

# AT Brake—Major Service Repair Instructions for Sizes 25, 55, 115

P-1405  
819-0325

Repair Instructions



 **Warner**  
Electric

An Altra Industrial Motion Company

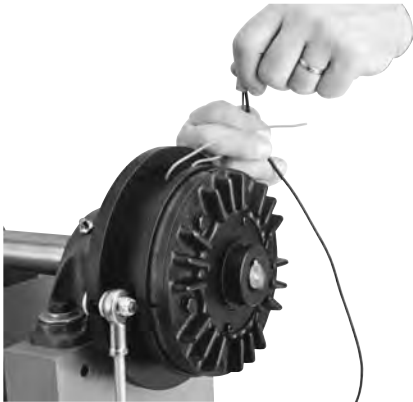
## Contents

Instructions ..... 2  
Warranty ..... Back Page

**⚠ WARNING** Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel.

A major rebuild of an AT brake can be accomplished by following these instructions to replace the parts furnished in the appropriate Warner Electric brake rebuild kit. Proceed as follows:

1. Turn off all power to machine and brake using appropriate electrical lockout procedures.
2. Disconnect the brake coil wires from the incoming control unit wires, and remove optional conduit box from brake if used.



3. Disconnect the anti-rotation torque arm from the magnet.



4. Loosen the hub set screws holding brake on shaft.



5. Remove the brake from its shaft by pulling and/or gently tapping the hub with a hammer and drift. **Note:** Do not hit the outer portion of the brake outboard of the hub as this may severely damage it.



6. Remove retaining ring.



**CAUTION** When installing or removing this or other retaining rings, be sure to hold the ring with one hand so it will not spring away, endangering personnel and property, should the pliers lose their grip on the ring. Safety glasses should always be worn when installing or removing retaining rings.

Remove plate retaining screws and plate.



Remove wave spring and detent ring from armature hub.



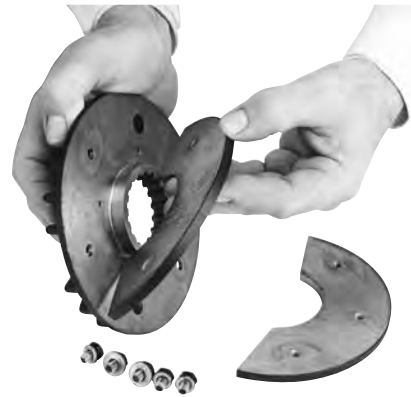
Lift the armature hub away from magnet assembly.



7. Remove the armature retaining screws and washers.



Remove the armature segments.



8. Clean the removed hardware and apply one drop of Loctite® grade AA or equivalent to each capscrew thread before installation.



Install new armature segments onto the armature hub and fasten with capscrews and washers.

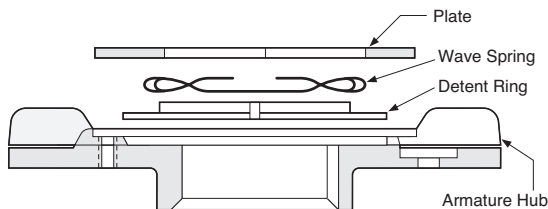


Tighten the capscrews to the appropriate torque specifications for your size unit:

Size	Torque
25	29-35 in.-lbs.
55, 115	60-84 in.-lbs.

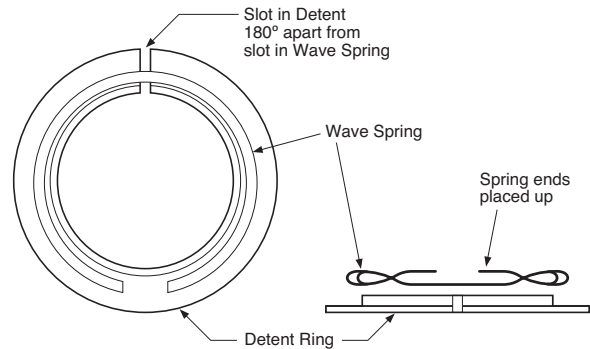


9. Install detent ring. The raised lip is to face the hub armature fins.



Install the wave spring plate and screws.

**Note:** Install the wave spring with its split 180° from the split in the detent ring.



10. Remove the friction material segment retaining screws and lift out the friction material segments.



11. Turn the magnet assembly over and remove screws.



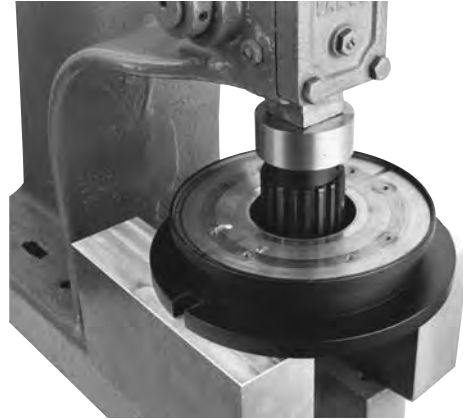
Remove backplate and shim.



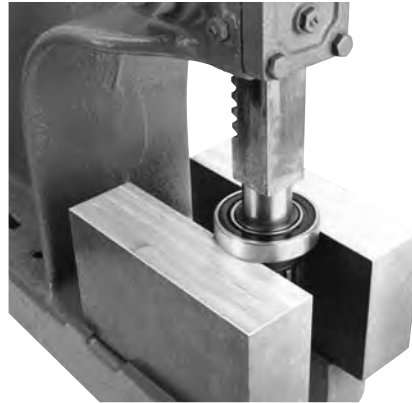
Remove retaining ring to expose the bearing.



Press the hub with its bearing, out of the magnet assembly. **BE CAREFUL TO AVOID DAMAGING THE EPOXY WHICH COVERS THE COIL.**



12. Remove the bearing from the hub by pressing it off.



13. Press the new bearing into the magnet assembly. **Be careful to press only the outer race of the bearing.**



14. Install shim and backplate.



Clean the removed hardware and apply one drop of Loctite grade AA or equivalent to each screw thread before threading into holes. Tighten the screws to the appropriate torque for your size unit:

Size	Torque
25	16-20 in.lbs.
55, 115	30-35 in.lbs.



15. Install the hub into the bearing by **supporting on the inner race of the bearing** and pressing on the outer end of the hub. Press until the inner race of the bearing is flush with the shoulder on the hub. (See Figure 1)

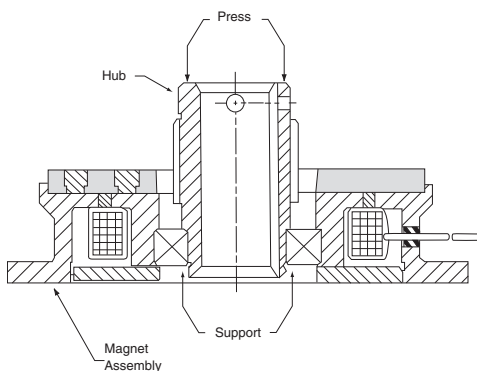


Figure 1

Install the retaining ring on the hub adjacent to the bearing.



16. Clean all foreign material from the magnet mounting surface. Install new friction material segments from the kit. The recessed holes should be facing away from the magnet body.



Clean the supplied hardware and apply one drop of Loctite grade AA or equivalent should be applied to each thread before installation. Do not allow Loctite to get on friction material surface.



Fasten with new screws. **Note:** Use only the screws furnished with the kit as others may damage the brake.

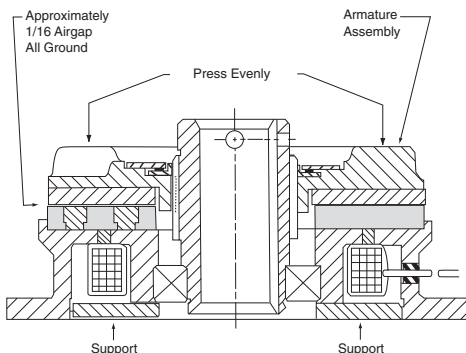


Tighten each screw to 18-22 in.lbs. of torque.

- Place the brake mounting flange down and place the armature assembly on the hub. First engage the spine teeth, then uniformly apply force by hand, pushing the detent ring over the spline outside diameter. Now apply force to the Armature Assembly until the armature contacts the friction disc. (See Figures 2 and 2A)



**Figure 2**



**Figure 2A**

Rotate the hub and armature assembly by hand. There should be no interference.

Install the retaining ring on the hub adjacent to the armature.

**CAUTION** When installing or removing this or other retaining rings, be sure to hold the ring with one hand so it will not spring away, endangering personnel and property, should the pliers lose their grip on the ring. Safety glasses should always be worn when installing or removing retaining rings.

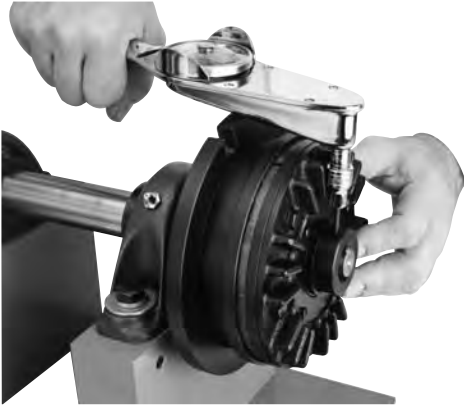


- Reinstall the brake on the shaft with the key in its keyway.



19. Tighten the hub set screws, on the shaft and key per the following torque specifications:

Size	Torque
25	80 in.lbs.
55	160 in.lbs.
115	275 in.lbs.



20. Secure the torque arm to the brake. The torque arm attachment must be flexible enough to compensate normal shaft and bearing runout without causing binding or side loading to the brake.



21. Reconnect the wires.



22. Your AT brake is now ready for its static test. Apply DC voltage to the coil through the brake control. The armature should pull against the friction material face with an audible click.

23. Run the brake under its operating load.

24. Your AT brake might not achieve its full torque until after a short “break-in” period. To break in the brake, cycle it on and off under full load at operating speed a minimum of ten times in quick succession. (See note)

Your AT brake is now ready to run.

**Note:** Your application may require more cycles to achieve full torque due to load and RPM.





## Warranty

Warner Electric LLC warrants that it will repair or replace (whichever it deems advisable) any product manufactured and sold by it which proves to be defective in material or workmanship within a period of one (1) year from the date of original purchase for consumer, commercial or industrial use.

This warranty extends only to the original purchaser and is not transferable or assignable without Warner Electric LLC's prior consent.

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A purchase receipt or other proof of original purchase will be required before warranty service is rendered. If found defective under the terms of this warranty, repair or replacement will be made, without charge, together with a refund for transportation costs. If found not to be defective, you will be notified and, with your consent, the item will be repaired or replaced and returned to you at your expense.

This warranty covers normal use and does not cover damage or defect which results from alteration, accident, neglect, or improper installation, operation, or maintenance.

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