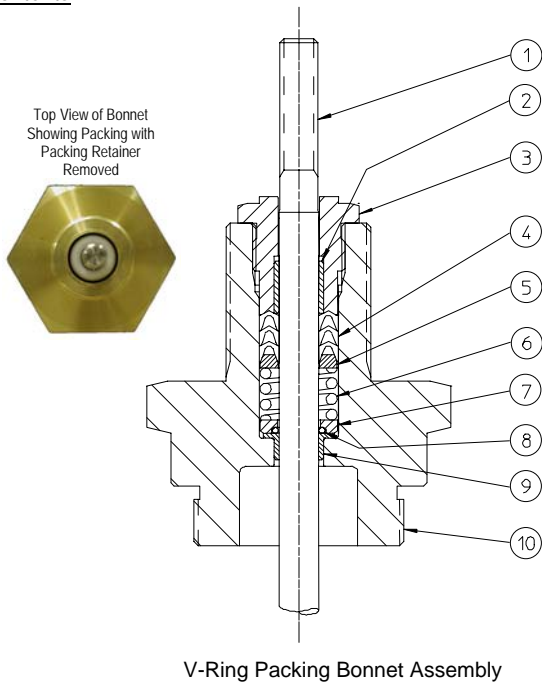


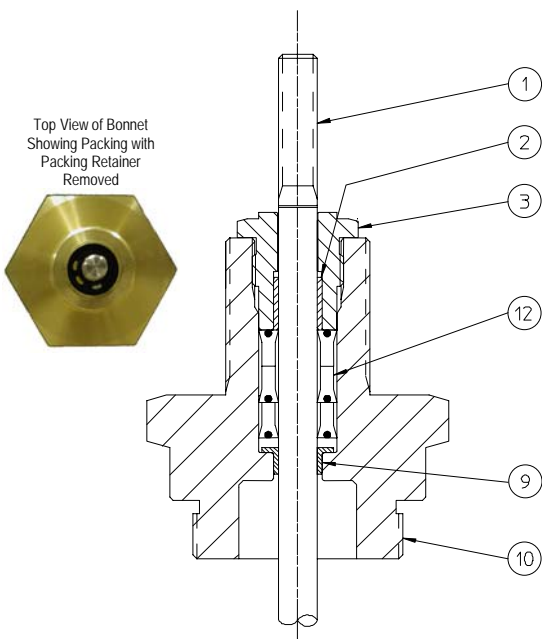
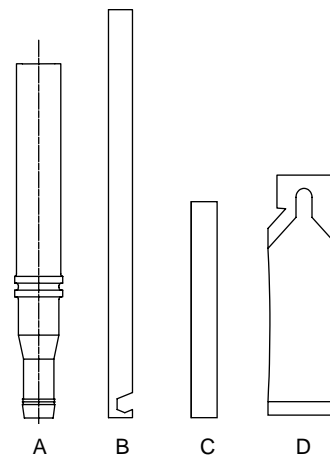
Step by step procedure for removal of existing v-ring or lip packing & installation of lip packing repack kit.

The enclosed kit is for the express purpose of replacing packing on Belimo globe valves. The kit contains lip packing suitable for installation in existing v-ring packing or lip packing bonnet assemblies. Packing replacement may be required when the valve packing starts to leak as a result of wear. The packing replacement procedure requires the valve to be shut down from service and may take up to 1 hour to complete.

Contents:



V-RING PACKING BONNET ASSEMBLY		
ITEM	QTY	DESCRIPTION
1	1	VALVE STEM
2	1	RETAINER BEARING
3	1	PACKING RETAINER
4	1	V-RING PACKING SET
5	1	MALE ADAPTER
6	1	PACKING SPRING
7	1	O-RING RETAINER
8	1	O-RING
9	1	BONNET BEARING
10	1	BONNET



LIP PACKING BONNET ASSEMBLY			
ITEM	QTY	DESCRIPTION	CONTENTS OF REPACK KIT
1	1	VALVE STEM	
2	1	RETAINER BEARING	X
3	1	PACKING RETAINER	X
9	1	BONNET BEARING	
10	1	BONNET	
12	3	LIP PACKING	X
A	2	EXTRACTOR	X
B	1	PACKING SPRING REMOVAL TOOL	X
C	1	STEM SLEEVE	X
D	1	TUBE STEM LUBE	X

Step by step procedure for removal of existing v-ring or lip packing & installation of lip packing repack kit.

Introduction:

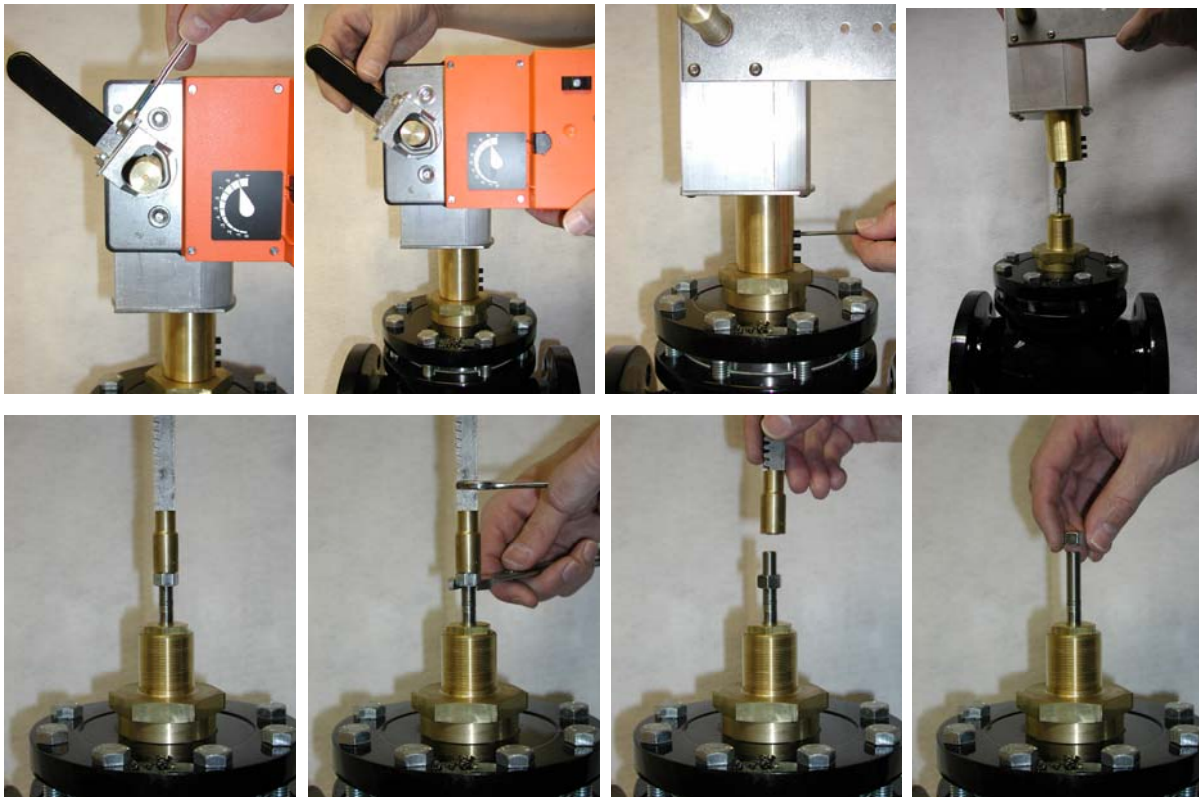
Read all instructions carefully before beginning. Inspect contents of kit and identify that all parts are present. Remove line pressure and isolate valve in piping. The valve can remain in line, but other valves or methods must be used upstream and downstream of the control valve to isolate it from the system. *There should be no fluid pressure in the valve during this procedure.*

Tools Required:

- Various open end wrenches
- Allen wrench
- Slotted screwdriver
- Access to control signal to reposition valve

Step 1:

After the valve has been isolated from service remove power and signal from the actuator. Disassemble the actuator from the valve. The series of photo-steps below are for a typical actuator.

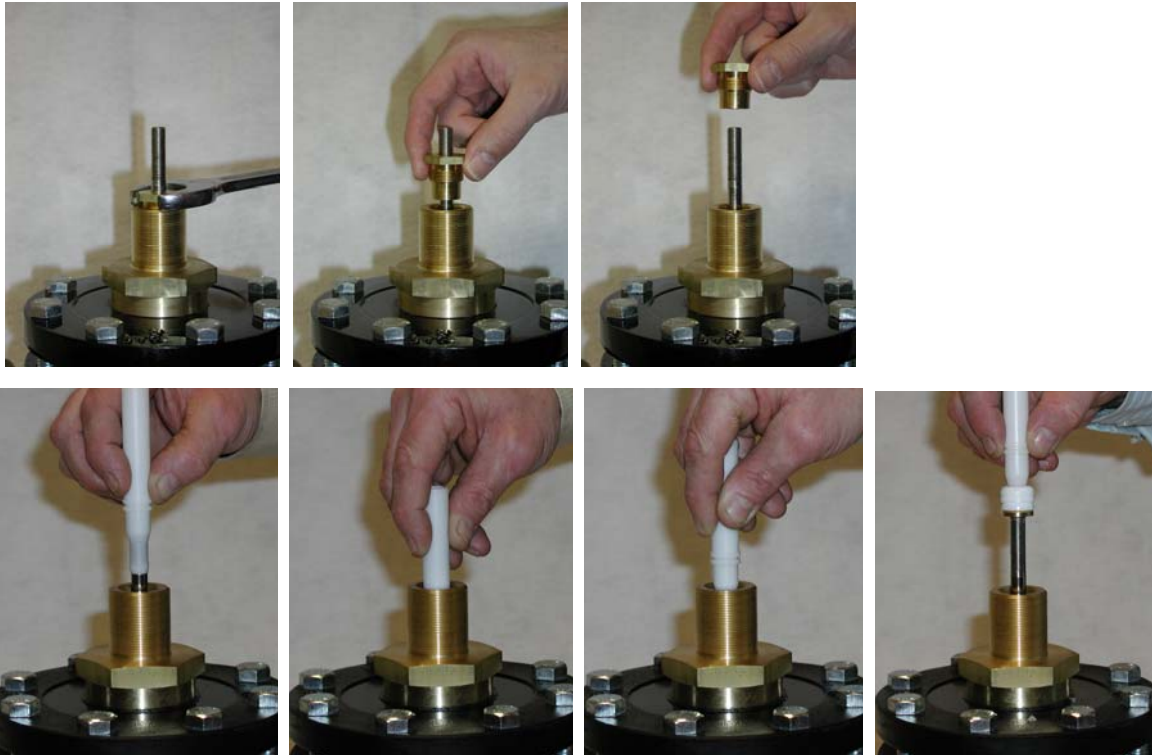


Step by step procedure for removal of existing v-ring or lip packing & installation of lip packing repack kit.

NOTE: Steps 2 – 4 only pertain to the removal of PTFE V-ring Packing.

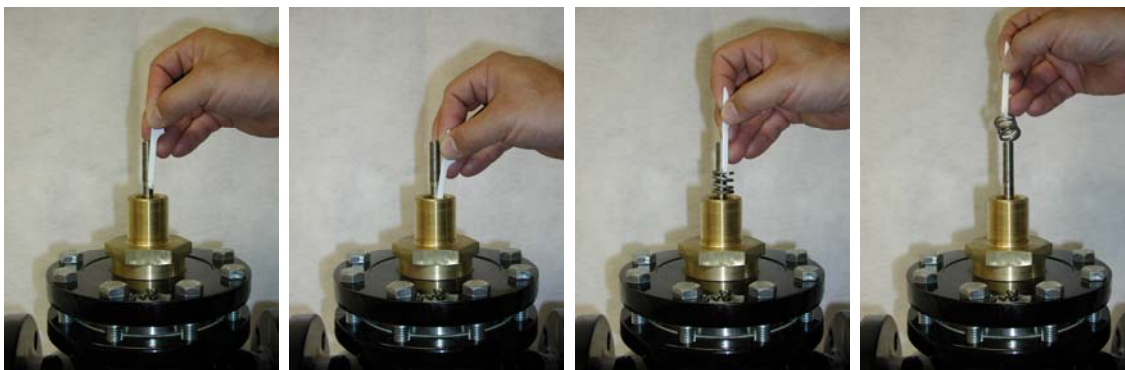
Step 2: Removal of V-ring Packing continued

Remove packing retainer and discard. Push valve stem into valve until plug contacts seat or bottom travel stop. Place extractor over valve stem, tapered end towards valve, and insert into bonnet until the extractor captures v-ring packing set and male adapter. *Tapping the extractor with a hammer is permissible to help capture the packing set and male adapter.* Extract and discard the extractor, packing set, and male adapter. Follow the series of photo-steps below.



Step 3: Removal of V-ring Packing continued

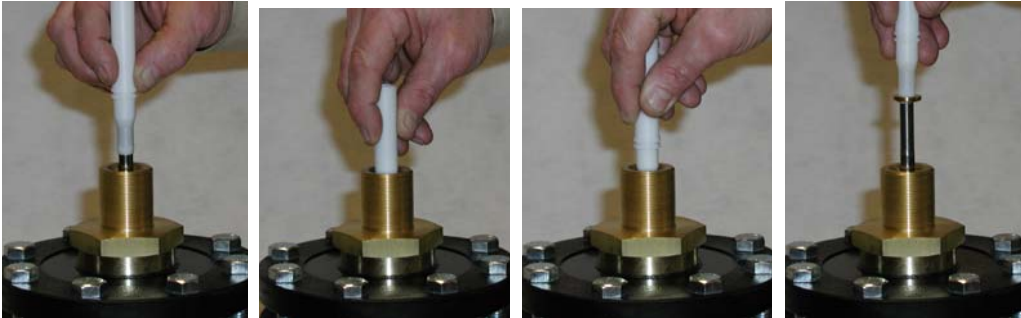
Insert packing spring removal tool into bonnet. Hook spring with tool. Extract and discard tool and spring. Follow the series of photo-steps below.



Step by step procedure for removal of existing v-ring or lip packing & installation of lip packing repack kit.

Step 4: Removal of V-ring Packing continued

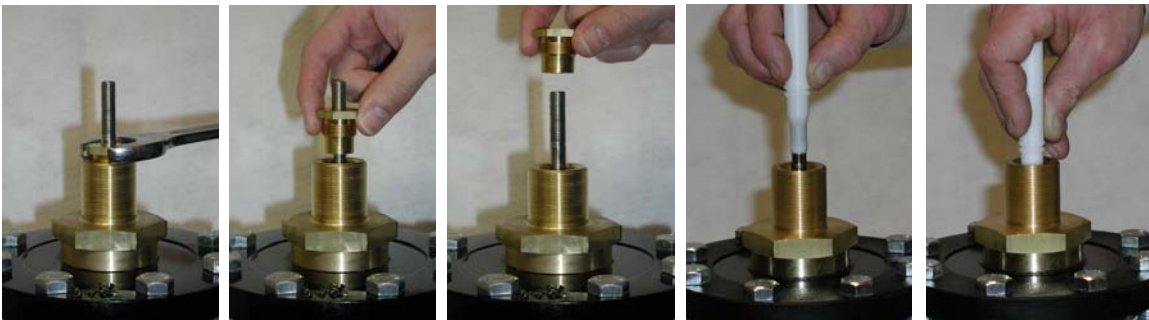
Place extractor over valve stem, tapered end towards valve, and insert into bonnet until the extractor captures o-ring retainer and o-ring. Extract and discard the extractor, o-ring retainer, and o-ring. Inspect condition of valve stem (See Inspection Note at bottom of page). Follow the series of photo-steps below.



NOTE: Step 5 is only relevant if the existing packing is lip style.

Step 5: Removal of Lip Packing

Remove packing retainer and discard. Push valve stem into valve until plug contacts seat or bottom travel stop. Place extractor over valve stem, tapered end towards valve, and insert into bonnet until the extractor captures the first piece of lip packing. *Tapping the extractor with a hammer is permissible to help capture the packing.* Extract and discard the packing. Follow the series of photo-steps below. Repeat steps with second piece of lip packing. Repeat steps with last piece of lip packing. Inspect condition of valve stem (See Inspection Note below).



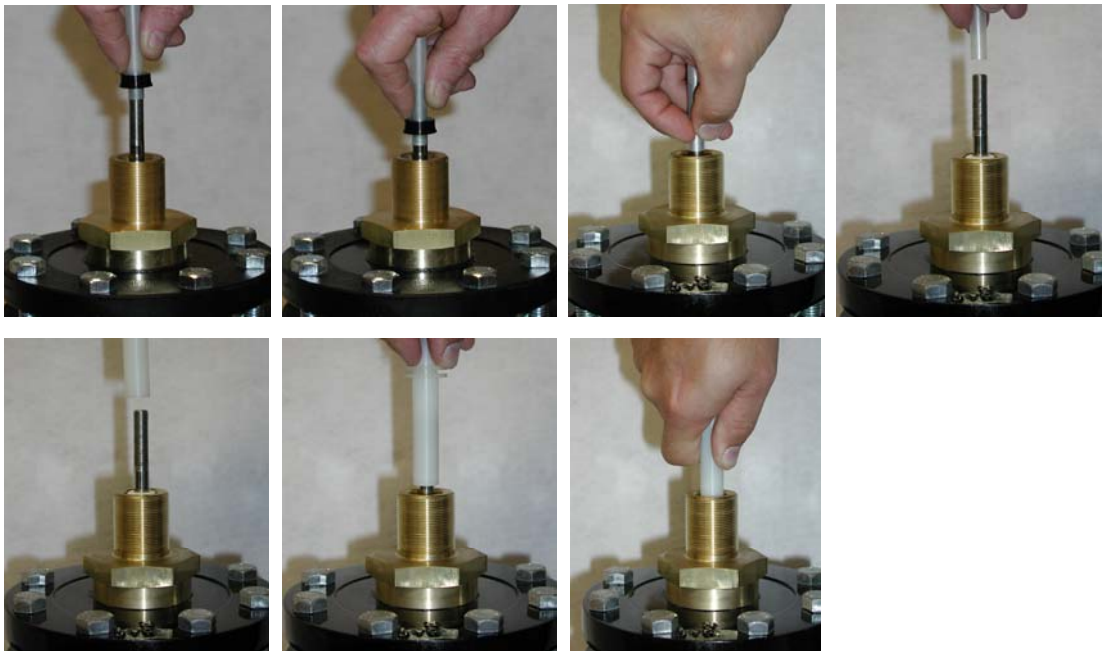
Inspection Note: *Important*, after removing the existing packing inspect the condition of the valve stem. The valve stem must be clean and free from deposits, scratches, or other damage prior to installation of new packing. If deposits are present clean the valve stem with red (fine) crocus cloth and a general purpose degreasing solvent. Cloths or pads containing ultra fine silicon carbide such as a Scotch-Brite Ultra Fine Hand Pad or Norton Bear-Text Clean & Finish Pad are also suitable for cleaning the valve stem. Clean the stem with a circumferential motion around its diameter **not** with a longitudinal motion along its length. *(It may necessary to disassemble the valve in order to clean and polish all of the stem that passes through the packing as the plug is stroked)*. If, after polishing the valve stem, you can still detect deposits, scratches, or other damage on the stem with your finger nail replace the valve stem and plug assembly. (See separate instructions for disassembly and assembly of valve).

Step by step procedure for removal of existing v-ring or lip packing & installation of lip packing repack kit.

NOTE: Hands, parts, and tools must be kept clean and free of dirt and other contaminants during installation of lip packing.

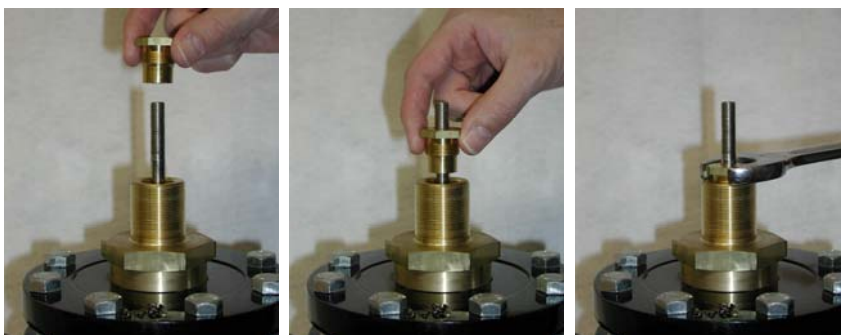
Step 6: Installation of Lip Packing

Push valve stem into valve until plug contacts seat or bottom travel stop. Lightly coat the valve stem and ID and OD of the 3 pieces of lip packing with stem lube. Insert stem sleeve into larger ID of first piece of lip packing. Sleeve must extend past both ends of packing. The sleeve protects the packing from being scored by the valve stem threads during assembly. With packing in proper orientation (See Lip Packing Bonnet Assembly drawing on page 1 of this instruction for proper packing orientation), place end of sleeve over valve stem to cover stem threads and press packing down off the sleeve and onto the unthreaded portion of the valve stem. Withdraw sleeve. Place extractor over valve stem, flat end towards valve, and insert into bonnet until the extractor pushes packing past the threads in ID of bonnet until packing bottoms out in packing gland. Follow the series of photo-steps below. Repeat steps with second piece of lip packing, watch orientation. Repeat steps with last piece of lip packing, watch orientation which is different than the first two pieces of packing.



Step 7: Installation of Lip Packing continued

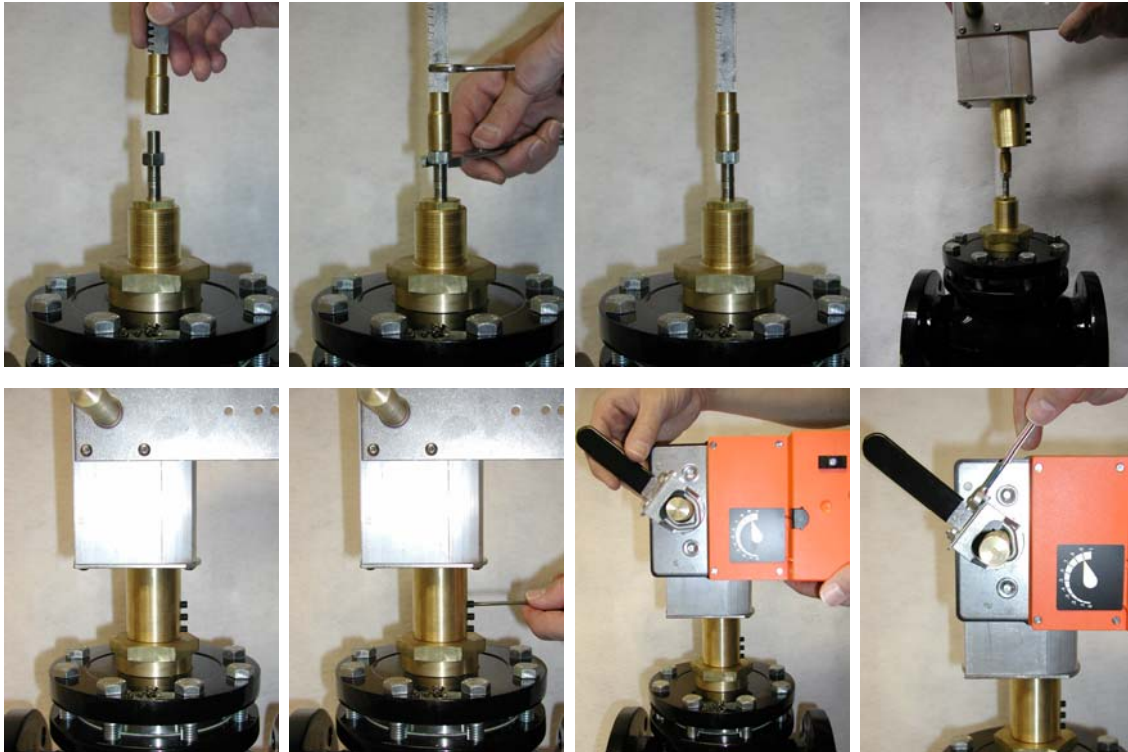
Place packing retainer over valve stem and insert into bonnet. *Be careful not to damage retainer bearing on valve stem threads.* Tighten packing retainer until it seats in bonnet. Follow the series of photo-steps below.



Step by step procedure for removal of existing v-ring or lip packing & installation of lip packing repack kit.

Step 8:

Install actuator. The valve stem should never be turned while the plug is in contact with the seat otherwise the seating surfaces will be damaged. The series of photo-steps below are for a typical actuator.



Return pressure to valve, return power and signal to actuator, check operation, and look for leaks. If packing leak is present replace the packing, this time being sure the valve stem is clean and free of longitudinal scratches.