



800 ON-THE-VEHICLE BRAKE LATHE



Safety Instructions Pgs. iii-vi
Installation Instructions Pgs. 6-10
Operating Instructions Pgs. 11-20
Maintenance Instructions Pgs. 20-21

READ these instructions before placing unit in service. KEEP these and other materials delivered with the unit in a binder near the machine for ease of reference by supervisors and operators.

HENNESSY INDUSTRIES, INC.

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HENNESSY INDUSTRIES INC. Manufacturer of AMMCO®, COATS® and BADA® Automotive Service Equipment and Tools.

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Owner's Responsibility

To maintain machine and user safety, the responsibility of the owner is to read and follow these instructions:

- Follow all installation instructions.
- Make sure installation conforms to all applicable Local, State, and Federal Codes, Rules, and Regulations; such as State and Federal OSHA Regulations and Electrical Codes.
- Carefully check the unit for correct initial function.
- Read and follow the safety instructions. Keep them readily available for machine operators.
- Make certain all operators are properly trained, know how to safely and correctly operate the unit, and are properly supervised.
- Allow unit operation only with all parts in place and operating safely.
- Carefully inspect the unit on a regular basis and perform all maintenance as required.
- Service and maintain the unit only with genuine AMMCO® replacement parts.
- Keep all instructions permanently with the unit and all decals/labels/notices on the unit clean and visible.
- Do not override safety features.
- If ownership of the unit is transferred, provide new owner all information, manuals, and provide AMMCO® new ownership information.



Failure to follow danger, warning, and caution instructions may lead to serious personal injury or death to operator or bystander or damage to property. Do not operate this machine until you read and understand all the dangers, warnings and cautions in this manual. For additional copies of either, or further information, contact:

Hennessy Industries, Inc.
1601 J.P. Hennessy Drive
LaVergne, TN 37086-3565
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www.hennessy-ind.com

Definitions of Hazard Levels

Identify the hazard levels used in this manual with the following definitions and signal words:

DANGER

Watch for this symbol:



It Means: Immediate hazards, which will result in severe personal injury or death.

WARNING

Watch for this symbol:



It Means: Hazards or unsafe practices, which could result in severe personal injury or death.

CAUTION

Watch for this symbol:



It Means: Hazards or unsafe practices, which may result in minor personal injury or product or property damage.



Watch for this symbol! It means BE ALERT! Your safety, or the safety of others, is involved!

Warning Instructions

1. This equipment incorporates parts such as snap switches, receptacles, and the like, which tend to produce arcs or sparks. Therefore, when located in a service facility, the unit should be in a room or enclosure provided for the purpose, or should be at least 18 inches (457 mm) or more above floor to minimize the risk of igniting fuel vapors.
2. Eye and face protection requirements:

“Protective eye and face equipment is required to be used where there is a reasonable probability of injury that can be prevented by use of such equipment.” OSHA 1910.133 (a).

Protective goggles, safety glasses, or a face shield must be provided by the purchaser/user and worn by the operator of the equipment. Make sure all eye and face safety precautions are followed by the operator(s). Keep bystanders out of the area.
3. Do not remove any safety equipment, guards, or shortcut controls or operations.
4. Make sure rotors are properly and squarely mounted before starting lathe, and that all parts are secure.
5. Make sure the rotors are clean and mounted properly before attaching lathe to vehicle.
6. Do not overload the lathe. Read and understand the lathe specifications. Overloading is poor machine tool practice, shortens the life of the lathe, and could cause a failure resulting in personal injury.
7. Check damaged parts carefully. Before further use of the lathe, a guard or other part that is damaged should be carefully checked. Immediately replace all damaged, missing, or non-functional parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect operation. Guards and other parts that are damaged should be properly repaired or replaced before lathe is used again.
8. Always feed the blade or cutter into the work and against the direction of rotation. Cutters and tool bits are designed to begin the cut from near the center of the rotor to the outer edge. Do not attempt to cut from the outside edge into the center.
9. Never leave the brake lathe running unattended. Turn the power off. Don't leave the brake lathe until it comes to a complete stop.
10. Never use compressed air to blow the tool clean. Chips and dust may be driven between machined parts and into bearings, causing undue wear. They may also contact persons in the area causing personal injury.



Safety



Safety Notices and Decals

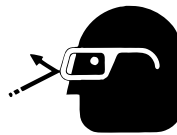
For your safety, and the safety of others, read and understand all of the safety notices and decals included here and on the unit.



Read entire manual before installing, operating, or servicing this equipment.

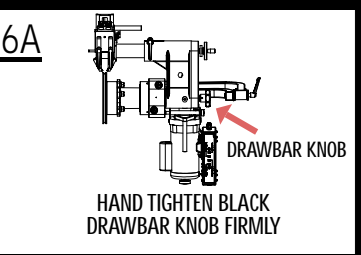
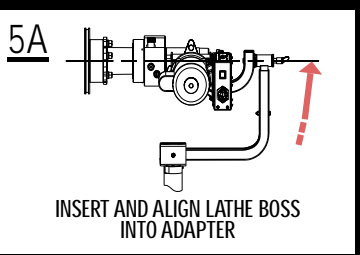
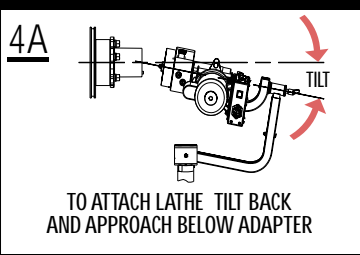
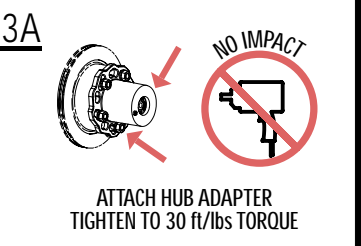
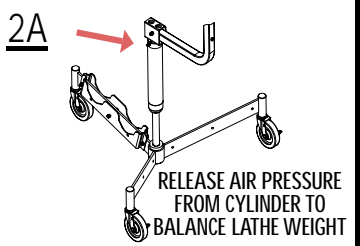
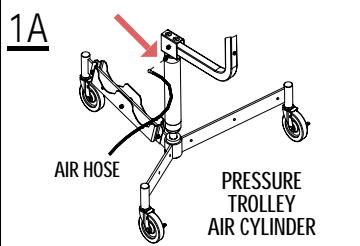
⚠ WARNING ⚠

Prevent accidents and injury, read and follow instructions.



1. Read entire operator manual before operating this machine.
2. Always wear eye protection.
3. Keep all guards, shields, and covers in place and in working order.
4. Keep hands and loose objects away from rotating surfaces.
5. Do not wear gloves, necktie, loose clothing, or jewelry.
6. Keep children and unauthorized personnel away.
7. Unplug unit from power source before servicing or adjusting.
8. Maintain unit properly, keep work surfaces and work area clean.
9. Do not use any surface of the lathe for storage of rags, tools, etc.
10. Do not leave a lathe unattended when turned on.

940975



⚠ WARNING

"RISK OF EXPLOSION"

This Equipment Has Internal Arcing Or Sparking Parts Which Should Not Be Exposed To Flammable Vapor. This Equipment Should Be Located At Least 460 mm (18 inches) Above Floor Level.

⚠ CAUTION

"RISK OF ELECTRIC SHOCK"

Do Not Remove Cover. No User-Servicable Parts Inside. Refer Servicing To Qualified Service Personnel Only!

940664

IMPORTANT SAFETY INSTRUCTIONS

Before operating the lathe, review the warning information on the lathe and the cautions, warnings and dangers in this manual. Also review the following general safety instructions. Failure to follow safety instructions could result in personal injury to operator or bystanders and damage to the lathe or personal property.

READ ALL INSTRUCTIONS

When using your portable garage equipment, basic safety precautions should always be followed, including the following:

1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES from the tool before turning it on. Make this a habit.
3. KEEP WORK AREA CLEAN and well lighted. Cluttered areas and benches invite accidents.
4. LOCATE POWER CORD SAFELY. Do not let cord hang over edge of table, bench or counter or come in contact with hot manifolds or moving fan blades.
5. REDUCE RISK OF FIRE. Do not operate equipment in the vicinity of open containers of flammable liquids (gasoline) and their vapors.
6. PROVIDE ADEQUATE VENTILATION when working on operating internal combustion engines.
7. DRESS PROPERLY. Keep hair, loose clothing, neckties, shop rags, jewelry, fingers, and all parts of body away from moving parts. Non-slip footwear is recommended.
8. ALWAYS UNPLUG EQUIPMENT from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
9. LET EQUIPMENT COOL completely before putting away. Loop cord loosely around equipment when storing.
10. DO NOT TOUCH HOT PARTS. Care must be taken as burns can occur from touching hot parts.
11. PROPERLY MAINTAIN EQUIPMENT. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged—until it has been examined by a qualified serviceman.
12. USE PROPER EXTENSION CORD. A cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
13. REDUCE RISK OF SHOCK. Do not use on wet surfaces or expose to rain.
14. KEEP CHILDREN AND UNAUTHORIZED PERSONNEL AWAY. All bystanders should be kept completely away from the work area.
15. MAKE WORKSHOP CHILD PROOF. Use padlocks and master switches, and remove starter keys.
16. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
17. USE RIGHT TOOL. Don't force a tool or an attachment to do a job for which it was not designed.
18. ALWAYS USE SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses. Safety glasses, goggles, or a face shield will help protect the operator from injury. Use a face shield and dust mask during dusty operations.
19. SECURE WORK properly to the unit for setup and tool bit positioning. Do not attempt to hold a rotor steady with your hands. Both hands must be free to operate unit. When turning drive wheels, secure opposite wheel during rotor resurfacing.
20. DON'T OVERREACH. Keep proper footing and balance at all times.
21. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
22. REMOVE POWER AND DISCONNECT TOOLS before servicing the unit and when changing accessories such as blades, bits, cutters, etc. Follow lock-out and tag-out procedures as required.
23. AVOID UNINTENTIONAL STARTING. Make sure the switch is in the OFF (O) position before plugging the machine in or performing any maintenance or service work.
24. USE RECOMMENDED ACCESSORIES. The use of improper accessories may cause risk of injury to operator or bystanders. Use only as described in this manual. Use only manufacturer's recommended attachments.
25. NEVER LEAN OR STAND ON A LATHE. Serious injury could occur if the lathe is tipped or if the cutting tool is unintentionally contacted.

SAVE THESE INSTRUCTIONS

Before You Begin

The AMMCO® 800 On-The-Vehicle Brake Lathe is intended to resurface the disc brake rotors on passenger cars, RV, and up through 1-ton trucks. Using this lathe for other purposes could result in personal injury and/or equipment damage; therefore no attempt will be made to identify all uses for which this lathe is not intended.

Receiving

1. The shipment should be thoroughly inspected as soon as it is received. The signed bill of lading is acknowledgement by the carrier of receipt in good condition of shipment covered by our invoice.

If any of the goods called for on this bill of lading are shorted or damaged, do not accept them until the carrier makes a notation on the freight bill of the shorted or damaged goods. Do this for your own protection.

NOTIFY THE CARRIER AT ONCE if any hidden loss or damage is discovered after receipt and request the carrier to make an inspection. If the carrier will not do so, prepare a signed statement to the effect that you have notified the carrier (on a specific date) and that the carrier has failed to comply with your request.

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT.

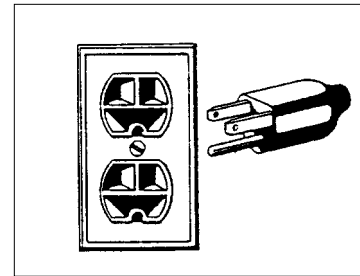
File your claim with the carrier promptly. Support your claim with copies of the bill of lading, freight bill, invoice, and photographs, if available.

Although AMMCO's responsibility ceases upon delivery of the shipment to the carrier, we will gladly assist in tracing lost shipments. Our willingness to assist in every possible manner does not make AMMCO responsible for collection of claims or replacement of lost or damaged materials. Shipping damage claims will not be handled under warranty.

Electrical Requirements

2. The lathe must be properly grounded to protect the operator from shock. The lathe is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding-type receptacle. Should an extension cord be required, use 3-conductor cords with 3-prong grounding plug and 3-prong grounding receptacle properly rated to handle this electrical power tool only. Do not modify a cord or plug to match a receptacle; have a qualified electrician install an appropriate outlet to match the lathe requirements. Repair or replace any worn or damaged power cords immediately.

2.1 Verify that the lathe plug and grounding-type receptacle match.



Plug and Receptacle Should Match

On-The-Vehicle

Features

- Axial (spindle) Runout Compensation Ability while Lathe is in Motion
- Semi-automatic Operation
- Automatic Safety and Shut Down Systems
- Operational Status Light System
- Pivotal On-The-Vehicle Brake Lathe Positioning
- Quick Connect System
- Portable Stand System Low Center of Gravity Reduces Chance of Falling Over
- Three 5-inch Diameter Caster Wheels that Lock for 800 Brake Lathe Storage
- Counter Balance Cylinder Fitted with Standard Schrader Valve used to Adjust Lathe Height
- Telescoping Frame
- Locations for Chip Tray, Hub Adapter Set, and Toolbox
- Chip Tray Features Special Ferris-wheel Basket Design
- Four Piece Hub Adapter Set Covers most Passenger Vehicles, including Light Trucks
- Toolbox Provides a Convenient Location to Store Tools and Accessories on the Portable Stand System
- 4 mm T-handle Socket Hex Wrench
- Chatter Bands
- Plastic Mirror
- Set of Positive Rake Insert Holders (shipped installed)
- Package of Carbide Inserts

Specifications

Maximum/Minimum Rotor Thickness

1.62 inches (41 MM)

Maximum/Minimum Rotor Diameter

13.78 inches [350 MM]

Depth of Cut

.025 per Side

Spindle Speed

88 RPM

Carriage Feed Speed

.004 inches/rev. (Adjustable)

Motor

3/4 Horse, Capacitor Start, Totally Enclosed, Single Phase, 115VAC 60Hz

Duty Cycle

15-minutes, 7 1/2 min. on and 7 1/2 off
Based on Normal Operation

Electrical Supply

115AC 60Hz 15AMP Capacity

Dimensions

42-in. x 42-in. x 48-in.

Shipping Weight

225 lbs.

On-The-Vehicle

Standard Accessories



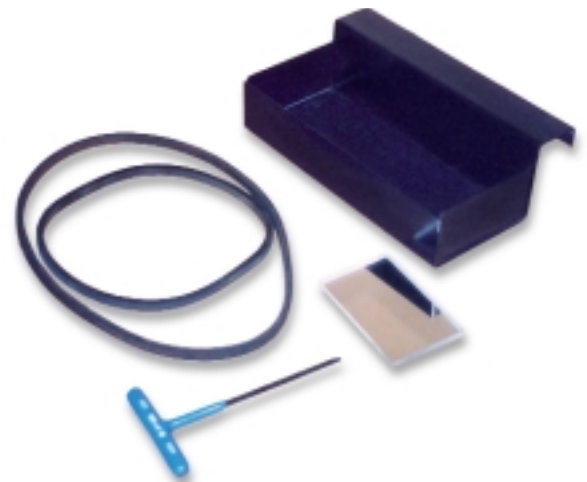
Hub Adapter Set



Chip Tray



Dial Indicator and Clamp System



Tool Tray with Hex Wrench, Mirror, Chatter Bands, and Carbide Inserts



Twist-lock Power Cord

On-The-Vehicle

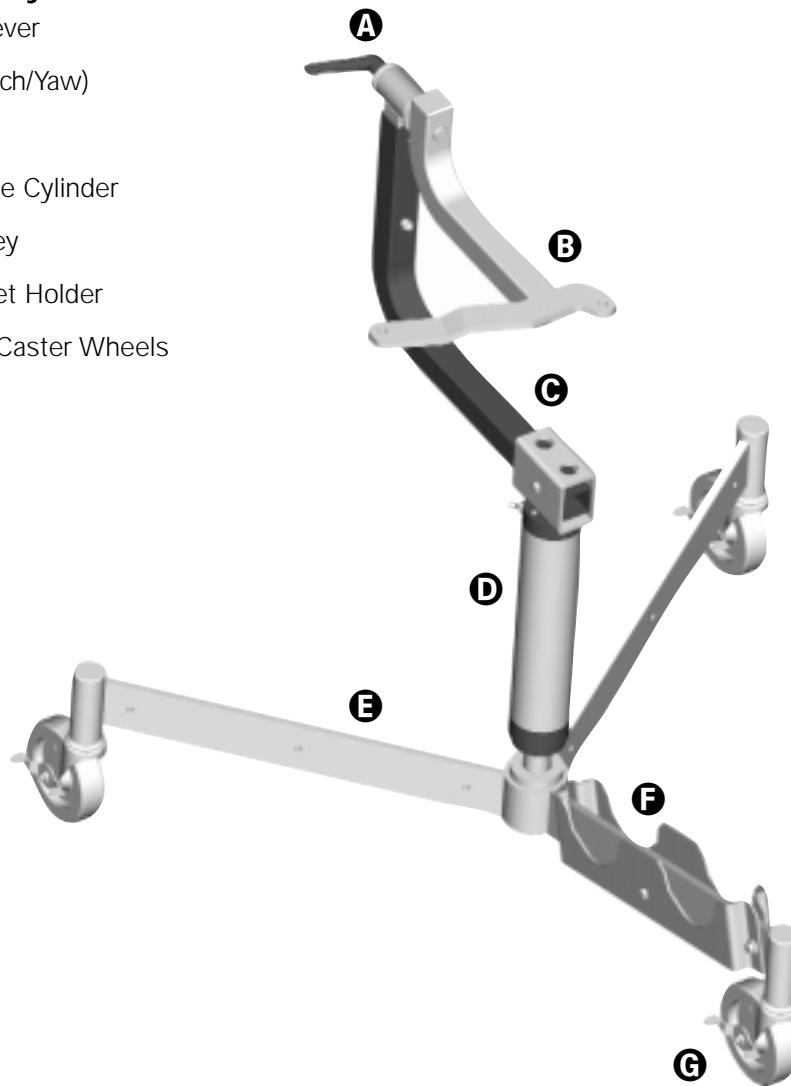
Principal Operating Parts

Know Your Unit

Compare these illustrations with the unit before placing it into service. Maximum performance and safety will be obtained only when all persons using the unit are fully trained in its parts and operation. Each user should learn the function and location of all controls. Prevent accidents and injuries by ensuring the unit is properly installed, operated, and maintained.

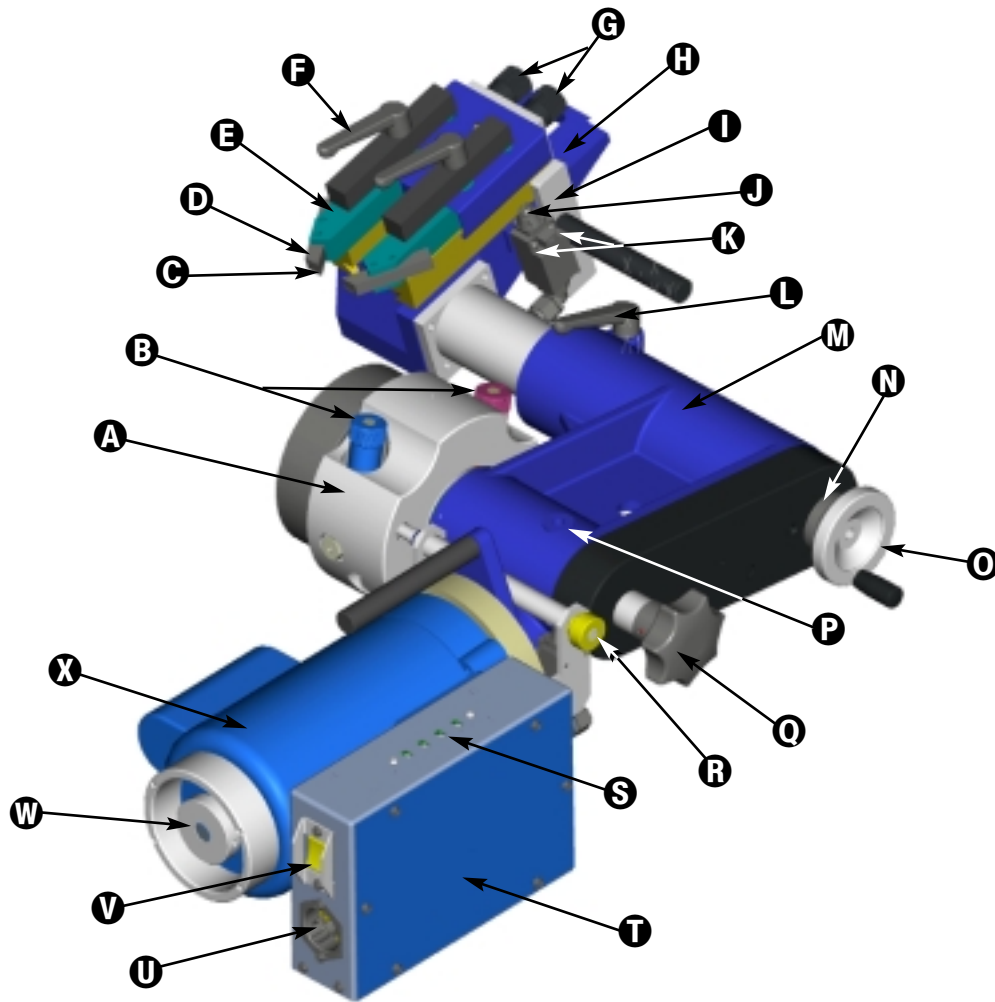
Portable Stand System

- A** Pivot-locking Lever
- B** Cradle Arm (Pitch/Yaw)
- C** Pivot Arm
- D** Counter Balance Cylinder
- E** Three Leg Trolley
- F** Hub Adapter Set Holder
- G** 5-inch Locking Caster Wheels



On-The-Vehicle

800 On-The-Vehicle Brake Lathe



- | | |
|--|---------------------------------------|
| A Runout Adjustment Head | M Lathe Body |
| B Adjustment Knobs (red and blue) | N Feed Engagement Knob (gray) |
| C Carbide Inserts | O Feed Handwheel |
| D Insert Holders | P Transmission Oil Filler Plug |
| E Tool Holders | Q Drawbar Star Knob (black) |
| F Tool Holder Locking Levers | R Lock Pin (yellow) |
| G Insert Adjustment Knobs | S Status Lights |
| H Cutting Head Assembly | T Control Box |
| I Dial Indicator Target | U Twist-lock Receptacle |
| J Overtravel Switch | V Power Switch (On/Off) |
| K Gib Adjustment Screws | W Motor Handwheel |
| L Head Centering Lock Lever | X Lathe Motor |

On-The-Vehicle

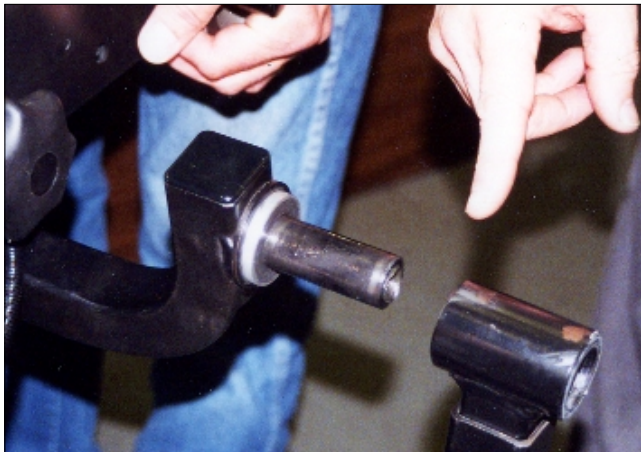
Installation Instructions

800 Brake Lathe and Portable Stand System Assembly

3.0 Insert the counter balance cylinder shaft into the three leg trolley and tighten screw.



3.1 With the help of another person, lift the 800 brake lathe and insert the pivot into the receiver on the portable stand system.



3.2 Install the pivot-locking lever into the 800 brake lathe pivot and tighten. Note the location of the thick aluminum washer.



3.3 Retrieve the four hub adapters and place each in the hub adapter set holder on the portable stand system.

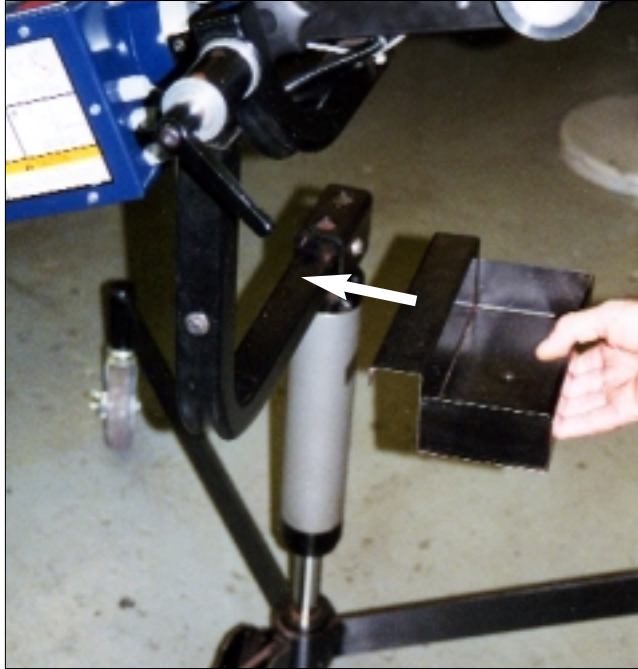


3.4 Place the chip tray over the pivot located on the cutting head assembly.



On-The-Vehicle

3.5 Place the tool tray on the portable stand system as shown.



3.7 Using a small tool, release air pressure until the 800 brake lathe drops to about 5-inches of shaft showing, as shown in photo below.



3.6 Remove the valve cap from the valve on the counter balance cylinder. Using standard shop air fill the cylinder to its fully extended height.



Do not exceed 140 PSI of air when filling the counter balance cylinder.



Do not stand over the 800 brake lathe and/or portable stand system when pressurizing the counter balance cylinder.



On-The-Vehicle

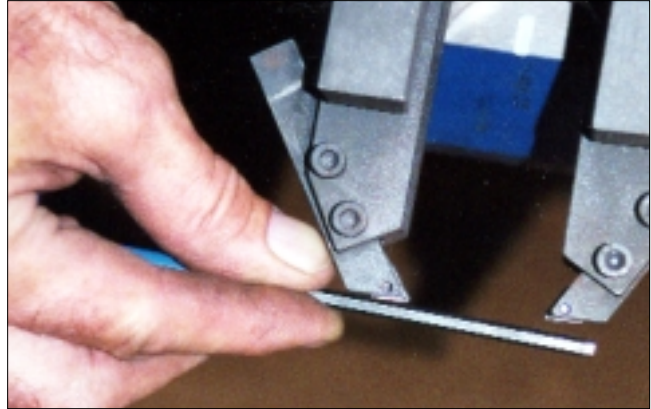
800 Brake Lathe and Portable Stand System Inspection

4.0 Note the location of pivot points for rotation.

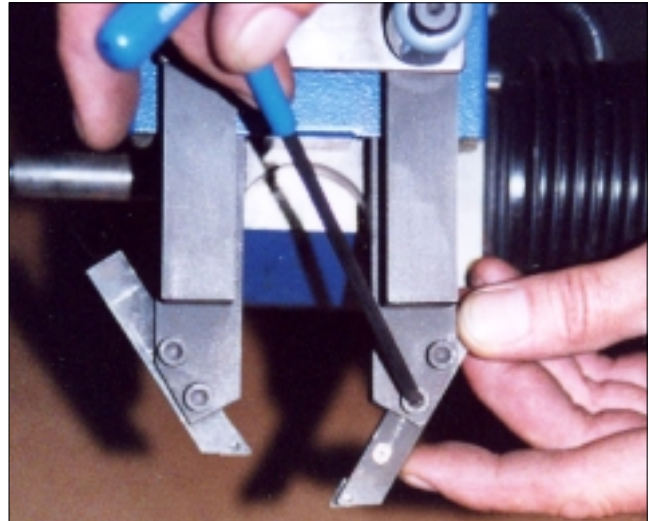


Lathe Rotation Pivot and Lock System

4.1 Observe and inspect the carbide inserts for damage. The outboard tip should be about 1/8-inch ahead of the inboard or hat side of the rotor.



4.2 If adjustment is required, use the T-handle hex wrench to position the tool holders.



4.3 If the carbide inserts are damaged, rotate the entire lathe upside down. This provides easy access to replace or rotate the carbide inserts.

Note: Carbide inserts are mounted upside-down in the insert holders.



Lathe Tilt Pivot System (No Lock)



On-The-Vehicle

Familiarize Yourself with the 800 Brake Lathe

⚠ There are safety and shut down systems to aid in the performance of good brake work. To understand each system feature and recognize its condition, we strongly recommend that you complete the following sequential exercise.

5.0 Connect to power using the twist-lock receptacle and power cord. Note that when connecting the power cord to the control box, the power switch lights up indicating power is available to the control box from a power source. Note the location of the ON/OFF switch.



5.1 Note the various lights on the control box; these indicate a lathe status.



5.2 Before switching the power on, disengage the runout adjustment head by pulling out the lock pin (yellow).



5.3 Switch the power ON; the runout adjustment head rotates. Observe that the ADJUST RUNOUT light status is now green on the control box.

5.4 Now practice using the feed handwheel for overtravel status. Rotate the feed handwheel until the overtravel switch is engaged causing the 800 brake lathe to shut down. Observe that the OVERTRAVEL light status is now red on the control box.



5.5 Using the feed handwheel move the overtravel actuator off of the overtravel switch about 1/2-inch and turn the lathe back on.

On-The-Vehicle

5.6 Engage the feed engagement knob (gray) and observe the auto feed operation. Allow the machine to feed out until the overtravel switch is activated. The 800 brake lathe will shut down and the OVERTRAVEL status light will light red indicating the cause.

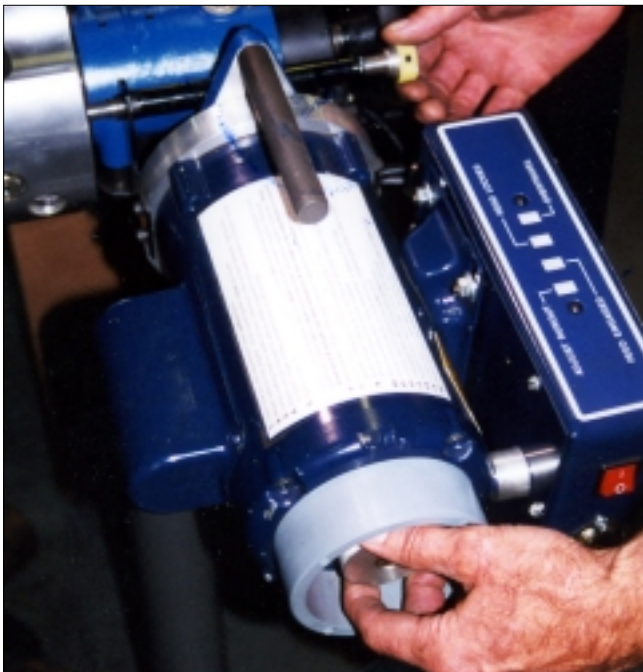


5.7 Note that each time the feed engagement knob (gray) is engaged, the FEED ENGAGED light is activated and will light green.

5.8 Experiment with and understand the HEAD LOCKED feature.

5.9 Make sure the feed engagement knob (gray) is disengaged or pulled out toward the feed handwheel.

5.10 Lock the runout adjustment head using the lock pin (yellow). It may be necessary to rotate the runout adjustment head, using the motor handwheel, to engage the lock.



5.11 Turn the power ON and observe the control box status lights.

5.12 Engage the feed engagement knob (gray). Observe that the 800 brake lathe will shut down and the HEAD LOCKED status light will light red indicating the cause. This is to prevent the operator from adjusting the lathe when the cut begins.

5.13 Now disengage the feed engagement knob (gray) and restart the lathe with the head locked. Observe the time. After four and a half minutes the 800 brake lathe will shut down. This feature is a time out if the lathe is left unattended and the feed engage is not in gear to shut down the machine.

Operating Instructions Hub Adapter Mounting and Bearing Inspection

6.0 After the wheels of the vehicle have been removed, observe the position of the brake caliper mounting to determine which side of the vehicle will allow the 800 brake lathe to mount in the upright position. This is the side of the vehicle to resurface first.

6.1 Select one of the hub adapters with mounting holes that match the stud pattern of the vehicle and has a center clearance that clears the vehicle's hub surfaces. The hub adapter is necessary to interface the 800 brake lathe to the vehicle. In most cases, the lug nuts that were removed from the wheel may be used to secure the hub adapter.



Do not use impact tools to tighten the lug nuts or damage to the hub adapter may result.



6.2 After attachment of the hub adapter to the vehicle, tighten each lug nut, in a star pattern sequence, to a torque of approximately 25-30 ft./lbs. Note that the screwdriver is used to prevent rotation.



6.3 Remove the brake caliper assembly using procedures and tools as defined by the vehicle's manufacturer, and position it in an out of the way location. Take care not to kink or twist the brake hose and use a hanging method to prevent the caliper from interfering with the rotor refinishing operation.



6.4 Before attempting any rotor resurfacing, it is necessary to check the wheel bearings. If they are loose, they will affect the desired accuracy and surface finish of the rotor being refinished and could be the reason for the current brake problem.



Brake Rotor Inspection

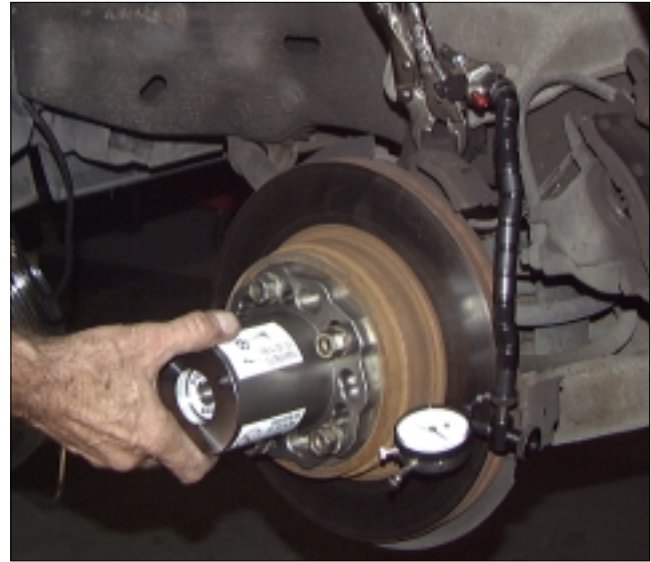
7.0 Before attempting any resurfacing, rotor inspection is necessary. Determine the manufacturer's rotor specifications from an approved specification guide.



7.1 Using an AMMCO® model 2780 digital micrometer (p/n 902780) or other rotor-measuring tool, record the thickness of the rotor. Observe any deep scores and gouges, as this depth will also need to be recorded.



7.2 Attach a dial indicator to the vehicle and record the rotor run-out.



7.3 Determine if the total amount of material to be removed will meet the manufacturer's minimum specifications, if not a new rotor will be required. In all cases, a new rotor must be inspected for runout and sometimes resurfaced to meet manufacturer's specifications.

Note: Be aware that all vehicle manufacturers have a minimum "machine to" and a "discard" thickness.

7.4 Adjustment of dial indicator may be accomplished by adjusting slack as pointed to in photo.



On-The-Vehicle

Lathe to Vehicle Attachment

8.0 Attach a chatter band to the rotor as shown. This will help reduce any unwanted vibrations while refinishing the rotor, resulting in a better surface finish.



8.1 Always disconnect the twist-lock power cord from the 800 brake lathe when attaching or removing the lathe from the vehicle.

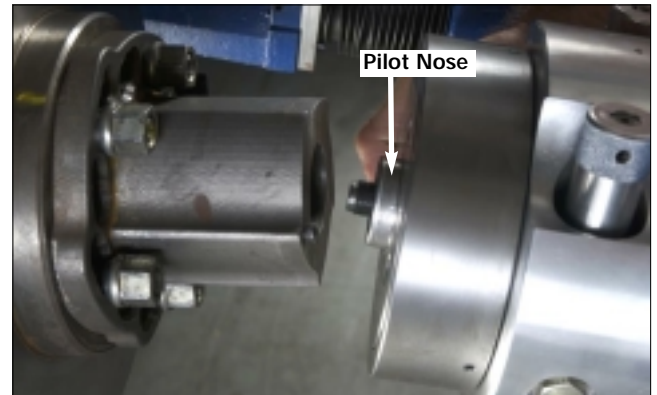
8.2 Lock the runout adjustment head using the lock pin (yellow).



8.3 It may be necessary to rotate the runout adjustment head, using the motor handwheel, to engage the lock pin (yellow).



8.4 To attach the 800 brake lathe to the vehicle, approach the vehicle with the lathe tilted back on the portable stand system. This provides an easy engagement of the pilot nose into the hub adapter.



8.5 Once initial engagement has been accomplished, tilt the 800 brake lathe forward mating the face of the lathe with the mounting face of the hub adapter. It may be necessary to rotate the hub adapter so the drive pin can engage one of the three drive holes in the lathe runout adjustment head.



8.6 Screw the drivebar into the hub adapter using the drivebar star knob (black). Hand tighten; a firm hand tightening is all that is required.



On-The-Vehicle

Cutting Head Assembly Positioning

9.0 For each different vehicle, the cutting head assembly may need re-centering.

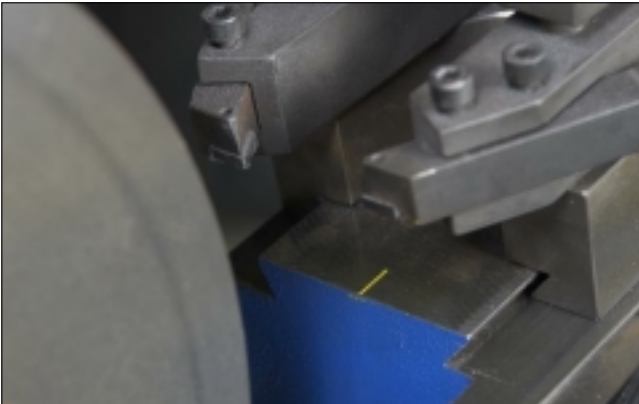


The Lathe is Shown in Position

9.1 Loosen the head centering lock lever.



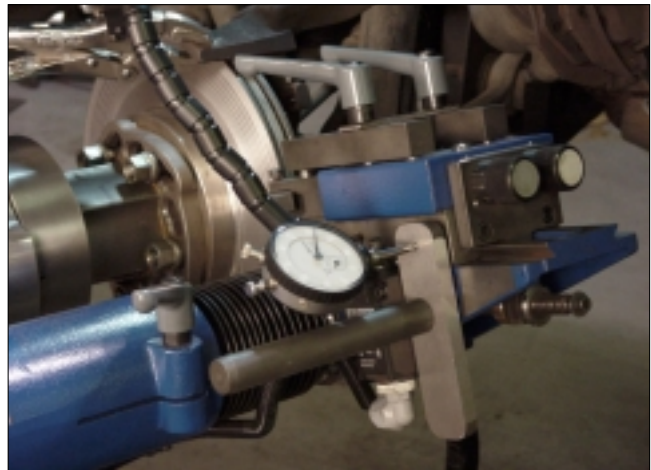
9.2 Position the cutting head assembly at a location so the centerline mark on the head is centered on the width of the brake rotor. Once positioned, retighten the head centering lock lever.



9.3 Loosen the pivot-locking lever on the portable stand system and rotate the 800 brake lathe to an angular position that allows the cutting head assembly to travel the full length of the rotor face without any interference. This will assure lathe clearance during the refinishing process. After this adjustment has been completed, tighten the pivot-locking lever.



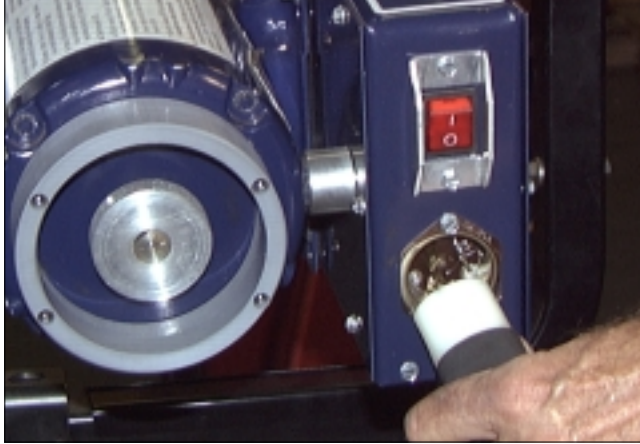
9.4 Attach the dial indicator and clamp system to the vehicle wheel suspension and position the end of the stylus on the target surface perpendicular to the cutting head assembly.



On-The-Vehicle

Adjusting the Lathe Runout

10.0 At this point, the 800 brake lathe is ready to be turned on and adjusted for runout. Start this process by inserting the power cord into the twist-lock receptacle located on the end of the control box.

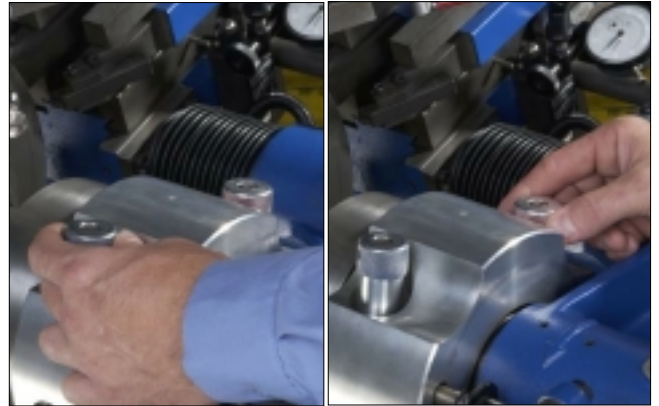


10.1 Make sure lock pin (yellow) is locked into the runout adjustment head before activating the power switch.



10.2 Turn the power switch ON.

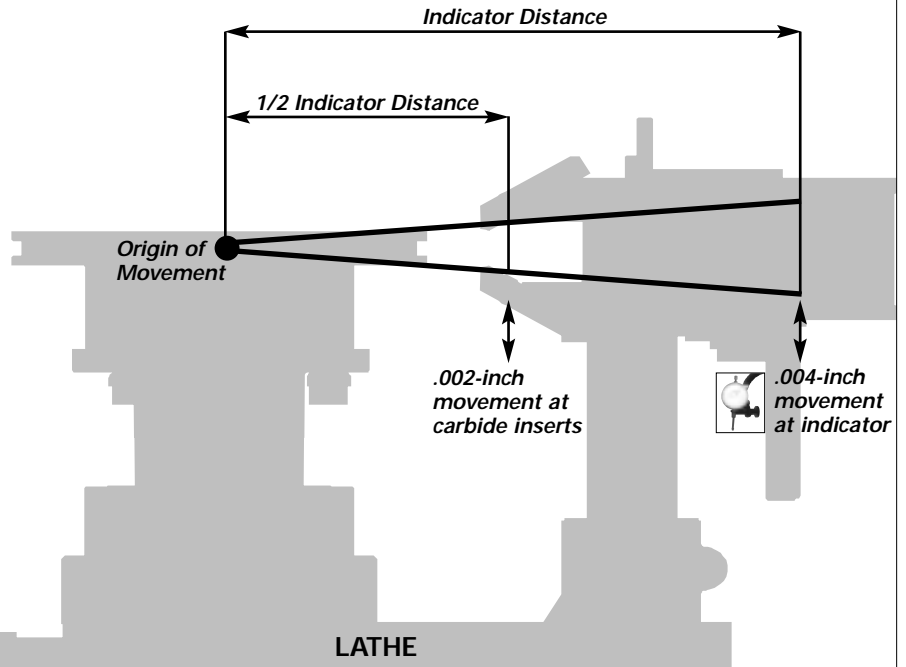
10.3 Correct for lathe runout by using the two adjustment knobs (red and blue) located on the runout adjustment head. First turn the red knob, then the blue knob decreasing dial indicator movement as much as possible until the indicator movement improves. Continue to turn red and blue knobs alternately to decrease dial indicator movement. **When movement of dial indicator has been reduced to .004-inch or less, adjustment is complete. Note that resulting cut will be within .002-inch.**



Runout Diagram



Note that the Dial Indicator Reads .001 (1/1000) of an Inch Between the Marks



On-The-Vehicle

10.4 Turn the power switch OFF and disengage the lock pin (yellow) from the runout adjustment head to allow it to rotate with the lathe for the remainder of the refinishing process.

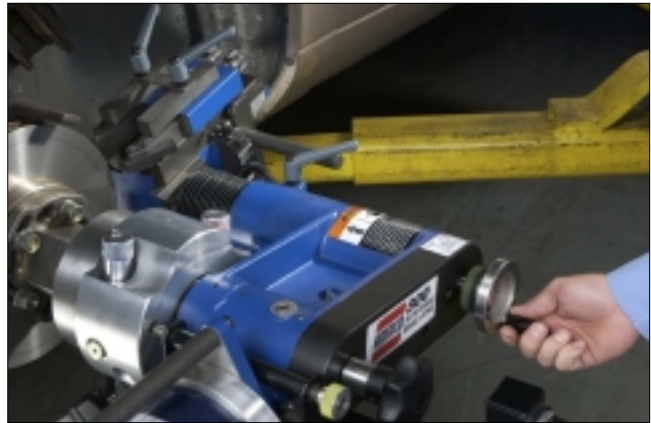


Tool Holder Adjustment

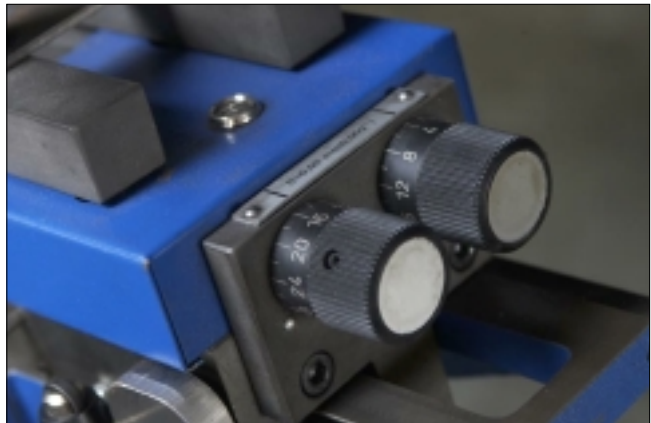
11.0 Turn the power switch ON, loosen both tool holder locking levers located on top of the cutting head assembly, and position the carbide inserts to clear the brake rotor width.



11.1 Using the feed handwheel, position the carbide inserts inward onto the rotor surface, approximately 1/2-inch or the most worn area.



11.2 The cutting adjustment knobs are graduated .002-inch per tick mark. Note that the adjustment from number to number will move the carbide insert .004-inch.



11.3 Turn the insert adjustment knob clockwise bringing the carbide insert inward until a contact revolution is made with the rotor face. After the insert contacts the rotor face, continue turning the insert adjustment knob until a minimum cleanup depth is achieved. Note the insert adjustment knob reading and then back the knob off one counterclockwise revolution.



Adjust the opposite carbide insert in the same manner.



The mirror maybe used to view the rear surface.



11.4 With both cutting tips backed away from the rotor, advance the carbide inserts toward the center of the rotor diameter, using the feed handwheel, being careful not to run the carbide inserts into the hub portion of the rotor.

11.5 Reposition carbide inserts to the cleanup position by turning each insert adjustment knob clockwise one revolution, plus .004-inch cut depth for resurfacing each side of the rotor. Make sure the tool holder locking levers are locked in place before engaging feed.

Completing the Cut



For optimum results, once the automatic feed is engaged, do not disturb the lathe or stand during the cut or damage to the rotor may result.

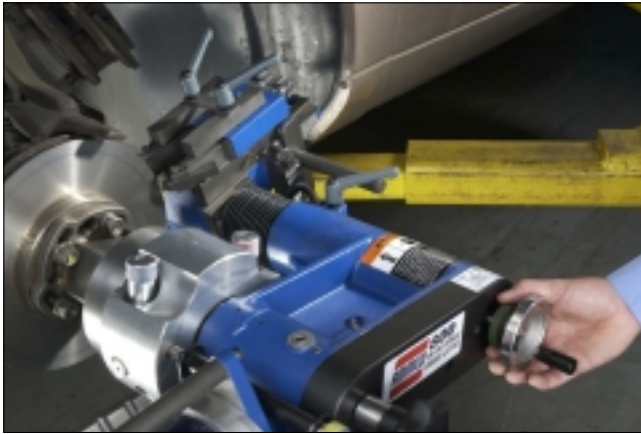
12.0 Engage feed by pushing the feed engagement knob (gray) forward into the slots. It is located just behind the feed handwheel. The 800 brake lathe will now feed the carbide inserts outboard at the rate of .004-inch per revolution of the lathe spindle.



On-The-Vehicle

Removing the Lathe

1 3.0 After the refinishing process is complete and the cutting tips are clear of the rotor, disengage the feed engagement knob (gray).



1 3.1 Switch the power OFF and remove the power cord from the twist-lock receptacle.



1 3.2 Use the motor handwheel to rotate the spindle manually, to position the adjustment knobs (red and blue) at the start position, and insert the lock pin (yellow) into the runout adjustment head.

1 3.3 To remove the 800 brake lathe from the vehicle, loosen the adjustment knobs (red and blue) to the top position to reduce the drawbar tension. This will allow the drawbar to be loosened and withdrawn easily.



1 3.4 Disconnect the 800 brake lathe by disengaging the drawbar from the hub adapter using the drawbar star knob (black).



On-The-Vehicle

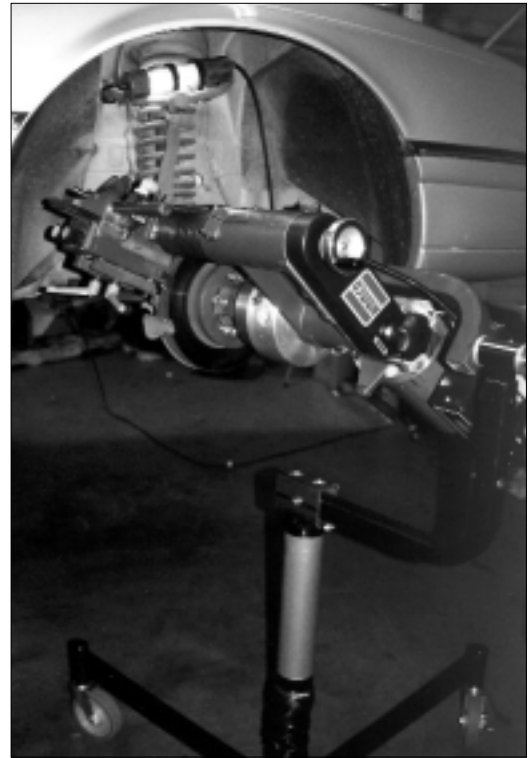
13.5 Inspect the rotor after machining to verify that the rotor runout and thickness meet manufacturer's specifications.

13.6 Remove the chatter band and hub adapter.



Setup for Opposite Side Vehicle Rotor Resurfacing

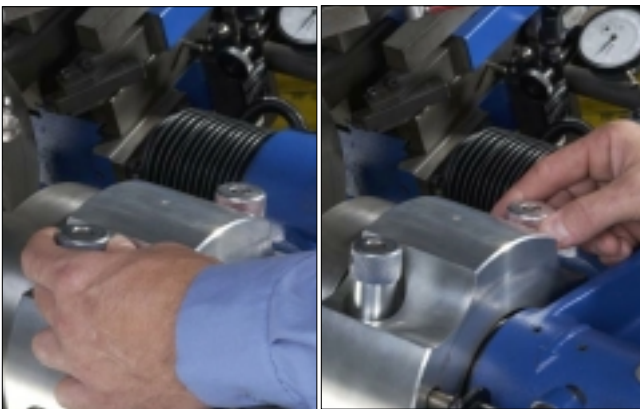
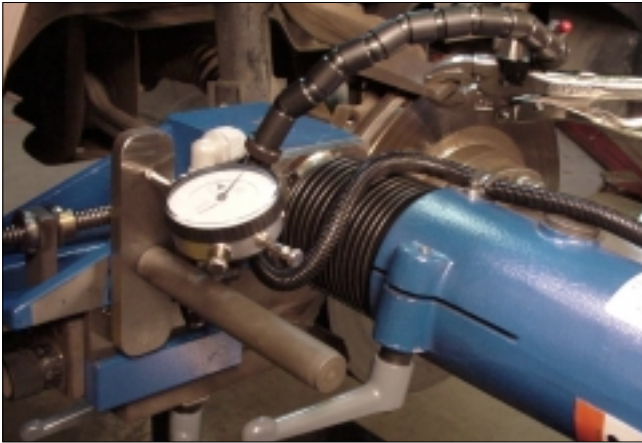
14.0 To cut the brake rotor on the opposite side of most vehicles, the 800 brake lathe must be rotated to its inverted position. To invert the lathe loosen the pivot-locking lever on the portable stand system. Adjust to an angular position, as done for the first rotor, to assure lathe clearance during the refinishing process, then tighten the pivot-locking lever.



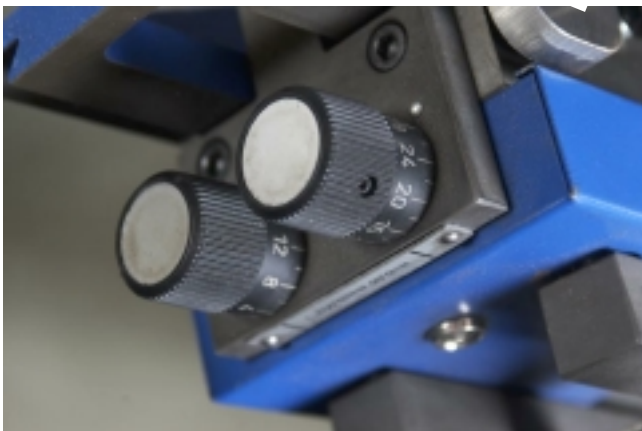
14.1 Rotate the spindle manually, using the motor handwheel, to position the adjustment knobs (red and blue) to the up position, and insert the lock pin (yellow) into the runout adjustment head.

14.2 After the 800 brake lathe has been attached to the vehicle, it is not necessary to center the cutting head assembly as that was accomplished on the first rotor.

1 4. 3 Attach runout indicator to the vehicle wheel suspension, turn on the 800 brake lathe, and make the runout adjustment required in the same manner as previously described in section 10.3 on page 15.



1 4. 4 When making tool holder adjustments in the inverted position use the insert adjustment knob reference dot as shown in the photo below.



1 4. 5 Inspect the rotor after machining to verify that the runout and thickness meet manufacturer's specifications.

1 4. 6 Remove the chatter band and hub adapter.

Preventive Maintenance Oiling

1 5. 0 The lathe is shipped from the factory with the correct amount and type of oil. Refill as necessary with EP-80-90 gear oil and check the oil level periodically.

Drain the oil annually and refill to the proper level with clean EP-80-90 gear oil. To drain the oil, remove the socket head drain plug located on the top of the lathe above the spindle.

1 5. 1 General Lubrication — Oil the ways of the head assembly periodically. Lub points located on either side of head assembly.

1 5. 2 Lubricate feed actuator plunger with light oil (3-4 pumps using oiler) periodically. Lubrication point located at center of feed drive assembly cover.

Note: Stand cylinder requires no lubrication.

Cleaning

1 5. 3 Keep the lathe as clean as possible for trouble free operation as well as safety and longer lathe life. Use a brush to sweep metal chips and dust off the lathe. **DO NOT USE COMPRESSED AIR TO BLOW THE LATHE CLEAN.** Chips and dust may be driven between machined parts and into bearings causing undue wear.

1 5. 4 Although stand does not require any specific service, it is a good idea to periodically wipe the counter balancer cylinder shaft clean of debris and apply a light coat of oil.

Care of Hub Adapters



Although the hub adapters are made of top grade steel and are turned, and hardened, to close tolerances, care should be taken in their use, handling, and storage.

1 5. 5 Remove the lathe and hub adapter after machining a rotor and wipe them clean.

1 5. 6 Regularly inspect the faces of the hub adapters for nicks and scratches, correct any flaw with a fine stone. If the damage cannot be corrected, replace the hub adapter. Handle the hub adapters with care and store them in the hub adapter holder or on individual hooks. **DO NOT** throw them into a box. The hub adapters are designed for mounting rotors only, **MISUSE WILL YIELD POOR RESULTS.**

Adjustment Knob Repositioning

At some point in the machine's life you need to reposition the runout adjustment knobs. This eliminates the initial swing of the dial indicator from exceeding a full revolution. If the swing does exceed a full revolution it becomes confusing to adjust for runout. It means the adjustment knobs have to be turned down extremely far to compensate for runout. Runout compensation should be achieved at about four turns clockwise of the adjustment knobs.

Procedure

16.0 Disconnect the lathe from the hub adapter, if attached, by loosening the drawbar star knob (black).

16.1 Start with the adjustment knobs (red and blue) at their top position, then turn each knob down 3-1/2 revolutions clockwise.

16.2 Release the lock pin (yellow) and roll the runout adjustment head to its inverted position. Observe the two adjustment screws, which are used in the same fashion as the two adjustment knobs that were rolled to the bottom.

16.3 Tighten the drawbar star knob (black).

16.31 Place the indicator on the target surface and turn the power ON.

16.4 Use a large flat blade screwdriver with plenty of handle on it to turn the screws, as the system is under pressure once the drawbar is tightened.

Turn one of the adjustment screws clockwise to see if the value of swing increases or decreases. If swing increases turn the screw back counterclockwise to maximize its ability to compensate for runout. Reduce swing to within 10 marks.

Turn the opposite screw. Alternate adjustments the same as with the adjustment knobs until the needle swing is very close. Reduce swing to within 10 marks.



16.5 Turn power OFF.

16.6 Rotate the runout adjustment head back over to make the adjustment knobs accessible.

16.61 Loosen the adjustment knobs (red and blue) to their top position.

16.7 Loosen drawbar star knob (black). Re-tighten the drawbar star knob (black).

16.8 Turn power ON.

16.9 Verify that the dial indicator needle swing is less than one revolution. If not, repeat the calibration procedure until it is less than one revolution.

Troubleshooting

17.0. Erratic indicator movement when adjusting runout.

- A. Drawbar is not tighten properly.
- B. Spindle bearing or suspension parts are worn.
- C. Ensure indicator is located on target surface.
- D. Lathe is not counterbalanced to center line of rotor.
- E. Lower stand pivot too tight.
- F. Stand is making contact with foreign object or wheels maybe locked.
- G. Change adapter drive pin to another drive hole in head.

17.1 Poor surface finish of rotor.

- A. Chatter band not on rotor.
- B. Head Locking-lever loose.
- C. Tool Holder Locking-levers loose.
- D. Loose gib in head assembly.
- E. Carbide insert chipped or dulled.
- F. Carbide inserts maybe loose in their holders.
- G. Excessive material removed.

17.2 Locked Feed Handwheel.

- A. If feed handwheel is rotated with the feed engaged to the limit of head travel, binding will occur. Put clockwise pressure on feed handwheel and release feed engagement knob (gray), then rotate handwheel counterclockwise off of limit.

17.3. Rear wheel drive applications.

- A. Erratic indicator movement preventing runout adjustment. This is due to axle in-play. Place hand on stand member and use enough pressure to prevent float, stabilizing indicator movement.