



COGSDILL TOOL

products, inc.

Field Service Instructions For Cogsdill AR Series Automatic Recessing Heads

***Disassembly, reassembly,
and maintenance procedures***

IMPORTANT: No significant force should be required to disassemble or reassemble the AR units. Some parts have snug precision fits that require care in removal and assembly to prevent damage. If you encounter difficulty, please review the instructions or contact our technical department for advice.

Disassembly of AR series recessing heads

1. ***Note: Refer to the assembly drawing and details listing.*** Remove the cutter and pilot from the tool, and wipe off any chips and coolant. Using soft jaw pads, clamp the unit firmly in a vise by the shank (detail 16), with the head vertical and the shank down.
2. Using a lock-ring spanner wrench, release the front nut (detail 2) from the front body (detail 5). Unscrew & remove the nut.
3. The bearing (detail 101) with attached master pilot (detail 1) should slide out of its mount. It may be necessary to pry it out by applying equal force on opposite sides of the bearing with two flat-blade screw drivers or flat pieces of metal. Care should be taken to keep the bearing square to avoid jamming. Check all parts for damage, and stone to remove high spots, if necessary. The master pilot (detail 1) is pressed into the bearing.

4. The chip guard (detail 4) is removed next. Before removing the chip guard, please notice two things:
 - a. There is a counter bore in the front end of the chip guard.
 - b. There is a small hole in the chip guard that engages a spring loaded ball (details 103 & 114) in the outside diameter of tool body (detail 5). This ensures proper orientation of the chip guard on the tool body so that screw access holes in the chip guard are aligned with the screws in the tool slide (detail 6).

IMPORTANT: Prior to removing the chip guard, locate the small spring-loaded detent ball (details 103 & 114) in the front body (detail 5). Carefully slide the chip guard up and remove the detent ball and spring so that these are not lost. Now slide the chip guard off the front of the head. To reassemble, the counter bore must be facing towards the front end, and the access holes must be aligned with the screw holes in the tool slide.

5. The back plate (detail 3) is now removed. The same care should be taken as removing the bearing. There is a foolproof hole/locating pin in this item to prevent it from being installed the wrong way. Notice that the counter bore is facing up.
6. Before removing the tool slide, note that when looking into the unit you will see the cutter location hole with a keyway in it. The tool slide (detail 6) can now be removed by sliding it upwards. It will slide out on an angle as it is located by, and engaged with, the slipper (detail 13). The head may need to be slightly compressed at this stage to disengage the centralizing pin (detail 21) in the tool slide from its slot in the retaining plate. During reassembly, the tool slide has to be perfectly lined up with the slipper. The chamfered edges of the slipper should be facing outwards (toward the tool slide). There is very little clearance between the slipper and tool slide slot, so this may take a few attempts to assemble. It becomes easier with practice. **No force is necessary. It will slide very easily when aligned correctly.**
7. Looking down into the front end of the head at this point will reveal a counter bore with a locating pin

- to one side and a secondary bore with the forked end of the rear body (detail 7) in it. The slipper (detail 13) is rhomboid shaped. It is held to one side of the fork by the slipper pin (detail 14). The slipper will be resting on the spring plate (detail 8), which is attached to the front body by two screws (detail 113).
8. **Note: Use caution during the next phases of disassembly.** The remaining assembly is still spring-loaded by the die spring (detail 104) between the rear body (detail 7) and the spring plate (detail 8). The shank over-travel assembly is also still loaded by disc springs (detail 111) between the shank (detail 16) and the rear body (detail 7).
 9. To change the slipper (detail 13), compress the head slightly and slide the slipper off the slipper pin (detail 14) by twisting and pulling. Check the slipper pin for damage and wear. If the slipper has an offset hole in it, the longer part should be located toward the front end of the tool (when properly installed it will protrude forward of the rear body forks). Make sure the chamfered side of the slipper faces out. The slot in the tool slide should also be checked for wear.
 10. To remove the rear body (detail 7), the assembly has to be compressed slightly to take the load off the retaining screw (detail 109) that passes through the rear of the front body (detail 5). Remove the retaining screw and gently release the spring pressure by allowing the rear body to decompress. Remove the rear body (detail 7) by sliding it out of the front body (detail 5) in a rearward direction. Notice that the slipper pin (detail 14) will pass through a slot in the side of the spring plate (detail 8).
 11. Remove the spring plate (detail 8) by removing the two cap head retaining screws (detail 113). Please note that the centralizing screw (detail 115) is pre-set at the factory, and should not be removed.
 12. There should be no need to remove the coolant pipes (details 9 & 20) unless they are damaged. These are a press fit to their respective mating parts.
 13. If it is necessary to replace the shank or rear body, or if the over-travel unit must be disassembled,

compress the shank (detail 16) in a drill press and, with a pin or punch, tap out the over-travel dowel (detail 12). Note: this can also be done with the head assembled if only the shank needs to be changed.

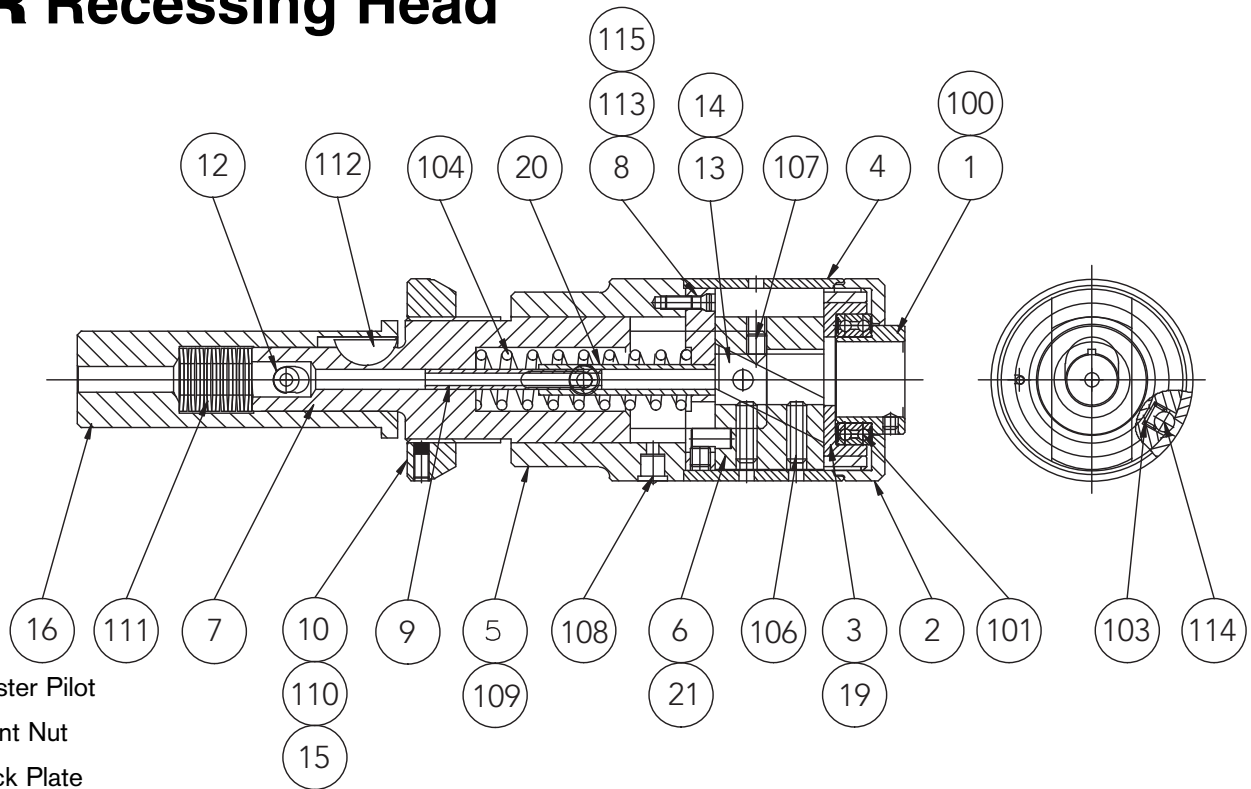
14. The pre-load of approximately .118 in. (3.0mm) on the disc springs (detail 111) will be released. Remove the shank from the rear body.
15. If the disc springs are removed, make sure they are reassembled according to the instructions on the assembly drawing for that particular tool. Failure to do so will cause the over-travel unit to malfunction, resulting in severe damage to the head.
16. **All items should be inspected for damage and repaired or replaced as necessary.**
17. If the slipper has to be replaced, check that it fits into the tool slide prior to assembly. Spares are normally .0001/.0002 in. (.003/.005mm) larger to allow them to be lapped (on a flat surface with 600 grit emery paper) to fit the tool slide slipper slot. This is an accurately fit part; use care when lapping the edges, and check the fit frequently – remove only enough material to allow the slipper to fit into the slot. There should not be any clearance. Review step no. 9 above to ensure that this is reassembled in the correct manner.

Reassembly of AR series recessing heads

To reassemble the head, reverse the above procedure. Remember the following:

1. Ensure all parts are clean and greased prior to assembling. We strongly recommend the use of Kluber Altemp Q NB50 grease.
2. During reassembly, ***no significant force*** should be required.
3. All parts should be presented square to their mating parts to avoid jamming.
4. After assembly, the tool should be actuated through its full range of movement.
5. If there are questions regarding any of the procedures listed, please call Cogsdill Tool Products for support (803-438-4000).

AR Recessing Head



- 1 Master Pilot
- 2 Front Nut
- 3 Back Plate
- 4 Chip Guard
- 5 Front Body
- 6 Tool Slide
- 7 Rear Body
- 8 Spring Plate
- 9 Coolant Pipe
- 10 Micrometer Nut
- 12 Over-rider Dowel
- 13 Slipper
- 14 Slipper Pin
- 15 Copper Pad
- 16 Shank
- 19 Back Plate Dowel
- 20 Spring Plate Pipe
- 21 Centralizing Pin

- 100 Set Screw
- 101 Double Angular Contact Bearing
- 103 Spring
- 104 Spring
- 106 Tool Clamp Screw
- 107 Tool Adjust Screw
- 108 Oiler
- 109 Retaining Screw
- 110 Micrometer Screw
- 111 Disc Springs
- 112 Key
- 113 Torx Screw
- 114 Ball Bearing
- 115 Centralizing Screw



COGSDILL TOOL

products, inc.

COGSDILL TOOL PRODUCTS, INC.

Mailing Address:

P.O. Box 7007
Camden, SC USA 29021-7007
Ph. (803) 438-4000
Fax (803) 438-5263
cogsdill@cogsdill.com

Shipping Address:

1001 Guion Drive
Lugoff, SC 29078

COGSDILL-NUNEATON LTD.

Tenlons Road
Nuneaton, England CV10 7HR
Ph: +44 (0) 2476 383792
Fax +44 (0) 2476 344433
sales@cogsdill.co.uk

www.cogsdill.com