



## **Steel Mill Sample Report**

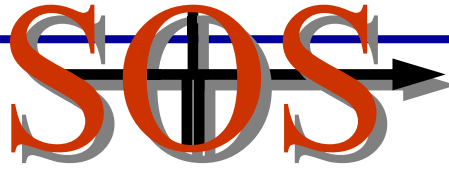
Cumming, Georgia

Steel Mill  
Alignment

03/15/00  
SOS# GA0015  
PO# 123456

800-638-8936  
212Trexler Lane  
Rock Hill, SC 29732

**STRAIGHTLINE OPTICAL SERVICES INC.**



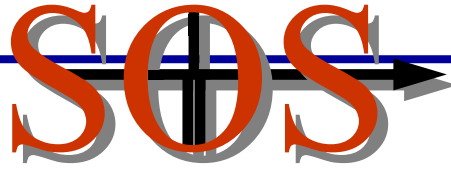
## STEEL MILL SAMPLE REPORT

CUMMING, GA

<b>SOS#:</b>	GA0015
<b>PO#:</b>	123456
<b>SERVICE REQUESTED BY:</b>	Mike Bennett
<b>CONTACT PERSON:</b>	Spencer Owens
<b>MACHINE:</b>	Steel Mill
<b>SECTION:</b>	Alignment
<b>DATE STARTED:</b>	3/15/00
<b>DATE FINISHED:</b>	3/16/00
<b>ESTIMATED TIME:</b>	As Required
<b>ACTUAL TIME:</b>	As Needed
<b>SOS TECHNICIANS:</b>	Michael Bennett / Lamar Wright
<b>MECHANICS PERFORMING WORK:</b>	Mill

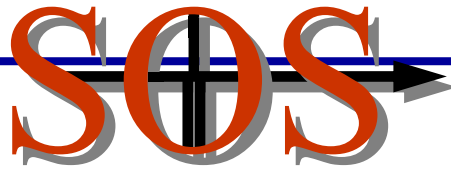
### REASON FOR SERVICE:

- ◆ SOS worked under the direction of Mr. Spencer Owens. The scope of the work was to inspect the alignment of the Shape Rolls in the two mills.
- ◆ Assist the mill with the alignment of the Tensiometer Rolls.



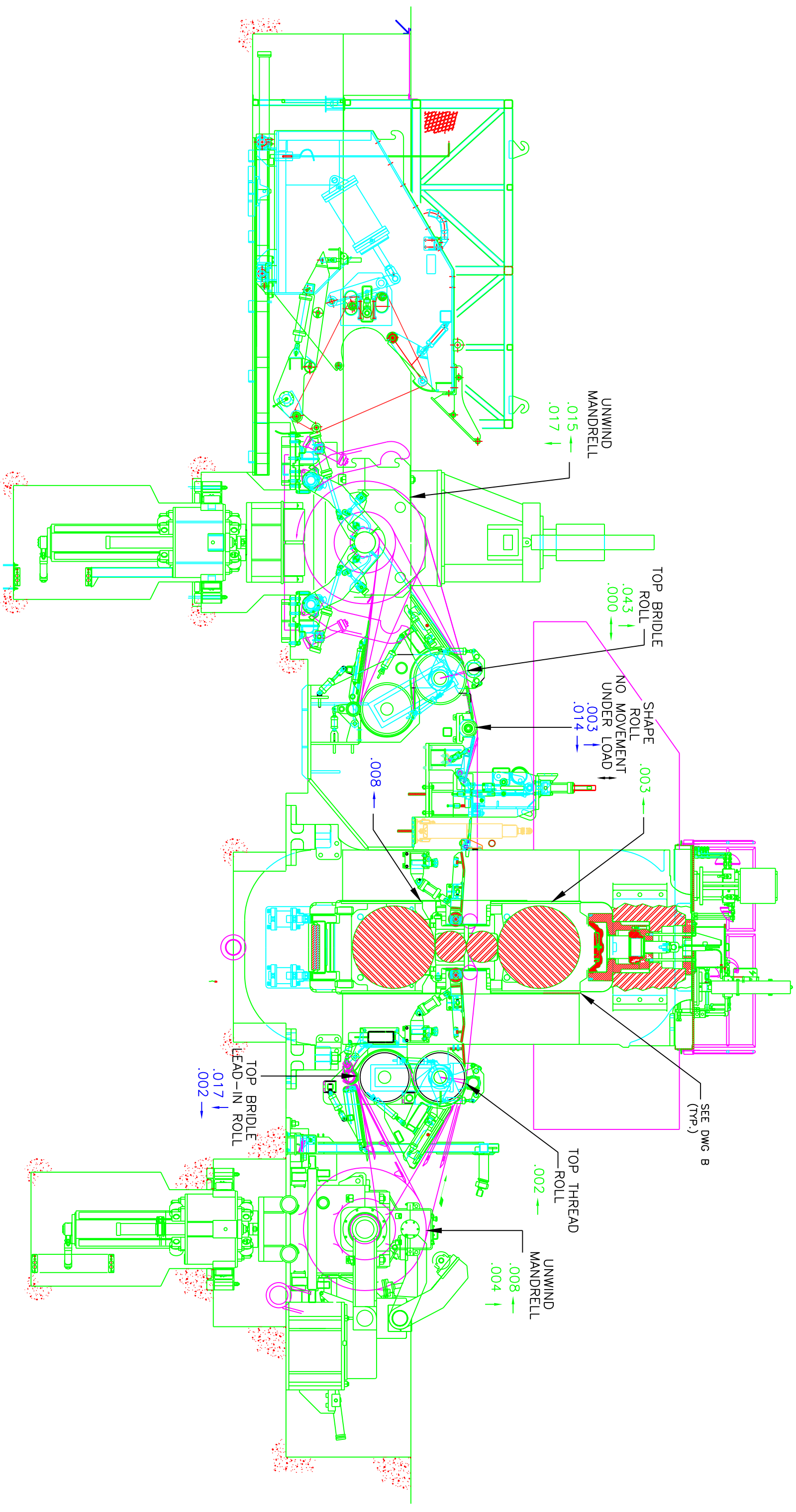
## ALIGNMENT:

- ◆ The datum for the inspection of the rolls was the existing reference line on the operating side of the machine.
- ◆ SOS began the project by inspecting the static position of the Shape Roll on the Tandem Mill. The roll was found to be exactly square to the machine. SOS was then directed to observe the alignment of the roll during operation. This was performed by placing an optical alignment scale on the bearing housing and observing the *horizontal* movements of both the tending and drive sides. The tending side of the Shape Roll on the Tandem Mill was observed to move *horizontally* .016” towards the Unwind during operation. The drive side moved *horizontally* .008” to the Unwind during operation. The movement of the rolls in this direction is consistent with the direction the sheet contacts the roll.
- ◆ The static inspection of the Shape Roll on the Temper Mill found the roll .003” high in the front and .014” out of square. The roll was then inspected during operation to determine if any movement occurred under load. The inspection was performed by placing an optical alignment scale beside the bearing housing on both the tending and drive sides to observe any *vertical* movement. This was done due to the forces being exerted on the roll vertically. No movement was observed on the roll during operation.
- ◆ SOS was informed by Mr. Gilliland that the mill had discovered that the hold down bolts were not tight, resulting in movement in the roll alignment position.
- ◆ SOS began the project by inspecting the static position of the Tensiometer Rolls. Following the inspections of the individual rolls, the alignment of the rolls was performed. The Tensiometer roll in 2nd Stand was found to have the most misalignment. This roll was found to be .246” out of square. The roll was corrected to be .000 due to the sensitive nature of the roll.
- ◆ The alignment of all of the rolls was held to +/- .002”. The results of the inspection can be seen on the following drawing No. GA0015B.
- ◆ SOS was directed to inspect the level of the 1st Stand and two bottom Backing Rolls. The inspection of the 2nd Stand Backing roll found the roll to be exactly level. The inspection of the 1st Stand Backing Roll found the roll to be .020” low in the front in the No. 4 position.



## RECOMMENDATIONS

- ◆ SOS discussed the possibility of shimming the front side of the Shape Roll on the Tandem Mill .008" to place the roll .008" out of square when static, which would make the roll operate at .000" given that the roll moves .008" more on the tending side during operation than on the drive side.
- ◆ SOS also feels that a further inspection be performed on the rolls in the mill to try and determine if alignment issues are partly responsible for the extremely loose edge observed by SOS during the operation of the mill. This inspection would include the Unwind and Rewind, as well as the work rolls. The inspection of the Unwind and Rewind should be performed both static and under load.
- ◆ SOS feels that the mounting surface of the 1st Stand Backing Roll should be inspected for level. This would help to determine if misalignment at the mounting surface is the root of the misalignment issues.

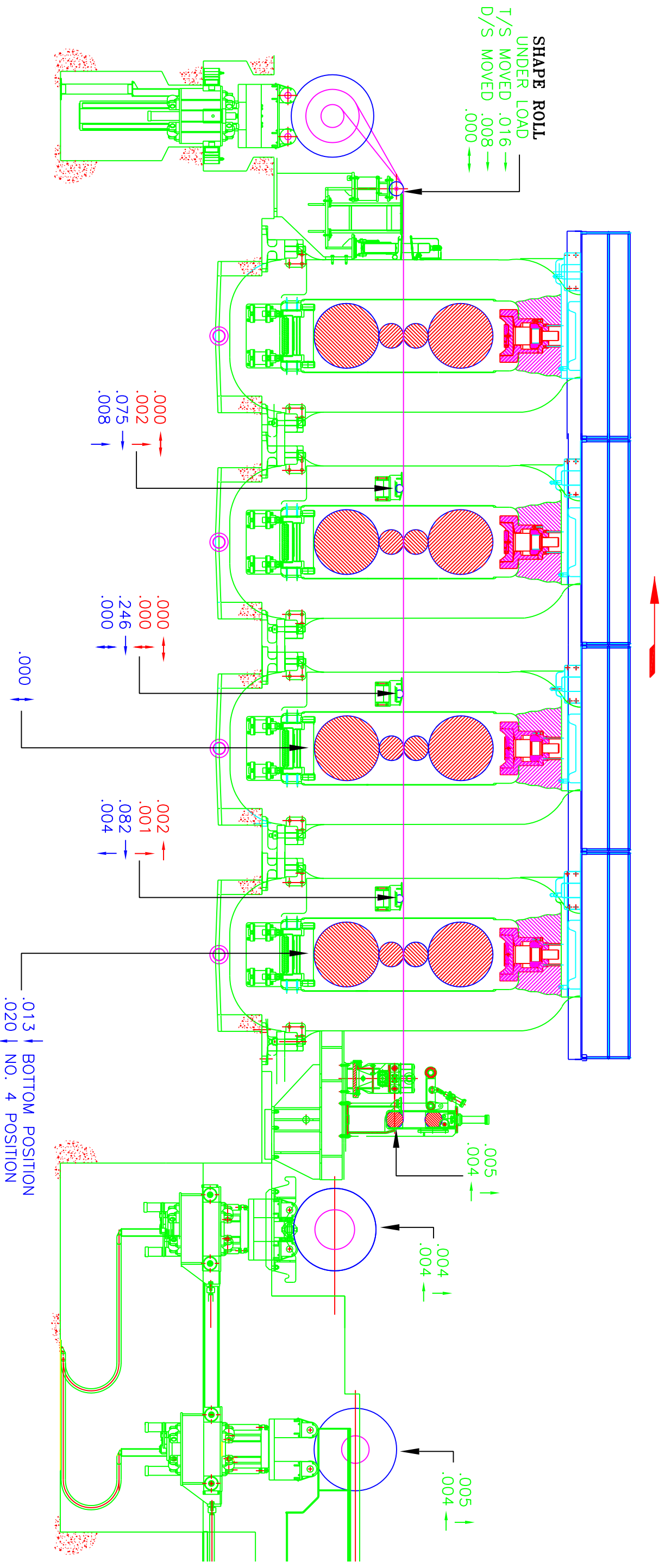


- (1) NO SCALE INTENDED.
- (2) DATA INDICATES THE COMPONENT'S TENDING SIDE POSITION RELATIVE TO ITS DRIVE SIDE. THE "ZERO" REFERENCE (.000 +) POSITION IN BLUE INDICATES THE COMPONENT'S POSITION AS INSPECTED. THE COMPONENT'S POSITION AFTER ADJUSTMENTS.
- (3) DATA IN RED INDICATES THE COMPONENT'S POSITION AS INSPECTED. THE COMPONENT'S POSITION AFTER ADJUSTMENTS.
- (4) POSITION AFTER ADJUSTMENTS.

**STRAIGHTLINE OPTICAL SERVICE**

SOS FILE NO.  
GA0015A  
DATE: 3/16/00  
DRAWN BY: CCA

STEEL MILL SAMPLE REPORT  
CUMMING, GEORGIA  
STEEL MILL



- (1) NO SCALE INTENDED.
- (2) DATA INDICATES THE COMPONENT'S TENDING SIDE POSITION RELATIVE TO ITS DRIVE SIDE. THE DRIVE SIDE IS CONSIDERED THE "ZERO" REFERENCE (.000 + )
- (3) DATA IN BLUE INDICATES THE COMPONENT'S POSITION AS INSPECTED.
- (4) DATA IN RED INDICATES THE COMPONENT'S POSITION AFTER ADJUSTMENTS.

- (5) DATA IN GREEN INDICATES THE COMPONENT'S POSITION FROM PREVIOUS INSPECTION.

**STRAIGHTLINE OPTICAL SERVICE**

SOS FILE NO.  
GA0015B  
DATE: 3/16/00  
DRAWN BY: CCA

STEEL MILL SAMPLE REPORT  
CUMMING, GEORGIA  
TANDEM MILL