Operators Manual

Installation, Operation, Maintenance and Service Instructions

Grease Exhaust Fans

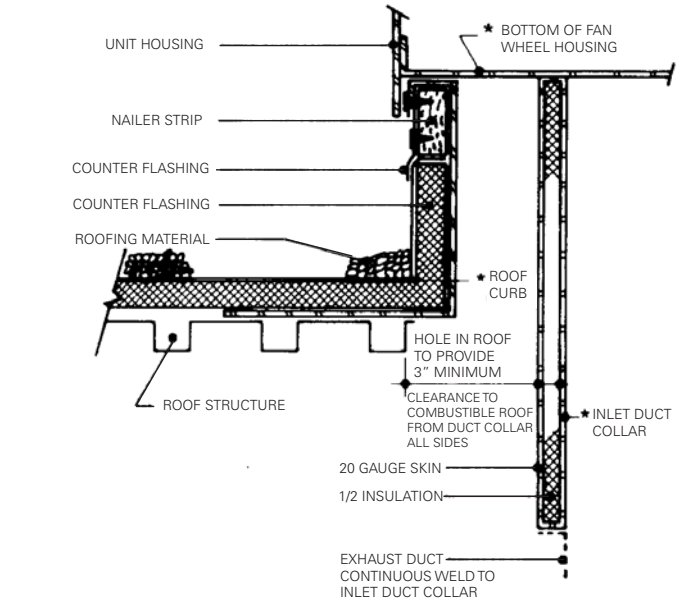
Model:
GEF-12A, GEF-15A, GEF-18A, GEF-20A
GEF-22A, GEF-24A, GEF-27A

Halton

INSTALLATION INSTRUCTIONS

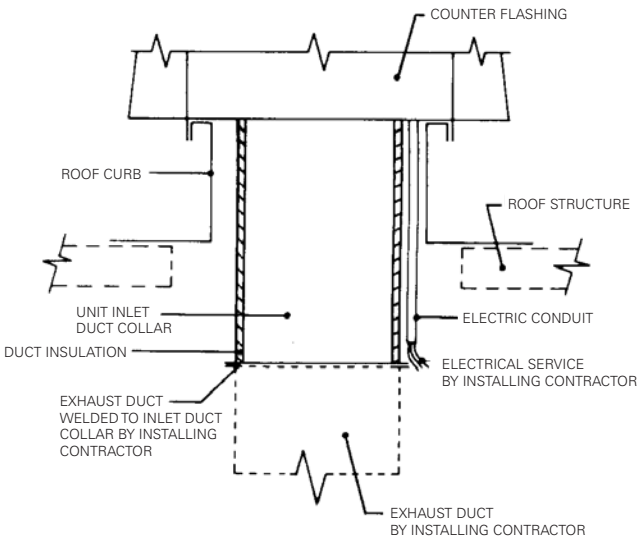
- Cut roof opening large enough to give a minimum of 3" (76mm) clearance on all sides around duct collar and set roof curb and fan in place.
- Provide roof insulation and weatherproofing (See Figure 1), as required by local codes.
- Ensure roof fan is properly located to allow access panels to fully open and provide access to the disconnects switch, more, drive package and exhaust fan wheel.
- Connect the exhaust duct to the fan inlet duct collar (see Figure 2), as required by NFPA 96 or local codes.
- Remove fasteners on two side access panels and remove panels to provide access to the motor section.
- Make all electrical connections through the electrical conduit provided and connect to the disconnect switch located in the motor section of the fan unit. The wire size to be determined by the electrical rating on the unit rating plate and to conform to all electrical codes. Wires to be rated min. 105°C.
- Check belt tension and sheave alignment. If any adjustment is required, refer to the belt and sheave alignment instruction under the service section.
- Start fan and check the fan speed, rotation and motor amp draw is within the limits shown on the rating plate.

Figure 1



* EQUIPMENT SUPPLIED WITH STANDARD GEF FAN

Figure 2



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MAINTENANCE INSTRUCTIONS

• Check the tension of the fan belts frequently during the first two weeks of operation. The belts will seat themselves in the sheave grooves and it may become necessary to adjust the belt tension to avoid the belts from slipping. Capped grease drain lines should be inspected regularly and cleaned as required.

Quarterly Maintenance Check

• Check belt tension

• Check sheave alignment

• Lubricate motor and fan bearings (Maximum two shots from grease gun).

• Check amperage draw of fan motor

Semi-Annually Maintenance Check

• Check fan wheel for damage, alignment and grease build-up on the fan wheel blades.

NOTE: Heavy grease operations require extra maintenance. For this type of operation, we recommend a maintenance contract be set up with an authorized service agent.

SERVICE INSTRUCTIONS

Ensure motor disconnect switch in motor section of the fan unit is in the OFF position prior to any service work. All service maintenance is expected to be completed by an authorized service agent.

Belt Adjustment

1. Loosen all access panel screws on the fan unit.
2. Remove the side panels. This will expose the motor section of the fan unit. Before attempting to adjust belt tension, the fan and motor sheaves must be properly aligned.
3. Loosen the two locking bolts located on the side of the motor frame base. The motor can now be moved in or out by loosening or tightening the adjusting nuts on the motor frame base (see Figure
3. Both adjusting nuts must be turned equally so the alignment of the sheaves remain parallel.
4. After adjusting the tension on the belts, tighten the adjusting nuts on the internal motor frame base and the four locking bolts on each side of the motor frame base. Operate the unit for a few minutes to ensure the belts are seated properly in the sheaves groove.

5. Under highest load conditions (usually at start-up), a slight blowing of the slack side of the drive belt should occur. If the slack side remains tight during the peak load, the drive is too tight and must be loosened. After achieving proper belt tension, ensure all locking bolts on the motor frame base are tight, and sheaves are properly aligned. The use of a straight edge is recommended to check for proper alignment. To field check belt tension, see Figure 4.
6. Re-adjustment may be necessary on new drives after a few days of operation.

Figure 3

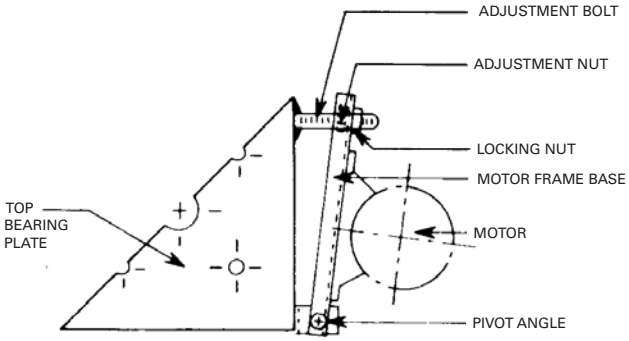
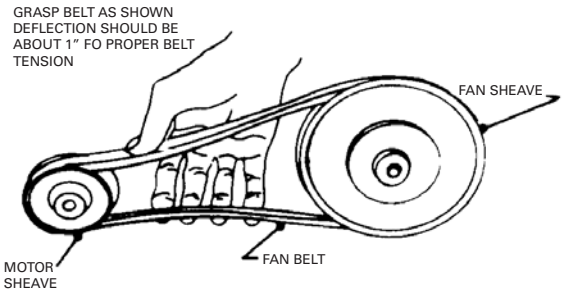


Figure 4



FAN SPEED ADJUSTMENT

1. The fan speed can be increased or decreased by adjusting the pitch diameter of the motor sheave. To increase fan speed, the outer flange of the sheave is screwed in toward the fixed flange. To decrease the fan speed, the outer flange is screwed outward, away from the fixed flange.

2. To adjust the motor sheave, remove belts. To rotate the outer flange, loosen the set screws located in the outer flange and remove square key from the keyway. The flange can now be turned in or out in half turn increments. Always turn the flange to a position where the keyway or onto the key. Do not tighten set screw on the threaded portion of the hub.

3. Re-adjust belt tension

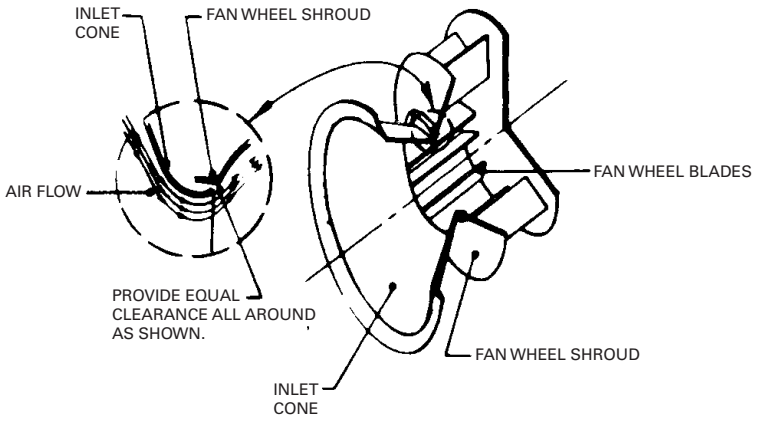
4. Check amperage of fan motor.

FAN WHEEL REPLACEMENT

The exhaust fan wheel and fan bearings are accessible by removing the top, front and side panels.

1. Remove safely nuts (one on each side of the bottom bearing base plate), from the threaded studs.
2. Swing the motor and drive assembly up (hinged at the bottom bearing base plate) until it is secured at the safety stop located at the top section of the exhaust riser panel. This will expose both fan wheel and inlet cone.
3. To replace fan wheel, remove bolts from the bushing and screw them into the threaded holes provided. Tighten each bolt a half turn in rotation until the centre tapered bushing slides off the fan shaft. The wheel can now be removed from the fan shaft.
4. When re-installing the fan wheel, slide center tapered bushing on fan shaft, and tighten bolts until tapered bushing is snug on fan shaft. Should it necessary to remove either the fan wheel of the inlet cone, care should be taken when re-installation to properly align them to ensure maximum efficiency. The inlet cone must be centered in relation to the fan wheel and should extend slightly into the fan wheel (see Figure 5).

Figure 5



BEARING REPLACEMENT

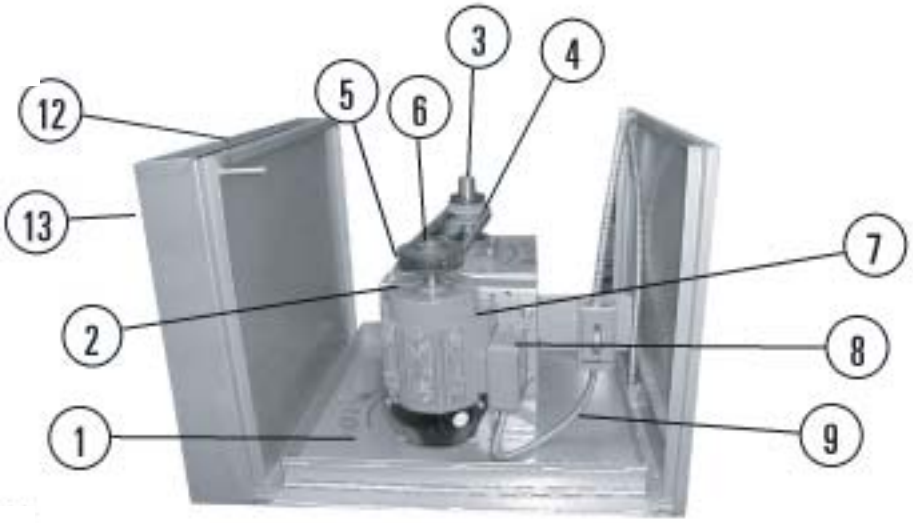
1. Swing up the motor and drive assembly until bottom bearing base plate is in upright verticle position and is secured in place by the safety latch.
2. Remove belts and the fan sheave. To remove fan sheaves, remove the cap bolts and screw them into the threaded holes in the bushing. Snug up all bolts then continue to tighten each cap bolt in half turn increments until the sheaves comes loose from the bushing. The bushing and sheave should now slide off the fan shaft.
3. Loosen the set screws on the locking collars bearing.
4. Remove the fan wheel and fan shaft by sliding the fan shaft out through the bearing collars. Polishing the fan shaft with emery cloth and some light lubrication on the fan shaft will make removal much easier.
5. Remove bolts, fastening the bearing to the top and bottom base plates.
6. Re-install equipment in reverse order of removal. Care should be taken to properly tighten the set screws in the bearing locking collar; see chart for recommended tightening torque of set screws.
7. When replacing the fan sheaves, slide sheave and bushing onto the fan shaft and insert the cap bolts into the non-threaded holes in sheave. Tighten each bolt a half turn in rotation unti tight.
8. Ensure proper belt tension and sheave alignment. The use of a straight edge is recommended to ensure proper alignment and maximum efficiency.

TORQUE CHART	
Tightening Torque Recommended for Bearing Set Screws	
FAN SHAFT DIAMETER (INCHES)	**SET SCREW TIGHTENING TORQUE (IN.-LB.)**
1	26 - 34
1 - 3/16	34 - 43
1 - 7/16	43 - 52
2 - 3/16	78 - 86

GEF-A SERIES FAN PARTS

Parts List GEF-A Fan

1. Bottom Bearing Base Plate
2. Top Bearing Base Plate
3. Exhaust Fan Shaft
4. Exhaust Fan Sheave
5. Motor Sheave
6. Exhaust Fan Belt
7. Motor
8. Motor Frame Base
9. Disconnect Switch
10. Inlet Duct Collar
11. Drain Pipe & Cap
12. Exhaust Outlet
13. Exhaust Back Draft Damper
14. Exhaust Fan Wheel
15. Inlet Cone
16. Fan Wheel Housing
17. Roof Curb



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HALTON LIMITED WARRANTY

Halton ("Manufacturer"). Warrants only to its direct purchasers and to no others, that all products manufactured by the Manufacturer shall be free from defect in materials and workmanship for a period of twelve (12) months from the date of the original installation and start-up or eighteen (18) months from date of shipment, whichever occurs first. All products sold but not manufactured by Manufacturer will be warranted for a period of twelve (12) months from date of shipment.

For products manufactured by the Manufacturer we agree to pay any reasonable labor costs necessary to repair or replace, at Manufacturers option, defective parts or materials for a period of twelve (12) months from date of original installation and start-up or eighteen (18) months from date of shipment, whichever occurs first. All labor costs subject hereto shall be performed during standard work hours at straight-time rates.

For products sold but not manufactured by the Manufacturer we agree to pay any reasonable labor costs necessary to repair or replace, at Manufacturers option, defective parts or materials for a period of (90) days from date of original installation and start-up or (12) months from date of shipment, whichever occurs first. All labor costs subject hereto shall be performed during standard work hours at straight-time rates.

Purchaser shall pay incurred premium labor charge, including overtime, weekends and holidays. Travel time, service charges, miscellaneous tools, material charges, and labor charges resulting from inaccessibility of equipment will not be paid by Manufacturer.

This LIMITED WARRANTY SHALL APPLY ONLY to products that have been installed and maintained in accordance with the installation and Care Instruction Manuals. Purchaser shall be solely responsible for adhering to the instructions and procedures set forth in the said instruction manuals.

This LIMITED WARRANTY SHALL NOT BE APPLICABLE to any damage or defect resulting from fire, flood, freezing or any Act of God, abuse, misuse, accident, neglect or failure to adhere to all instructions set forth in the installation and Care Instruction Manuals. Furthermore, this limited warranty shall not apply to any product that has been altered, unless such alteration has been approved in writing by a duly authorized representative of the manufacturer. In no event shall the manufacturer be liable for any loss, expense, personal injury or consequential damage, of any kind or character, as may result from a defect in material, and/or workmanship, however caused.

EXCEPT AS IS EXPRESSLY SET FORTH IN THIS LIMITED WARRANTY, MANUFACTURER MAKES NO WARRANTY OF MARKETABILITY FOR FITNESS OR ANY PARTICULAR PURPOSE. NEITHER DOES MANUFACTURER MAKE ANY WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO PRODUCTS SOLD BY MANUFACTURER OR AS TO THE USE THEREOF.

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