

# K-81D Hydrant Demonstration



KENNEDY VALVE



By: Zach Walker

# The K-81D Guardian



- Meets or exceeds AWWA C502 Dry Barrel Fire Hydrant Specifications
- 250 PSI Working Pressure
- 500 PSI Hydrostatic test Pressure
- UL 246 & FM 1510 Approved
- NSF Approved



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# The K-81D Guardian



- Dry Barrel, Compression-Type Hydrant
- Available in 4 ½" or 5 ¼" MVO
- Variety of upper barrel nozzle configurations and colors available
- Bury depths begin at 1 ½ feet and greater
- Hydrant elbow/shoe available in
  - MJ- 4", 6", 8"
  - FLG- 4", 6"
  - Straight shoe/ Tyton 6"



# Start From the Top



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Stainless steel recessed grease fitting allows standard grease gun to hook onto the hydrant for lubrication. Food grade grease sold in 12oz tubes for standard grease guns.

Direction to open is cast on the dirt shield right where the spanner wrench goes.



Turns to open is also cast on the dirt shield, 15½ turns.

Hold down nut is reversed threaded from the Op Nut.

Hold down nut is mechanically retained by Allen head set screw.

# Op Nut



Friction Point

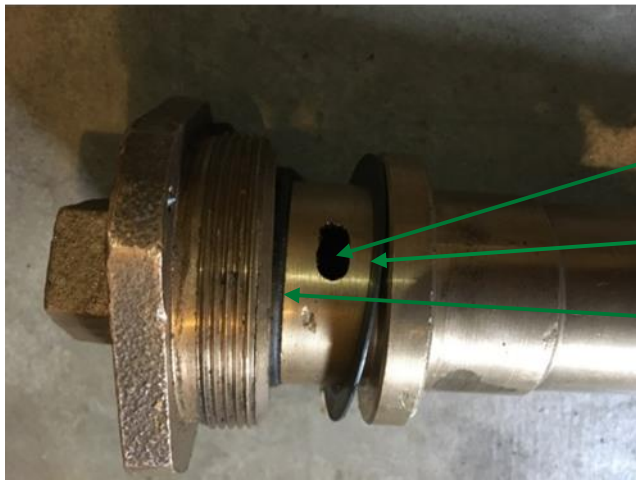


When lubricating the K81D, grease is forced down the length of the upper stem threads by grooves machined into the op nut.

Thrust collar is also lubricated by ports machined into the side of the op nut.

Thrust washer allows for smooth operation and is lubricated every time hydrant is lubricated.

O-ring seals against hold down nut and does not allow dirt to get to the thrust collar.





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# One Piece Bonnet



No need for a stop nut. This allows the bonnet to be spun off without taking any of the operating system apart.

Entire bonnet comes off as one piece. Seal plate is cast integral with the bonnet.

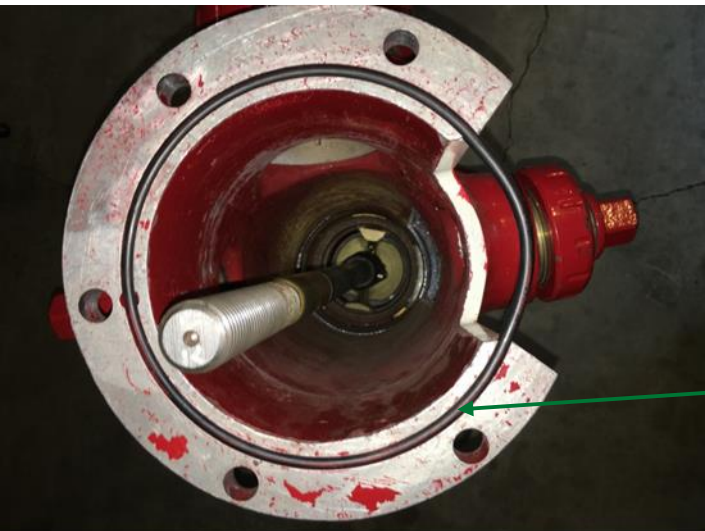
Two O-rings seal against upper stem brass ferrule. Keeps grease in and water out of the bonnet. It is impossible to “blow” the O-rings out with too much grease or create a pressure lock!



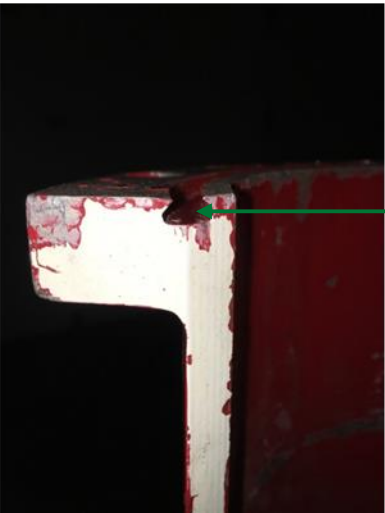


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# Dove Tail Groove



Bonnet to body O-ring groove is cut to a dove tail (This cut is present throughout the K-81)



Groove is cut where top measurement of the groove is thinner than O-ring diameter. O-ring “snaps” into groove. This keeps O-ring from pinching between the bonnet and body. Also do not need to use grease to keep O-ring in the groove



A hole is machined into the groove to allow a screwdriver to pry O-ring out without cutting the O-ring



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# Seat Removal Tool



Short lightweight seat removal tool

Fits onto lower section of break coupling. One seat removal tool for any bury depth.



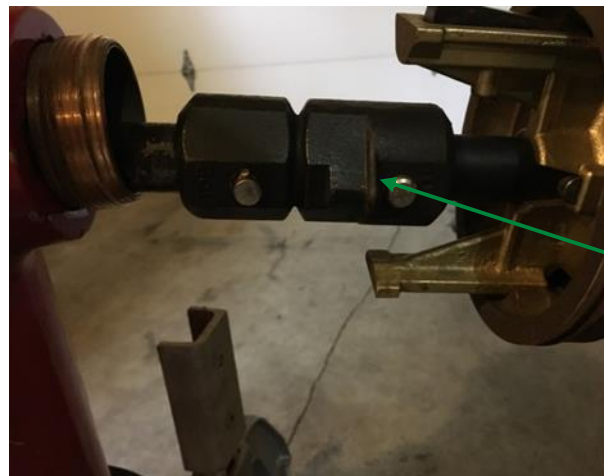
Centering rings allow for use on both 5 ¼" and 4 ½" MVO hydrants





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# Break Coupling



Seat wrench engages onto wings below break point. This allows disassembly of hydrant **after** coupler has been broken.



**Kennedy exclusive** break coupling pins have a spring loaded tab that allows for one handed installation without tools.



Coupling pin has a stainless steel spring and is impregnated with grease to prohibit corrosion.



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# Bottom Plate



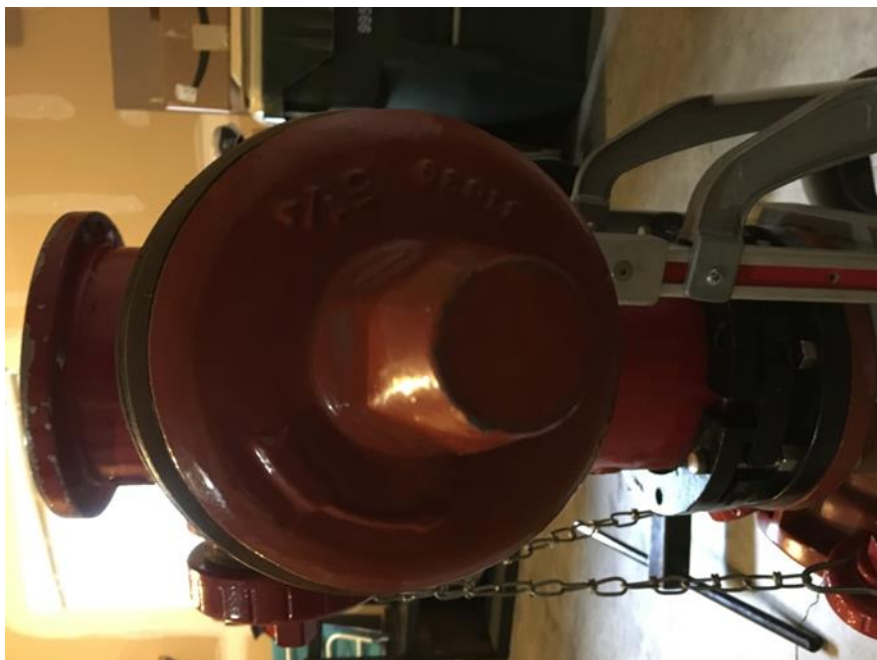
One piece bottom plate creates stop in elbow

Arrow indicates which way to unthread the bottom plate

Very dense to keep main valve in great shape

Completely coated in fusion bonded epoxy to prevent corrosion

A pipe wrench is all that is needed to remove from lower stem



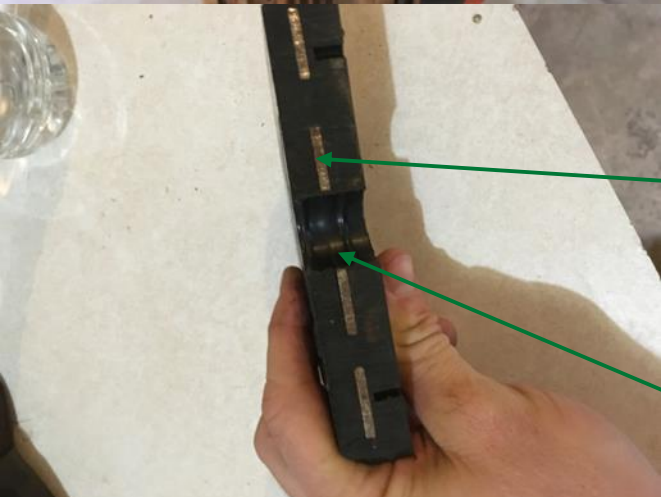


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# Main Valve



Made out of EPDM rubber.



Again a **Kennedy exclusive**, valve rubber is reinforced with steel. This allows the rubber to be made with a softer composition for a better, more pliable seal.



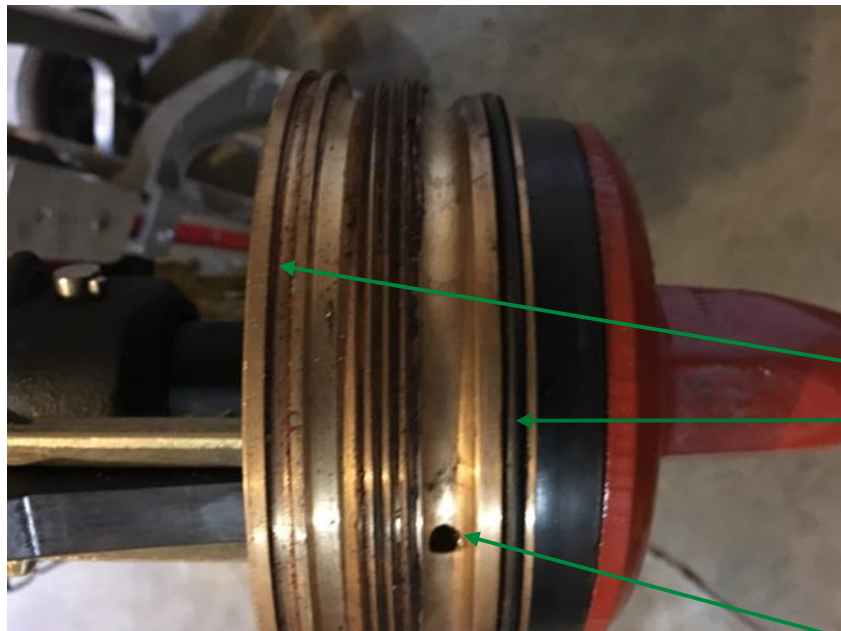
Integral O-ring type seal molded into the inside stem area and on the bottom side of the main valve, seals threads from water during operation.





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# Seat Ring



Seat has two O-ring seal to keep water from reaching stem threads

Only one drain valve hole but channel allows for dual drain holes in elbow. Same drain time less moving parts.



Higbee (blunt cut) cut threads prevent the seat ring from cross threading. Allows for faster and easier assembly.



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# Drain Valve

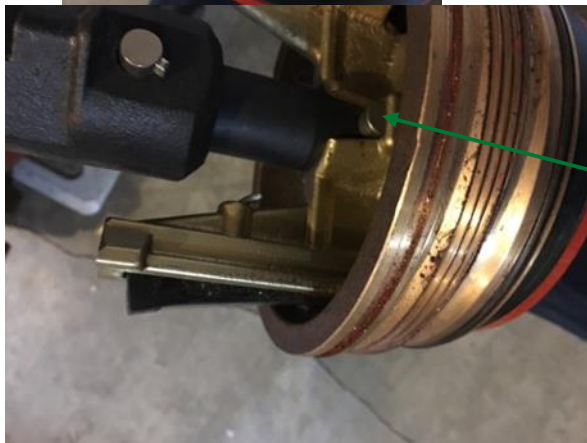
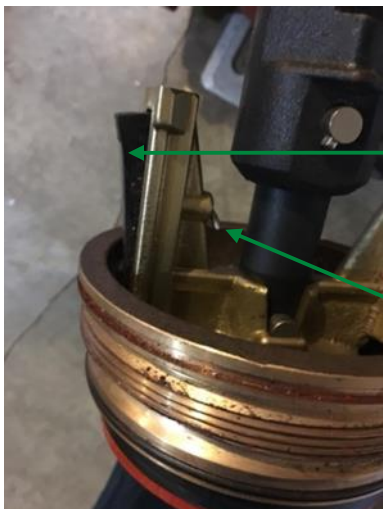
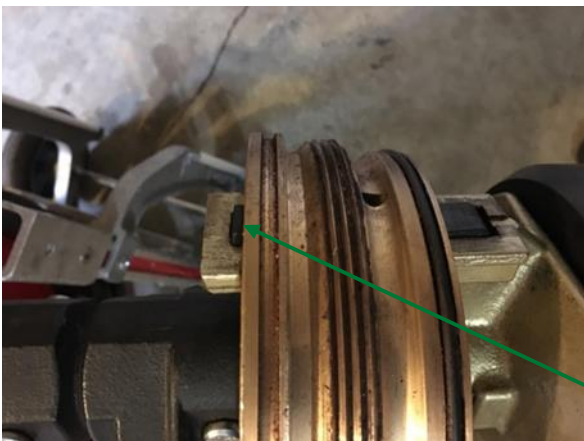
Drain valve is made out of aluminum bronze. It is 2-1/2 times stronger than brass. This prevents ears from bending or deforming upon disassembly.

Pressure activated drain valve prevents facing from getting worn with use. Also creates a better seal with more water pressure.

One facing means less parts to maintain.

Drain facing is mechanically retained within drain valve by another **Kennedy exclusive** stainless steel pin. Only a pair of pliers needed to disassemble and replace facing. No rivets or rivet gun needed to replace facing.

Drain valve is secured to stem by stainless steel pin set into a saddle for ease of maintenance.





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# Nozzles



Nozzles are a quarter turn style and mechanically retained by an Allen head set screw.

Once set screw is engaged there is **no way** for nozzle to back out

Nozzles are O-ring sealed against the body of the hydrant



Nozzle removal tool grabs onto two drive lugs inside of the nozzle



Once the set screw is loosened, a simple  $\frac{1}{4}$  of a turn and the nozzle comes out





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# Breaker Rings

Two piece breaker ring sits **on top** of lower flange. Allowing for ease of installation and inspection of breaker rings.

Machined break point in the rings ensure fracturing upon impact.

Machined grooves in the lower flange allow for the bolts to escape when hydrant is struck.



# Upper Barrel Standpipe/Elbow



Upper barrel made of high strength cast iron and clearly marked with year, model, and UL/FM – AWWA ratings

Lower pipe and elbow are both made of high strength ductile iron

Elbow is coated in fusion bonded epoxy to protect from corrosion

All buried bolts and nuts come standard 304 stainless steel. Other stainless steel options are available for the rest of the hydrant.



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- Color does not fade in sunlight like other coating options on the market
- Very easy to touch up in the field as the powder coat takes paint extremely well





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# PARTS INTERCHANGABILITY

Although design and material improvements have been made to the Kennedy K-81D Hydrant, in no case have any changes sacrificed part interchangeability!

36 YEARS OF SERVICE

1981-Present



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# Made in America



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