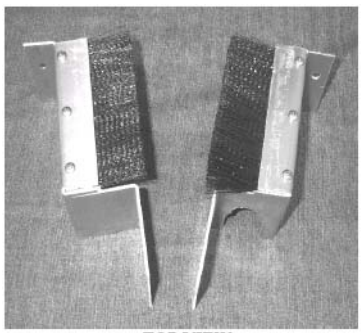
TB116 (Rev1) - Stop Chip Invasion Into Atrump B5AC Sump

Overview

This document describes how to eliminate chip invasion into the sump of an Atrump B5AC milling machine. The purpose of eliminating chips is to prolong coolant pump life, avoid costly down time due to pump failure, and to keep the sump coolant capacity up to its maximum.

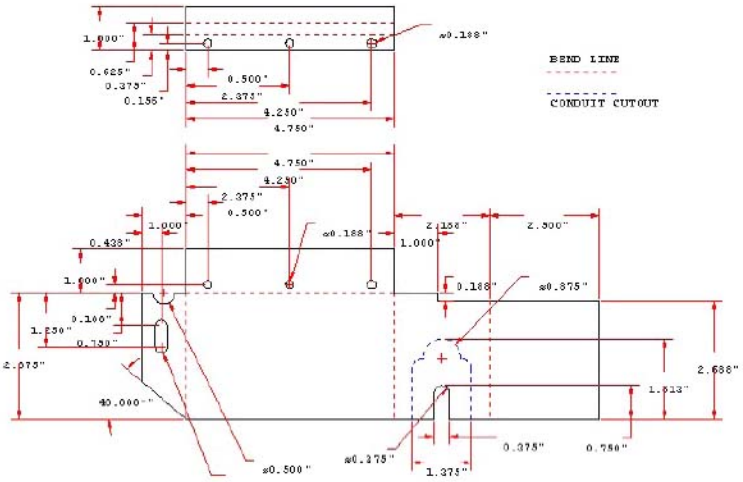
Installation of chip guards

The installation of the left and right guards should require 1/2 hour on average. The procedure is as follows. Remove the 4 button head screws holding the upper cover plate on the back of the mill. This will expose the Y-axis motor and the Y-axis way covers. This area should be cleaned thoroughly of all chip build up and also clean out the coolant sump at this time. The Y-axis way cover is supported by a left and right roller assembly, which is held in place by 2 socket head cap screws each. Remove the lower screw of each bracket using a 5mm Allen wrench. The chip guards are designed to utilize these 2 screws for mounting. There is a slot on the front surface of the guard to allow attachment to the frame of the mill. When the guards are installed properly, the wiper brush will be underneath the Y-axis way cover and stick out from under the way cover when viewed from the front of the machine. This will keep any chips from migrating up under the way cover and into the sump area, even with an air blast. Looking from the back of the machine, the left side cover has a pre-punched slot for the cables to run through. Once the guards are in place, move the Y-axis in the minus direction so the Y-axis way cover moves over the newly installed chip guards, and make sure there isn't any interference between the chip guards and the Y-axis way cover. If there is no interference between the two, then use silicone sealant around all the edges where the guard meets the frame of the mill, and also around the wires running through the slot. Try not to get any silicone on the brush. Once this is done, reinstall the upper cover plate to the back of the mill casting. There is still one area that needs attention to sealing with silicone. Because the way the mill casting is designed, there is a small area of about 3/4" square where chips can get through to the coolant sump after the chip guards are installed. Looking from the front of the mill, this area is underneath the brush that is sticking out from under the Y-axis way cover. Fill this hole with silicone and smooth out with your finger. This will need done to both sides of the machine.



TOP VIEW

BOTTOM VIEW



Manufacture of chip guards

The blueprint drawing above shows the chip guards, and a clamp that is used to hold the wiper brush in place. The material used is 5052 aluminum, by .09" thick. Be sure to bend the material in such a manner as to make a left and right part. The brush material is 2" door sweep cut to 4 3/4" length. The holes in the clamp bar can be tapped using a 8-32 tap, or use self tapping 8-32 screws. There are 2 different cutouts that can be utilized, depending on the application for the machine that is fitted with the chip guards. If the motor wires are run through conduit, the larger cutout needs to be used.

Document History

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