1-800-214-7716
www.midwestair.com

INSTALLATION
OPERATION
MAINTENANCE

Single Width Exhaust Fans

DO NOT STORE GRAY PVC FANS IN DIRECT SUNLIGHT

PO Box 5319
281 Hughes Drive
Traverse City, MI 49686

Ph:231-941-5865
Fax: 231-941-1636
mapco@midwestair.com

JOB NO: _____

CUSTOMER: _____

APPLICATION: _____

MIDWEST AIR PRODUCTS CO., INC.
TRAVERSE CITY, MI

INDEX

CAUTION

This equipment can cause serious bodily injury and/or property damage. Responsible personnel must be assigned to the Installation, Operation and Maintenance of this equipment. Before operating this equipment, thoroughly read the installation, operation and maintenance instructions.

Before putting fan into operation:

1. Tighten all set screws in bearings and sheaves. Repeat after 8 hours operation. Repeat again after 2 weeks. Check and tighten bolts on bearings, motor, motor base and fan housing.

2. Inspect bearings, sheaves and belts for alignment.

3. Rotate fan wheel by hand to check for free rotation. Check for shifting of wheel and shaft.

4. Inspect all accessories to insure connections are tight.

5. Do not operate fan without all guards in place.

6. Do not remove guards while fan is running.

7. Check for correct rotation of fan wheel by bumping starter momentarily. Wheel should rotate in same direction of fan outlet.

8. Check for excessive vibration. If vibration is evident, shut fan off and determine cause. Do not operate Fan until source of vibration is determined and corrected.

9. Velocity/CFM - Make sure exhaust fan is exhausting proper CFM. Higher CFM than design could cause excessive misting at the scrubber outlet.

Any malfunction of the exhaust fan should be reported to MAPCO immediately for repair or service instructions.

Start-Up Service:

In addition to this installation, operation and maintenance manual, MAPCO offers a factory trained service representative to perform, assist or advise in the installation and start-up of this equipment. The cost for this service can be quoted if desired.

Note: MAPCO assumes the "End User" is knowledgeable of this equipment and fully understands the risks associated with the installation, operation and maintenance of the equipment purchased.

INTRODUCTION

The performance of every MAPCO fan depends on many factors. The purpose of this manual is to make you aware of these factors so you will obtain the utmost efficient and dependable performance from your MAPCO equipment. Providing, care is exercised in installing this equipment, and it is given reasonable maintenance, you can be assured of trouble-free operation for years to come.

Because it is not always possible to completely protect the careless worker, it is important that you study this manual prior to installing and operating this equipment to assure safe installation and operation.

SAFETY

The very nature of air handling equipment and accessories present a hazard to personnel during installation and maintenance. The following precautions should be observed prior to starting and maintaining the fan:

1. The fan motor should be locked out. This is accomplished by padlocking the disconnect switch in the off position until installation or maintenance is complete.

2. The fan housing should be inspected for debris or any loose parts.

3. Installation should be complete with inlet and outlet accessories attached.

4. All guards should be in place and secured. Never remove or replace any guards unless fan is shutdown and locked out.

5. Do not open access doors while fan is in operation. Fan should be locked out prior to servicing or inspecting fan wheel and other rotating parts.

6. Never remove or replace wheels, sheaves or shaft without thoroughly studying specific instructions.

7. Never pry a belt over the edge of a sheave to remove or replace it. This could result in a cracked sheave.

8. All dampers in duct system should be locked in open position.

9. Never discharge corrosive or harmful fumes from the fan. Install proper air cleaning equipment as required by local authorities

10. Inspection of fan wheel, bearing and drive should be performed on a regular basis. Inspect for corrosion which could result in mechanical failure. Any corroded parts should be replaced immediately.

11. Inspect ductwork for leakage of harmful or corrosive fumes.

12. Follow good safety practices when installing or maintaining this equipment.

All equipment manufactured by Midwest Air Products Co., Inc. has been thoroughly tested and inspected at our factory in Traverse City, Michigan. All fans are dynamically balanced and test run at the operating R.P.M.

RECEIVING AND INSPECTION

Upon receipt of shipment, check first to see that all items on bill of lading and/or packing slip have been received. By careful inspection determine whether damage has occurred in transit. Any shortage or damage should be noted and a claim should be filed immediately.

HANDLING AND STORAGE

If installation of the fan is delayed and storage is made outdoors, provide reasonable weather protection. Special attention should be given to bearings to prevent the entrance of water. When transporting or installing a fan, the lifting eyes should be used to prevent damage. Never pick a fan up by its shaft.

FOUNDATIONS

A rigid, level foundation is vitally essential for smooth, quiet operation and good performance of a fan. A frequent error is to design a foundation for the weight of the fan only. Consideration should be given for live load due to rotating equipment.

Poured concrete is preferred to steel or wood. Concrete foundations should have a minimum weight of five times the total weight of the fan. Steel platforms should be heavily braced for live load support. When a solid surface is not practical, fans should be mounted on vibration isolators.

DUCT CONNECTIONS

Duct loads can cause fan distortion with consequent rough operation and damage. With this in mind, please observe the following:

1. Support ducts independently of fan.

2. Use flexible connections.

3. Inlet duct should be supplied with a flanged connection approximately 3' to 5' from fan inlet allowing convenient removal of wheel. An inspection door is recommended for viewing fan inlet cone.

OPERATING TEMPERATURES

1. PVC fans should not be used on constant temperatures exceeding 130^{o} F.

2. FRP fans should not be used on constant temperatures exceeding 160^{o} F.

OPERATION

Prior to operating the fan the following pre-operative checks should be made:

1. Rotate fan wheel by hand to check for free rotation. Check for shifting of wheel and shaft which might have occurred in transit.

2. Inspect all accessories to insure connections are tight.

3. Inspect fan housing for debris.

4. Inspect bearings, sheaves and belts for alignment. Also check set screws on bearing and sheaves.

5. Connect motor to proper power source as indicated on motor nameplate.

6. Check for correct rotation of fan wheel by bumping starter momentarily. Wheel should rotate in same direction as indicated by arrow on fan housing. If fan rotates opposite arrow re-wire according to wiring instructions.

7. Check fan for excessive vibration. If vibration is evident shut fan off and determine cause. DO NOT operate until the source of vibration is eliminated.

8. Check current draw of motor with amperes shown on motor nameplate. Do not operate motor under overload conditions as this could cause motor to fail and void manufacturer's warranty.

9. Re-check all set screws and bolts after 8 hours of operation and again after 2 weeks.

PREVENTATIVE MAINTENANCE

1. FAN WHEEL -The fan wheel should be inspected periodically to insure no build-up has occurred. Build-up is more likely to occur when there is no air cleaning device prior to fan inlet. Chemical deposits that are allowed to build-up will eventually break away in pieces. When this happens the fan may be thrown out of balance resulting in serious vibration and damage to the fan. Care should be taken when removing chemical deposits. Never use sharp objects that could affect the integrity of the wheel coating. If the chemical barrier has been damaged and corrosion is evident, replace the wheel immediately.

2. **SHEAVES** - Sheave grooves should be smooth and uniform. Burrs should be filed off to prevent belt damage. Periodically check set screws or bolts to insure they are tight.

3. **BEARING AND MOTOR LUBRICATION** Set up lubrication schedule according to manufacturer's instructions. (See Bearing section)

4. **MOTOR** - Inspect motor periodically for dirt build-up. A clean motor runs cooler. Inspect bearings for roughness by disconnecting motor from fan wheel and turning by hand. Note: Be sure fan motor is locked out prior to inspecting motor.

MAINTENANCE

1. Check for material build-up on fan wheel. If build-up is present, remove by one or all of the following:

A. High pressure washer

B. Scrape wheel with blunt object. Do not use sharp object which could damage coating.

2. Check for de-lamination of wheel weight. If wheel throws a weight consult factory for location and method of attaching weight.

3. Check for defective bearings. In most cases where excessive vibration is present, it is due to the bearing seizing up and fan shaft spinning in bearing race. If allowed to run under this condition, the shaft will wear and cause imbalance. (See bearing section)

4. Check alignment of sheaves. (See alignment of sheaves)

5. Check static pressure. If static pressure is lower than specified, the fan will produce additional CFM and excessive vibration.

6. Check motor. Motor could have defective bearings.

LUBRICATION

SLX BEARINGS are lubricated at the factory and requires no further lubrication.

SC, SCB, SCM, SXR, SXRB BEARINGS

Storage or Special Shutdown - If exposed to wet or dusty conditions or to corrosive vapors, extra protection is necessary: Add grease until it shows at the seals; rotate the bearing to distribute grease; cover the bearing. After storage or idle period, add a little fresh grease before running.

High Speed Operation - In the higher speed ranges too much grease will cause overheating. The amount of grease that the bearing will take for a particular high speed application can only be determined by experience - see "Operating Temperature" below. If excess grease in the bearing cause overheating, it will be necessary to remove grease fitting to permit excess grease to escape. The bearing has been greased at the factory and is ready to run. **When establishing a re-lubrication schedule, note that a small amount of grease at frequent intervals is preferable to a large amount at infrequent intervals.**

Operation in Presence of Dust, Water or Corrosive Vapors - Under these conditions the bearing should contain as much grease as speed will permit since a full bearing with consequent slight leakage is the best protection against entrance of foreign material. In the higher speed ranges too much grease will cause overheating - see "High Speed Operation" above.

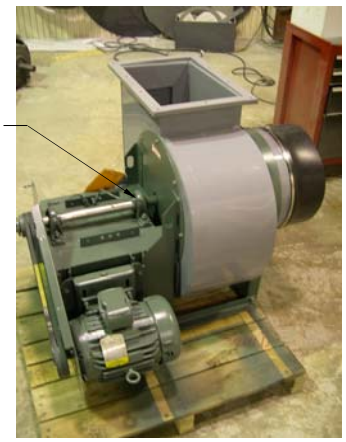
In the lower speed ranges it is advisable to add extra grease to a new bearing before putting into operation. Bearings should be greased as often as necessary (daily if required) to maintain a slight leakage at the seals.

Average Operation - The bearings has been greased at the factory and is ready to run. The following table is a general guide for relubrication. However, certain conditions may require a change of lubricating periods as dictated by experience. See "High Speed Operation" and "Operation in Presence of Dust, Water or Corrosive Vapors" above.

Operating Temperatures - Abnormal bearing temperatures may indicate faulty lubrication. Normal temperature may range from "cool to warm to the touch" up to point "too hot to touch for more than a few seconds" depending on bearing size and speed and surrounding conditions. Unusually high temperature accompanied by excessive leakage of grease indicates too much grease. High temperature with no grease showing at the seals, particularly if the bearing seems noisy, usually indicates too little grease. Normal temperature and a slight showing of grease at the seals indicate proper lubrication.

Kind of Grease - Many ordinary cup greases will disintegrate at speeds far below those at which Dodge bearings will operate successfully if proper grease is used. Dodge bearings have been lubricated at the factory with No. 3 consistency lithium base grease which is suitable for normal operating conditions. Re-lubricate with lithium base grease or a grease which is compatible with original lubricant and suitable for ball bearing service. In unusual or doubtful cases the recommendation of a reputable grease manufacturer should be secured. See table on the following page.

Bearings can be accessed through shaft guard



LUBRICATION SCHEDULE

Read preceding paragraphs before establishing lubrication schedule

Suggested lubrication period in weeks

Hours Run Per Day	1 to 250 RPM	251 to 500 RPM	501 to 750 RPM	751 to 1000 RPM	1001 to 1500 RPM	1501 to 2000 RPM	2001 to 2500 RPM	2501 to 3000 RPM
8	12	12	10	7	5	4	3	2
16	12	7	5	4	2	4	1	1
24	10	5	3	2	1	1	1	1

V-BELT DRIVES

1. INSTALLATION OF SHEAVES

A. Insert bushing into sheave and loosely insert cap screws. Be sure surface of taper lock bushing is clean and free of foreign mate-rials.

B. With cap screws heads facing the outside, slide assembly on to shaft making sure the key stock is aligned with key way in shaft.

C. After both sheaves are in position align with a straight edge or string as indicated. Rotate each sheave 180^0 and check until secure. Re-check alignment.

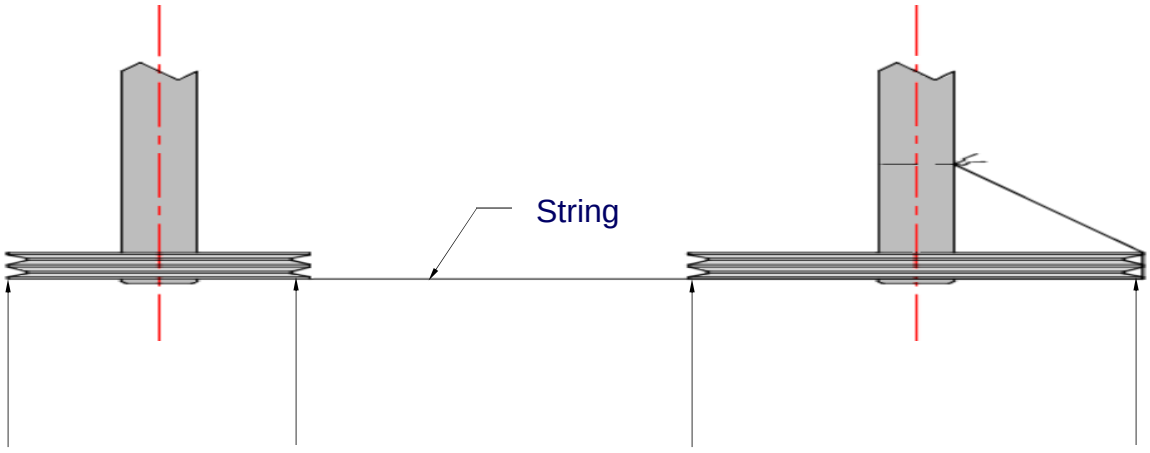
2. REMOVAL OF SHEAVES

A. Remove belt guard and relieve belt ten-sion.

B. Back out cap screws and insert into tapped holes in sheave. Progressively tighten until sheave separates from bush-ing.

C. Remove bushing and sheave.

DANGER: <u>DO NOT</u> INCREASE FAN RPM WITH-OUT CONSULTING FACTORY. SERI-OUS DAM-AGE COULD RESULT TO PER-SON-NEL AND EQUIPMENT.



Using a string or a straight edge, align sheaves by touching all four points as indicated by arrows.

3. VARIABLE PITCH SHEAVE ADJUSTMENT

A. Remove belt guard and relieve belt tension.

B. Loosen set screw and remove key stock, allowing adjustable section to turn.

C. Turn adjustable section in for a larger pitch diameter (increased speed), or out for a smaller pitch diameter (decreased speed). Every one-half turn will change the pitch diameter by one-tenth of an inch. Multiple groove sheaves should be adjusted the same amount of turns.

D. Replace key stock and tighten set screw to lock sheave in place.

Note:

When adjusting for higher fan speeds, check motor current to be sure readings are within name plate and service factor ratings.

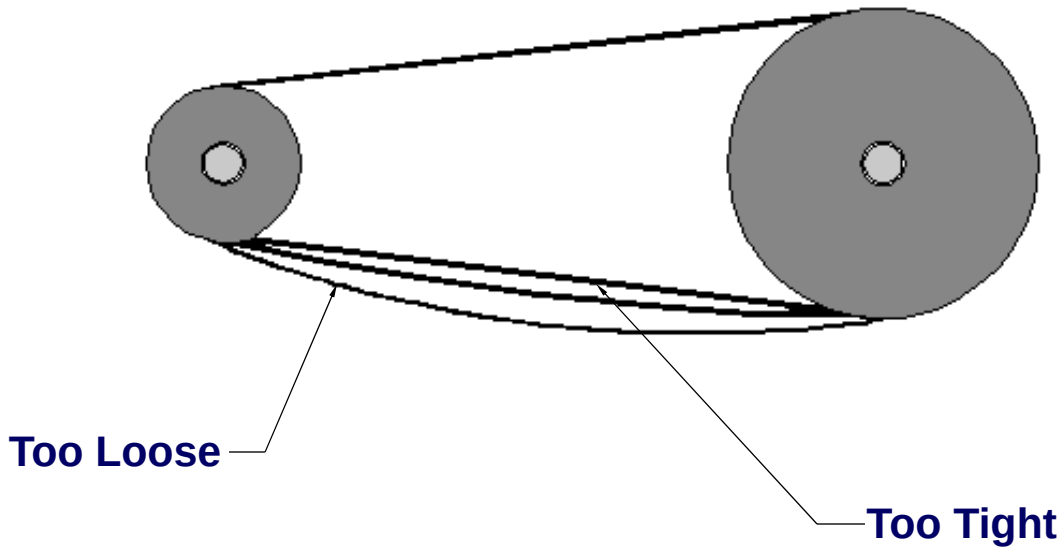
BELT INSTALLATION

1. With all belts in their proper grooves adjust the motor to take up all slack until the belts are fairly taut.

2. Start the drive and check belts under load. The belts should have a slight bow as indicated below.

3. After a few days of operation the belts will seat themselves in the sheave grooves. It may be necessary to readjust so that the drive again shows a slight "bow" in the slack side.

FIXED DRIVE



MOTORS

1.GENERAL

Read motor nameplate and check power supply to be sure voltage, frequency and current carrying capacity are correct. Motors indicating 208/220/ 440 volts can be operated on 208, 220 or 440 volt lines. This type of motor, when operated with 208volts at the motor terminals, will deliver approximately 11% less locked motor and breakdown torques and draw up to 4% more line current at rated load as compared with 220 volts at the terminals. The motor will perform satisfactorily on voltage variations of plus/minus 10%, or frequency variation of plus/minus 15% of the name plate rating, or a combine voltage and frequency of 10%. These variations do not apply to 208 volt rating of motors stamped with 208-220/-440 volts.

2. WIRING

Connect the motor to the power supply according to the diagram on the connection plate. Connections should be clean and tightly bolted.

To reverse the direction of rotation of a three phase motor, interchange any two of the line wires to the motor leads. Two phase motors are reversed by inter-changing T-1 and T-3 or T-2 and T-4.

3. LUBRICATION

Follow manufacturer's literature.

4. TYPICAL MOTOR CURRENT AND STARTER SIZE

Amperes as indicated in chart are nominal and were used for sizing starters only. **DO NOT** use these values for sizing heaters or other overload protection. Refer to motor nameplate for actual motor current and refer to the heater size chart for actual starters used. Actual conditions under which the starters will operate must be considered when sizing overload heaters. It may be necessary to increase heater size when starters are enclosed or exposed to radiant heat.

HP	Three Phase						Single Phase			
	230 Volts		460 Volts		575 volts		115 volts		230 volts	
	Amps	Starter	Amps	Starter	Amps	Starter	Amps	Starter	Amps	Starter
1/2	2	00	1	00	.8	00	9.8	0	4.9	00
3/4	2.8	00	1.4	00	1.1	00	13.8	0	6.9	00
1	3.6	00	1.8	00	1.4	00	16	0	8	00
1 1/2	5.2	00	2.6	00	2.1	00	20	1	10	0
2	6.8	0	3.4	00	2.7	00	24	1	12	0
3	9.6	0	4.8	0	3.9	0	34	2	17	1
5	15.2	1	7.6	0	6.1	0	56	3	28	2
7 1/2	22	1	11	1	9	1	80	3	40	2
10	28	2	14	1	11	1			50	3
15	42	2	21	2	17	2				
20	54	3	27	2	22	2				
25	68	3	34	2	27	2				
30	80	3	40	3	32	3				
40	104	4	52	3	41	3				
50	130	4	65	3	52	3				
60	154	5	77	4	62	4				
75	192	5	96	4	77	4				
100	249	5	124	4	99	4				
125	312	6	156	5	125	5				
150	360	6	180	5	144	5				
200	480	6	240	5	192	5				

The values on page (6) for full-load current are for motors running at speeds usual for belted motors and motors with normal torque characteristics. Motors built for especially low speeds or high torques may have higher full-load currents, and multi-speed motors will have full-load current varying with speed, in which case the nameplate current rating shall be used.

To obtain full-load currents of 208 volt and 200 volt motors, increase corresponding 230 volt motor full-load currents by 10 and 15 percent, respec-tively.

The voltages listed are rated motor voltages. Corresponding nominal system voltages are 110 to 120, 220 to 240, 440 to 480, and 550 to 600 volts.

BEARINGS

REMOVING DEFECTIVE BEARINGS

It is important to follow proper safety procedures before dismantling fan. Be sure the power is locked out.

1. Remove shaft guard and clean shaft with em-ery cloth.

2. Coat shaft with oil and spray bearing race with penetrating oil.

3. Remove belt guard, sheave and belt guard back plate.

4. Using a felt marker, mark on shaft location of bearings. Also mark location (horizontally) of bearing pillow blocks.

5. Using 2 x 4's, shim up the shaft in front of the outboard bearing and remove set screws and/ or locking collar.

6. Apply a downward pressure on the shaft using a come-along or chain to hold shaft down. Be careful not to gouge shaft.

7. Loosen bolts on inboard bearing and remove outboard bearing bolts.

8. Remove outboard bearing. This procedure should be used for removing inboard bearing also. Additional 2 x 4's will be required.

Notes:

1. When removing bearings, never beat on the shaft as this could cause the shaft to move in the impeller hub and damage the wheel coating.

2. It is important that the wheel is properly lined up. After bearings are installed and prior to locking set screws, inspect relationship of wheel and inlet cone. (See inlet cone align-ment). Rotate wheel by hand to insure wheel does not rub on inlet cone.

MOUNTING BEARINGS

Prior to mounting new bearings, it is important to inspect the shaft for wear at bearing mount-ing locations. The diameter of shaft should not be undersized more than commercial ground and polished tolerances. Excessive wear will cause the bearing race and shaft to be non-concentric result-ing in an imbal-ance problem.

1. After inspecting shaft, slide the new bearings over the shaft loosely.

2. Insert mounting bolts and secure bearing to base. (Do not tighten bolts at this point).

3. Position shaft and pillow blocks as indicated by markings and shim bearings as necessary for vertical alignment.

4. Tighten bearing's bolts. (Prior to locking bear-ing to shaft, turn impeller by hand to align bearings).

5. Bearing's set screws and/or locking collars can now be secured. Locktite should be used to insure set screws do not vibrate loose.

Notes:

1. Remove inspection door and inspect relation-ship of wheel and cone prior to tightening set screws. It is important that wheel and cone do not touch. (See inlet cone alignment). Rotate wheel by hand to insure wheel does not rub on inlet cone.

2. If bearings are equipped with locking collars, it is important to observe the following instruc-tions.

A. Slip locking collar on inner race eccentric recess and slide bearing on shaft in same arrangement as noted in removal.

B. Position bearings to marks as indicated in step 3, mounting bearings.

C. Tighten bearing bolts.

D. Rotate locking collar in direction of shaft rotation and against inner races cam until eccentrics engage.

A. Slip locking collar on inner race eccentric recess and slide bearing on shaft in same arrangement as noted in removal.

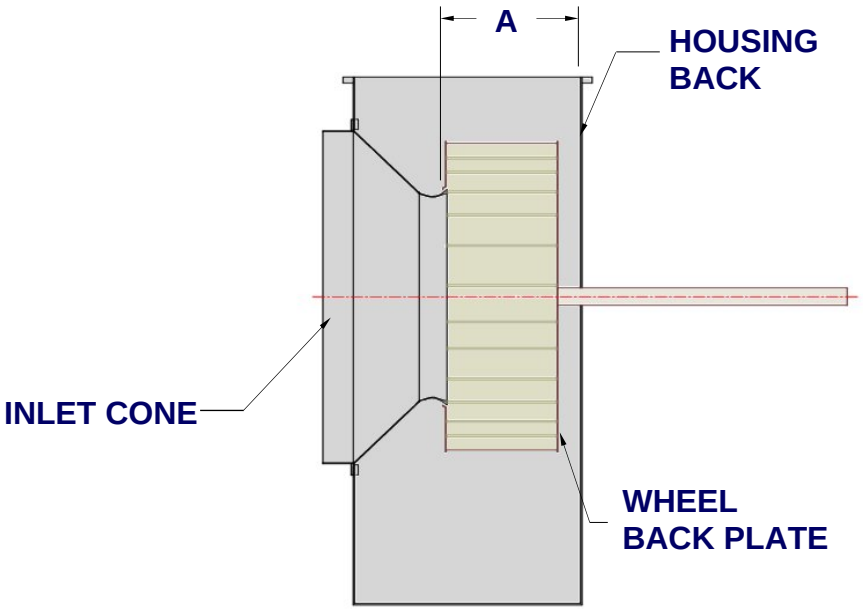
B. Position bearings to marks as indicated in step 3, mounting bearings.

C. Tighten bearing bolts.

D. Rotate locking collar in direction of shaft rotation and against inner races cam until eccentrics engage.

FAN SIZE	12	15	18	22	24	27	30	33	36	40	44	49	54	60
A	4 1/2”	5 1/2”	7”	8 1/2”	9 1/4”	10 1/8”	11 1/4”	12 1/4”	12 3/8”	13 3/8”	14 3/4”	16 1/4”	17 7/8”	21 3/4”

Dimension “A” should be measured at (4) points 90^0 apart

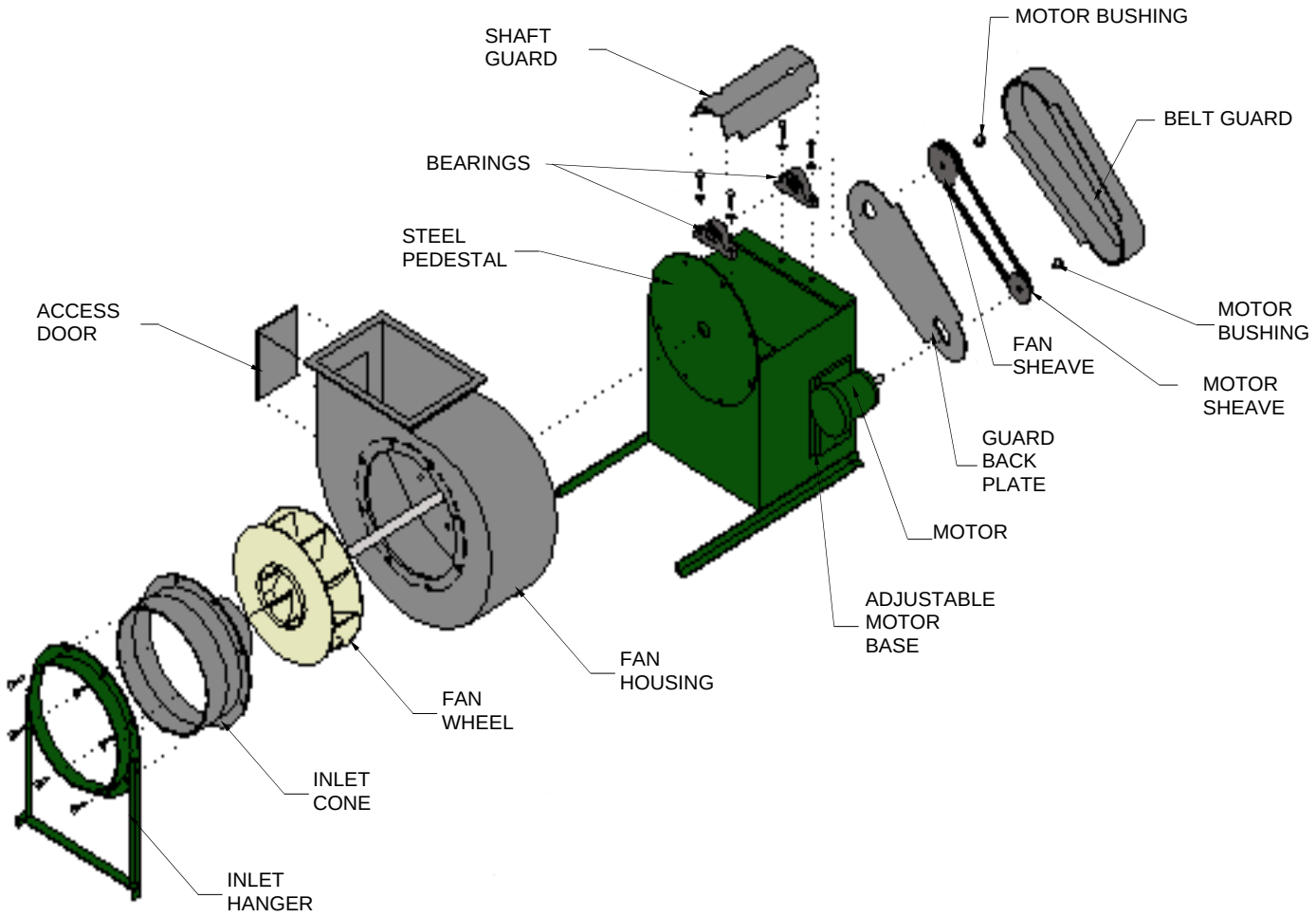


Motor HP	TEFC Motor Frame Size	Motor Weight
1	143T	40
1 1/2	145T	45
2	145T	45
3	182T	82
5	184T	90
7 1/2	213T	145
10	215T	160
15	254T	230
20	256T	250
25	284T	355
30	286T	390
40	324T	550
50	326T	610
60	364T	835
75	365T	920
100	405T	1260
125	444T	1515
150	445T	1785

SHOULD YOU EXPERIENCE PROBLEMS WITH YOUR MAPCO EQUIPMENT, THE FOLLOWING INFORMATION SHOULD BE UTILIZED IN DETERMING THE CAUSE AND SOLUTION TO YOUR SPECIFIC PROBLEM.

PROBLEM	POSSIBLE CAUSE
EXCESSIVE VIBRATION	Material build-up on fan im-peller Worn or corroded impeller Impeller out of balance De-lamination of balancing weight Sheaves eccentric or out of balance Bearing or drive misalign-ment Defective bearing Belts too tight Mismatched belts Motor out of balance Foundation not flat or level, weak or resonant foundation Bent shaft Impeller or sheaves loose on shaft Static pressure too low
HIGH BEAR-ING TEMPER-ATURE	Over lubrication Under lubrication Wrong lubricant Defective bearing
HIGH MOTOR TEMPERA-TURE	Check input power Check fan rotation Check for obstructions around motor shroud Check system static pres-sure
AIR FLOW TOO HIGH	Static pressure too low (less resistance to flow than ex-pected) Fan RPM higher than design Dampers not installed or need to be adjusted
AIR FLOW TOO LOW	Static pressure too high (more resistance to flow than expected) Impeller rotation wrong Fan RPM lower than de-sign Obstructions or leaks in duct-work Sharp elbows at fan inlet or outlet No straight duct prior to fan inlet Clogged filters
FAN DOES NOT OPER-ATE	Electricity is turned off or improperly wired Blown fuses Broken belts Loose sheaves Improper voltage Overload protector has bro-ken circuit
EXCESSIVE NOISE	Material build-up on fan im-peller Defective bearing RPM too high Impeller out of balance Vibrating parts not isolat-ed from building Fan operating in a stall condi-tion (DANGER) Loose mounting bolts Vibrating ductwork Belts too loose or tight Ductwork too small

BI FAN PARTS


SHAFT GUARD
MOTOR BUSHING
BELT GUARD
BEARINGS
STEEL PEDESTAL
ACCESS DOOR
MOTOR BUSHING
FAN SHEAVE
MOTOR SHEAVE
GUARD BACK PLATE
MOTOR
ADJUSTABLE MOTOR BASE
FAN HOUSING
FAN WHEEL
INLET CONE
INLET HANGER

ISOLATORS

PLANNED ISOLATION:

The isolation of machinery to prevent the transmission of vibration has become one of the important phases of modern plant engineering. Because concrete, steel, and other building materials are all good conductors of vibration, all mechanical equipment should be isolated. Properly planned isolation acts not only as a shield to prevent vibration transmission to the foundation, floor, the building structure and surrounding equipment, but it also materially reduces dynamic bearing loads.

NOISE:

With passage of the Noise Control Act of 1972 and OSHA regulations which set limits to factory noise, it is important that all areas of noise reduction be considered.

The use of a resilient medium between the equipment and structure acts to break the path of structural borne noise as well as noise resulting from sound waves that are magnified by the "sounding board" effect associated with machinery mounted solidly to the structure.

Use of isolation does not reduce air borne noise which if found to be above allowable levels must be treated acoustically with acoustic enclosures or other sound absorbing devices.

SHEAR MOUNTS:

Elastomer-in-shear mounts provide up to 1/4" static deflection. When assembled in series double deflection to 1/2" is attained.

By varying the durometer (hardness) of the elastomer elements or by assembling them in parallel, unlimited load capacity is attainable.

Elastomer-in-shear isolators are available in unit, rail or integral base form and are commonly used to isolate a variety of machinery whose predominant disturbance is due to steady state uniform vibrations above 600 cpm.

METAL SPRINGS:

Metal springs become preferable when the required static deflections exceed 1/2". Springs are highly efficient mechanical vibration absorbers and their lack of inherent damping and sound absorbing qualities may be readily overcome by the application of properly designed damping and sound absorbing materials. The use of spring devices for large deflections dictates the incorporation of leveling bolts in order to facilitate installation and to compensate for variations in deflection.

Spring isolators are usually available either housed or free standing. Free standing springs are unrestrained devices which must be stable, i.e., where the ratio of the lateral to the axial spring constants is approximately equal; or where the outside spring diameter is at least 0.8 of the spring operating height.

Housed springs vary in design and can be furnished with vertical and/or lateral restraints depending on the application. They are usually preferred over unhoused springs for in-plant installation.

Springs are excellent isolators for both steady state vibrations and for impact. Typical equipment isolated for vibration are:

Blowers

Air Handling Units

Pumps

DONT'S for machine isolation

Don’t make a bouncing ball out of your machine. It's important that isolation be just right, not too hard nor too soft. At one point in it's softness resonance develops and with plenty of trouble.

Don’t ignore uneven weight distribution. If you do, the isolation will compress unevenly and the machine will tip. Excessive tipping or rocking may lead to serious trouble.

Highest Value Exhaust and Pollution Control Equipment

“old school quality old school service”

Corrosion Resistant PVC Duct
Corzan™ Duct
Fiberglass Overlaid Duct

Turnkey Installations

Corzan™ Duct

Motorized Dampers

Terminator™ Composite Mesh Pad Exhaust Hoods