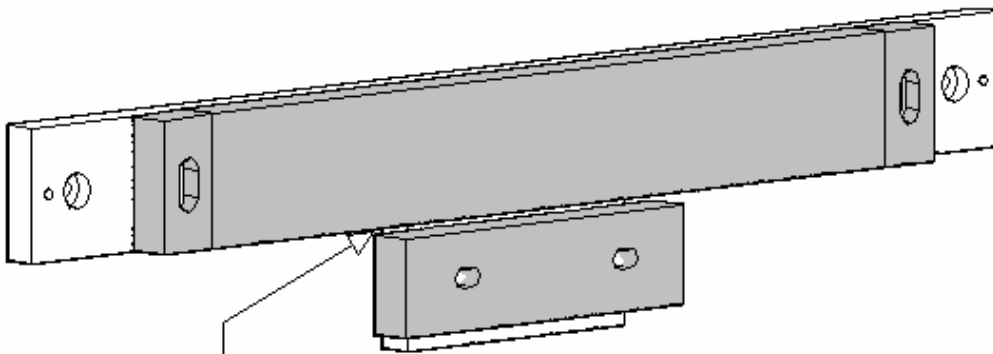




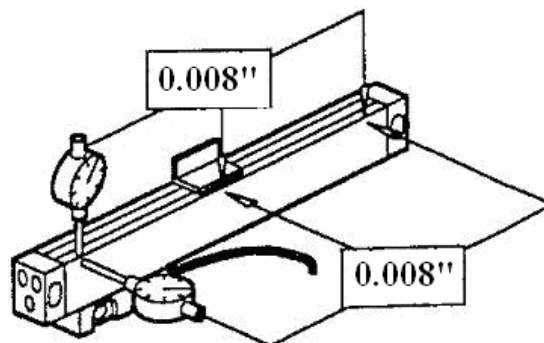
**\*\* (ENGLISH SCREWS ARE SUPPLIED IN THE HARDWARE KIT TO MOUNT THE READER HEAD. THE METRIC SCREWS ARE NOT NECESSARY.) \*\***

### **SPACING**



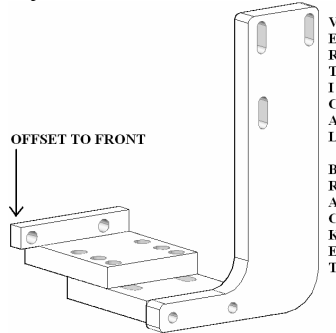
For M Series scales, the spacing between the scale and the reader head **MUST** be 0.040 inches (1mm)  $\pm$  0.02 inches (0.5mm)

**ALIGN THE SIDES OF THE SCALE** by indicating the ends and the center.

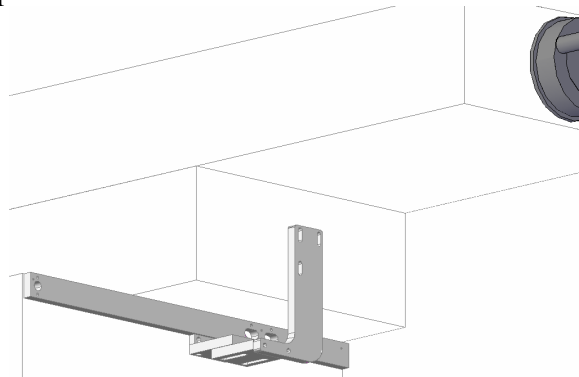


### Y-AXIS MOUNTING INSTRUCTIONS

1. Assemble 3-pieces Vertical Bracket, Horizontal Bracket, and Reader Head Bracket.  
Offset the front using 1/4-20 SHCS, washers, and lock washers loosely for now and bolt to side of the saddle. You may use Horizontal Extender Bracket if needed.



2. Clean right side of knee and saddle. If no holes are provided they will need to be drilled and tapped. Use the Vertical Bracket to locate the holes by pre-assembling brackets and holding them to the side of the machine. Keeping in mind the relationship between the scale and the reader head.
3. Check scale to Scale Backer Bar. If Backer Bar needs to be modified, it should be done at this time. Mount Scale Backer Bar to the side of the machine with 3/8-16 SHCS or 1/4-20 SHCS and Step Down Collars. Adjust square and parallel to saddle travel using set screws or 1.0 spacers and arbor shims.

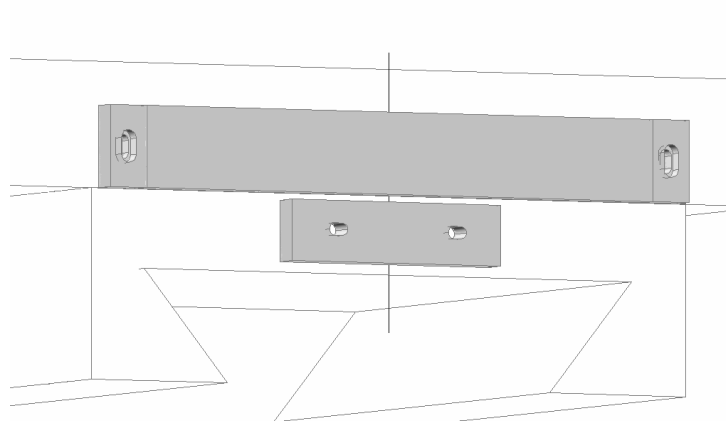


4. Install the scale onto Scale Backer Bar per specifications on page 1.
5. Set this assembly to the scale reader head per specifications on page 1. Using the slots provided in the brackets for adjustments making sure to tighten all bolts. Remove red spacer from reader head.
6. Carefully move the machine to its full travel in both directions checking that you don't over travel the scale and reader head which will cause damage to the scale and reader head.
7. Tie up cables with cable clamps and cable ties so they travel with the machine, but won't get caught up anywhere.

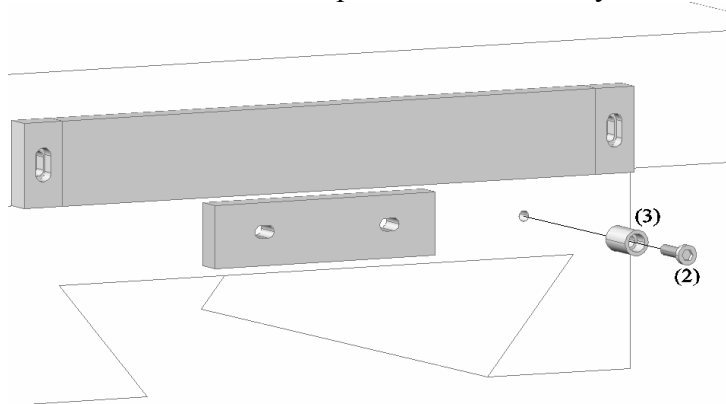


### X-AXIS MOUNTING INSTRUCTIONS

1. Clean the back side of the table and saddle.
2. Find centerline of the table travel in relationship to the centerline of the saddle. Use the scale to locate mounting holes for scale and reader head. Drill and tap for 8-32 SHCS.



3. Mount the scale per specifications on page 1.
4. Mount the reader head to the saddle per specifications supplied with the scale. Use the laminated shim supplied for any necessary adjustment. Remove red spacer from reader head.
5. Drill and tap  $\frac{1}{4}$ -20 hole for the table stop and mount securely.



6. Carefully move the machine to its full travel in both directions checking that you don't over travel the scale and reader head which will cause damage to the scale and reader head.
7. Tie up cables with cable clamps and cable ties so they travel with the machine, but won't get caught up anywhere.



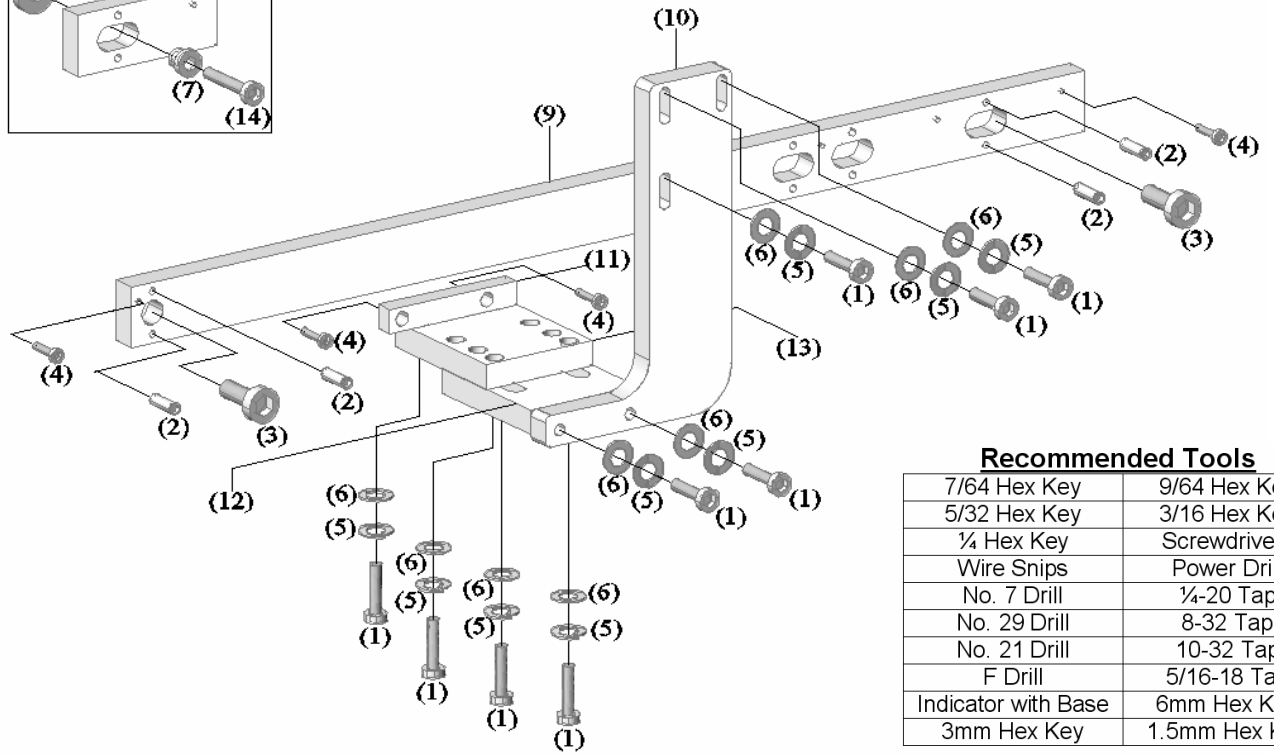
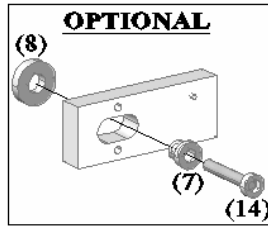
**Mill L**  
**Installation Instructions**

**Y-Axis Hardware**

<b>Code #</b>	<b>Quantity</b>	<b>Size</b>	<b>Description</b>
1	10	¼-20 x 1	S.H.C.S.
2	4	¼-20 x ¾	S.S.S
3	2	3/8-16 x 1 ½	S.H.C.S.
4	4	8-32 x1	S.H.C.S.
5	10	¼-20	LOCK WASHERS
6	10	¼-20	FLAT WASHERS
7	2	-	STEP DOWN COLLARS
8	2	1.0	SPACERS
9	1	-	SCALE BACKER BAR
10	1	-	VERTICAL BRACKET
11	1	-	READER HEAD BRACKET
12	1	-	HORIZONTAL BRACKET
13	1	-	HORIZONTAL EXTENDER
14	2	¼-20 x 1 ¾	S.H.C.S.
-	1	-	CABLE CLAMP
-	1	8-32 x ¼	S.H.C.S. FOR CABLE CLAMP
-	1	0.350 O.D. x 0.130 I.D.	WASHER
-	2	0.310 O.D. x 0.180 I.D.	WASHERS
-	5	-	CABLE TIES
-	6	-	ARBOR SHIMS

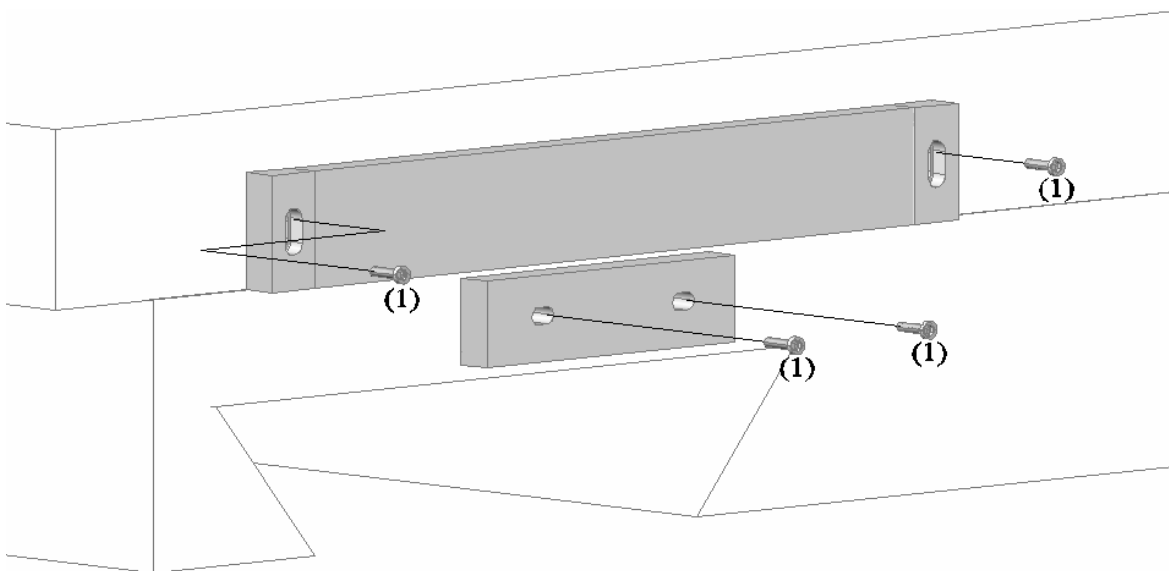
**X-Axis Hardware**

<b>Code #</b>	<b>Quantity</b>	<b>Size</b>	<b>Description</b>
1	4	8-32 x 1	S.H.C.S.
2	1	¼-20 x 1	S.H.C.S. FRO TABLE STOP
3	1	-	TABLE STOP
-	1	-	LAMINATED SHIM
-	1	0.350 O.D. x 0.130 I.D.	WASHER
-	2	0.310 O.D. x 0.180 I.D.	WASHERS
-	1	-	ARBOR SHIM
-	1	8-32 x ¼	S.H.C.S. FOR CABLE CLAMP
-	1	-	CABLE CLAMP
-	5	-	CABLE TIES



**Recommended Tools**

7/64 Hex Key	9/64 Hex Key
5/32 Hex Key	3/16 Hex Key
1/4 Hex Key	Screwdrivers
Wire Snips	Power Drill
No. 7 Drill	1/4-20 Tap
No. 29 Drill	8-32 Tap
No. 21 Drill	10-32 Tap
F Drill	5/16-18 Tap
Indicator with Base	6mm Hex Key
3mm Hex Key	1.5mm Hex Key



**TROUBLESHOOTING: Scale does not count. Verify spacing and alignment.**