

DESCRIPTION OF WORK AND VALIDATION PROCEDURE FOR WR2300 WAVEGUIDE SWITCHES (Ref: WORK REQUEST # 16364)

A. DESCRIPTION OF WORK TO BE PERFORMED

This work involves routine maintenance and visual inspection of the Building 420 WR2300 waveguide switches WGSW#1, WGSW#2, WGSW#3, and WGSW#4.

This work will include visual inspection of the waveguide interior of each switch for inspection of the rf contact surfaces critical to the isolation performance of the switches, and also visual inspection and routine maintenance of exterior mechanisms utilized to actuate the switch.

NOTE: This work will be performed during the 2004-2005 holiday shutdown, with all five 350MHz rf systems under MCR and individual LOTO.

For Waveguide Switch #1, this work will consist of the following discrete steps (see figure 1):

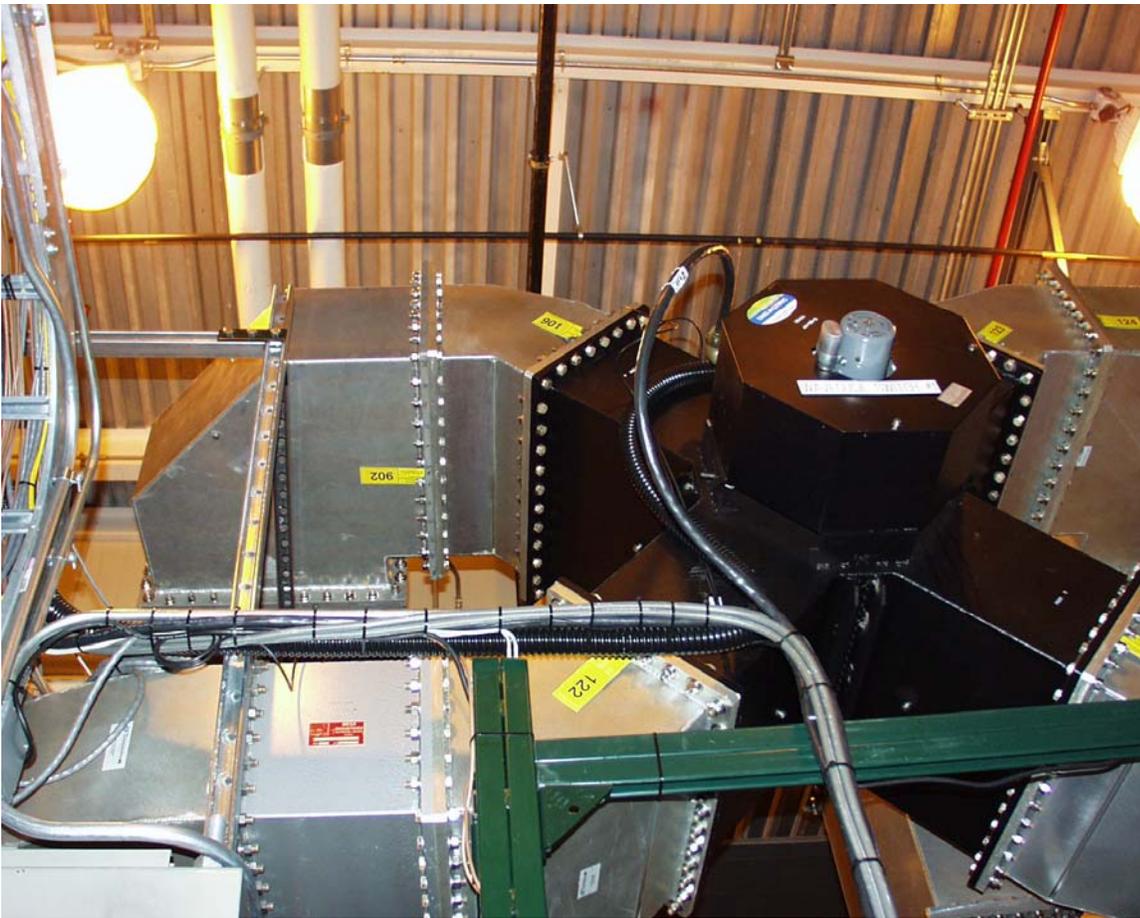


Figure #1 – Waveguide Switch #1

1. Open and LOTO the 120vac circuit breaker supplying power to the waveguide switch motor.
2. Remove 45°-miter waveguide section at flanges # 901 and # 902 on port #4 of the waveguide switch.
3. Using the Waveguide Switch manual actuation tool, rotate the switch vane to a position that will allow visual inspection of the rf contacts on the vane.
4. Re-install the 45°-miter waveguide section at flanges # 901 and # 902 on port #4 of the waveguide switch.
5. Perform visual inspection of the switch drive mechanism on both shutters and perform routine maintenance as necessary.

For Waveguide Switch #2, this work will consist of the following discrete steps (see figure 2):

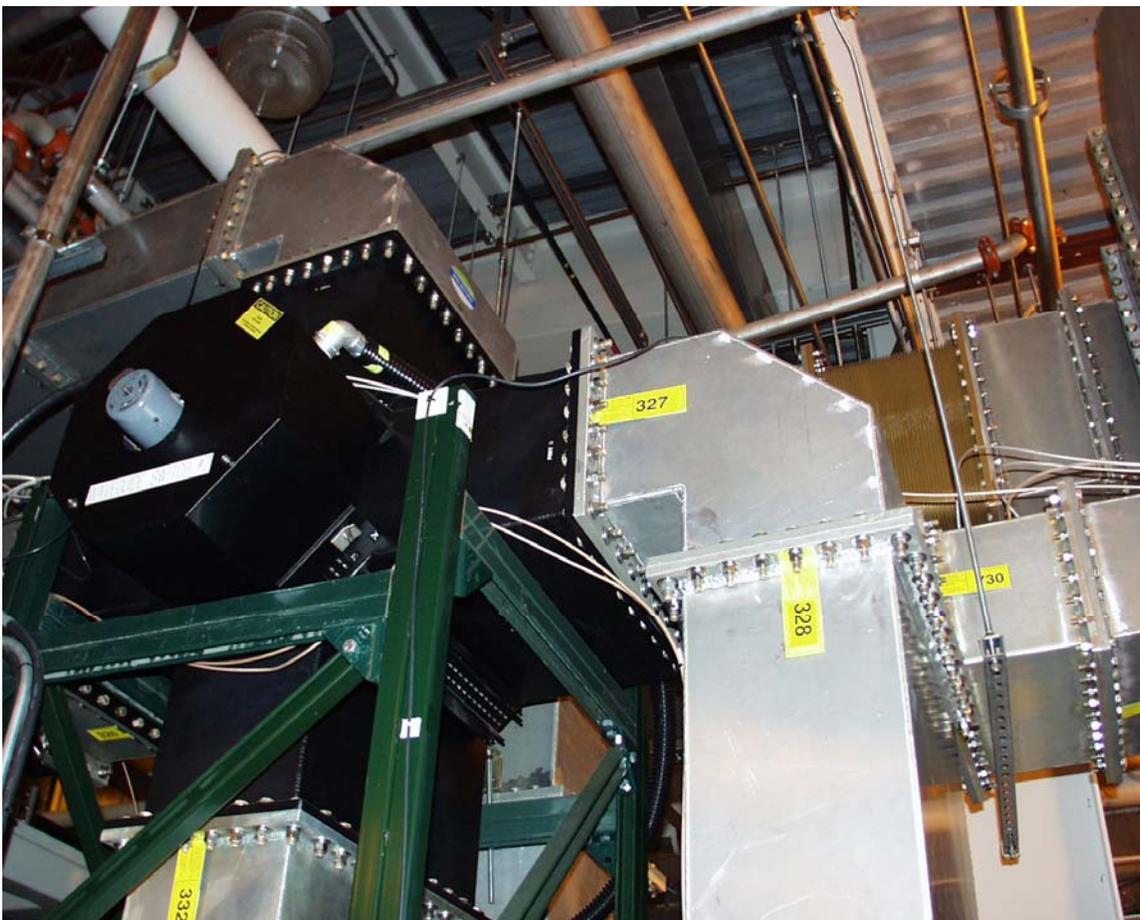


Figure #2 – Waveguide Switch #2

1. Open and LOTO the 120vac circuit breaker supplying power to the waveguide switch motor.

2. Remove 90°-miter waveguide section at flanges # 327 and # 328 on port #3 of the waveguide switch.

NOTE: Support must be provided to the RF2 Orphan Load waveguide run prior to removal of bolts from these flanges!

3. Using the Waveguide Switch manual actuation tool, rotate the switch vane to a position that will allow visual inspection of the rf contacts on the vane.
4. Re-install the 90°-miter waveguide section at flanges # 327 and # 328 on port #3 of the waveguide switch.
5. Perform visual inspection of the switch drive mechanism on both shutters and perform routine maintenance as necessary.

For Waveguide Switch #3, this work will consist of the following discrete steps (see figure 3):



Figure #3 – Waveguide Switch #3

1. Open and LOTO the 120vac circuit breaker supplying power to the waveguide switch motor.
2. Remove the 45°-miter and straight waveguide/shorting plate combination terminating port #3 of the waveguide switch.

NOTE: There are no flange numbers assigned to these waveguide flanges at this time. Numbers will be assigned to these flanges in time for verification of the system.

3. Using the Waveguide Switch manual actuation tool, rotate the switch vane to a position that will allow visual inspection of the rf contacts on the vane.
4. Re-install the 45°-miter and straight waveguide/shorting plate combination on port #3 of the waveguide switch.
5. Perform visual inspection of the switch drive mechanism on both shutters and perform routine maintenance as necessary.

For Waveguide Switch #4, this work will consist of the following discrete steps (see figure 4):

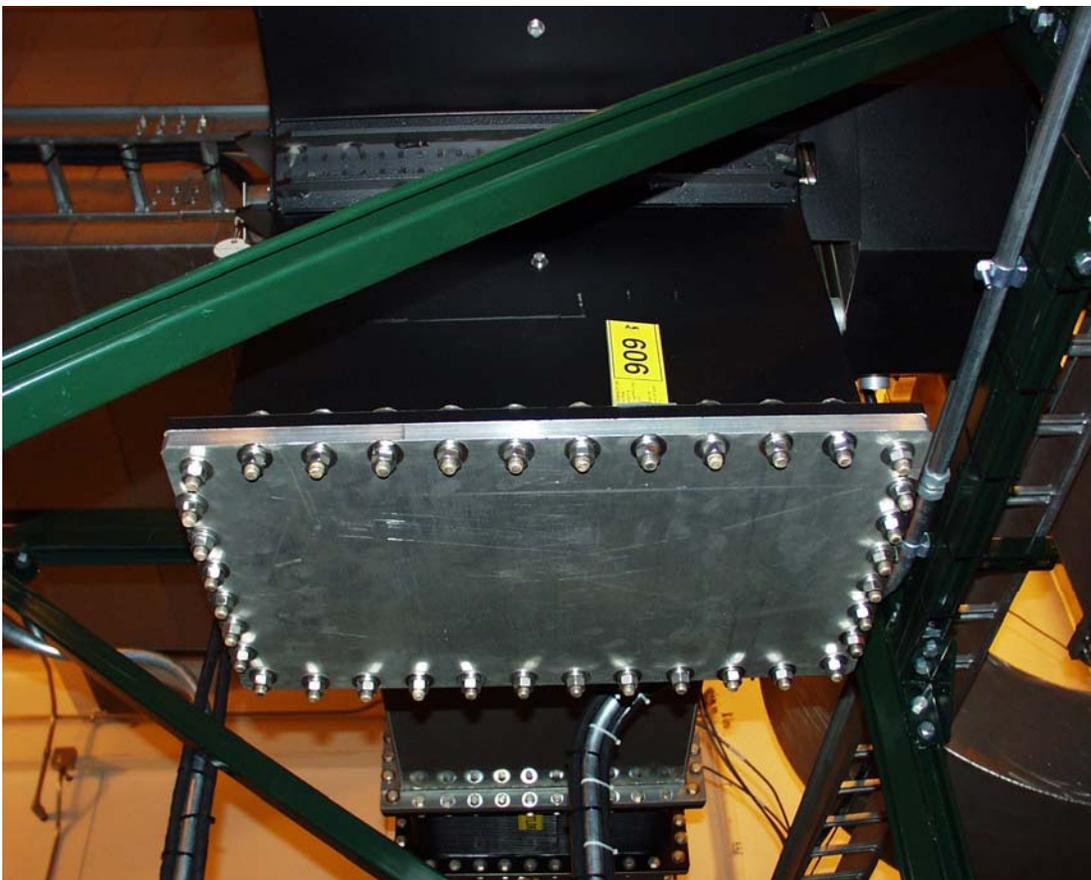


Figure #4 – Waveguide Switch #4

1. Open and LOTO the 120vac circuit breaker supplying power to the waveguide switch motor.
2. Remove the shorting plate at flange # 909 on port #3 of the waveguide switch.
3. Using the Waveguide Switch manual actuation tool, rotate the switch vane to a position that will allow visual inspection of the rf contacts on the vane.
4. Re-install the shorting plate at flange # 909 on port #3 of the waveguide switch.
5. Perform visual inspection of the switch drive mechanism on both shutters and perform routine maintenance as necessary.

B. DESCRIPTION OF VALIDATION AFTER WORK IS PERFORMED

After visual inspection of all waveguide switches and re-assembly of all tampered waveguide, the following steps will be completed to insure that all of the waveguide switches are returned to normal operation conditions and are fully functional:

1. Waveguide bolts on flanges # 901 and # 902 on port #4 of Waveguide Switch #1 will be torqued to 35 ft-lbs, witnessed and independently verified by a second person. *Document this torquing procedure in the on-line waveguide flange log at the time it is completed.*
2. Waveguide bolts on flanges # 327 and # 328 on port #3 of Waveguide Switch #2 will be torqued to 35 ft-lbs, witnessed and independently verified by a second person. *Document this torquing procedure in the on-line waveguide flange log at the time it is completed.*
3. Waveguide bolts on all flanges immediately adjacent to port #3 of Waveguide Switch #3 will be torqued to 35 ft-lbs, witnessed and independently verified by a second person. *Document this torquing procedure in the on-line waveguide flange log at the time it is completed.*
4. Waveguide bolts on flange # 909 on port #3 of Waveguide Switch #4 will be torqued to 35 ft-lbs, witnessed and independently verified by a second person. *Document this torquing procedure in the on-line waveguide flange log at the time it is completed.*
5. When rf system operation is resumed, all of the above waveguide flanges will be sniffed for rf leakage while operating at approximately 10kW rf power. *Document this sniffing procedure in the on-line waveguide flange log at the time it is completed.*

Work Approval Signatures

Prepared by:

_____ Date: _____

RF Group Leader:

_____ Date: _____

ASD Associate Division Director:

_____ Date: _____

ESH Coordinator:

_____ Date: _____