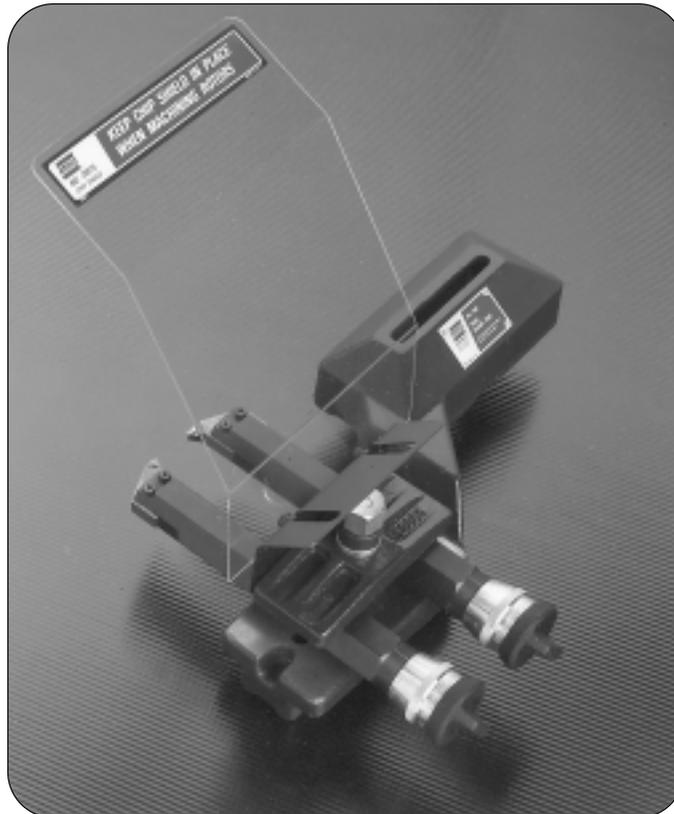




7900 Twin Cutter Tool



Operating Instructions *with Parts Identification*

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.

1601 J. P. Hennessy Drive, LaVergne, TN USA 37086-3565 615/641-7533 800/688-6359

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

Manual Part No.: 925979 09

Revision: 11/02

Twin Cutter Tool

Twin Cutter Tool

The **No. 907900 Twin Cutter** mounts on the cross feed tool post to resurface both rotor faces simultaneously. Each tool bar is individually adjustable (in thousandths of an inch or millimeters) to permit precise depth-of-cut settings, Fig. 1.

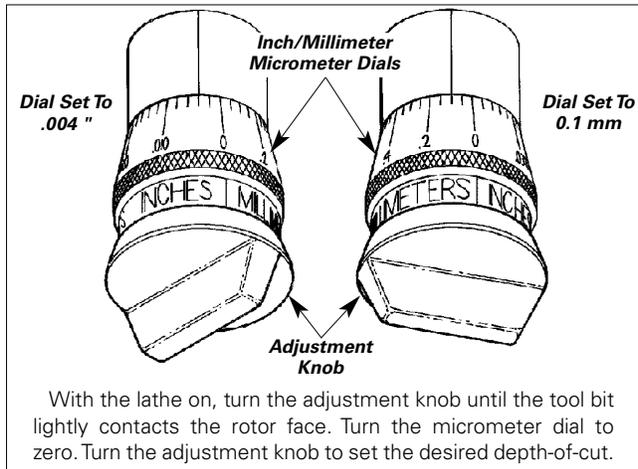


Figure 1

Installation

1. Remove the nut and self-aligning washers retaining the boring bar. (Older lathes have a tool post pivot screw which must be loose before the lower clamp can be removed.)
2. Place the tool bar support over the cross feed tool post stud and replace self-aligning washers and nut. (If the lathe has a recess in the top of the tool post, the chip plate supplied with the twin cutter should be placed on the tool post before installing the twin cutter.)
3. Align the tool bar support parallel with the arbor and wrench tighten the nut.

Reconditioning Disc Brake Rotors

Each brake rotor should be carefully inspected for SCORING and RUST RIDGES (at the inner and outer circumference of the rotor). Any excessive wear or deformity should be noted and, if not within acceptable limits, the rotor should be replaced.

Use a micrometer to check the thickness of the rotor at no less than three points around circumference about 1" (2.54 cm) in from the outer diameter. If the rotor thickness varies between readings, it should be machined; however, if the thickness is less than the minimum established by the car manufacturer (or if it will be less after reconditioning), the rotor should be replaced. **Note:** Most often the discard thickness dimension is cast into the rotor, not the minimum "machine to" thickness.

The tool bars mount on top of the tool bar support, carbide bits up, and are used to recondition both brake surfaces of a rotor at the same time.

Rotor Mounting

Use the cross feed handwheel to move the tool bar support away from the arbor to permit mounting the rotor. Mount the rotor on the arbor using the appropriate adapters. Hubbed rotors are mounted on adapters that fit into the bearing races. Hubless rotors use a spring loaded cone in the center hole and a hubless adapter on each side of the rotor. Spacers are used to fill out the arbor shaft so that the arbor nut can be tightened. The adapters, cones, and spacers supplied with your lathe will allow you to recondition the majority of rotors on today's vehicles. Optional adapters, cones, and spacers are available to meet special needs.

Note: Adapters may also be used as spacers to fill out the arbor if care is taken to prevent damage to their machined surfaces.

The patented self-aligning spacer prevents diagonal thrust on the adapters. The self-aligning spacer should always be used adjacent to the arbor nut.

Set-Up and Machining

1. Install either a weighted silencer band (vented rotors), Fig. 2, or a non-weighted silencer band (non-vented rotors), or an optional friction rotor silencer to dampen vibrations during machining.

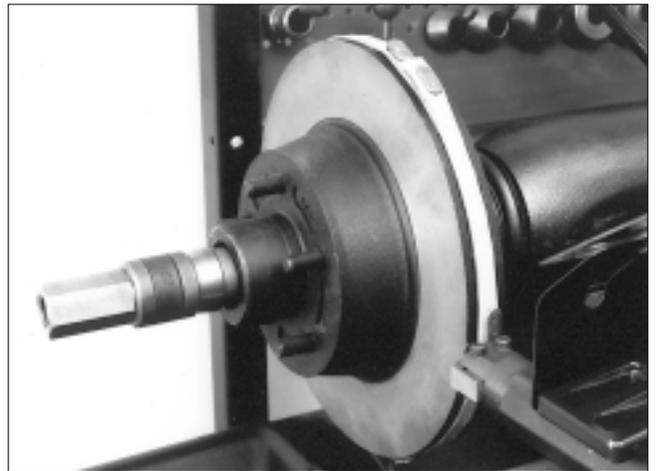


Figure 2

2. Use the cross feed handwheel to position the tool bar support about 1/2" from the rotor or silencer band. Loosen the tool post nut to center the tool bar support to the rotor. Wrench tighten the nut. If the tool bar support cannot be centered with the rotor by moving the tool bar support, it may be necessary to move the rotor in or out by using the spindle feed handwheel

Twin Cutter Tool

(except Model 7000 Disc Lathe) to make the adjustment.

3. Install the tool bar, carbide tool bit up, on the right side of the rotor slide with the T-bolt and clamp. Slide the tool bar into the clamp. Mount the other tool bar, carbide tool bit up, on the left side of the rotor slide.

4. Turn the end knob of each tool bar micrometer counterclockwise to fully withdraw the tool bit holders.

5. Position the left tool bar approximately parallel to the outer brake surface so the tool bit is 1/8" away from the brake surface and reaches to the groove at the base of the brake surface. Tighten the T-bolt nut. Position the right tool bar approximately parallel to the inner brake surface so its tool bit is directly across from the left tool bar tool bit and about 1/8" from the inner brake surface, Fig. 3. Tighten the T-bolt nut.

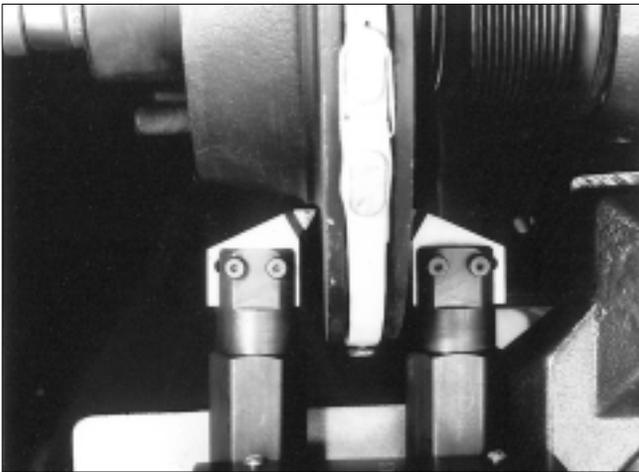


Figure 3

6. Turn the cross feed handwheel counterclockwise until the tool bits are about 1/2" in from the outer edge of the brake surface.

7. Turn the end knob of the left boring bar micrometer clockwise to advance the tool bit until it lightly contacts the outer brake surface making a "scratch cut" approximately .001" deep. Turn the lathe off.

8. If the tool bit did not scratch the brake surface all the way around, there is runout in the rotor and/or runout caused by improper rotor mounting.

9. Use the "scratch cut" method as outlined in steps 9A, 9B, 9C, and 9D to determine if the runout is caused by an improper mounting.

9A. Turn the end knob of the left tool bar micrometer counterclockwise one (1) full turn to back the tool bit away from the brake surface.

9B. Turn the rotor slide handwheel clockwise to move the tool bit 1/4" toward the arbor.

9C. Loosen the arbor nut and rotate the rotor 180° on the adapters (do not allow the adapters to turn on the arbor). Retighten the arbor nut.

9D. Turn the lathe on, then turn the end knob of the left tool bar micrometer clockwise until the tool bit makes light contact with the brake surface. Turn the end knob of the left tool bar micrometer counterclockwise to withdraw the tool bit from the brake surface.

10. Turn the lathe off. If the two scratch cuts are side by side, Fig. 4, the runout is in the rotor and NOT in the mounting, continue with step 11. If the two scratch cuts are 180° apart, the runout is caused by an improper mounting. In this case, inspect the mounting for cleanliness and the adapters for burrs, nicks, and scratches as well as the bearing races for looseness. Remount the rotor and check for runout again. If the runout has been corrected, proceed with step 11.

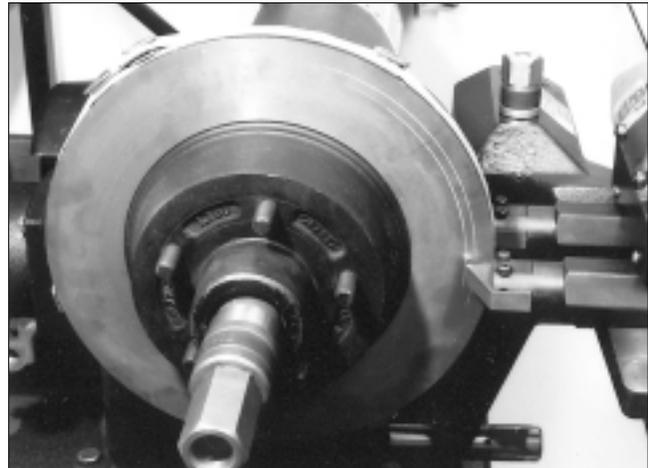


Figure 4

11. Turn the lathe on. Turn the end knob of the left tool bar micrometer clockwise until the tool bit lightly contacts the brake surface. Hold the end knob of the micrometer still and rotate the depth-of-cut dial to zero.

12. Turn the end knob of the right tool bar micrometer clockwise until it lightly contacts the brake surface. Hold the end knob of the micrometer still and rotate the depth-of-cut collar to zero.

Note: Once you have zeroed a depth-of-cut collar, use only the end knob to advance or withdraw the tool bit. The collar will rotate with the knob to show the depth-of-cut. Any other disturbance of the collar will lose the zero position.

13. Turn the cross feed handwheel clockwise until the outer tool bit reaches the groove at the rotor hub. The right tool bit will automatically be positioned beyond the inner brake surface.

Twin Gutter Tool

14. Turn the end knob of each tool bar micrometer, individually, to set each tool bit to the desired depth-of-cut. Remove only enough material to clean up each side.

15. Engage the automatic cross feed to begin the cut.

16. When the tool bits have cleared the rotor, disengage the cross feed and turn the lathe off to inspect both surfaces.

17. If part of the brake surface was not cut, leave the tool bars locked in position. Turn the lathe on. Slowly turn the cross feed handwheel clockwise until the outer tool bit reaches the groove at the rotor hub. Repeat steps 14, 15, 16, and 17.

Tool Bar Adjustment

1. Turn the micrometer dial counterclockwise to unscrew the dial from the boring bar. Remove the micrometer dial assembly.

2. Unscrew the two (2) allen head cap screws from the tool holder against a solid stop, pull the screws from the boring bar and carefully ease the bar away from the stop.

3. Clean all metal chips and dirty grease from all the working parts.

4. Slip the spring into the bore of the tool bar. Grease the sleeve with white grease and slip it into the bore of the tool bar.

5. Slip the tool holder between the ears of the boring bar, press the tool holder against a solid stop and insert the allen head cap screws. Run the screws all the way in.

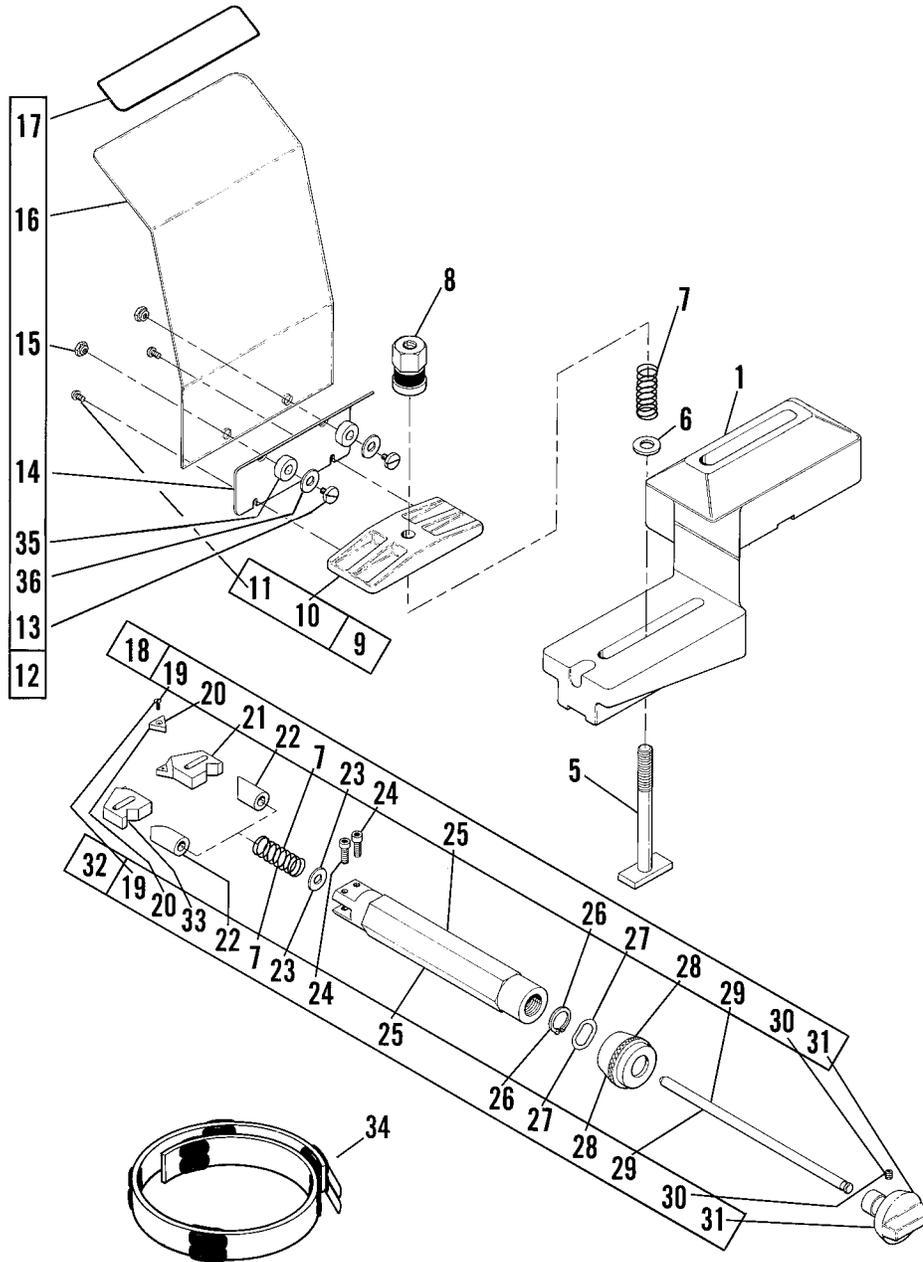
6. Insert the micrometer dial assembly into the tool bar and screw the micrometer all the way in.

7. Fully tighten one (1) of the allen head cap screws, then back the micrometer dial out two (2) turns.

8. Slowly loosen the allen head cap screw until the tool holder slips back.

9. Screw the micrometer all the way in and repeat steps 7 and 8 for the other allen head cap screw.

Twin Cutter Tool



Twin Gutter Tool

Item	Part No.	Qty.	Description
1	925982	1	Support, Tool Bar
5	923556	1	Bolt, T
6	903214	1	Washer, Flat
7	925756	3	Spring, Compression
8	911227	1	Nut & Washer, Hex, Self-Aligning, Assy.
9	926018	1	Clamp Assy.
10	925985	1	Clamp
11	904508	2	Screw, Pan HD, Machine
12	926015	1	Shield, Safety, Assy.
13	*	2	Screw
14	926014	1	Bracket
15	*	2	Nut
16	911154	1	Shield
17	941117	1	Decal
18	925980	1	Bar, Tool, RH, Assy.
19	906499	2	Screw, Oval HD, Machine
20	9069142	1	Bit, Carbide (Pkg./2)
21	925762	1	Holder
22	925754	2	Sleeve
23	924922	2	Washer, Flat
24	925757	4	Screw, Shoulder
25	925984	2	Bar, Boring
26	925759	2	Ring, Retaining, External
27	925758	2	Washer, Wave
28	925752	2	Dial, Micrometer
29	925983	2	Rod, Dial
30	903338	2	Screw, Set, Cup Point
31	925751	2	Dial, Depth
32	925981	1	Bar, Tool, LH, Assy.
33	925761	1	Holder
34	906930	1	Band, Silencer HD, Assy.
35	*	2	Washer
36	*	2	Spacer
*	927822	1	Shield Hardware Kit

