PREVENTIVE MAINTENANCE REPORT
MODEL 2000 AUTOMATIC TRANSFER SWITCH (ATS/RTB)

JOB NAME:

JOB LOCATION:

JOB NUMBER: _____ SERIAL NO.:

VOLTAGE: _____ AMPERES: _____ ___Ø ___W

1. Check equipment service records for previous problems.

   REMARKS:

2. Record the following serial numbers/revisions off of the components:

   Processor #_____ Processor Firmware Revision #

   Normal Attenuator Board #_____

   Emergency Attenuator Board #

   Microprocessor Power Supply and Motor Control Board #

3. Interior Wiring and Components:

   a. Visual inspection of all wiring and connections for signs of tracking, overheating, and insulation deterioration.

   b. Check and tighten, where necessary, all control circuit wiring terminals.

   c. Check and tighten, where necessary, all plug-in connectors.

   d. Check manual switches and relays for contact continuity.

   e. Check all common and ground wires. Measure and record resistance to ground readings. ____ Ohms

   f. Check lug connections and mounting hardware.

4. Mechanical Checks:

   The following inspection can only be done when the ATS has all power removed from the switch (complete shutdown):

   a. Tighten all bus connections (Normal, Emergency & Load).

   b. Inspect Main Contacts.

c. Inspect Arcing Contacts.

d. Check length of Linkage.

e. Check Motor mounting hardware.

f. Check Heim Joints.

g. Check Interlock Rod.

h. Check Handle Bracket for free movement.

i. Lubricate all necessary mechanical parts. ____

5. Verify the operation of the following LED indicators (which are located on the front of the controller):

CPU Running.

ATS in Normal Position.

ATS in Emergency Position.

6. Verify the operation of the following status LED's (which are located on the right side of the controller):

(TSN) Normal Position Indicator.

(NPA) Normal Power Available.

(TTN) Transfer to Normal (TD2, TDBT, TNTD timing).

(ESR) Engine Start Relay Status (TD1 and AUT timing).

(TSE) Emergency Position Indicator.

(EPA) Emergency Power Available.

(TTE) Transfer to Emergency (TD3, TDBT, TETD timing).

(BTR/LSR) Block Transfer and Load Shed Status.

7. Parameter Setup:

Check all time delay settings in the Timer Setup menu:

TD1_____ TD2_____ TD3

AUT_____ TDBT_____ TDMI

TETD_____ TNTD_____ OTHERS

_____ _____ _____

8. Check and record Normal and Emergency Source Voltages:

Normal Voltage:

A-B _____ B-C _____ C-A _____ Rotation _____

A-N _____ B-N _____ C-N

Emergency Voltage:

A-B _____ B-C _____ C-A _____ Rotation _____ Hz

A-N _____ B-N _____ C-N

Engine Battery _____ VDC

9. Verify the following functions:

Engine Start Signal. ____

Transfer to Emergency. ____

Transfer to Normal. ____

Load Test. ____

Miscellaneous Functions (review accessory sheet and list/test additional functions below):

_____ ____

_____ ____

_____ ____

_____ ____

_____ ____

10. Infrared Test:

With an ambient rise infrared heat scanner or tracker check for ambient rise on energized main contacts, buswork and cable lugs (preferably at full load conditions).

Pass _____ Fail _____

11. Enclosure

a. Wipe down and touch up minor exterior scratches.

b. Clean interior of enclosure and remove accumulated dust and/or dirt.

c. Check door closure, locking bars, and mechanism for proper operation.

12. Miscellaneous (ATS Section)

a. Note any corrective actions taken.

b. Report unsafe conditions.

c. Report recommendations for replacement of major components.

RTB CHECKOUT (Bypass and Isolation type ATS only)

(write N/A on the check off line if **not** an "RTB")

13. Interior Wiring and Components:

a. Visual inspection of all wiring and connections for signs of tracking, overheating, and insulation deterioration.

b. Check and tighten, where necessary, all control circuit wiring terminals.

c. Check manual switches and relays for contact continuity.

d. Check all common and ground wires. Measure and record resistance to ground readings. _____ Ohms

e. Check lug connections and mounting hardware.

14. Infrared Test:

With an ambient rise infrared heat scanner or tracker check for ambient rise on energized main contacts, buswork and cable lugs (preferably at full load conditions).

Pass _____ Fail _____

15. Mechanical Checks:

The following inspection can only be done when the ATS has all power removed from the switch (complete shutdown):

a. Check all mounting hardware.

b. Tighten all bus connections (Normal, Emergency & Load).

c. Inspect Auxiliary Contacts.(clean & burnish where necessary)

d. Inspect Main Contacts.(clean & burnish where necessary)

e. Check operation of Bypass handle.

f. Check operation of Isolation handle. ____

g. Check Heim Joints.

h. Lubricate all necessary mechanical parts. ____

16. Verify the following Functions/Lights:

Verify Amber light (LT1) is operational (normal power available).

Verify Bypass to Normal operation. ____

Verify Green light (LT3) is constant when load is bypassed to normal.

Verify Isolation of the "ATS" when load bypassed to normal.

Verify Green light (LT3) is flashing when load is bypassed to normal and the switch is isolated.

Verify Amber light (LT2) is operational (emergency power available).

Verify Bypass to Emergency operation. ____

Verify Red light (LT4) is constant when load is bypassed to emergency.

Verify Isolation of the "ATS" when load bypassed to emergency.

Verify Red light (LT4) is flashing when load is bypassed to emergency and the switch is isolated. ____

17. Miscellaneous (RTB Section)

a. Note any corrective actions taken.

b. Report unsafe conditions.

c. Report recommendations for replacement of major components.

Date Service Performed: _____ Service Engineer:

Attachment #2

PREVENTIVE MAINTENANCE REPORT FOR SCHEDULE NO. EDS-43A
DISTRIBUTION CIRCUIT BREAKERS

JOB NAME:

JOB LOCATION:

JOB NO.: _____ CUBICLE:

Distribution Circuit Breaker #

FRAME SIZE: _____ SENSOR:

CATALOG #_____ SERIAL #

a. Remove drawout breaker, clean and lubricate mechanism.

b. Check all interlocks and auxiliary contacts.

c. Check condition of main and arcing contacts.

d. Clean and lubricate operating mechanism.

e. Check breaker overcurrent trip settings for correct values.

f. Clean interior and exterior of breaker cubicle.

g. Replace breaker and check electrical and manual close and trip operation.

h. Note any unsafe condition, corrective actions, or recommendations if any. None

Distribution Circuit Breaker #

FRAME SIZE: _____ SENSOR:

CATALOG #_____ SERIAL #

a. Remove drawout breaker, clean and lubricate mechanism.

b. Check all interlocks and auxiliary contacts.

c. Check condition of main and arcing contacts.

d. Clean and lubricate operating mechanism.

e. Check breaker overcurrent trip settings for correct values.

f. Clean interior and exterior of breaker cubicle.

g. Replace breaker and check electrical and manual close and trip operation.

h. Note any unsafe condition, corrective actions, or recommendations if any. None

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Date Service Performed: _____ Service Engineer:

Attachment #3

PREVENTIVE MAINTENANCE REPORT FOR SCHEDULE NO. EDS-43A
GENERATOR CUBICLE

JOB NAME:

JOB LOCATION:

JOB NO.: CUBICLE: GEN. NO.:

VOLTAGE: KW: Ø W

1. Check equipment service records for previous problems.

2. Interior Wiring and Components:

   a. Visual inspection of all wiring and connections for signs of tracking, overheating, and insulation deterioration.

   b. Check and tighten, where necessary, all control wiring terminals.

   c. Check switches for free movement and contact continuity.

   d. Check all time delay settings.

   e. Check, clean, and adjust where necessary, relay finger contacts.

   f. Check common and ground wires. Measure resistance. Ohms

   g. Check operation and contacts of all plug-in relays.

   h. Inspect metering and control transformers.

   i. Check all fuses for correct size.

3. Generator Circuit Breakers Catalog # _____
   Serial # _____

   a. Remove drawout breakers.

   b. Clean and lubricate drawout mechanism.

   c. Check all interlocks and auxiliary contacts.

   d. Check condition of main and arcing contacts.

   e. Clean and lubricate operating mechanism.

   f. Check breaker overcurrent trip setting for correct values.

   g. Clean interior of breaker cubicle.

   h. Replace breakers and check close an trip operation.

4. Indicators and Instruments

   a. Check all pilot indicating lights.

   b. Check all pre-alarm and shutdown failures.

   c. Check accuracy of meters and instruments.

   d. Reverse power relay settings. pick-up @ time.

5. System Testing

   a. Bring engine on line and check for proper operation of governor and voltage regulator system.

   b. Check operation of dead bus circuits.

   c. Check operation of automatic synchronizers.

   d. Check manual synchronizing circuit.

   e. Review operation with maintenance personnel.

6. Enclosure

   a. Wipe down and clean exterior of cubicle.

   b. Clean interior of accumulated dirt and dust.

   c. Check operation of door locking mechanisms.

7. Readings
   Voltage

   A to B A to N
   B to C B to N
   A to C C to N Frequency HZ.

8. Miscellaneous

   a. Note any corrective actions taken.

   b. Report unsafe condition.

   c. Report recommendations for replacement of major components.

Date Service Performed: Service Engineer:

Attachment #4

PREVENTIVE MAINTENANCE REPORT FOR SCHEDULE NO. EDS-43A
MASTER CUBICLE

JOB NAME:

JOB LOCATION:

JOB NO.: SERIAL NO.:

VOLTAGE:

1. Check equipment service records for previous problems.

2. Interior Wiring and Components:

   a. Visual inspection of all wiring and connections for signs of tracking, overheating, and insulation deterioration.

   b. Check and tighten, where necessary, all circuit wiring terminals.

   c. Inspect metering and control transformers.

   d. Check manual switches for free movement and contact continuity.

   e. Check all time delay settings.

   f. Check all relays for pick-up, drop-out and contact continuity.

   g. Check tightness of all bus connections.

   h. Check all customer connections for proper interconnects.

3. Indicators and Instruments

   a. Check all pilot indicating lights.

   b. Check audio annunciating device.

   c. Check accuracy of metering devices.

   d. Check and record settings of emergency bus voltage/frequency sensing device.

   Overvolt: Undervolt: Overfreq. Underfreq.

4. System Testing

   a. Bring all engines on line and check for proper operation of governor and voltage regulator.

   b. Check manual dead bus circuitry and operation.

   c. Check manual engine synchronizing operation.

   d. Check automatic dead bus circuitry and operation.

e. Check automatic engine synchronizing operation.

f. Check for complete operation of the control system including all special circuitry.

5. Enclosure

a. Wipe down and touch up exterior of cubicle.

b. Clean interior of switchboard of accumulated dust and/or dirt.

c. Check operation of door locking bars and mechanism.

6. Miscellaneous

a. Record findings of the inspection. Note corrective action taken.

b. Report unsafe conditions.

c. Report recommendations for replacement of major components.

Date Service Performed: Service Engineer: