

The Valve People™

Aria® AK Valve

Part Nr./Ref: CA100-AK



The Aria AK Valve features auto-expulsion function with push button release. It can be used for a variety of suction socket applications including pull-in donning. The insert can be removed from the housing to facilitate the assessment of limb position inside the socket. The Aria AK Valve is designed for installation into all socket materials.

Installation Into Thermoplastic Materials

1. Determine desired location of valve and flatten that area of cast model using Surform tool. It is important that the molding dummy sits flush on cast model.
2. Drill a 1/8" hole for screw that will affix dummy to cast model.
3. Drill an adjacent vacuum hole approximately 1/2" away from the hole drilled for the dummy screw. The vacuum hole should extend through the bottom of the cast model to ensure a good pull under vacuum.
4. Mount the molding dummy using the screw provided, over the vacuum and screw holes. The 2 smaller holes in the dummy should be positioned north and south, following the direction that the plastic will be pulled. Once dummy is screwed securely in place, put enclosed self-adhesive foam disc over the screw head.
5. Under vacuum, blister or drape mold thermoplastic material over cast. Be sure to guide plastic around all contours of the dummy to ensure good conformation of the plastic to the dummy shape.
6. Once Plastic has cooled, use a disc sander over the area of the dummy to expose the self adhesive disc so that the self adhesive disc and screw can be removed. Continue to sand with disc sander until the white face of the dummy is slightly scuffed and the plastic is flush to the face of the dummy. **DO NOT OVER SAND** the plastic and dummy.
7. Remove socket from cast model. Make sure sanded area is smooth an level. Insert valve housing into the socket (with "O" ring seated in groove of housing) making sure it fits securely and sits flush with the inside of the socket once in place.
8. Secure the housing in place by screwing on the metal nut. Hand tighten nut firmly.
9. Screw in the valve insert gently taking care not to over tighten as this can cause cross threading and damage the valve insert. Once you feel the insert stop, do not attempt to tighten further.

Installation into Laminated Sockets

1. Determine desired location of valve and flatten that area of cast model using Surform tool. It is important that the molding dummy sits flush on cast model.
2. Place a separation layer of fabric and the first PVA bag over the cast model.
3. Mark the location where the center hole of the molding dummy will sit and reinforce that area of the PVA bag so that it does not tear.
4. Using the screw provided, screw molding dummy down onto the cast over the PVA bag. Place self adhesive foam disc provided over the screw head.
5. Place fabric reinforcing layers and second PVA bag over the dummy and cast model.
6. Mix resin and pour resin under vacuum.
7. After socket has cured, use a disc sander over the area of the dummy to expose the self adhesive disc so that the self adhesive disc and screw can be removed. Continue to sand with disc sander until the white face of the dummy is slightly scuffed and the socket material is flush to the face of the dummy. **DO NOT OVER SAND**.
8. Remove socket from cast model. Make sure sanded area is smooth an level. Insert valve housing into the socket (with "O" ring seated in groove of housing) making sure it fits securely and sits flush with the inside of the socket once in place.
9. Secure the housing in place by screwing on the metal nut. Hand tighten nut firmly.
10. Screw in the valve insert gently taking care not to over tighten as this can cause cross threading and damage the valve insert. Once you feel the insert stop, do not attempt to tighten further.

Disassembly / Reassembly

Disassemble for thorough cleaning:

1. Unscrew and remove black aluminum ring
2. Unscrew the insert to back it out approximately 1/2 way out of the housing, but keeping it in the housing.
3. Turn over so that the button of the valve is down on the table and bottom of valve housing faces up.
4. Press down on base of housing with fingers or palm until a "click" is heard
5. Turn entire unit over and you will see that the valve insert will be opened up.
6. Remove top plastic part of insert and pop button out. Remove spring and diaphragm and back portion of insert from housing. There should be 5 separate pieces of the insert (button, top portion of insert body, spring, rubber diaphragm, and back portion of insert body). Valve Housing and black aluminum ring are separate.
7. Clean parts with gentle soap and warm water. Dry parts thoroughly before reassembling.

To Reassemble:

1. Take top portion of insert body and turn it face down. Drop operator button into the center hole.
2. After operator button, drop in spring.
3. Next, drop in rubber diaphragm with plastic side down (in contact with spring)
4. Position the back portion of insert body with center projection going through center hole of rubber diaphragm.
5. Squeeze top and bottom of insert together until it snaps, locking all parts together
6. Screw insert back into valve housing
7. Screw on black aluminum ring



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