

# Service Section

## 5.2 Impeller Removal / Installation

**CAUTION**

**Make sure the engine is OFF and the negative battery cable is disconnected before attempting any service procedures.**

### REMOVAL

1. The blower housing face must be removed to gain access to the impeller. Use an overhead crane or forklift to support the face while removing.
2. Once the face has been removed, remove the shaft protector (Fig. 1 or 2).
3. Saturate the shaft and bushing using a penetrating lubricant to help loosen the bushing. Clean any grease or debris from the bushing and shaft.
4. Remove the 3 bolts attaching the bushing to the impeller.(Fig. 3) Being careful not to break the bolts. If a set screw is on the lip of the bushing, loosen it using an allen wrench.(Fig. 4)
5. Using two of the bolts that were just removed screw those bolts into the threaded holes on the bushing. Drive the two bolts into the bushing.(Fig. 5) This will separate the bushing from the impeller. Alternate from one bolt to the other driving only about a 1/4" at a time to keep the bushing coming out straight. It is imperative to keep the bushing straight to remove it.

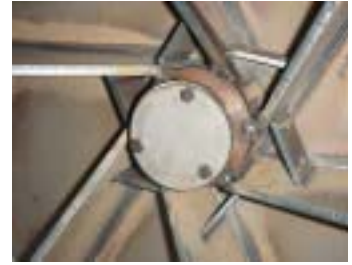
**IMPORTANT: Be sure to drive the bushing out evenly or it will get in a bind making removal much harder.**

6. If the bushing does not come off using the two bolts, drill and tap several additional 3/8-16 holes around the bushing. Using Grade 8, 3/8-16 - 2 inch bolts, alternately drive the bolts 1/4" at a time to remove the bushing. **KEEP THE BUSHING STRAIGHT** while removing.

**IMPORTANT: If additional holes were drilled in the bushing, it can not be reused. It must be replaced.**

7. Once the bushing has been removed use an overhead crane or other suitable device to help lift the impeller out of the blower housing.
8. At this point it would be a good idea to inspect the blower housing liners and blower housing for any damage or wear. Any damage or wear to the liners should be fixed by replacing the liners immediately.

Fig. 1



Direct Drive

Fig. 2



Belt Drive

Fig. 3



Fig. 4



Fig. 5



# Service Section

## 5.2 Impeller Removal / Installation, cont.;

**CAUTION**

**Make sure the engine is OFF and the negative battery cable has been disconnected before attempting any service procedures.**

### INSTALLATION

1. Clean the shaft of any debris and remove any rust using a 120 grit emory cloth.
2. Put a generous coat of anti-sieze compound completely around the shaft. This will aid in removing the bushing and impeller the next time.

**IMPORTANT: Use an anti-sieze compound on the shaft and bushing to keep the bushing from “welding” itself to the shaft. This makes removal much easier.**

3. Using an overhead crane or other suitable lifting device lift the impeller on to the shaft. Turn the impeller to align the keyways of the shaft with the keyway in the impeller.
4. Insert key into the keyway. A light sanding of the keyway may be needed, as well as a few light blows with a rubber mallet.
5. Apply a generous coat of anti-sieze compound to the outside of the bushing being sure to cover any area that will come in contact with the impeller.
6. Tap the bushing onto the shaft aligning the keyways.
7. **BELT DRIVE UNITS:** Align the bushing and key to be flush with the end of the shaft (Fig 1).

**DIRECT DRIVE UNITS:** The bushing and key should protrude from the shaft about 1/2 inch (Fig. 2).

8. Put the 3 bolts into the non-threaded holes and drive them into the impeller holes evenly. Alternate between the three bolts as you drive the bolts in. Torque to 40 to 50 lbs/ft. There should be a gap of 3/8” to 1/2” between the bushing and the impeller.

**IMPORTANT: Slowly spin the impeller by hand making sure that the back of the impeller is not hitting any of the bolt heads located at the back of the blower housing.**

9. If the bushing has a set screw on it, tighten the screw snug with an allen wrench (Fig. 3). This will help keep the key in place.
10. Install the shaft protector on to the shaft (Fig. 4).

Fig. 1



Fig. 2



Fig. 3



Fig. 4

Belt  
Drive

