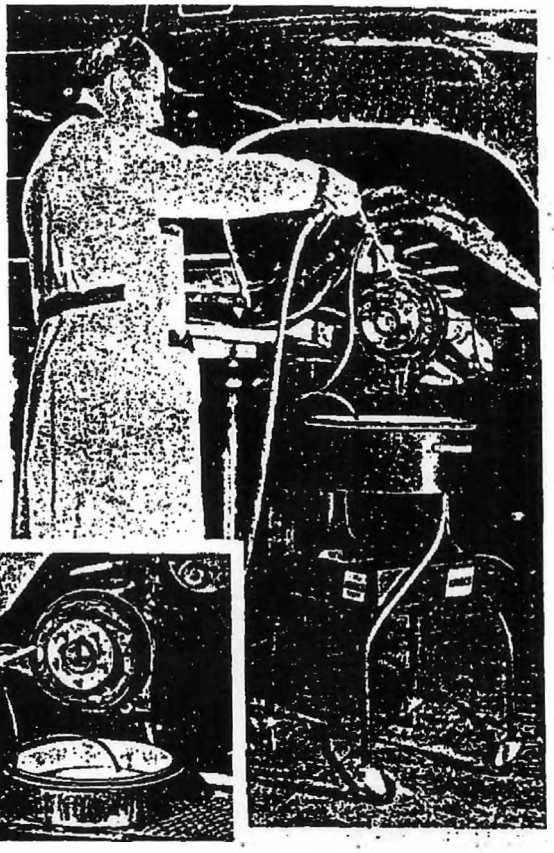
July 7, 1978

ILLUSTRATION 1

AMMCO BRAKE ASSEMBLY WASHER MODEL 1250

AMMCO TOOLS, INC. / 2100 COMMONWEALTH AVENUE / NORTH CHICAGO, ILLINOIS 60064 / (312) 689-1111





Washing brake assemblies is a quick, easy job. The washing solution drains into the Sump for recirculation.

Parts Pan and Sump Pan (Wash Pan Assembly) can be removed from the Washer Stand for close-quarters work. (Small photo).

ASSEMBLY

1. Install the Casters in the Grip Sleeves of the four Legs.
2. Bolt the Legs to the square Tool Tray keeping the screw holes that are at the top of the Leg facing inward.
3. Stand this Leg and Tray assembly upright and slip the Ring Weldment over the Legs. Press and tap the Ring onto the Legs until the screw holes are aligned. Fasten Ring and Legs together with the four sheet metal screws.
4. Place the Wash Pan Assembly in the Ring and fill the Pan with one gallon of AMMCO No. 1256 safe Washing Solution.
5. Connect an air line to the base of the Gun Handle. Maximum air pressure 150 PSI.

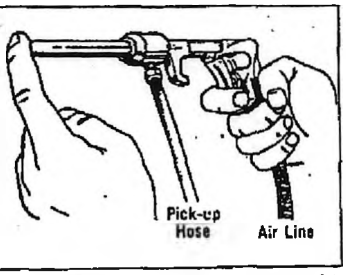
OPERATION

Wash the brake assembly as illustrated. Drop the parts into the Pan as the brakes are disassembled to prevent their loss.

When the Washer is not in use the fluid will drain into the Sump. To avoid blowing brake dust around the shop area, start the pumping action first by aiming the Gun into the Pan and depressing the Trigger.

HOW TO UNCLOG GUN:

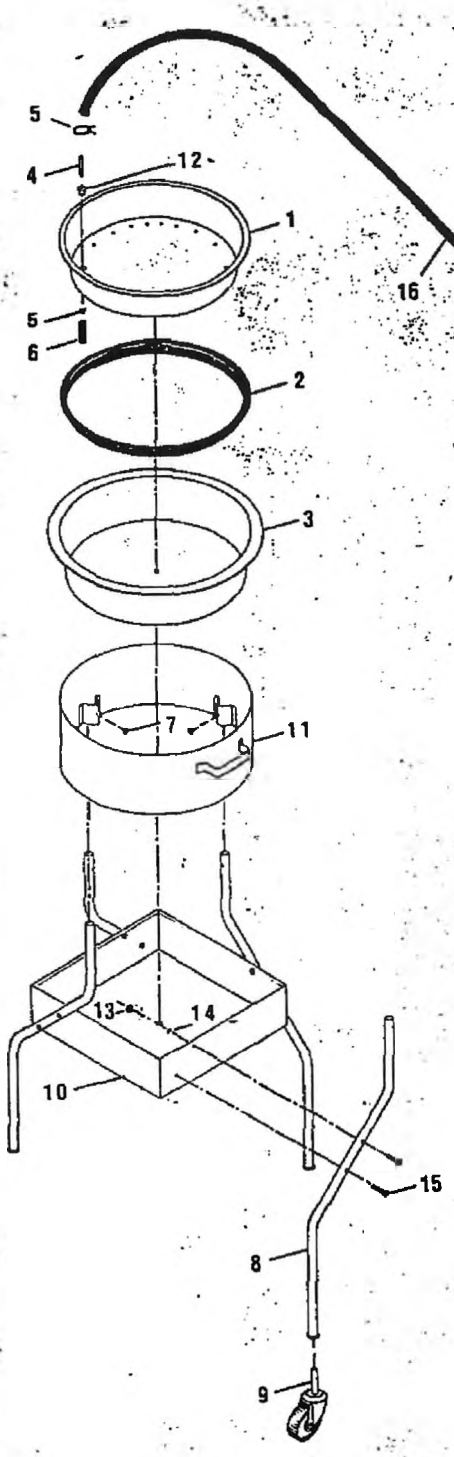
As Washing Solution becomes dirty, the Gun may clog. Place finger over Barrel and depress Trigger to back-flush the Pick-up Hose.



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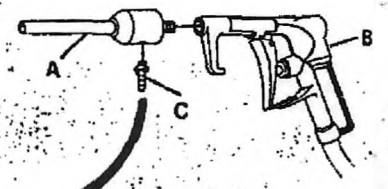
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ILLUSTRATION 2



GUN ASSEMBLY 20630

A - 20733 Nozzle
B - 20624 Gun
C - 6122 Hose Connector



Item	Part No.	Qty.	Description
1	20634	1	Parts Pan
2	20631	1	Seal
3	20635	1	Sump Pan
4	20619	1	Tube
5	20644	2	Hose Clamp
6	20623	1	Hose, 2"
7	11088	4	Sheet Metal Screws
8	20629	4	Leg
9	20620	4	Caster
10	20636	1	Tool Tray
11	20633	1	Ring Weldment
12	20618	1	Snap Bushing
13	11213	8	Nut
14	5999	8	Lock Washer
15	20749	8	Round Hd. Screw
16	20622	1	Hose, 36"

AMMCO NO. 1256 safe washing solution is recommended for use in the Model 1250 Brake Assembly Washer. A carton of 20 - 1 oz. packets of Concentrate makes 20 gallons of washing solution.

DIRECTIONS: Pour one gallon of water into top Parts Pan of Brake Washer (it will drain into Sump). Add contents of one packet of No. 1256 Concentrate to top Parts Pan. Dissolve Concentrate by operating Gun and saturating the Concentrate with water from the Sump.



Because of AMMCO's constant program of improvement, specifications are subject to change without notice.

AMMCO TOOLS, INC.
2100 COMMONWEALTH AVENUE
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ILLUSTRATION 3

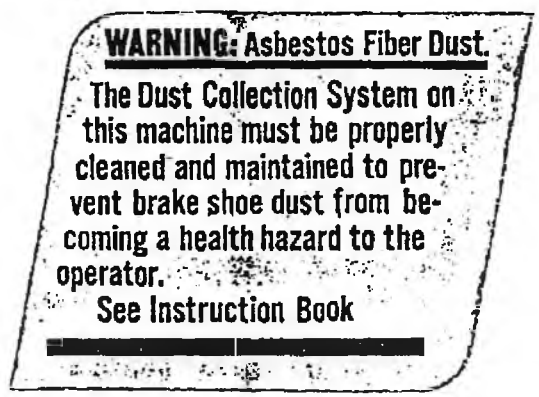


ILLUSTRATION 4



H 0104

ILLUSTRATION 5

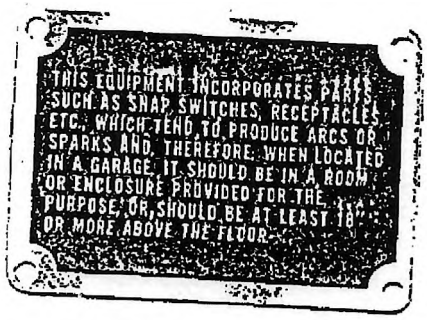


ILLUSTRATION 6

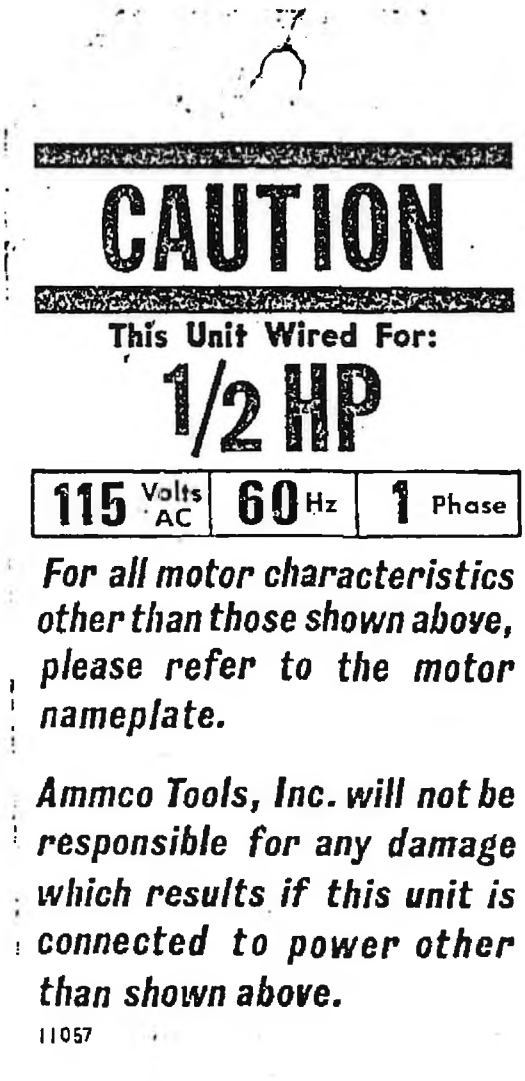
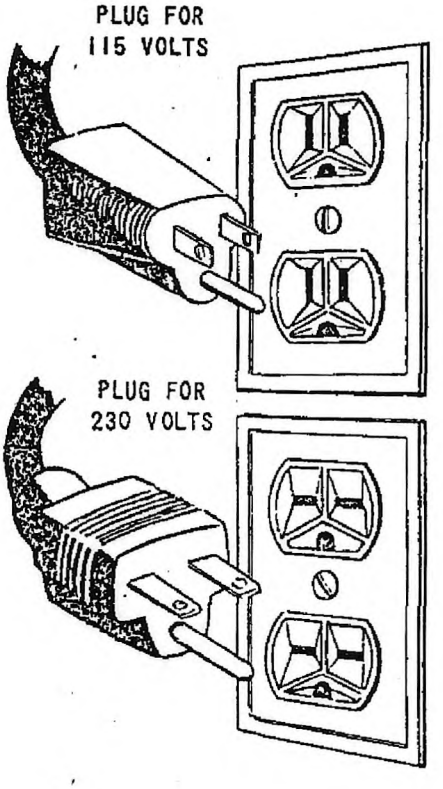
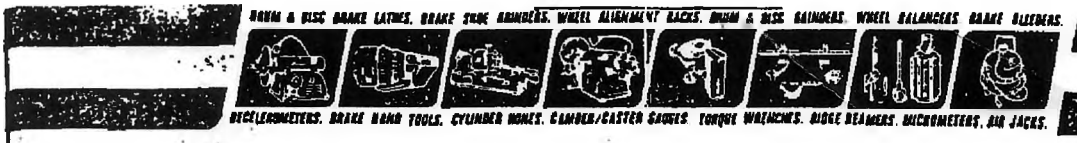


ILLUSTRATION 7





MOUNTING INSTRUCTIONS

No. 9890 Mobile Bench: Tape the folded Drilling Template in position on the end of the Bench. Center punch and drill the four mounting holes. Mount the Guard Assembly.

Other Benches: Mounting hole location can be established by taping the fully open Drilling Template in reference position over the exhaust port of the Shoe Grinder.

ASSEMBLY INSTRUCTIONS

Refer to the illustration at right for parts positioning.

1. Replace the threaded Locking Screw above the Shoe Grinder exhaust port with the Stud, No.1192.

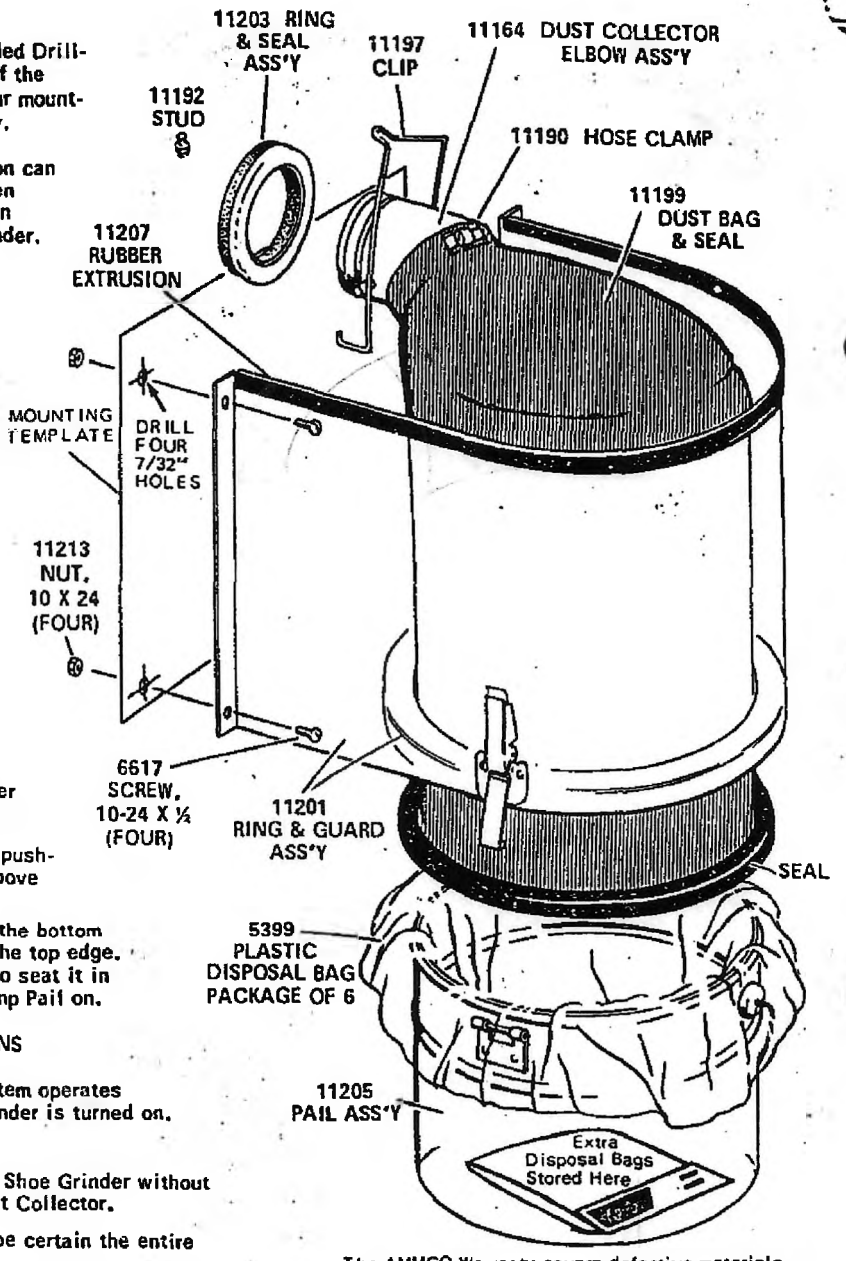
2. Thread the Hose Clamp through the neck of the Dust Bag. Slip the neck of the Dust Bag over Collector Elbow and tighten the Clamp.

3. Slip the Ring and Seal onto the Collector Elbow and join the Dust Collector to the Grinder exhaust port.

4. The Clip, No. 11197, straddles the Elbow behind the two protruding lugs. The "feet" of the clip hook under the Grinder Base to provide the necessary grip to seal the two units together when the Clip is snapped over the Stud.

5. The Dust Bag and rubber Seal are pushed down through the Guard to hang above the Pail.

6. Press a plastic Disposal Bag into the bottom of the Pail and fold the excess over the top edge. Lift the Pail against the rubber Seal to seat it in the Ring of the Guard Assembly. Clamp Pail on.



OPERATING INSTRUCTIONS

The Model 8925 Dust Collection System operates automatically each time the Shoe Grinder is turned on.

CAUTIONS

DO NOT attempt to operate the Brake Shoe Grinder without a Disposal Bag in the Pail of the Dust Collector.

BEFORE STARTING, always check to be certain the entire system is correctly assembled.

SEAL and REPLACE a Disposal Bag when it is half full. DO NOT empty and reuse a Disposal Bag. DO NOT subject yourself or others to exposure to breathing asbestos dust. Read and understand the Disposal Bag replacement instructions on the Label of the Guard Assembly.

The AMMCO Warranty covers defective materials and workmanship, under normal usage, for a year from the date of purchase. Parts may be ordered routinely through your AMMCO Jobber. Please specify Model, Part Number and Part Description on the order.

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