



CONTROL DAMPERS

INSTALLATION INSTRUCTIONS

GENERAL

Upon receipt of the damper(s) at the site, inspect all items; note on Bill of Lading. Unpack all dampers carefully. Immediately note any damage and inform your representative. Do not install; it is easier to repair a damper on the floor than up in the duct.

Do not stack dampers on each other or allow debris to fall on them. Avoid re-handling if possible; install each unit as soon as possible after unpacking.

DAMPER INSTALLATION

Prior to installing the damper, inspect the ductwork and surrounding area for any obstructions that might interfere with the linkage, blade rotation or actuator mounting. Care must be taken not to drop, drab, crush, or apply excessive bending, twisting, racking or skewing loads upon the damper frame, blades, linkage or accessories. Never use a chain or hook inside the damper frame for lifting, as this could damage blades, seals or frame.

- 1.) We recommend lubricating moving parts with dry graphite.
- 2.) Manual dampers should be run through a full open to full-close cycle by hand to insure proper oration of the damper.
- 3.) Motorized dampers should be checked by a preliminary attempt to operate with the motor. If binding occurs, disconnect one end of the driving linkage (and note its exact position before-hand) to operate damper manually and check per above. Reconnect linkage and check again.
- 4.) If an externally mounted operator is being utilized, a 1" diameter hole must be drilled in the duct to accommodate the operator. Locate drive blade axle. Measure from bottom of damper to center of drive blade axle. Transfer this to wall of duct and drill 1" diameter hole.
- 5.) Lift panels into duct (or opening) by its frame, not by any blade or hardware. Final position must be square, straight, plumb, and without twist.
- 6.) Due to shipping and handling, dampers may arrive at the site slightly racked or twisted. Dampers are to be squared and not twisted prior to installation into square duct or sleeves.
- 7.) Damper should be shimmed in the opening to prevent distortion of the frame by the fasteners holding it in place. Dampers with seals should be caulked to prevent leakage between the frame and duct.
- 8.) Check the damper for free operation.
- 9.) Multiple-panel dampers will be tagged for ease of assembly.

OPERATORS

- 1.) An extended shaft kit (control dampers) is supplied if no operator is specified.
- 2.) Reference specific installation instructions supplied with damper operator for motorized dampers.
- 3.) Multi-panel dampers with jackshafting: (Diagram listed on Online Pricing Application Home Page)

MAINTENANCE

In general this unit must be kept clean and free from foreign matter that may impede normal movement and seating of blades and seals (if applicable). A cleaning schedule should be established and is entirely dependent upon the environment into which the damper is placed. The damper is basically maintenance free with the above exception and regular lubrication and seal inspection as indicated below:

Bearings and Linkage Pivots: Lubricate with dry graphite as required to provide free movement..



CONTROL DAMPER MAINTENANCE GUIDELINES

Damper Maintenance - General

Dampers require proper maintenance. Blades and linkages and damper motor shafts should be periodically cleaned. Lightly lubricate with Moli-Spray Oil #3 applied to all brass fittings and any movable linkages, shafts or other moving parts. We find that this is the best lubricant for damper mechanisms. It is a molybdenum disulfide suspension in an extreme pressure oil carrier. It is furnished in aerosol cans with jet nozzles which permit pinpointing the stream of lubricant where required. It contains an evaporating solvent and dries to a non-oily film, which will therefore not attract dirt.

NOTE: 1. Never use regular lubricating oil on dampers as it will attract dirt and grit, creating additional problems.

2. Moli-Spray Oil #3 is also an excellent rust preventative for hand tools, etc.

If any time blade edge seals require replacing, old seals may be easily removed and new self-adhesive type seals applied. This may readily be done in the field. The metal surface must be thoroughly cleaned and all traces of dirt or oily film removed prior to applying new seals.

In order to get to some dampers, it may be necessary to cut an access door in the duct large enough to work through. It is obviously impossible to check or maintain dampers or controls that cannot be seen or reached. Unfortunately, however this condition exists in many buildings.

The multiple blade damper, while a simple control device, requires periodic attention to assure that it functions properly. Malfunction can lead to improper control of space temperatures and inadequate ventilation.

Most of the difficulties experienced on older damper installations may be traced to:

1. Misalignment of frame, blades, shafts or interconnecting linkage.
2. Racking or distortion of frames.
3. Insufficient drive motor power or pilot positioning pneumatic relay incorrectly set.
4. Inadequate sealing.



5. Inadequate cleaning and lubrication.
6. Excessive wear or grooving of linkage pivots.
7. Longer daily running time.
8. Lack of periodic inspection and maintenance.

The newer, improved dampers now available provide:

1. Heavier duty frames assuring proper blade and shaft bearings alignment.
2. High-quality sintered bronze oil impregnated bearings; also lexan and Teflon bearings.
3. Heavy duty Link-ball damper linkage hardware.
4. Vinyl or rubber blade edge seals.
5. Vinyl or stainless steel spring strip blade side seals.

These features can be incorporated into existing damper installations. This is discussed in detail in the maintenance section of this manual – **Part III**

Periodic Damper Inspection and Maintenance

All automatic dampers should be checked and serviced on a regular schedule. Recommended interval is every 6 months. This period may be adjusted as required based on the age of the system and local atmospheric conditions. The following time schedules and check list (pg. 12) are suggested.

The operating staff should prepare and enforce adherence to this schedule of planned maintenance. For good results all operating parts of the control system must move in their proper relationship. It is important to lubricate the damper linkage and maintain it in proper adjustment.



Semi-Annually

1. All automatic dampers should be checked for freedom of movement and the Trunion bearings, shafts, etc. cleaned and lubricated with Moli-Spray Oil #3. Surplus film should be wiped off.
2. Blades should be checked in closed position to be sure that they all close *tightly*. Adjustments should be made to the linkage in order to close any open blades.
3. Damper motors should be observed through an operating cycle to check for defects or binding. Damper motor anchorage should also be checked.
Damaged blades should be repaired or replaced. Dirt, soot, lint, etc. should not be permitted to accumulate on blades, as this will increase resistance, weight and present an unsightly appearance.
Caulking that was used to make damper frames tight to structure should be checked and repaired as needed.