HUNTER Engineering Company

HUNTER 3 Year Warranty hunter.com/warranty

MADE IN USA
USING THE FINEST US & GLOBAL MATERIALS

AUTOCOMP ELITE™ BRAKE LATHE

Auto compensation maximizes speed & accuracy

OPERATIONS MANUAL

Operations Manual

Standard Operation Video

Form LM07298-00
6/24/2024
Supersedes 10-20e

OWNER INFORMATION

Customer Name:_____ Installation Date:_____

Model Number: _____ Serial Number: _____

Order Number:_____ Software Number:_____

Sales Representative Name and Number:_____

Sales Representative Phone:_____

Service and Parts Representative Name and Number:_____

Service and Parts Representative Phone: _____

Hunter On-Car Lathe - Equipment Training Report

Technicians Trained: *Please Print*

Technician 1: Technician 2:

Technician 3: Technician 4:

Please have trained technicians initial each training item:

Brake Lathe Training Task	Tech 1	Tech 2	Tech 3	Tech 4
Safety Precautions, Power On/Off, Safety Switch				
Overview of Lathe Panel Controls				
Overview of Tablet Controls				
Inspecting & Replacing Cutting Bits				
Adjustment of cutting bit tool holders				
Flipping Tool Bit Holder				
Adaptor Identification using Online QCL lookup				
Adaptor Mounting/Set-Up				
Compensation Procedure				
Machining Procedures				
One-Cut Finish Procedure				
Special Application Adaptors				
Maintenance Procedures				

Installation & Training Acknowledgment: I, the undersigned, do hereby acknowledge that my Hunter Engineering Brake Lathe has been installed and is operational. I also acknowledge that the above technicians have been trained to my satisfaction in those areas of safety and operation as indicated above.

Management Name (print): Date:

Management Signature:

Contents

AutoComp Elite® On-Car Disc Brake Lathe with ACT 1

1. Getting Started

1.1 Introduction

This manual provides instructions and information required to operate the ACE series on-car disc brake lathe.

This manual assumes that the technician is familiar with the basics of brake service. Section 1 provides mechanical and electrical safety information, specifications, as well as general information about the ACE. The following sections contain detailed information about equipment, procedures, and maintenance.

The owner of the lathe is solely responsible for arranging technical training. Only qualified Hunter trained technicians should operate the lathe. Maintaining records of personnel trained is solely the responsibility of the owner or management.

This On-Car Disc Brake Lathe has been designed to machine disc brake rotors on passenger cars and light trucks. Use the lathe only for its intended purpose as outlined in this manual.

California Warning: This product may contain chemicals known to the State of California to cause cancer and reproductive harm. www.P65Warnings.ca.gov

1.2 For Your Safety

IMPORTANT SAFETY INSTRUCTIONS

Read and follow the instructions and warnings provided in the service, operation and specification documents of the products with which this lathe is used (i.e., automobile manufacturers, brake component manufacturers etc.).

Read and follow all caution and warning labels affixed to your equipment and tools. Misuse of this equipment can cause personal injury and shorten the life of the brake lathe.

Keep all decals, labels, and notices clean and visible.

Always use wheel chocks in front of and behind the appropriate wheel after positioning, to prevent movement of the vehicle on the rack.

Use caution when jacking the vehicle.

Always wear OSHA approved safety glasses. Everyday eyeglasses have only impact resistant lenses and are not appropriate eye protection.

Wear proper back support when lifting or removing wheels.

DO NOT ALTER THE ELECTRICAL PLUG. Plugging the electrical plug into an unsuitable supply circuit will damage the equipment and may result in personal injury.

Do not operate equipment with a damaged cord or equipment that has been dropped or damaged until it has been examined by a Hunter Service Representative.

The power plug serves as the disconnect device for this equipment. The receptacle outlet shall be installed near the equipment and shall be easily accessible.

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.

If an extension cord is necessary, 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.

Verify that the electrical supply circuit and the receptacle are properly grounded.

Do not use lathe in a dangerous environment. Do not use in damp or wet locations, or expose to rain. Keep the work area well lighted.

Verify that the electrical supply circuit is adequate.

All visitors and children should be kept a safe distance from the work area.

To reduce the risk of fire, do not operate the equipment near open containers of any flammable liquids (such as gasoline or diesel fuel).

Do not let cord hang over edge of table, bench, counter, or come in contact with hot manifolds or moving parts.

Remove adjusting keys and wrenches. Form a habit of verifying that keys and adjusting wrenches are removed from the brake lathe before turning it on.

Keep the work area clean. Cluttered floors, benches, and areas around the lathe invite accidents.

BE AWARE OF MOVING PARTS.
Keep hands clear during operation.

Wear proper apparel. Wear no loose clothing, gloves, neckties, rings, bracelets, or other jewelry, which may be caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

Do not overreach. Keep proper footing and balance at all times.

If cutting operation is dusty, use face or dust mask.

Never stand on the brake lathe or trolley. Serious injury could occur if the brake lathe is tipped or if the cutting tool is unintentionally contacted.

Keep guards in place and in good working order.

Unplug brake lathe before servicing, or when changing accessories such as insert holders, bits, or cutters.

Do not force or overload the brake lathe. It will do the job better and safer at the rate for which it was designed.

Manufacturer recommended maximum loading: 120 RPM and .012 inch cutting depth.

Use the correct attaching components. Do not force or overload a tool or attachment to do a job for which it was not designed.

Maintain the brake lathe and its components with care. Keep brake lathe and its components sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

Use only Hunter recommended accessories. The use of non-recommended accessories may cause risk of injury

to persons and may not produce satisfactory finish results.

Check for damaged parts. Before further use of the brake lathe and components, a guard or other part that is damaged should be carefully checked to determine that it would operate properly and perform its intended function. A guard or other part that is damaged should be properly repaired or replaced. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation.

Never leave the brake lathe running while unattended. Turn the power “OFF.” Do not leave the brake lathe until it comes to a complete stop.

Use equipment only as described in this manual.

SAVE THESE INSTRUCTIONS

1.3 Specific Safety Precautions/ Power Source

Specifications for Extension Cords

The lathe comes equipped with a 25-foot power cable, which should be adequate to reach an outlet in most cases.

In the event that an extension cord is needed a good quality/heavy duty cord must be used. Failure to use an appropriate cord may induce poor lathe performance and intermittent operation. (For example: Most drop lights have 16 gauge or smaller wire. A drop light is not an acceptable extension cord.)

See below for the maximum length and rating of cord required.

12 gauge wire – 25 feet is maximum extension cord length.

10 gauge wire – 50 feet is maximum extension cord length.

Power Source Grounding Instructions

In case of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. The brake lathe is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green, with or without yellow stripes, is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel, if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool’s plug.

Repair or replace damaged or worn cords immediately.

Power Source Instructions

The lathe is intended for use on all grounded supply circuits having a nominal rating of 110 volts AC in the United States and Canada. The lathe has a grounding plug. Do not use adaptors that allow you to bypass required equipment electrical grounding.

The international version of the ACE lathe is intended to be used with 220 volts of AC.

Optional 220v Power Source (US & Canada)

The lathe can also be connected to a power source that will apply 230 VAC (208 VAC - 240 VAC) 50/60 Hz between the supply conductors of the power cord. This will require conversion to 220 V and the plug, 42-36-2, to be installed. Refer to Form 7299-T, AutoComp Elite® Installation Instructions, for information on converting to 220 V. This conversion must be performed by a certified Hunter representative only.

The power cord utilizes a twist lock connector, Nema L6-20P. The receptacle may need modification to allow the proper connection of the power cord. Any modification to the receptacle should be done by a certified electrician.

A protective ground connection, through the grounding conductor in the power cord, is essential for safe operation. Use only a power cord that is in good condition.

Export ACE Lathes 220v Power Source

Excluding Canada, lathes built for export are meant to be connected to a power source that will apply 230 VAC (208 VAC - 240 VAC) 50/60 Hz between the supply conductors of the power cord.

1.4 ACE Series Specifications

Maximum Rotor Turning Diameter	15.75 inches (400 mm)
Maximum Rotor Thickness	2.75 inches (51 mm)
Maximum Rotor Friction Surface Area	3.00 inches (76 mm)
Feed Distance	4.3 inches (110 mm)
Spindle Revolutions	Variable Speed 0-150 RPM forward and reverse
Motor Power	1.5 HP (1.12 kw) @ 3450 rpm
Dimensions	27 inches Long x 20 inches Wide x 15 inches High (686 mm x 508 mm x 381 mm)
Net Weight	Approximately 90 lbs. (41 kg) (Without trolley)
Lubrication	Gear box, AGMA #8 Gear Lubricant
	Carriage slides, light motor oil
	Carriage screw, EP grease
Electric Power	**Domestic: US & Can** 115 VAC, 60 Hz, 15 Amp, NEMA L5-15P (230 V, 50-60 Hz optional) **Export:** 230v, 50-60hz, 17 amp NEMA L6-20p

1.5 Major Operating Controls

Electrical Controls

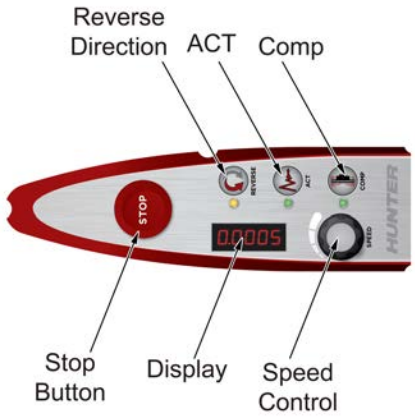


Figure 1

The ACE control panel can be rotated 180° to be used on the other side of the vehicle. The fixed power supply plug delivers all power to the ACE.

The STOP button is a general stop for all lathe functions.

The SPEED adjustment knob controls the speed of the lathe. Quickly turning the adjustment stops the motor, as a safety feature.

The ACT light indicates when the ACT switch has been enabled.

The COMP button displays indicator lights showing the progress of the compensation procedure.

Lights on the bar graph (I) turn off once the lathe motor has been engaged. The lights will not return unless the compensation process is repeated.

The REVERSE switch reverses the direction of lathe motor.

Rotor Feed Control

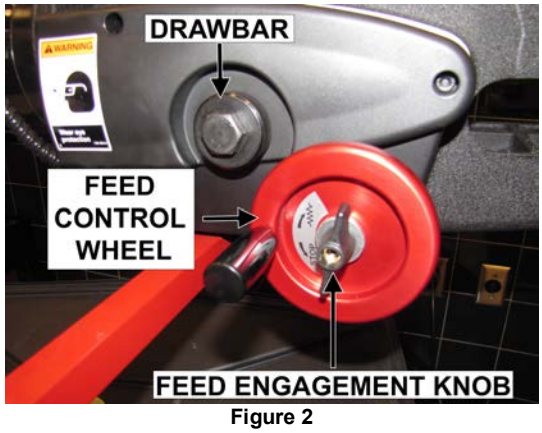


Figure 2

The feed hand wheel moves the cutting inserts along the rotor surface. Using the feed positioning knob on the hand wheel, rotate the feed hand wheel clockwise to move the cutting inserts toward the inner diameter (center) of the rotor, or counterclockwise to move them toward the outer diameter of the rotor. In other words, the rotor feed control moves the cutting inserts in towards the hub, or out to the outer edge of the rotor.

Feed Engagement Knob

The feed engagement knob is the wing nut located on the rotor feed control. This knob is tightened to engage the automatic feed.

Depth of Cut Adjustment Knob

The depth of cut adjustment knob adjusts the cutting depth of the cutting inserts. Rotating the depth of cut adjustment knob clockwise feeds the cutting inserts into the rotor's friction surface. Rotating the depth of cut adjustment knob counterclockwise moves the cutting inserts away from the rotor's friction surface. Each mark on the depth of cut adjustment knob represents 0.004 inch of cut.

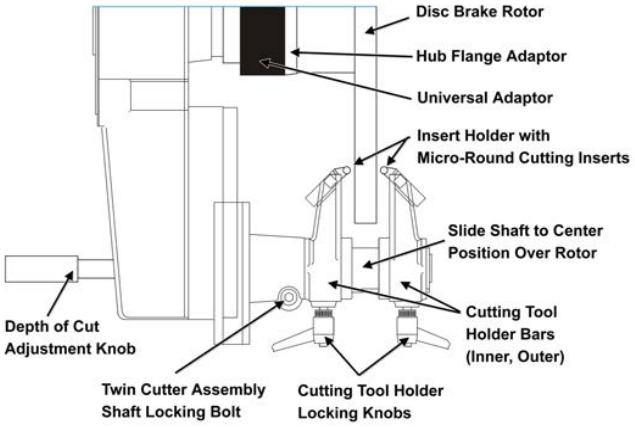


Figure 3

Adjust depth of cut only after removing slack from adjustment assembly (by turning depth of cut adjustment knob clockwise, with inside and outside cutting tool lock knobs locked). Turning the depth of cut adjustment knob counterclockwise and then clockwise without first removing slack on locking cutting tool lock knobs will cause improper depth of cut adjustment.

Each mark represents 0.004 depth of cut on the adjustment handle.

Cutting Tool Lock Knob (Inside and Outside)

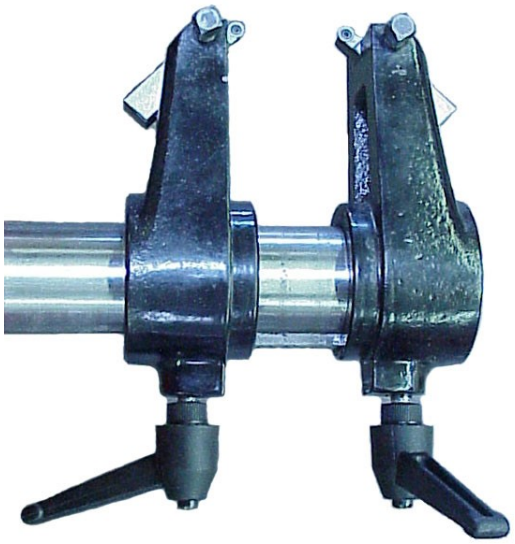


Figure 4

Loosen these handles one at a time to set the depth of cut. Lightly tighten them to hold the cutting tools in place.

Tool Holder Shaft Locking Bolt

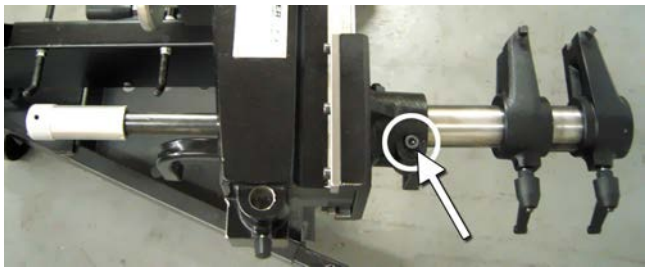


Figure 5

By loosening the tool holder shaft locking bolt, the cutting tool holder bar may be slid along the cutting tool slide. This allows for proper alignment of the cutting tool holder bar and the disc being machined. After proper alignment is achieved, the tool holder shaft locking bolt should be lightly tightened.

Trolley Height Adjustment

The trolley lift strut can be adjusted to accommodate low and high operational ranges. The low range of travel is 20.25 in. to 36.25 in. (514.35 mm, 920.75 mm), as measured from the lathe output shaft centerline to the floor. The high range is 24.5 in. to 40.5 in. (622.3 mm, 1028.7 mm) as measured from the lathe output shaft centerline to the floor.

The lift strut contains highly pressurized gas and is under compression in the trolley at all times.

Lock the carriage in place using the provided locking pin, then remove the stop bolt at the top of the column.

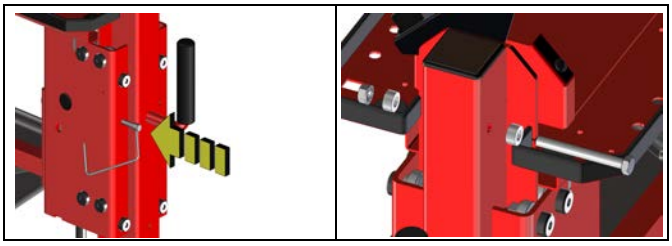


Figure 6

Push down on the carriage to unload the stop pin and then remove the pin. Slowly release the carriage and allow the strut to fully extend.

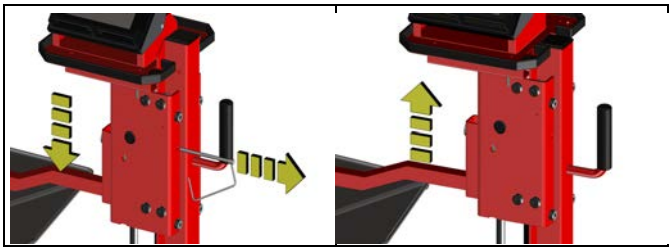


Figure 7

Lift the carriage to pull the strut out of the trolley base, install the strut into the lower position.

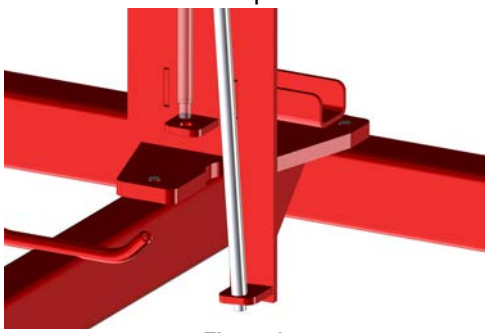


Figure 8

Push the carriage down and pin it in position, then reinstall the stop bolt.

1.6 Lathe Tablet Operation

Basic Operation

Power on / off

Users power the lathe tablet on and off by pressing the small button on the top edge, with the tablet oriented so the ASUS logo is on the right hand side.

Navigating

Press the screen and swipe to navigate or scroll.

Making Selections

Press buttons to make selections. Press, hold and swipe to move sliders in the tablet interface. Many sliders can also be moved by touching the option title:

Lathe Controls

Select vehicle

Swipe the tablet on the main screen to access the main menu. Touch “Change Vehicle” to select the vehicle currently being serviced.

Figure 9

Users can either touch the top button to navigate through a vehicle list, or recall the vehicle by VIN by touching the button on the right hand side of the screen. After choosing the desired make and model, users are presented with vehicle specific information.

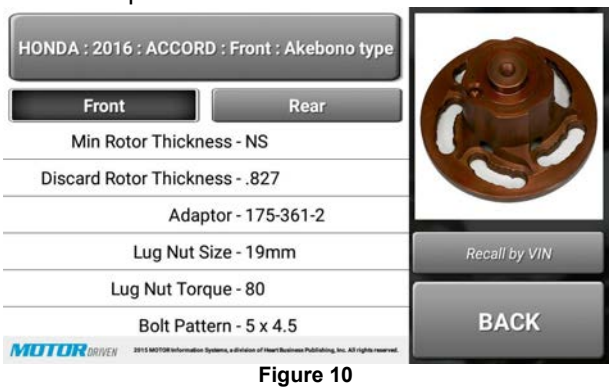


Figure 10

Figure 11 Export Screen shot

Touch the button labeled with the correct axle of the vehicle being serviced, either front or rear. The correct adaptor, lug nut torque and other pertinent information to the service will be displayed.

Main Screen Features

BitMinder

From the main screen, touch “BitMinder.” From the BitMinder screen, users can view bit life data, a brief video on how to rotate bits, bit history, and bit replacement.

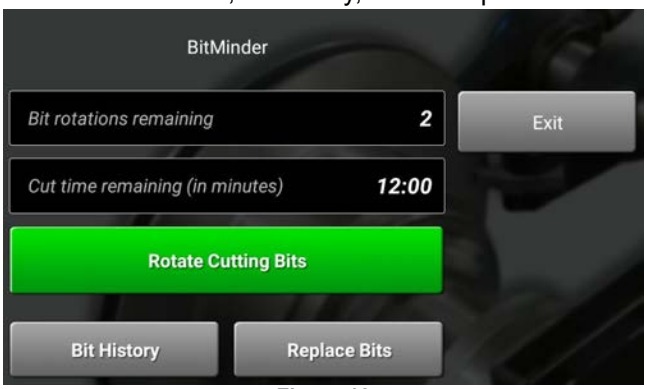


Figure 12

Change Vehicle

Touch this button to choose the vehicle that is currently being serviced.

Direction

Reverse rotation is used on some vehicles when excess drag on the vehicle drivetrain prevents normal on-car operation. The twin cutter insert holders must be flipped over when using the reverse function. A brief video illustrates how to change the direction of the tooling. The forward/reverse orientation is noted in the top right of the tablet screen. This feature is enabled / disabled in set up.

Menu

From the main screen, touch “Menu.” From this menu, users can choose set up options, as well as view training videos and usage/ROI statistics.

2. Operation Information

2.1 Workpiece (Rotor) Preparation

Clean the workpiece thoroughly with non-petroleum based, evaporating cleansers or warm soapy water.

Remove all rust and corrosion from the mounting surfaces of the workpiece and vehicle hub by using emery paper, Scotch-Brite abrasive, or an electric hand drill equipped with a wire brush attachment.

Do not blow or breathe dust from the brake lathe. Always use proper caution and protection while performing brake maintenance.

2.2 Twin Cutter Insert Holder Installation

The twin cutter insert holders can be installed two different ways as shown by the pictures below.

Recommended Insert Holder Installation - Standard Rotation

The picture below shows the recommended installation for standard rotation. This set up has a maximum rotor width at the edge of 1.625 in. (41.275 mm). It is recommended to work best for the majority of rotors. The maximum friction pad surface thickness in this set up is 2.75 in (69.85 mm).

Pay attention to the difference in the depth that the two holders are installed on the twin-cutters.

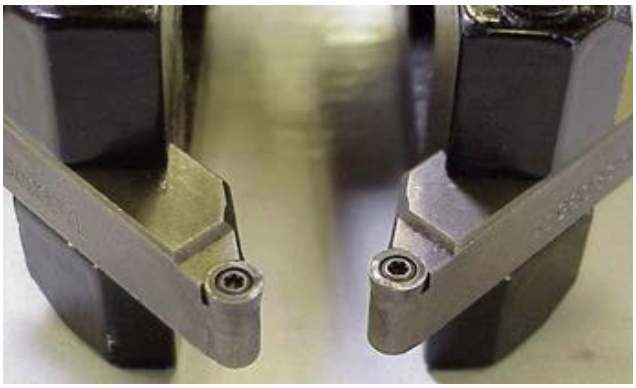


Figure 13

Alternative Insert Holder Installation - Standard Rotation

The picture below shows the optional installation method for standard rotation allowing for a maximum rotor pad surface width of 3.00 in. (76.2 mm). This setup should only be used on rotors that are thicker than 1.625 in. (41.275 mm) at the edge.

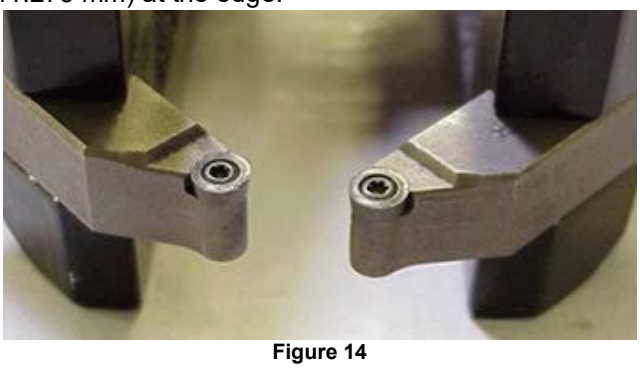


Figure 14

Install the bits in the bit holders using the small Torx wrench included.

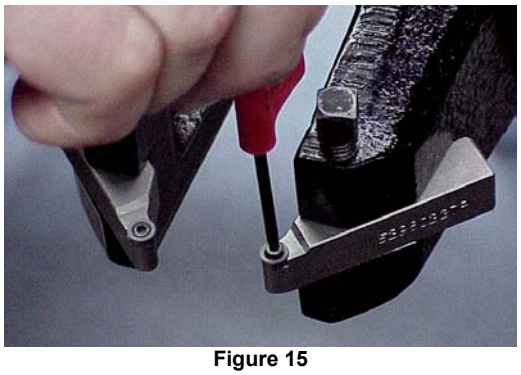


Figure 15

Recommended Insert Holder Installation - Reverse Rotation

Reverse rotation is used on some vehicles when excess drag on the vehicle drivetrain prevents normal ACE operation.

The twin cutter insert holders must be flipped over when using the reverse function.

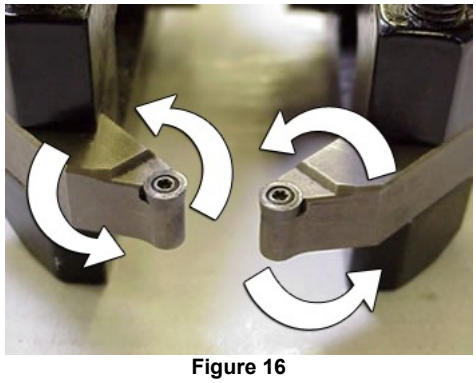


Figure 16

The picture below shows the recommended installation for reverse rotation. This set up has a maximum rotor width at the edge of 1.625 in. (41.275 mm). It is recommended to work best for the majority of rotors. The maximum friction pad surface thickness in this set up is 2.75 in. (69.85 mm).

Pay attention to the difference in the depth that the two holders are installed on the twin-cutters.

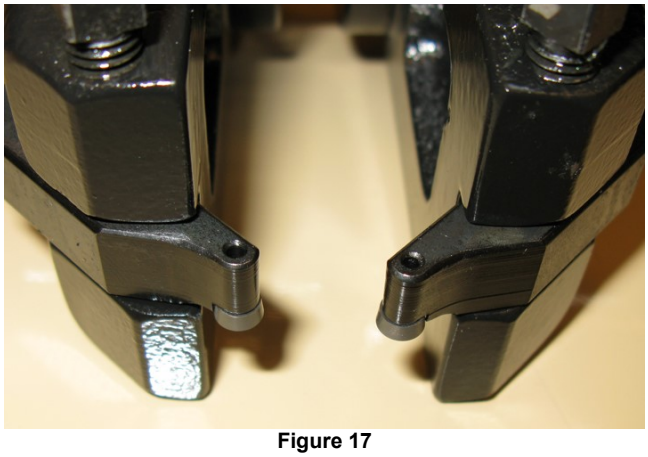


Figure 17

Alternative Insert Holder Installation - Reverse Rotation

The picture below shows the optional installation method for reverse rotation allowing for a maximum rotor pad surface width of 3.00 in. (76.2 mm). This setup should only be used on rotors that are thicker than 1.625 in. (41.275 mm) at the edge.

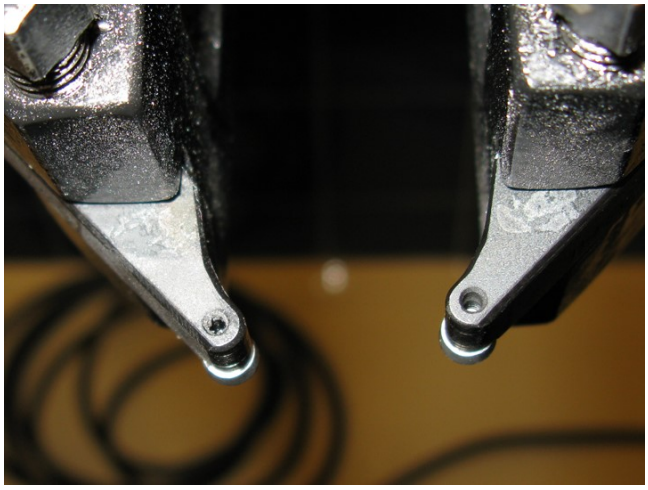


Figure 18

2.3 Disc Resurfacing on the Vehicle

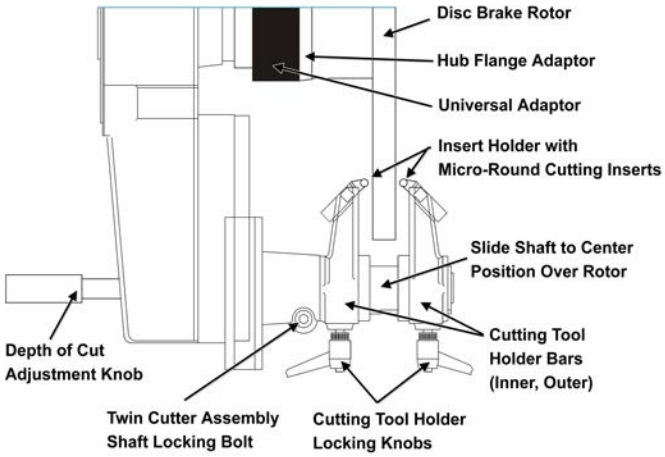


Figure 19

Overview

1. Always perform a thorough brake and vehicle inspection prior to any service. Measure rotor thickness and compare to specification. If the before and after thickness is within acceptable range, proceed with resurfacing.

2. Inspect the lathe. Check the condition and tightness of the cutting inserts.

3. Select the proper hub flange adaptor to fit on vehicle's rotor.

4. Verify that all mounting areas are clean.

5. Mount the hub flange adaptor to the rotor. Secure the hub flange adaptor to the rotor face by using the vehicle's lug nuts or the nuts provided in Kit 20-1503-1.

6. Mount the universal hub adaptor to the hub flange adaptor (if required).

7. Mount the lathe to the universal hub adaptor. Tighten.

8. Perform automatic compensation adjustment.

9. Position the twin cutter to correctly machine the rotor surfaces.

10. Begin turning rotor at a moderate RPM (around 50-60 RPMs). Position the cutting inserts at the inner diameter of the rotor's inboard and outboard friction surfaces.

11. Adjust the cutting inserts for the desired depth of cut.

12. Engage the feed mechanism.

13. Adjust the RPMs to the desired level, engage the ACT if desired, and machine the rotor surface.

14. After the desired level of cut and finish has been achieved, remove the lathe and adaptors from the vehicle. Clean lathe of debris.

15. Clean rotor per OEM recommended procedure and assemble brake system.

16. Reinstall the wheel/tire assembly and secure with lug nuts installed to the proper torque specifications for the vehicle.

17. Repeat procedure on other rotors as required.

Reverse Rotation

Reverse rotation is used on some vehicles when excess drag on the vehicle drivetrain prevents normal on-car operation. The twin cutter insert holders must be flipped over when using the reverse function. All other aspects of operation are the same.

Rotate the twin cutter insert holders as follows:

1. Disconnect the lathe AC power cord from the outlet.

2. Loosen the insert holder lock screws, securing the insert holders to the cutting tool holder bars.

Figure 20

3. Remove the insert holders.

4. Flip the insert holders over.

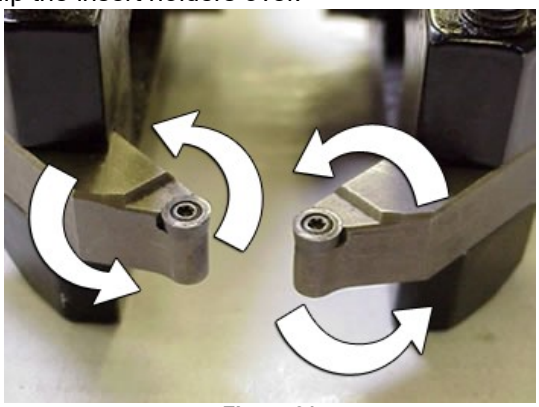


Figure 21

5. Reposition the insert holders.

6. Tighten the insert holder lock screws.

Figure 22

7. Connect the lathe AC power cord to the outlet.

Disc Resurfacing Procedure

Preparation

1. Lift the vehicle and properly chock the wheels.

2. Perform a thorough brake inspection. Also check all suspension, steering, and front drivetrain components.

3. Remove the wheel. Disassemble the brake caliper assembly from the rotor. Observe location of anti-lock sensors and wiring, if present. Position components out of the way. Support and/or secure the caliper to prevent damage to the brake hose or other components.

4. Using a micrometer, check the thickness and parallelism of the rotor from at least three points around the circumference, about 1 inch (25.4 mm) in from the outer diameter. If the rotor parallelism is out of specification, it should be machined. However, if the rotor thickness is less than the minimum specifications established by the manufacturer, or if it will be

less after resurfacing, the rotor should be discarded and replaced.

The minimum refinish thickness specifications may be found in software or the specification cast into the rotor. Do not attempt to machine rotors that are already below discard or "service to" specifications, or that would fall below after machining.

Mounting Adaptor

The correct adaptor for the vehicle being serviced can be quickly identified selecting the vehicle in the "Change Vehicle" button on the tablet. Rotor specifications, lug nut torque and other pertinent, vehicle-specific data can be found in the same place.

Mounting Options:

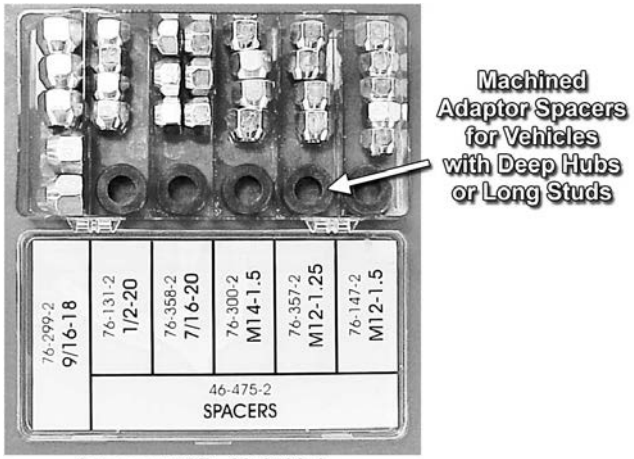
For 4-lug nut hubs use four lug nuts to secure the flange.

For 5-lug nut hubs, in most cases, three or four lug nuts will properly secure the flange.

For 6-lug nut hubs, three lug nuts will properly secure the flange, mounted on every other stud. This saves time, allows for clearance, and is stable enough for sufficient rigidity.

For 8-lug nut hubs, four lug nuts will properly secure the flange, mounted on every other stud. This saves time, allows for clearance, and is stable enough for sufficient rigidity.

If OE lug nuts interfere with mounting, use Accessory Kit 20-1503-1.



Accessory Kit, 20-1503-1

Figure 23

1. Verify that all mounting areas are clean. Use a wire brush to remove rust build-up if necessary.
2. Attach the proper adaptor to the rotor face by using the vehicle's lug nuts. Torque the lug nuts to 5-10 ft-lbs.

DO NOT USE AN IMPACT GUN FOR THIS PROCEDURE

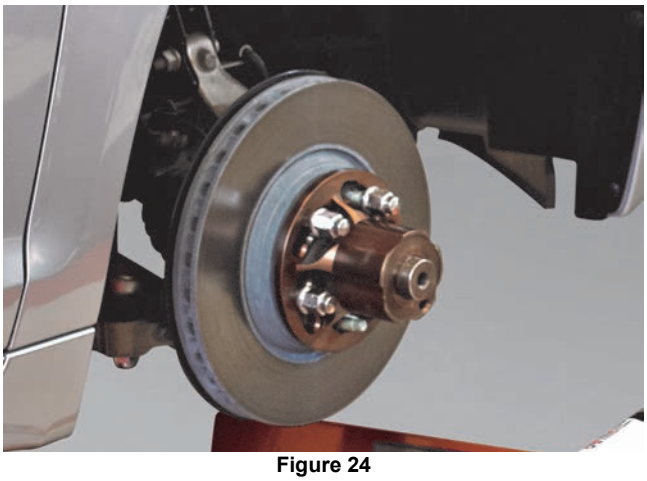


Figure 24

Mounting the lathe to the Vehicle

Only mount the lathe to the adaptor with the e-Stop button depressed

1. Mount the lathe the adaptor assembly. Line up the index pin on the compensation device with the index mark on the adaptor.

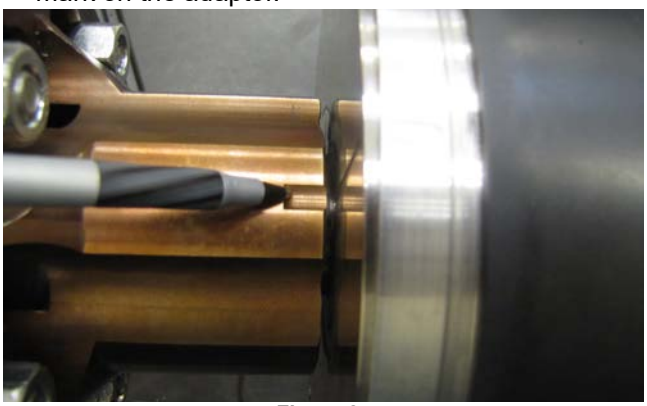


Figure 25

2. Tighten drawbar with the 22mm wrench provided with the lathe. Tighten the drawbar entirely and then back it off one wrench flat. It is important that all contact surfaces between the lathe and the hub flange assembly are clean to ensure proper alignment and fit. Double check adaptor and lathe alignment and all associated clearances.

Compensation Procedure

1. Press the “Comp” button to begin compensating. The LED next to the button will illuminate.

Figure 26

2. Speed can be adjusted by either turning the Speed knob on the console, or using the slider on the tablet. The tablet also shows the progress of the compensation.

Figure 27

The following items may slow or prevent ACE compensation:

a) Excessive movement and free-play of vehicle suspension parts.

b) Excessive movement of the vehicle on the lift during compensation. If necessary, the vehicle should be stabilized with the vehicle lift placed on its locks. The vehicle should not be disturbed during compensation.

c) Failure to properly assemble and/or tighten the mounting and adapter to the vehicle before attaching the lathe. Remove any dirt and rust buildup on the rotor face and backing plate.

Adjusting the Twin Cutter Assembly and Cutting the Rotor

1. With lathe mounted on the adaptor, loosen the twin cutter assembly shaft locking bolt and adjust the shaft to the appropriate distance from lathe to rotor surface, by sliding shaft inward or outward (see image below). Retighten the shaft lock bolt after positioning.

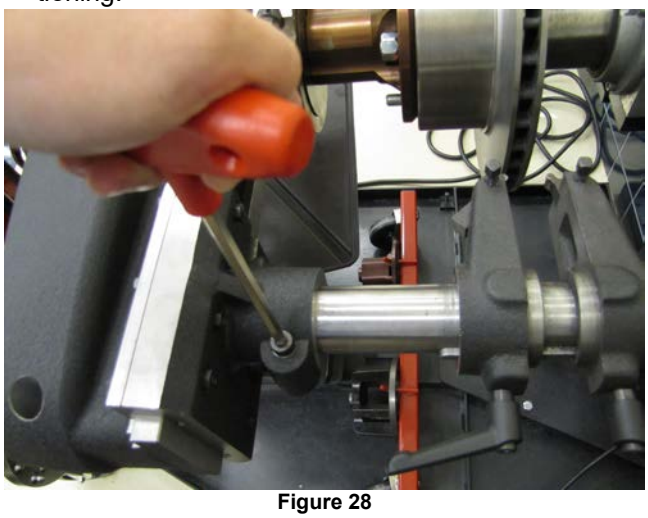


Figure 28

2. Remove all tools from the adaptors and lathe.

3. Before starting the lathe, position the cutting inserts at the midpoint of the rotor’s inboard and outboard friction surfaces by turning the rotor feed control until the cutters are in the proper position.

Verify that cutting inserts are not in contact with the disc rotor surface at this time.

4. Turn the RPM switch to start rotation of rotor. A moderate RPM of 60 should be sufficient.

5. Make sure the inside twin cutter does not contact any of the brake mechanisms.

Adjusting the Twin Cutters

1. First, loosen the inboard lock, and make sure the outboard lock is tightened. Turn the locks counterclockwise to loosen, and clockwise to tighten. If the lock handles are too close to turn freely, pull out on the spring-loaded handle, and rotate to a clear position.

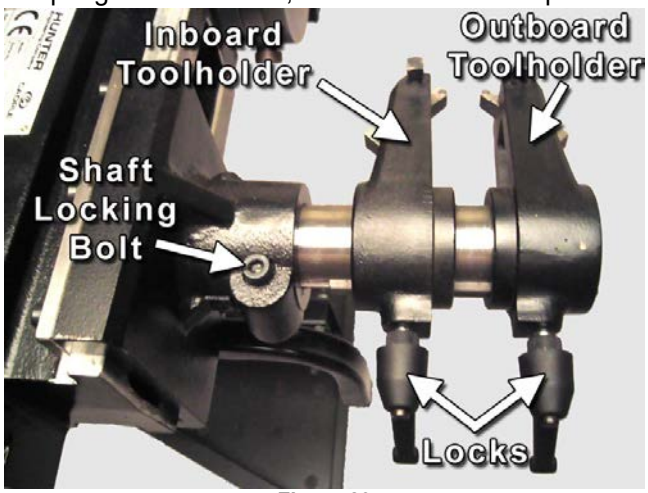


Figure 29

2. Adjust the inboard toolholder by turning the depth of cut adjustment knob. Make sure the micro-round

inserts are fully contacting the rotor surface and cut a full circle around the rotor surface. Tighten the inboard lock. Each hash mark represents .004 in. (0.1016 mm).

3. Loosen the outboard lock and adjust the outboard toolholder by turning the depth of adjustment knob.

4. Using the feed control, verify the cutter is all the way in on the rotor surface.

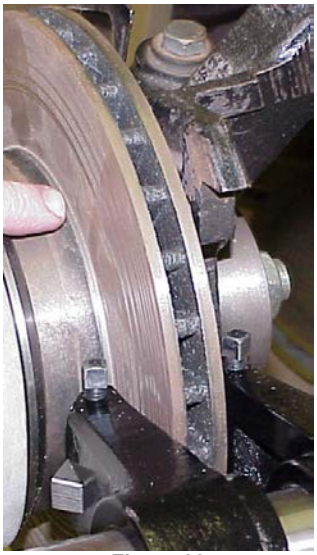


Figure 30

5. Using the feed control, quickly draw the cutters across the face all the way out to the edge of the rotor. This will knock off any rough edge the rotor may have.

6. Draw the cutters back to the inside position (as seen in the photo above) and tighten the feed engagement knob. This will begin cutting the rotor.

7. Adjust final depth of cut. Each mark on the depth of cut adjustment knob represents 0.004 inch of cut.

8. Adjust RPM as necessary. The ACE has a maximum RPM of over 120. If the rotor begins to chatter, change the RPMs until the chatter stops.

Spindle RPM Adjustment Tips:
Difficult to rotate rotors and/or extremely deep cuts should be turned at 70-90 RPM to gain the highest motor torque.
If lathe starts to slow down automatically during cut the spindle rotation speed may be too high.
If lathe continues to automatically slow in RPM below 70 RPM, the lathe can be shut-off and restarted at slower speed to override software optimization adjustment.

Figure 31

ACT (Anti-Chatter Technology) Chatter Control

Press the ACT button to enable the chatter control. This process varies the RPMs of the brake lathe to eliminate rotor resurfacing problems caused by chatter.

Figure 32

Press the ACT button once the feed engagement knob has been tightened. The ACT button can be depressed any time after the RPMs have been set.

To disengage ACT, press the ACT button.

Using the Stabilizer Support Rod

Use the stabilizer support rod to prevent lathe from moving during heavy cuts or high torque load of vehicle drivetrain. Stabilizer support rod may be extended to reach the rack surface or the floor.

Using the Reverse Function

Reverse rotation is used on some vehicles when excess drag on the vehicle drivetrain prevents normal lathe operation.

The twin cutter insert holders must be flipped over when using the reverse function.

Stop rotation of the lathe by pressing the “STOP” button.

Disconnect the lathe AC power cord from the outlet and rotate the twin cutter insert holders as described in Reverse Rotation on page 30.

Reconnect the lathe AC power cord.

Press the reverse switch on the console. Verify that the direction in the top right corner of the tablet is correct.

Figure 33

Turn rotor(s) as normal.

When reverse turning is complete, stop rotation of the lathe by pressing the “STOP” button.

Disconnect the lathe AC power cord from the outlet and rotate the twin cutter insert holders back to normal position.

Tighten the twin cutter insert holders as described previously.

2.4 Optional Extended Cutting Head Kit 20-3092-1 or 20-3345-1

Installation

1. Install locks, but do not tighten. Open cutters as far as possible and clean with parts cleaner/solvent to remove the protective coating applied for shipping. Lock the end cutter. Close the cutters and clean. Lock the inside cutter, loosen the end cutter, rotate and clean.

2. Install the insert-holders into the toolholders. Verify the insert holders are flush with the inner edge of the toolholder before tightening the toolholder screws. Pay attention to the difference in the depth that the two holders are installed on the twin-cutters. The picture below shows the recommended installation. This set up has a maximum rotor thickness at the edge of approximately three inches (76 mm). It is recommended to work best for the majority of rotors, however the insert-holders may be reversed if necessary to machine larger width rotors.

3. Install the micro-round inserts, using the small torx wrench.

4. Remove the screws securing the small backing plate on the end of the extended cutting head's shaft using the enclosed T-handle 5mm Allen wrench.

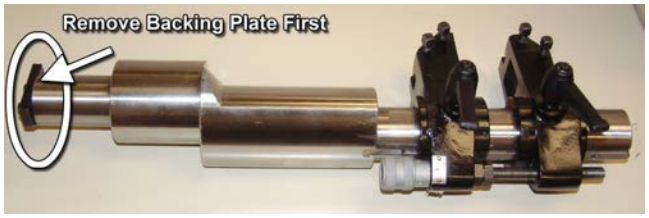


Figure 34

5. Loosen the tool holder shaft locking bolt with 6mm Allen Head wrench. Carefully remove standard twin cutter from the ACE-model lathe.

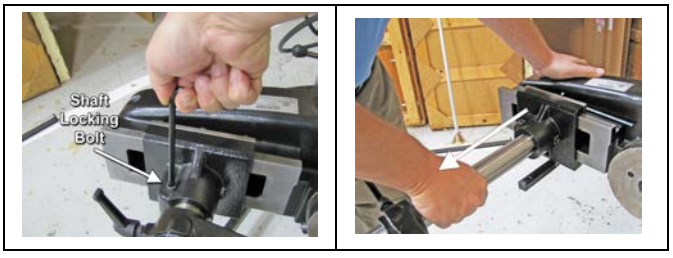


Figure 35

6. Insert the extended cutting head into the twin cutter carriage on the ACE lathe.

7. Install extended cutting head shaft backing plate inside of the carriage using the two Allen Head bolts previously removed. Notice the positioning of the plate in reference to the angled corner and the existing rivet.

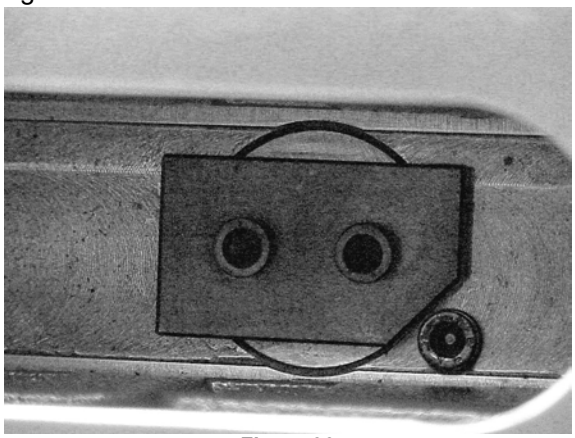


Figure 36

8. Tighten shaft locking bolt. Installation is complete.

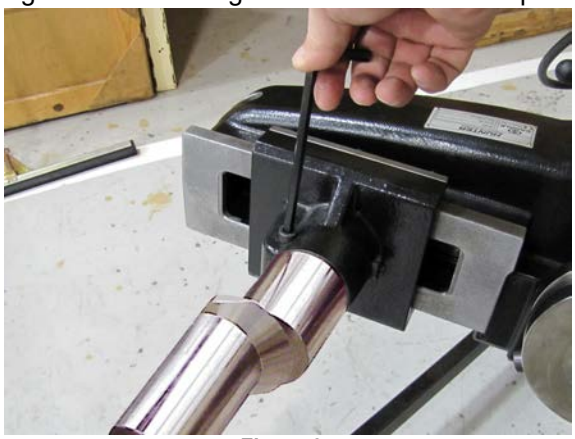


Figure 37

Operation

The extended cutting head's cutting depth is adjusted at the toolholders.

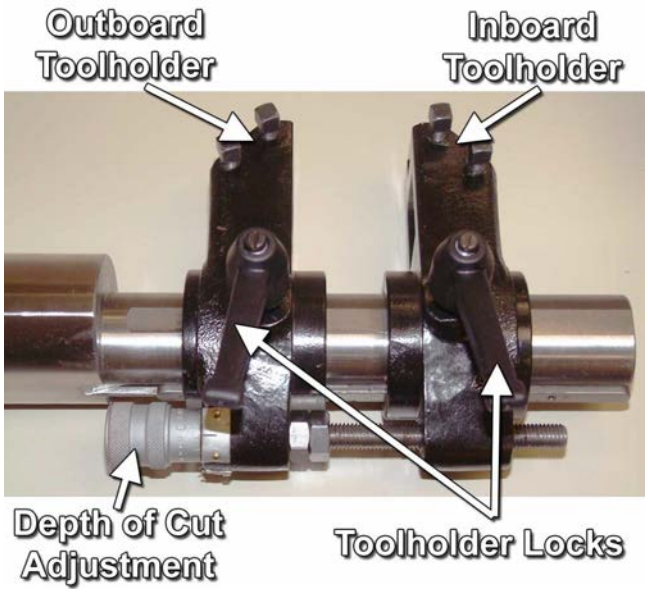


Figure 38

The Z-axis depth of the cutting head is adjusted by loosening both locks and manually sliding the entire cutting assembly.

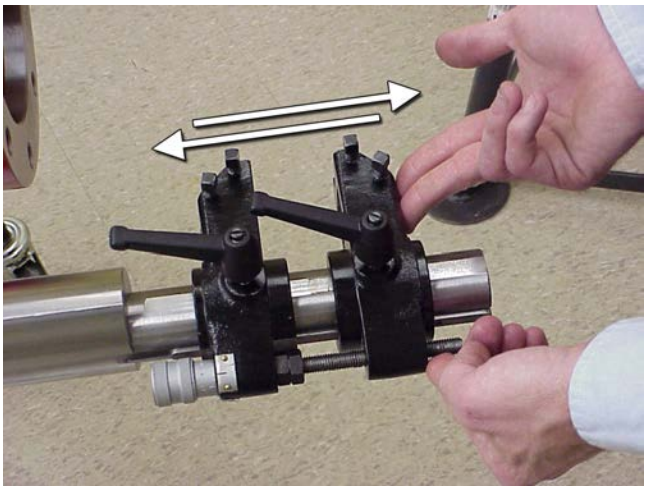


Figure 39

Adjust the depth of cut with the dial indicator mounted on the outside toolholder.

Figure 40

After mounting the ACE-model lathe to the vehicle, loosen both toolholder locks and adjust the position of the cutting head to the rotor.

Tighten the outboard toolholder lock. Adjust the depth of cut adjustment for the inside cut by turning the depth of adjustment knob. Once the micro-round insert begins to make contact with the rotor adjust to the appropriate depth of cut. Tighten the inboard lock.

Loosen the outboard lock and adjust the depth of cut for the outside rotor face using the depth of adjustment knob. Make sure the insertholder is all the way in on the rotor face thereby cutting the full surface of the rotor.

Machine the rotor using normal operation procedures.

2.5 Digi-Cal Operations

Calibration

1.Select calibrate Digi-Cal from Menu.

2.Separate the tool holders so the gage block can easily pass between the cutting bits. Then lock one tool holder in place. Place the calibration block between the cutting bits. Move the cutting bits together until they both barely touch the calibration block. Press “OK” to continue.

3. Calibration is complete. Push OK.

On Car Operation

1.Begin by selecting the appropriate vehicle from “Change Vehicle”.

2. Select a vehicle manufacturer.

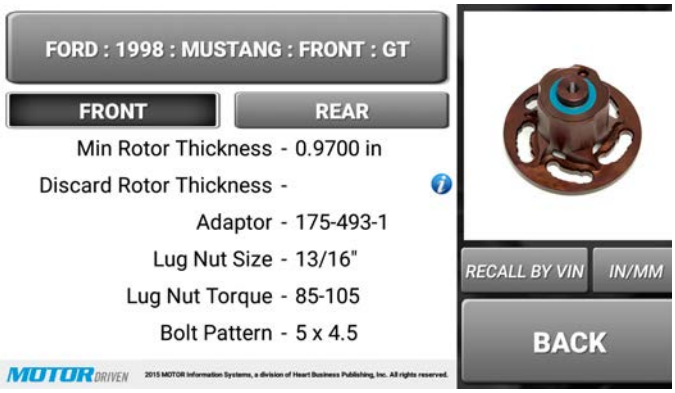
3. Select year.

4. Select make of vehicle.

5. Select front or rear.

6. Select additional vehicle identification information if required.

7. Digi-cal provides specs, including adaptor, min rotor thickness and discard thickness, lug nut size, and torque.



8. Determine depth of cut: the current rotor thickness is displayed as “thickness”. These measurements will update as the adjustment knob runs the bits in or out. Remaining thickness is displayed right of thickness. Green indicates an acceptable cut, yellow; warning approaching minimum rotor thickness, Red; below rotor thickness: discard rotor

The values used to determine these warning levels are changeable via Setup under Digi-Cal. You can also disable these indicators as well. Service Mode is required for these.4.There is an "I" (Information) icon next to the Remaining box. The user can press this to find out if the Remaining value is being compared to either the Min Machine spec or the Discard spec (both of which are shown in the Vehicle Specifications screen).

9. Push START when ready to cut.

10. Repeat process for Rear rotors.

3. Maintenance

3.1 Equipment Maintenance

Keep the brake lathe and the working area clean. Do not use compressed air to remove debris from the lathe, foreign material may be propelled into the air and strike you or bystanders.

Clean tool holders and cutting inserts daily.

Replace cutting inserts when worn or damaged. This will enable the cutting insert to maintain the best surface finish.

Wipe down adaptors and machined surfaces with rust preventative weekly.

Insert Maintenance and Replacement

- Micro-Round inserts (221-627-2) should be rotated or replaced when rotor surface finish begins to degrade or the insert is damaged.
- Periodically clean dirt from torx-head screws and check for looseness.
- Torx screws (75-556-2) and wrench (221-628-2) should be replaced periodically, especially when changing inserts.

Flange Plates

Prior to use, inspect and verify that flange plate surfaces are clean and flat. There should not be any debris or dents and dings on the flange plate.

3.2 Replacing Cutting Inserts

Use the BitMinder feature to keep track of bit rotation rather than rotating only after a poor cut. BitMinder also has a brief video illustrating how to rotate bits.

Removal

1. Disconnect the lathe AC power cord from the outlet.
2. Clean debris from heads of cutting insert screws. Do not use compressed air.
3. Loosen and remove the # 7 Torx screw, securing the cutting insert to the insert holder.
4. Remove the cutting insert.

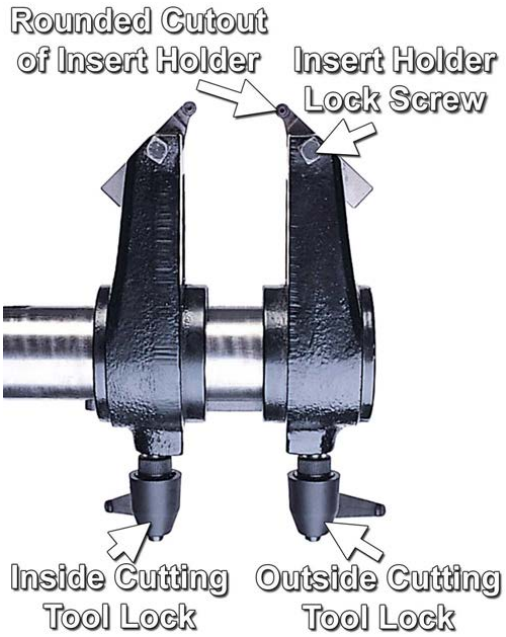


Figure 41

Installation

1. Clean the insert holder with a wire brush, and the cutting insert with a cloth.
2. Position and carefully seat the cutting insert on the insert holder, with the desired cutting surface oriented toward the workpiece.
3. Align the insert mounting hole with the mounting hole in the insert holder.
4. Secure the cutting insert to the insert holder with one # 7 Torx screw.
5. Connect the lathe AC power cord to the outlet.

Note position and orientation of cutting insert holder. Rounded cut out portions of insert holder must face inward.

3.3 Cleaning and Lubrication

Cleaning the Machine

Keep the lathe clean at all times. Pay particular attention to the guide slides, the tool holder shaft, and the screw of the carriage movement.

Do not use compressed air to clean the brake lathe.

Lubrication

Lightly oil the top and bottom guide slides periodically.

Periodically grease the screw of the carriage movement with EP grease.

Periodically check the oil level of the gearbox by removing the top cover from the casting that is above the spindle. The oil level should be halfway up the spindle at a minimum, although more is allowable. If additional oil is required, use Lubriplate Gear oil, #148-136-2.

Clean and lubricate the compensation device regularly.

Lubricate the trolley pivot regularly.

Care and Maintenance of the Compensation Adaptor

The compensation adaptor is not a field-serviceable part. Keep the adaptor free of debris. Should there be any evidence of oil leaks, contact your service representative immediately.

4. Troubleshooting

SYMPTOM	PROBABLE CAUSE	SOLUTION
	Lathe experienced excessive tilt during cut	Turn unit off, level the lathe, turn unit on to desired speed. Re-compensation is not required.
	Cut too aggressive	Reduce depth of cut.
	Possible defective speed control	If error is displayed while adjusting speed; call Hunter service rep for service.
Displays “or”	Too much runout	Indicates the unit is out of range more than .25°. Check setup and start again
The thermal shutdown switches off during working operations.	Thermal shutdown switch overload	Verify the motor’s condition (hot or cold). CAUTION: The motor may be extremely hot. Use reverse procedure if applicable
	Dirty or warped workpiece	All rust, grease, and dirt must be cleaned from mounting surfaces of the workpiece.
	Dirty or dinged adaptors	Adaptors must be kept clean. Reface or replace any damaged adaptors.
	Worn or chipped insert	Rotate or replace insert as needed
	Insert loose in tool holder	Insert must be securely fastened to the tool holder.
	Tool holder loose in cutting tool holder bar	Tool holder must be securely fastened to the cutting tool holder bar
	Dirt and chips under insert and tool holders	Clean tool holder and boring bar each time insert is rotated.
Chatter	No stabilizer/silencer used	Install the proper stabilizer/silencer for the workpiece.
	Cut too deep for chosen RPM	Lower the RPM.
Unable to Compensate	a) Excessive movement and free-play of vehicle suspension parts.	Incorrect adaptor chosen.
	b) Excessive movement of the vehicle on the lift during compensation. If necessary, the vehicle should be stabilized with the vehicle lift placed on its locks. The vehicle should not be disturbed during compensation.	Insert holders and/or inserts need repositioning or replacement.
	c) Failure to properly assemble and/or tighten the mounting and adapter to the vehicle before attaching the lathe. Remove any dirt and rust buildup on the rotor face and backing plate.	Rotor material is overheated and needs replacement.
Lathe inoperable and / or tablet message to reset fuse.	The push button fuse needs to be reset on the lathe.	Follow power cord to locate and press reset fuse on body of lathe. 

Form 3221-T, 06-21
Supersedes Form 3221-T, 12-17a

Warranty Information

Hunter Engineering Company warrants new equipment to be free from defects in material and workmanship under normal conditions of use for a period of three (3) years from the date of installation. Exceptions to this warranty are listed below.

- Field labor is covered under this warranty for a period of six (6) months.
- ADASLink™ units carry a one (1) year warranty and remain under warranty as long as a subscription is maintained thereafter.
- DAS 3000 units, including electronic circuit boards, carry a one (1) year warranty.
- Printers carry a one (1) year warranty.
- Normal consumables and wear items are not covered. Exception is batteries, which are warranted for a period of six (6) months.
- Product that has been subject to abuse, misuse, alterations, accident, exposure to the elements, tampering, unreasonable use, or not maintained in a reasonable or necessary manner.
- Replacement parts purchased through the Hunter Service Center and no longer covered by machine warranty are warranted for a period of six (6) months.

In case of any warranty claim, it will be necessary to contact your local authorized Hunter Service Representative. To have an item considered for warranty, it must be returned to Hunter Engineering Company for inspection and evaluation. This must be done on a freight prepaid basis. If after our inspection the product proves to be defective, and is within the time frame specified, we will repair or replace the item at no additional cost.

This is Hunter Engineering Company's only warranty with respect to new equipment. Hunter Engineering Company disclaims all other warranties to the extent permitted by law. This express warranty and any implied warranties of merchantability and fitness for a particular purpose shall not extend beyond the warranty period. Hunter Engineering Company is not responsible for any incidental or consequential damages, including, but not limited to, loss of business.

We do not authorize any person to assume for us any other liabilities with our products. Any remaining warranty may be transferred to subsequent purchasers by forwarding the purchaser's name, address, phone number and equipment serial number to:

Hunter Engineering Company
Customer Service Department
11250 Hunter Drive
Bridgeton, MO 63044
(800) 448-6848

Develop skills and knowledge

EXCEL WITH HUNTER TRAINING

Live On-Site Training

All Hunter Training classes are led by ASE-certified instructors and all training material is kept up-to-date through a rigorous curriculum review process.

YouTube Video Tutorials

Product-focused videos explaining features and processes

Hunter University

Self-driven eLearning courses designed for all student levels

hunter.com/training

Hunter Learning Channel

Because of continuing technological advances, specifications, models and options are subject to change without notice.

HUNTER Engineering Company

www.hunter.com