

INDUSTRY TERMINOLOGY:

1) **Percentage of Stretch:** If you stretch 10" of film to 20" that is 100% stretch, 10" to 30" is 200%, etc.

2) **Percentage of Prestretch:** This is the maximum % of prestretch that a film carriage is geared to provide.

NOTE: The % can be decreased even before the film leaves the film carriage by a variety of reasons.

- environment, ambient temperature, humidity, etc.
- film thickness
- type of film...cast, blown, one-sided cling, etc.
- condition of prestretch rollers

The above reasons can cover just about every existing application but this is true for all film carriages. Take for example cast film being a possible reason for reduced % of prestretch leaving a film carriage. The bulk of film being used today is cast but there are a multitude of different cast films. Some differential and one-sided cling cast films have very little "cling" and can slip on the prestretch rollers. Some cast film recipes produce an extremely strong film and it takes more effort to stretch the film. Other cast films have more than normal "film recovery" so you lose some prestretch % when the film leaves the carriage (see below).

Our *Super Rapid Thread II* film carriage with its unique threading method and more film-to-rubber roller contact is designed to provide the best results for the many different types of films and diverse applications but the results are influenced by the variety of reasons listed above.

3) **Force-To-Load (secondary stretch or tension):** This adjustment is normally found on the face of the control panel and controls how much additional stretch is introduced after the prestretched film leaves the carriage. Since the load has to pull on the film to increase the % of stretch, light loads will require very little or no force-to-load.

VERY IMPORTANT: The force-to-load setting is critical to retaining the % of prestretch. When the prestretched film leaves the carriage at 200% it wants to go back to its original shape before it is applied to the load. We call this film recovery, rebound, rubber band factor, etc. If there is no or little force-to-load being applied because you are wrapping light loads, the 200% can be reduced considerably by the time the film reaches the load. This means that even if you have a 200% geared film carriage you will actually measure something less when measuring the % of stretch on the load. You need X amount of force-to-load to retain the 200% prestretch. The X amount changes according to the application.

4) **Percentage of Stretch on the Load:** This is the final % of stretch measured on the load. A combination of the % of prestretch and the amount force-to-load (secondary stretch, tension, etc.). REMEMBER, without the proper force-to-load, the final measurement may be less than what you are expecting.

POSSIBLE SOLUTIONS TO NOT HAVING THE EXPECTED % OF STRETCH ON THE LOAD :

- You may not be getting a true reading. When you make one mark on the roll of film, the mark may be applied to the load too soon and before all the proper settings are reached. Do you have a "star wheel"? A star wheel continues to mark the film as it rotates allowing you to measure later in the cycle making sure all settings have been reached.
- Make sure that you have enough force-to-load to retain the % of prestretch after the film leaves the carriage.
- Check the "film force delay" setting. Change to 0 and see if that changes the % of stretch on the load. This setting delays the force-to-load for X number of turntable revolutions. If set too high (too many turntable revolutions) it's possible that the necessary force-to-load to retain the % of prestretch is not being applied to the marks that reach the load.

Having done the above and you do not get the expected % of stretch on the load using the desired film with the correct amount of force-to-load for the application, consider changing the sprocket ratio to a higher prestretch percentage.

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