



**Callaway**  
Energy Center

**MSM-ZZ-QV004**

**RUPTURE DISC REPLACEMENT FOR FWIV AND MSIV**

**MINOR Revision 002**

## RUPTURE DISC REPLACEMENT FOR FWIV AND MSIV

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## RUPTURE DISC REPLACEMENT FOR FWIV AND MSIV

### 1.0 PURPOSE

Provides information to replace the rupture disc on the Main Steam Isolation Valves (MSIV) and Feedwater isolation Valves (FWIV).

### 2.0 SCOPE

This procedure affects the following components:

Component	Director ID	Location	Description
ABPSE0001	ABPSE0001	AB-2042-RM1508	RUPTURE DISC FOR ABHV0011
ABPSE0002	ABPSE0002	AB-2042-RM1508	RUPTURE DISC FOR ABHV0014
ABPSE0003	ABPSE0003	AB-2042-RM1509	RUPTURE DISC FOR ABHV0017
ABPSE0004	ABPSE0004	AB-2042-RM1509	RUPTURE DISC FOR ABHV0020
AEPSE0001	AEPSE0001	AB-2026-RM-1411	RUPTURE DISC FOR AEFV0039
AEPSE0002	AEPSE0002	AB-2026-RM-1412	RUPTURE DISC FOR AEFV0040
AEPSE0003	AEPSE0003	AB-2026-RM-1412	RUPTURE DISC FOR AEFV0041
AEPSE0004	AEPSE0004	AB-2026-RM-1411	RUPTURE DISC FOR AEFV0042

### 3.0 ACCEPTANCE / FUNCTIONAL CRITERIA

Acceptance Criteria are contained within procedure steps and attachments.

### 4.0 RESPONSIBILITIES

Maintenance Mechanical Department is responsible for the content and designated performance of this procedure.

### 5.0 PRECAUTIONS AND LIMITATIONS

- 5.1. Establish FME 2 controls in accordance with APA-ZZ-00801. Specific FME requirements may need to be altered during the course of work based on the job and work area conditions.
- 5.2. ENSURE WPA placement to provide adequate isolation for the work.

- 5.3. Rupture disc replacement is NOT an ASME SECTION XI REPLACEMENT. IF any other work than described in the work instructions is required, ASME SECTION XI planning may be required.
- 5.4. Work Management Planning may add additional Notes and Precautions within the Job/Task.
- 5.5. Steps may proceed in any logical order to facilitate the work.

## 6.0 PREREQUISITES

### 6.1. Test Equipment

- Standard issue hand tools
- Torque wrench to 65ft/lbs
- Rupture disc, MIN 7634709
- Garlock 3000 safety related gasket material, 1/64<sup>th</sup> thick, MIN 6362836
- Never-Seez, MIN 6364092

### 6.2. Initial Conditions

- 6.2.1. System isolated or depressurized and drained prior to start of work.

**-END OF SECTION-**

## 7.0 PROCEDURE INSTRUCTIONS

### 7.1. Gasket Pre-Fabrication

\_\_\_\_\_/\_\_\_\_\_  
**QC INSPECTION POINT** OQCM Code M.1.2(B)  
Safety Related (Q) (Prior To Replacement/Installation)

\_\_\_\_\_/\_\_\_\_\_  
**QC INSPECTION POINT** OQCM Code M.1.4  
Fabrications/Machining of a part (Non Welded Items)  
(Q, FP, D+, and SBO) (After Fabrication)

7.1.1. PRE-FABRICATE two replacement gaskets from Safety Related Garlock 3000, 1/64 inch thick, gasket material. Gasket size 2-3/4" OD x 1-5/16" ID.

### 7.2. Rupture Disc Replacement

7.2.1. DISASSEMBLE companion flanges holding the rupture disc/holder assembly.

- a. INSTALL FME covers, remove and replace FME covers as required to complete the activity.
- b. DISASSEMBLE the holder by loosening the pre-assembly screws or by removing the pre-assembly cap screws on the holder outlet. Refer to Fig C.

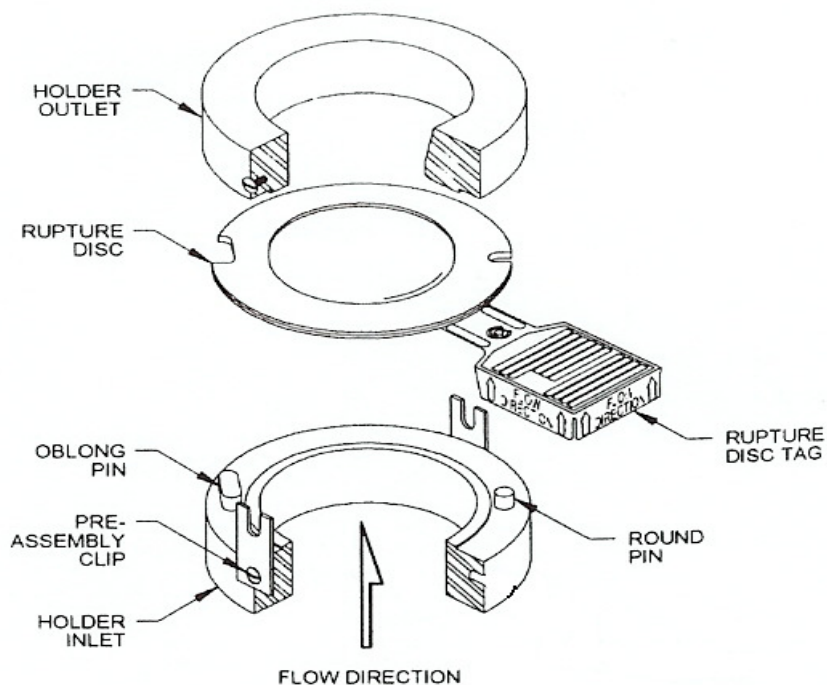


FIGURE C

\_\_\_\_/\_\_\_\_ **QC INSPECTION POINT** OQCM Code M.5.1  
Equipment General Inspection (Q) (Prior to reassembly)

\_\_\_\_/\_\_\_\_ **QC INSPECTION POINT** OQCM Code M.5.3(B)  
Internal Cleanliness (Q Equipment System Side) (Prior to reassembly)

- 7.2.2. CLEAN and INSPECT the seating surfaces and holder assembly. Use of solvents, steel wool, or fine emery cloth is permissible. Do NOT re-machine or use scraper or abrasives.
- a. REMOVE any adhered gasket material.
  - b. INSPECT the rupture disc sealing area for the following:
    - Nicks
    - Scratches
    - Pitting

**NOTE**

- This work document does NOT authorize the repair or replacement of any code parts. IF the repair or replacement of additional code parts is necessary, CONTACT planning to generate a ASME Section XI Repair/Replacement Plan to perform the repair or replacement needed.
- Replacing The Rupture Disc is exempt from the ASME Section XI Repair Replacement Program (Reference APA-ZZ-00662, Appendix A, ASME Section XI Replacement Program Mandatory Requirements).

\_\_\_\_/\_\_\_\_ **QC INSPECTION POINT** OQCM Code M.1.2(B)  
Safety Related (Q) (Prior To Replacement/Installation)

- 7.2.3. ASSEMBLE the rupture disc and holder as follows. Refer to Fig C.

**Step 7.2.3 Cont'd**

**CAUTION**

Do NOT install a shipping protector in a holder assembly.

- a. Carefully REMOVE and DISCARD any shipping protectors furnished with rupture disc.
- b. PLACE the holder inlet on a flat surface with the alignment pins pointing up.
- c. MATCH the notches in the rupture disc with the shape of the pins.
- d. PLACE the rupture disc over the pins with the dome side down.
- e. MATCH the holes in the holder outlet with the shape of the pins in the holder inlet.
- f. POSITION the holder outlet carefully onto the alignment pins as shown; ENSURE that the rupture disc is NOT damaged.
- g. FASTEN the assembly together by tightening the pre-assembly screws or by replacing and tightening the pre-assembly cap screws.

Step 7.2.3 Cont'd

h. Refer to Figure D for installation of the rupture disc assembly.

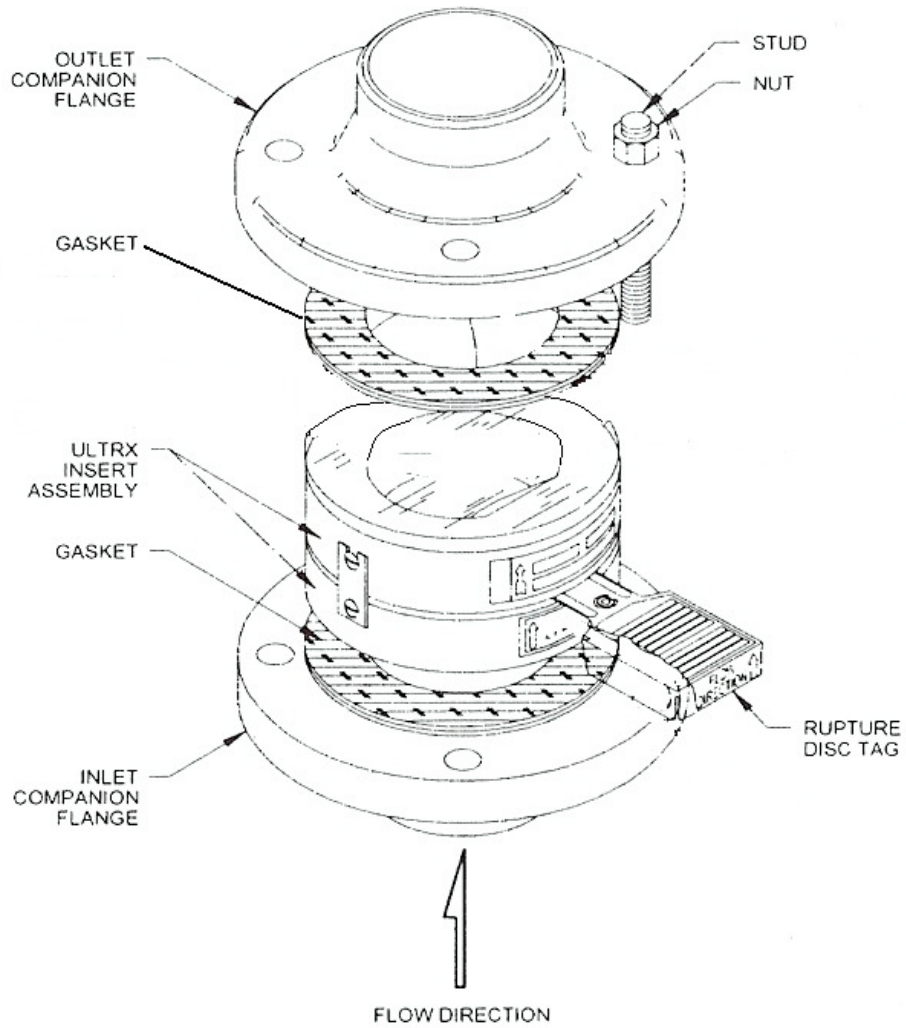


FIGURE D



**Step 7.2.3 Cont'd**

- i. Before placing the assembly into the system, ENSURE that the companion flange gasket surfaces are clean and free of all rust, corrosion and foreign material.

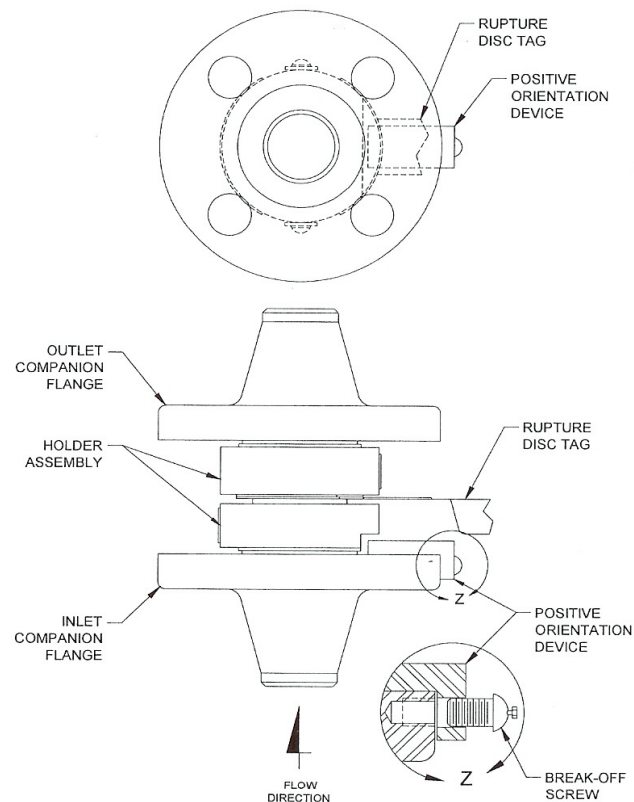
**NOTE**

A machined flat or J-hook is provided in the holder inlet to ENSURE correct installation of the assembly relative to flow direction.

**QC INSPECTION POINT** OQCM Code M.5.3(B)

Internal Cleanliness (Q Equipment System Side) (Prior to reassembly)

- j. INSTALL the rupture disc assembly and gaskets with all flow arrows pointing in the proper flow direction, and the positive orientation device is inserted into the machined flat on the holder inlet or J hook inserted into the drill companion flange.



**Step 7.2.3 Cont'd**

- k. Lightly LUBRICATE the flange bolting with Never-seez.

\_\_\_\_\_/\_\_\_\_\_  
 \_\_\_\_\_

**QC INSPECTION POINT** OQCM Code M.5.6(B)

Fastener Torque/Tightening (Q Equipment) (Prior to torque/tightening)

- l. Using a cross torquing pattern, TORQUE each nut with a calibrated torque wrench at 20% increments. Repeat 20% increments and cross torquing pattern until final torque of 65ft/lbs is achieved.
- m. REPEAT Final Torque of all nuts in rotational sequence at 65ft/lbs.

**8.0 RESTORATION**

- 8.1.1. NOTIFY Operations to perform In-Service Leak Check by separate job task. (This is to verify that no vacuum leaks at the rupture disc or the tail pipe exist as the Post Maintenance Test).
- 8.1.2. CLEAN the work area.

**9.0 REFERENCES**9.1. Implementing

- 9.1.1. M-630-00095, FWIV System Medium Actuator Layout Drawing
- 9.1.2. M-628-00094, MSIV System Medium Actuator Layout Drawing
- 9.1.3. APA-ZZ-00662, Appendix A, ASME Section XI Replacement Program Mandatory Requirements

9.2. Developmental

- 9.2.1. MP 00-1009A – FWIV Actuator Replacement
- 9.2.2. MP 00-1009B – MSIV Actuator Replacement
- 9.2.3. CAR 201107918, QC verification of safety related gaskets

9.3. Operating Experience

- 9.3.1. CARS 200002398, Indication That Blown Rupture Disk May Have Been Installed Backwards
- 9.3.2. CARS 200404773, AEFV0040 Rupture Disc Blown

**10.0 RECORDS**

Retain applicable portions of this procedure with the Job/Task.

**11.0 DEFINITIONS**

None

**12.0 SUMMARY OF CHANGES**

<b>Page(s)</b>	<b>Section or Step Number</b>	<b>Description</b>
5	7.1.1	Added QC point M.1.4.
10	9.2.3	Added new Reference.