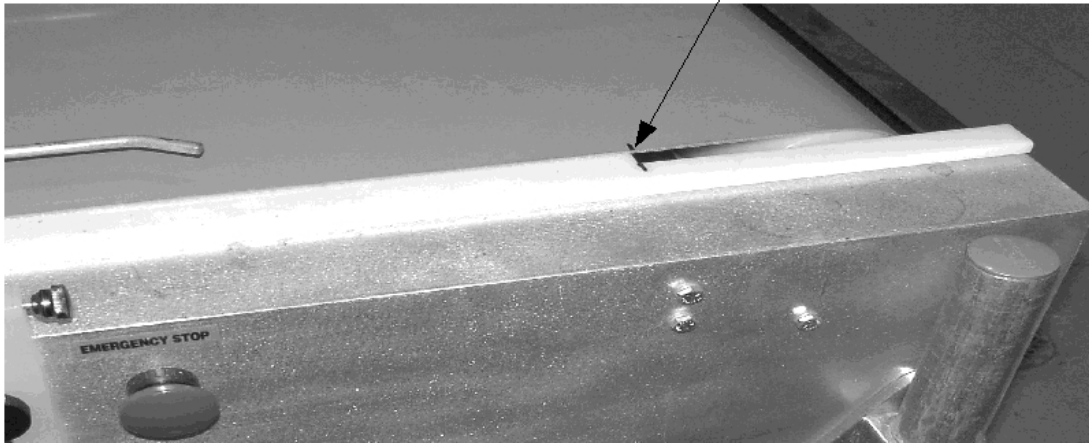


# How to Determine Conveyor Belt Travel On a Blackmore Clutch/Brake Cylinder Seeder

The Blackmore Clutch/Brake cylinder Seeder uses sprockets to determine the lengthwise cell to cell sowing dimension. The ratio between conveyor belt travel and number of revolutions of the cylinder head drive shaft can vary slightly from machine to machine. Variances can be due to tolerance build up of drive assembly components or it can be due to normal wear of the drive rollers, gears, chain stretch, etc. If the seeder does not accurately place the seed in the cell, i.e. if the *first row* of seed is placed in the center of the cells, but the seed is positioned either toward the front or rear of the *last row* of cells, a different set of sprockets may have to be used. Also, dimensions of plug trays can vary greatly between manufacturers. One set of sprockets may work with trays from manufacturer "A" but may not work when sowing into trays from manufacturer "B". If acceptable seed placement is not being achieved, two measurements must be taken. First, measure the cell to cell dimension of the tray being sown (See the "Cell to Cell Tray Measurement" document for instructions on how to do this). Secondly, a belt travel / shaft revolution test must be done. The object of this test is to determine how far the conveyor belt travels when the cylinder head drive shaft rotates exactly ten turns. Two people should be available to perform this test. This document describes how this test is done.

Place mark on MAIN belt. 7' seeder shown here.

Mark belt and frame as shown

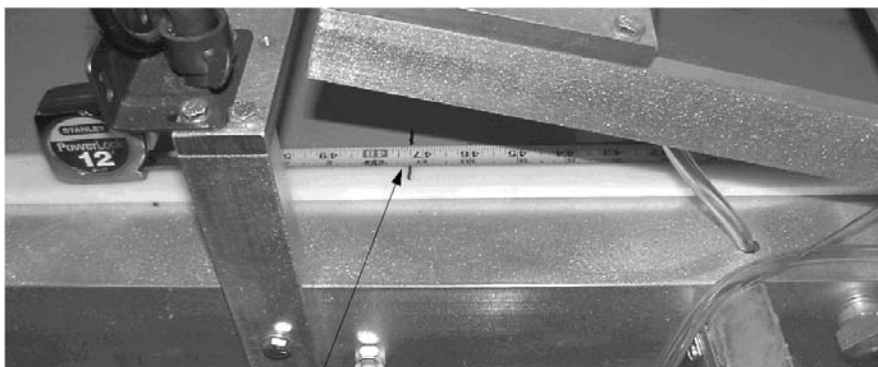


- 1.) With marker, place mark on MAIN conveyor belt and seeder frame. See picture #1.
- 2.) Remove chain from cylinder head.



- 3.) Remove upper gear from cylinder head shaft assembly and with a marker, place a mark on the lower gear and a mark on the frame, making sure the two marks align with each other. See picture #2.

- 4.) Turn on seeder. DO NOT START conveyor at this time.
- 5.) Turn conveyor speed control dial to "0".
- 6.) Place "SEEDER" switch in "MANUAL" mode.
- 7.) Activate "CONVEYOR" switch. With one person watching the cylinder head drive shaft, slowly increase conveyor belt speed. The drive shaft will begin to turn. Count exactly 10 turn of the shaft. When the two marks perfectly align after the tenth revolution (see picture #2), press one of the Emergency Stop switches which will stop the conveyor.
- 8.) Measure the distance the belt has traveled. See picture #3.



Measure distance of belt travel over ten turns of cylinder head drive shaft

Double frame seeders (serial numbers 91-01 to 93-26) should measure approximately 64".  
Single frame seeders (serial numbers 93-27 and higher) should measure approximately 47".  
If the measurement is more than 1.00" plus or minus from these numbers, run test again before calling Blackmore.

When both the cell to cell tray dimension and the belt travel / shaft rotation measurement have been taken, call Blackmore Co. at (800) 874-8660 and ask for a Cylinder Seeder Technician. He will be able to help you determine the best sprocket combination to sow the tray in question. Please have a list of the sprockets you presently have. Most sprockets are stamped with a 5 digit number, for example 25B27 depicts a 27 tooth sprocket that uses a #25 chain. These numbers are most helpful when determining the best combination for a specific tray. If a sprocket is not stamped with these numbers, please count the teeth on each sprocket.