



All Models of KMDSI Helmets SIDE BLOCK / DEMAND REGULATOR





KIRBY MORGAN DIVE SYSTEMS INCORPORATED MAINTENANCE AND REPAIR TECHNICIAN TRAINING



- Only selected Dive Lab trained Technicians are authorized to teach the Technicians Course
 - Only Dive Lab authorized Technicians may teach the KMDSI Operator/User Course
 - Course curriculum must be presented within the guidelines set-up in the repair technician's guide and slide show
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SIDE BLOCK



- Kirby Morgan pioneered the use of the helmet mounted side block
- Side Block Serves as a breathing gas distribution manifold
- Side block consists of: Steady Flow, EGS and One Way Valve, supplies gas to Helmet regulator

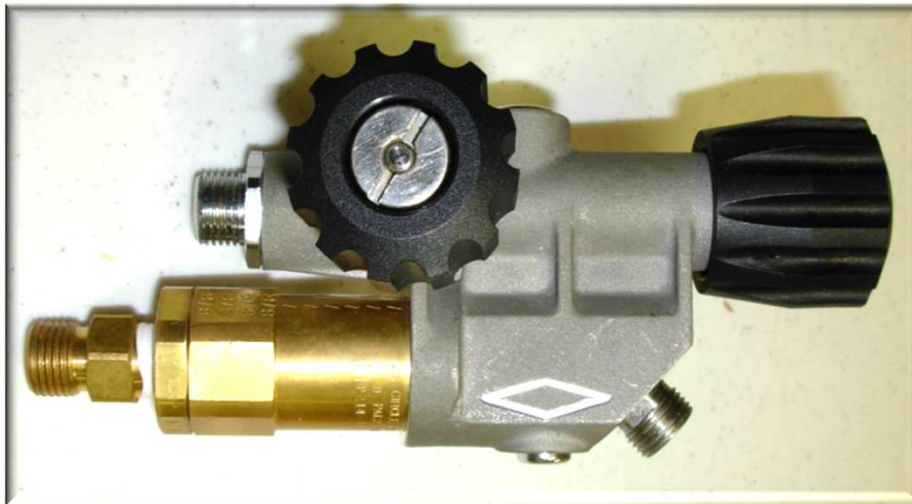


SIDE BLOCK



- Two Types of Side Blocks used currently

Stainless Steel



Standard, Chrome plated Brass (B-Block)





SIDE BLOCK



- A-Block, (Original)
- Discontinued in 2005
- Repair parts are available (For now)
- Recommend switching to standard B-Block





One-Way Valve





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- Check the umbilical supply one-way Valve for proper operation by orally sucking on the umbilical adapter
- Gas should be drawn thru the one-way Valve
- Guidance O & M Manual



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- Sucking – Blowing (Cycling) the Check Valve
- If the Check Valve will seal at the low pressure, it most certainly will seal at the higher differential pressures
- The Valve is also checked using the intermediate pressure as well



One Way Valve



- Replace Umbilical adapter annually
- Umbilical adapter and EGS valve are the only fittings that require Teflon tape
- DO NOT USE LIQUID THREAD SEALANT

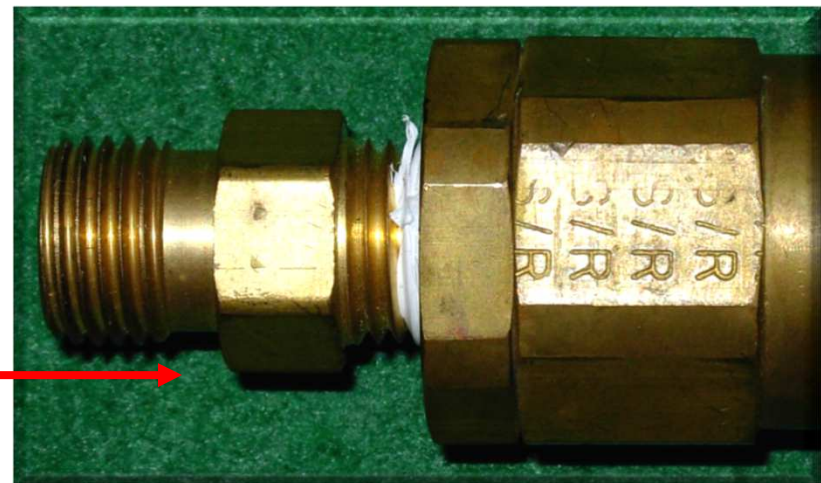




One Way Valve



- Umbilical adapter over tightened
- Umbilical adapter can crack or break off
- About normal depth of umbilical adapter





One Way Valve



- Failure to replace umbilical adapter can be disastrous
- Fitting broke during emergency recovery
- Diver drowned (no EGS)





EGS Valve





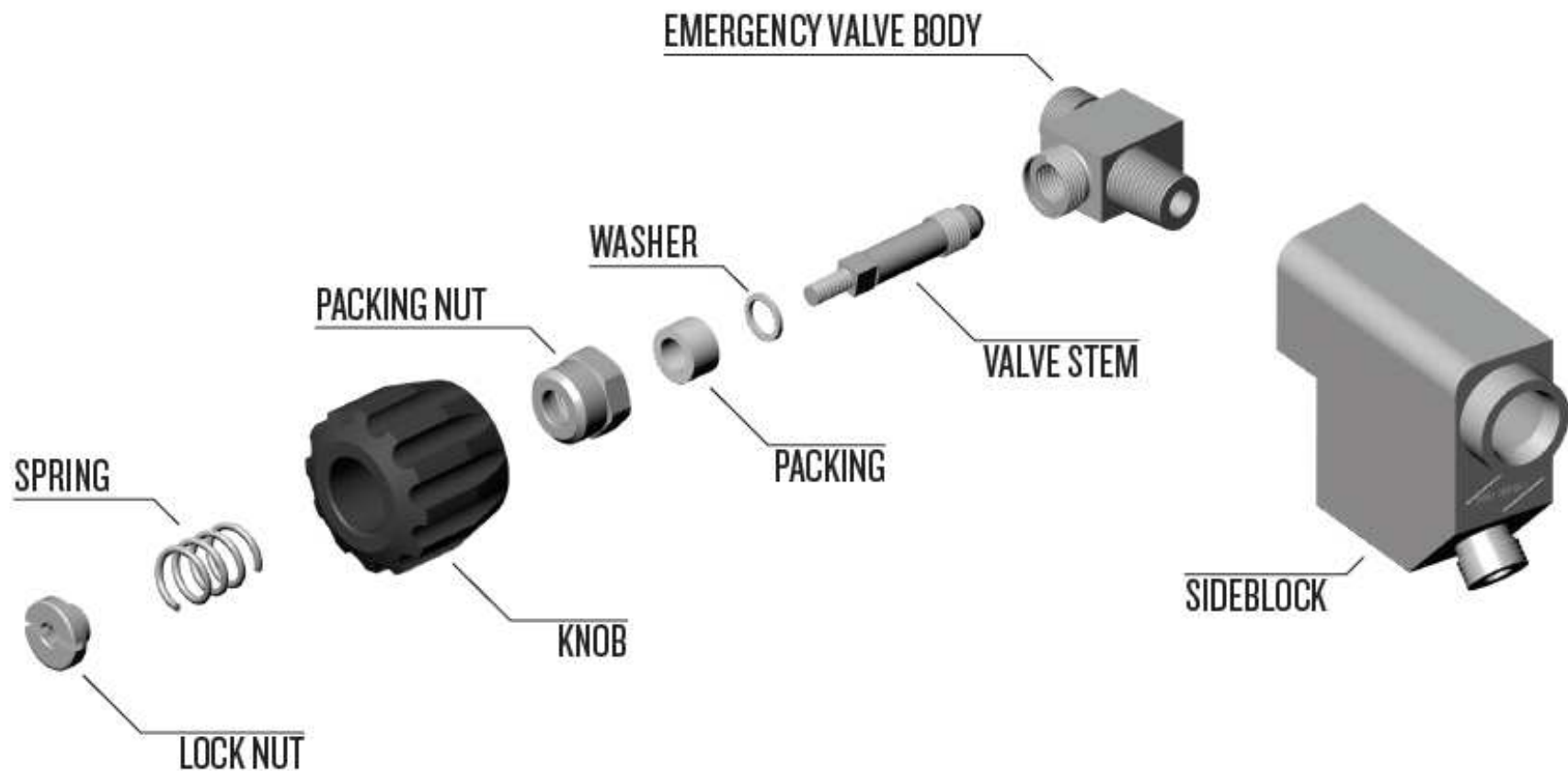
EGS Valve



- EGS valve control knob is not interchangeable with the defogger valve control knob
- Inspect EGS Valve body for, cracking, distortion, and check pipe threads
- Replace EGS valve if any damage is present



EGS Valve



The emergency valve



EGS Valve





EGS Valve



- Inspect all threaded surfaces for damage
- Tighten packing nut with a torque wrench, until moderate resistance is felt when turning knob
- Torque to 50 inch pounds after seating

Older EGS
(no longer supported)



Current Model





Stainless Steel Side Block EGS Valve

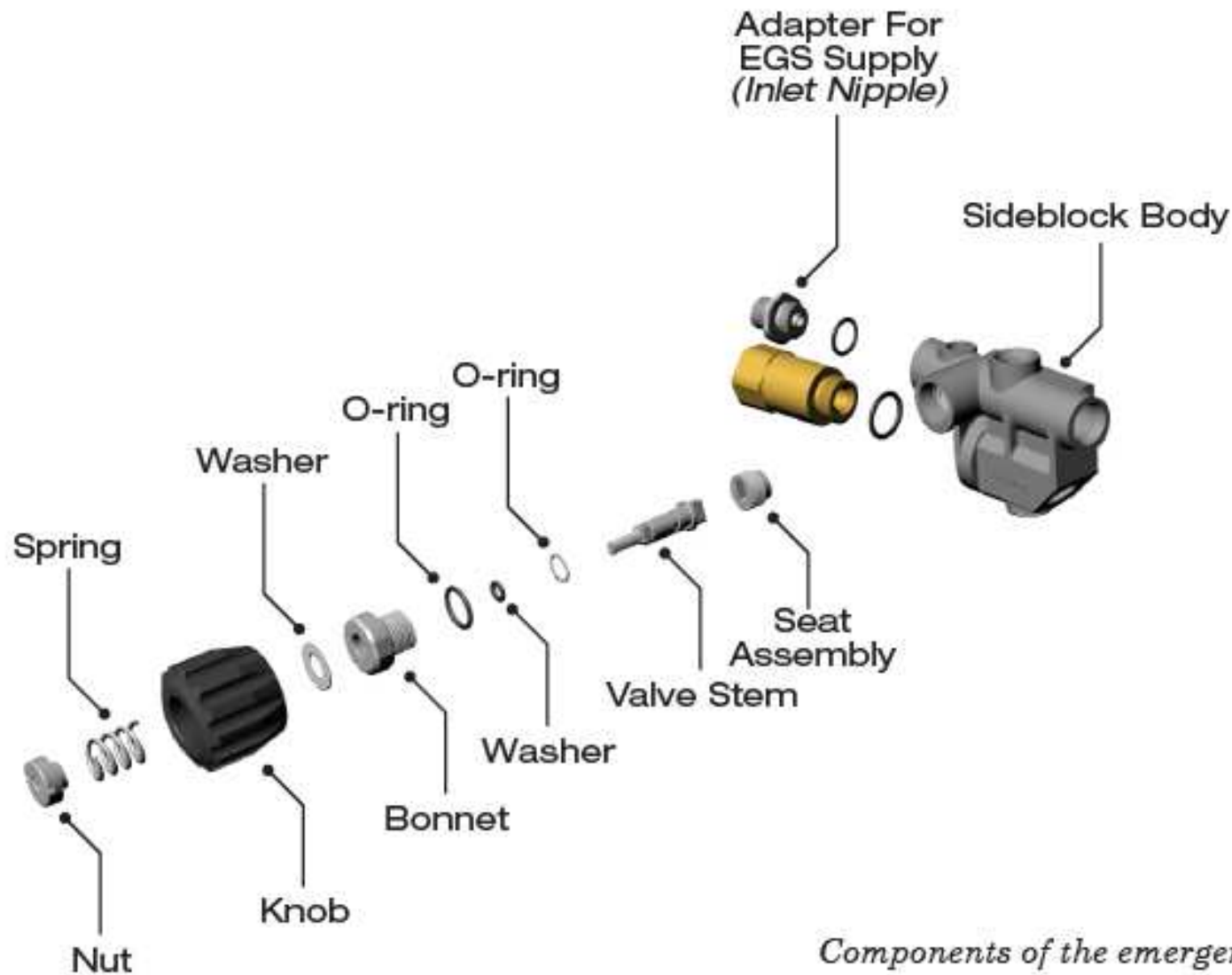


- The EGS valve body is built into the side block
- Design is very similar to the defogger valve in appearance and function, the parts are **not** interchangeable





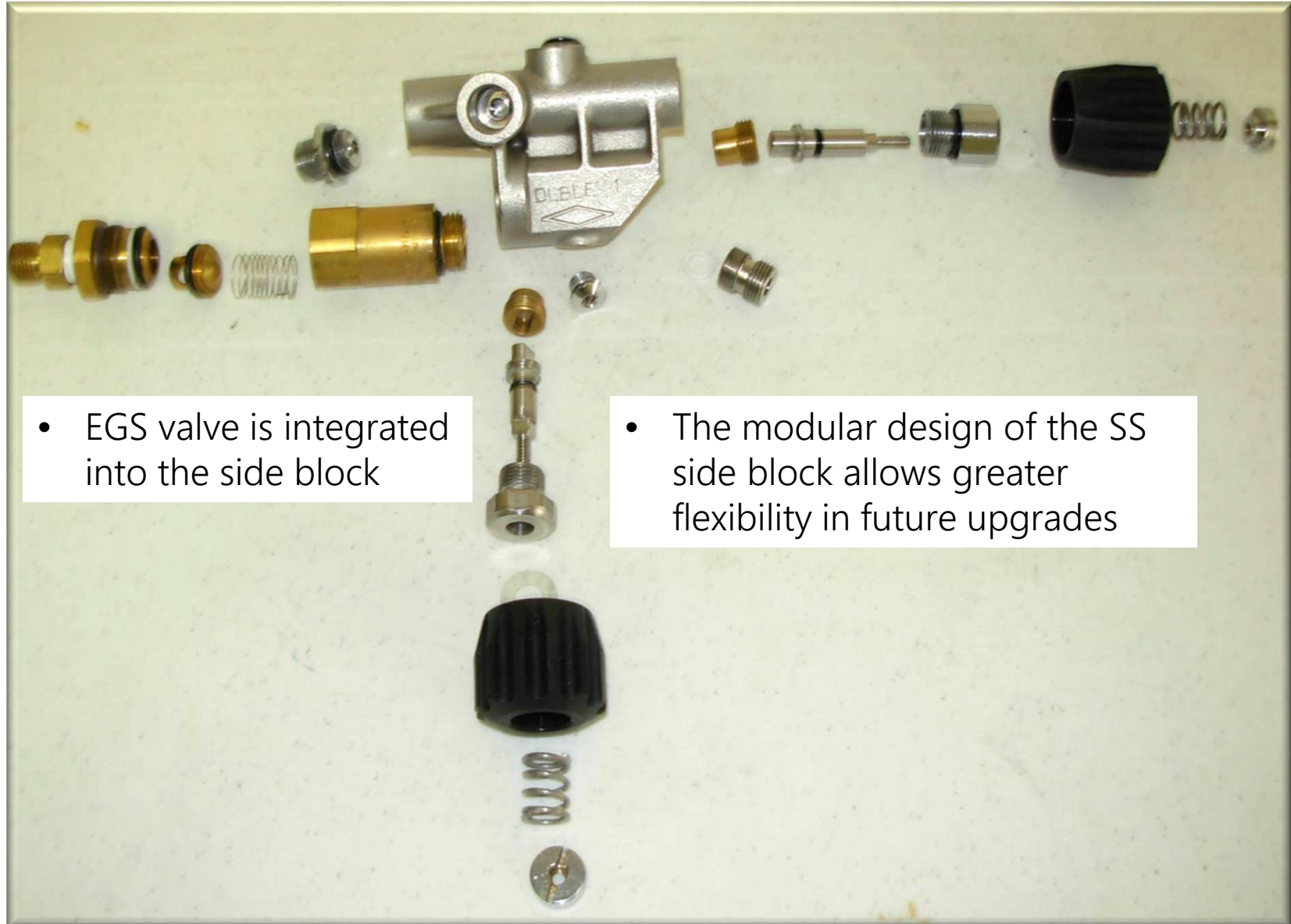
Stainless Steel Side Block EGS Valve



Components of the emergency valve (EGS valve)



Stainless Steel Side Block



- EGS valve is integrated into the side block

- The modular design of the SS side block allows greater flexibility in future upgrades



Bent Tube Assembly





Bent Tube Assembly



- Bent tube is a critical component that routes breathing gas to the helmet Regulator
- O-ring and Teflon ring should be replaced during normal overhauls or any time they are deemed unserviceable



Bent Tube Assembly



- Replace bent tube if: excessively dented, or compressed deeper than 1/8 inch
- If helmet has been used for burning jobs, carefully check for erosion of the metal or severe corrosion
- Replace if any erosion is present or integrity is in question



Bent Tube Assembly



- Two different types
- Bent Tubes are NOT interchangeable

REX, KM 47, 77 (Left)



350 SF, 450, 455, (Right)





Bent Tube Assembly

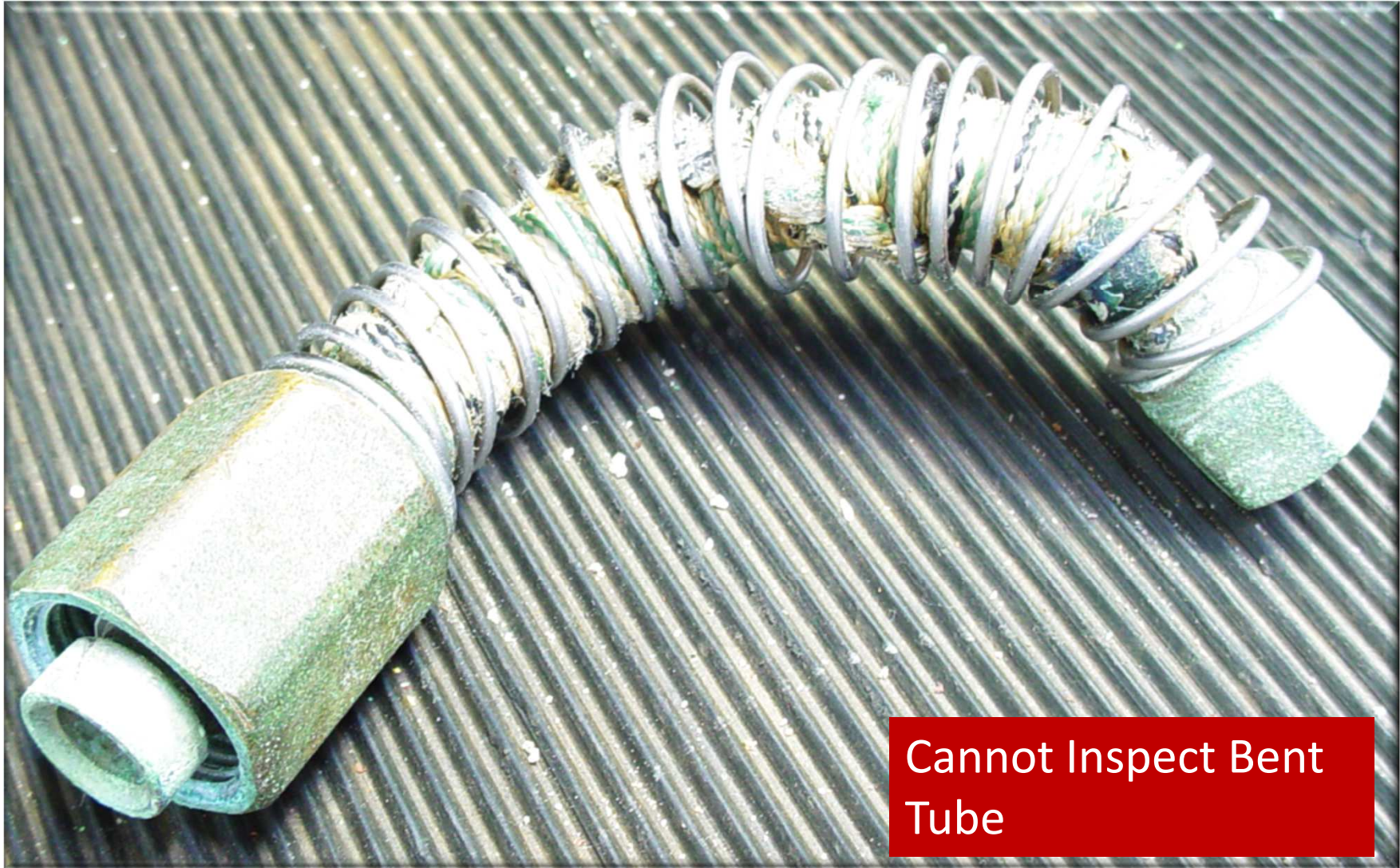


350 / 450 / 455 REX Regulators

- Run the mount nut up on the inlet nipple hand tight only
- Using a torque wrench, tighten the bent tube assembly mount nut onto the side block to (100 inch lbs)
- Tighten jam nut with torque wrench to (40 inch lbs)



Bent Tube Assembly



Cannot Inspect Bent
Tube



Bent Tube Assembly



Did not loosen
locking nut first



Bent Tube Assembly





Bent Tube Assembly





Summary



- One way Valve
- Steady Flow
- SS/Brass blocks
- EGS valve
- Bent Tube



