TROUBLE-SHOOTING COMBUSTION AIR DAMPER - With *TEST/RUN SWITCH* - SERIES 'HOM' -

General: The damper uses power to close when the appliance is not firing and cuts the damper power when the appliance is firing. This prevents overloading the appliance transformer.

Two wires from the damper motor are connected to the appliance transformer and two wires from the damper relay are connected in series with the controlled thermostat / (aqua-stat) wire.

A. Condition: **Damper does not close** after appliance completes its firing cycle.

Cause: Indicates **1**) **Test/Run** switch is **not** in the **'up'** position or **2**) a **faulty relay** or **3**) **no power** supply or **4**) a **faulty motor**.

Procedure: **1**) Check Test/Run switch to be in the 'up' position. If no response, **2**) remove control body cover and use a jumper between terminals 3 & 4. If damper closes – faulty relay is indicated. If no response, **3**) check power supply to terminals 3 & 5. If OK then **4**) Connect power supply to terminals 4 & 5. No response indicates a faulty motor.

B. Condition: **Damper does not open** when the thermostat (aqua- stat) asks for heat.

Cause: This indicates **1**) **signal is not getting through** from the stat to the relay or **2**) **damper is stuck** closed or **3**) **mechanical friction** with protective screen, with motor rotor spring or motor gears.

Procedure: **1a**) Check in-line fuse (if used) between stat wire and damper black wire #1. **1b)** Remove cover and with a jumper wire join terminals 1 & 5. If damper opens, a faulty stat is suspected. **1c)** Turn Test/Run switch to the 'down' position and if appliance does not fire, a faulty stat is confirmed. **2)** If the damper has not been activated for a period of time, (e.g. summer months) the damper might stick closed due to residue. Clean the damper blade with soap and water. **3)** Check the mechanical operation of the blade against the screen and also special attention to a possible broken spring in the motor rotor. Remove broken spring with long nose pliers. The damper will continue to operate normally without the broken spring.
3) Motor gears wear with age causing increased friction which prevents the damper from opening freely. Replace motor.

Condition: **Damper opens** on stat signal but **appliance does not fire.**

Cause: This indicates: **1**) **appliance faulty** or **2**) **improper linkage** to the end switch or **3**) a **faulty end switch**.

Procedure: **1**) The combustion Air Damper is interlocked with the heating appliance control system. This feature is by-passed by using the TEST/RUN switch in the down position. This re-connects the stat wire direct to 'W' (TH) on the appliance. If heating appliance does not fire with this switch in the down position, a faulty heating system is suspected. If appliance responds, **2**) Check end switch linkage by listening for a 'click' as the damper blade opens to approximately 30 degrees. To correct, bend switch lever arm to suit. **3**) If linkage is correct, a faulty end switch is suspected.

DAMPER CONTROL with **TEST/RUN Switch:** This feature makes is possible to control the damper to the open position should extra ventilation be desired for a period of time. The damper, however, shall **open** and **remain open** while the TEST/RUN switch is in the down position.

***IN-LINE FUSE HOLDER AND FUSE:**
Part number **#3152-001** includes 3 amp fuse. Not supplied with damper. May be ordered direct from the factory.

For more information, please contact
HMI **HOYME Manufacturing Inc.**
@ 1-800-661-7382, or www.hoyme.com

TROUBLE-SHOOTING COMBUSTION AIR DAMPER - *FUSE TYPE* SERIES 'HOM' -

General: The damper uses power to close when the appliance is not firing. This prevents overloading the appliance transformer when the appliance is firing.

Two wires from the damper motor are connected to the appliance transformer and two wires from the damper relay are connected in series with the controlled stat wire. NOTE THAT THE FUSE IS PART OF THE THERMOSTAT CIRCUIT ONLY AND NOT PART OF MOTOR CIRCUIT. WITHOUT THE FUSE, THEREFORE, THE DAMPER WILL CLOSE.

Condition: ***Damper does not close*** *after furnace completes its firing cycle.*

Cause: Indicates a 1) ***faulty relay*** or 2) ***no power supply*** or 3) a ***faulty motor.***

Procedure: Remove control body cover and use a jumper between terminals 3 & 4. If damper closes – faulty relay is indicated. Then if there no response, check power supply to terminals 3 & 5 or connect power supply to terminals 4 & 5. No response indicates a faulty motor.

Condition: ***Damper does not open*** *when the thermostat (aqua-stat) asks for heat.*

Cause: This indicates 1) ***signal is not getting through*** *from the thermostat via the fuse to the relay* or 2) ***damper is stuck closed*** *or 3)* ***mechanical friction*** *with the motor rotor spring or the motor gears.*

Procedure: Remove control body cover and with jumper, **1a)** join terminals 1 & 5. If damper opens, a faulty thermostat is suspected. **1b)** Jumper 1 to 2. If furnace does not fire, - a faulty thermostat is confirmed. **1c)** If joining 1 & 5 damper does not open, a faulty fuse is suspected especially if relay does not click. **2a)** If the damper has not been activated for a period of time, (e.g. summer months) the damper might stick closed due to residue. Clean the damper blade with soap and water. **3a)** Check the mechanical operation with special attention to a possible broken spring in the motor rotor. If faulty, the broken spring is easily removed with long nose pliers. The damper will continue to operate normally without the broken spring. **3b)** Motor gears wear with age causing increased friction which prevents the damper from fully opening. Replace motor.

Condition: ***Damper opens*** *on thermostat signal but* ***furnace does not fire****.*

Cause: This indicates a 1) ***faulty furnace***, 2) ***improper linkage*** *to end switch* or a 3) ***faulty end switch****.*

Procedure: Remove control body cover and use a jumper between terminals 1 & 2. No response indicates a faulty furnace system. If furnace responds, a) check end switch linkage by listening for a click as the damper blade opens to approximately 30 degrees. Bend end switch lever arm to satisfy. b) if furnace responds when connecting terminals 1 & 2 and linkage is OK, a faulty end switch is suspected.