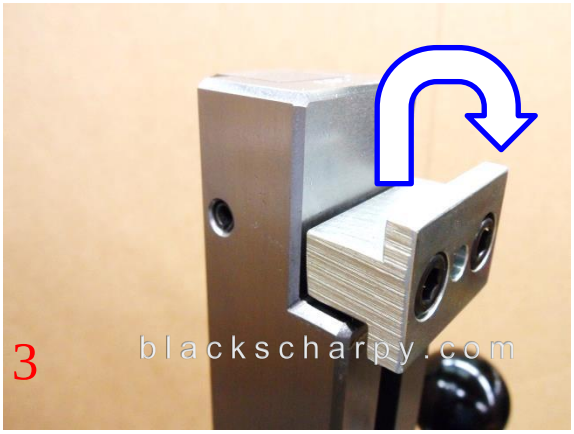
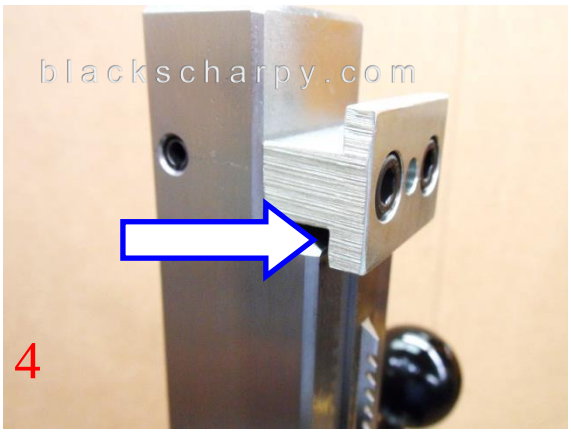
6 A. Fitting the Broach

Raise the rack & insert the support pin

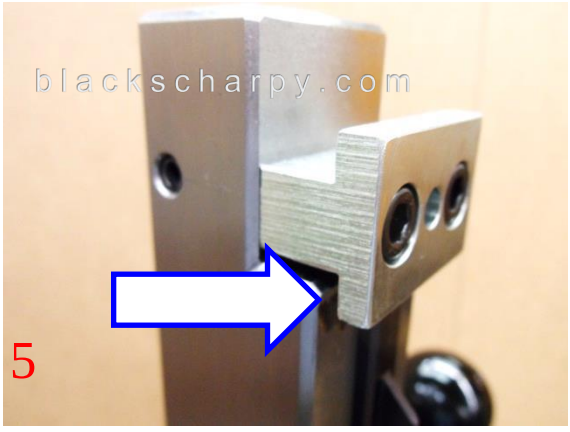
Loosen the top clamp retaining screws and withdraw the top clamp a small amount



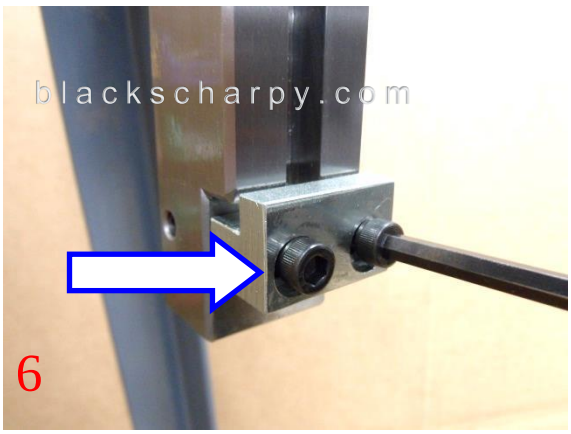
Note: top clamp can be re-moved and rotated 180° for different broach types



Top clamp position for C & H type broaches



Top clamp position for N & JS type broaches



Lower the rack and remove the bottom clamp screws

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Bottom clamp removed

Slide the broach into the groove in the rack

Push the broach upwards until it is located in the top clamp

Fit the bottom broach clamp

With upwards pressure, tighten the bottom clamp screws

Raise the rack and insert the support pin, then tighten the top clamp screws

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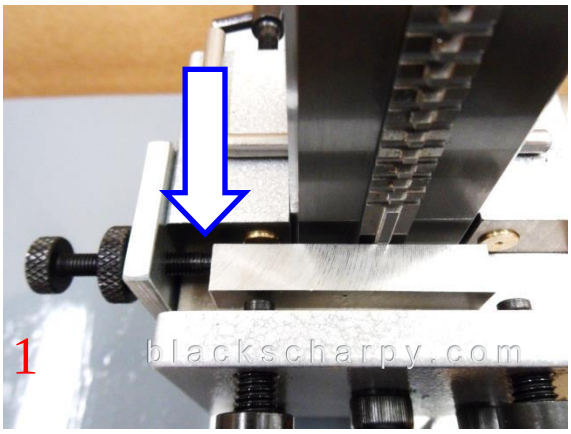
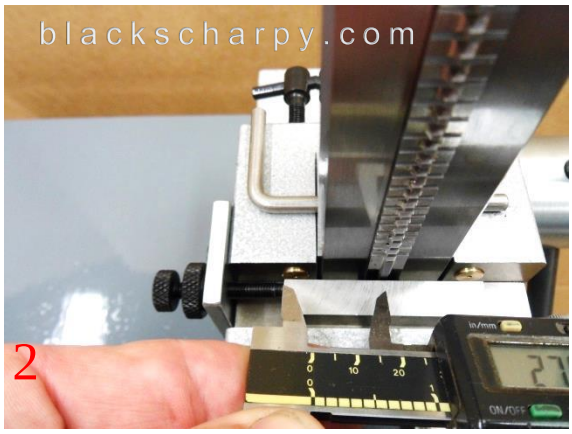
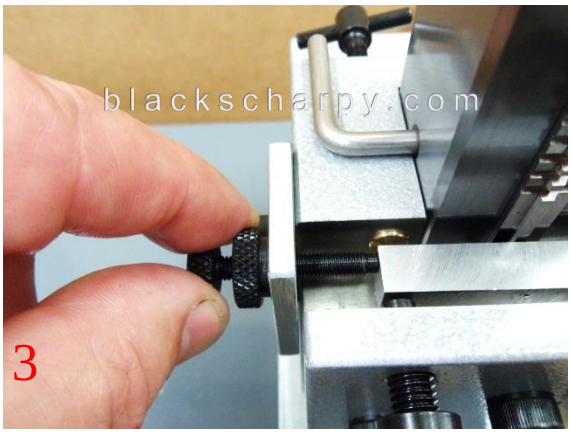
6B. Setting specimen Axial Position



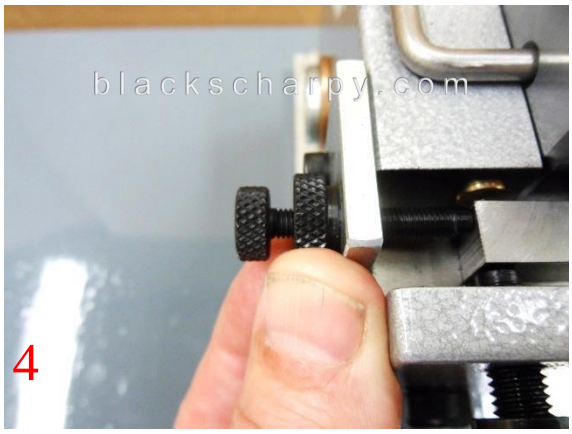
Load 10mm specimen into clamp assembly so that the specimen is contacting the axial adjusting screw



Check axial position and broach a specimen



Check axial position and re-adjust position if required



Always tighten the locking nut, so securing the axial adjusting screw position

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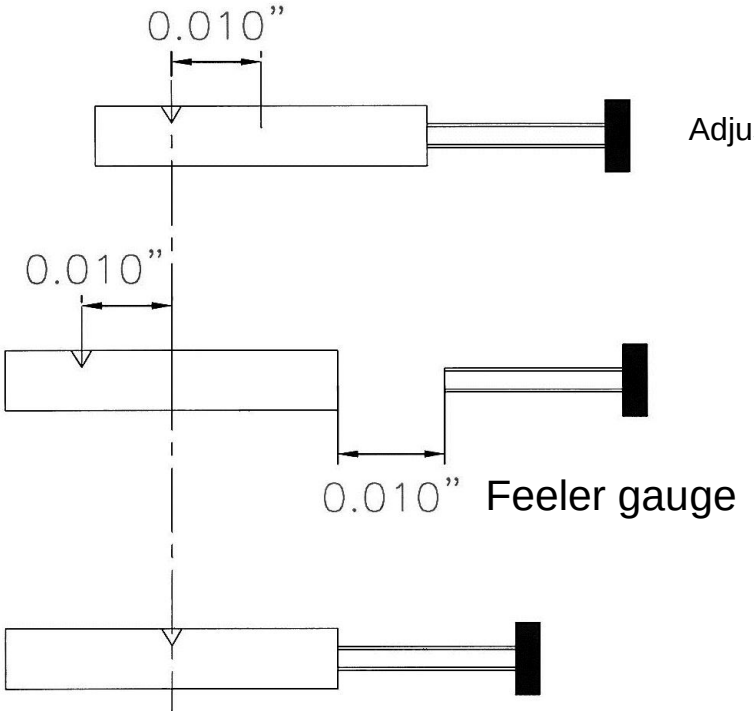
USER MANUAL

CUSTOMER TO CHECK AXIAL POSITION, WITH THEIR OWN EQUIPMENT

Notch to left of specimen centre line, by say 0.010”

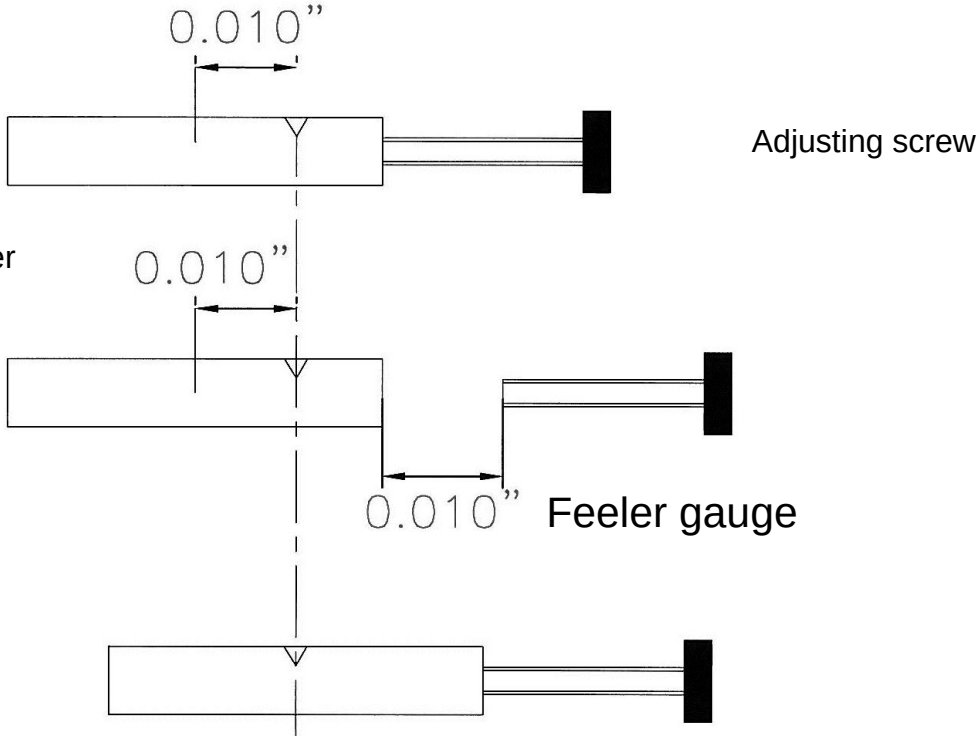
1. Initial notch position



2. Unclamp specimen
3. Move specimen using 0.010” feeler gauge
4. Clamp specimen
5. Reposition adjusting screw

Notch to right of specimen centre line, by say 0.010”

1. Initial notch position



2. Reposition adjusting screw using 0.010” feeler gauge
3. Unclamp specimen
4. Move specimen
5. Clamp specimen

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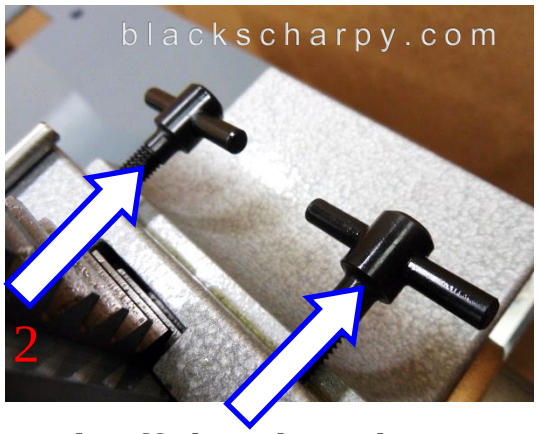
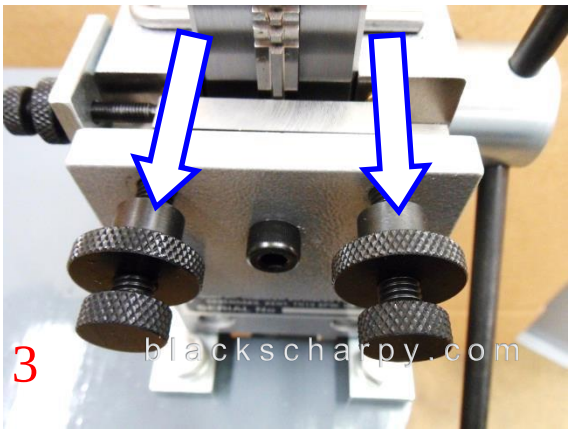
6C. Setting Broach Depth

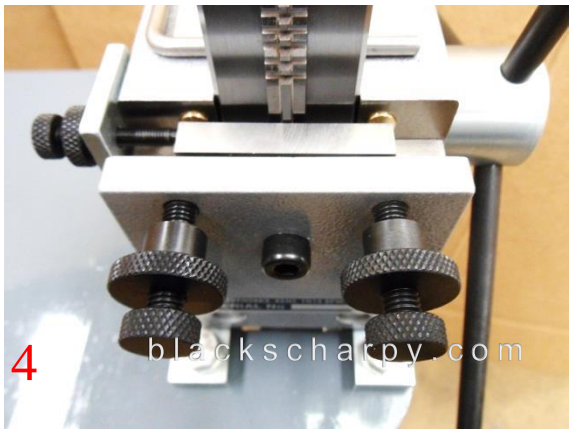
Raise the rack and insert the support pin



Back off the clamping screws



Back off the stop adjusting screws and locknuts



Load the specimen

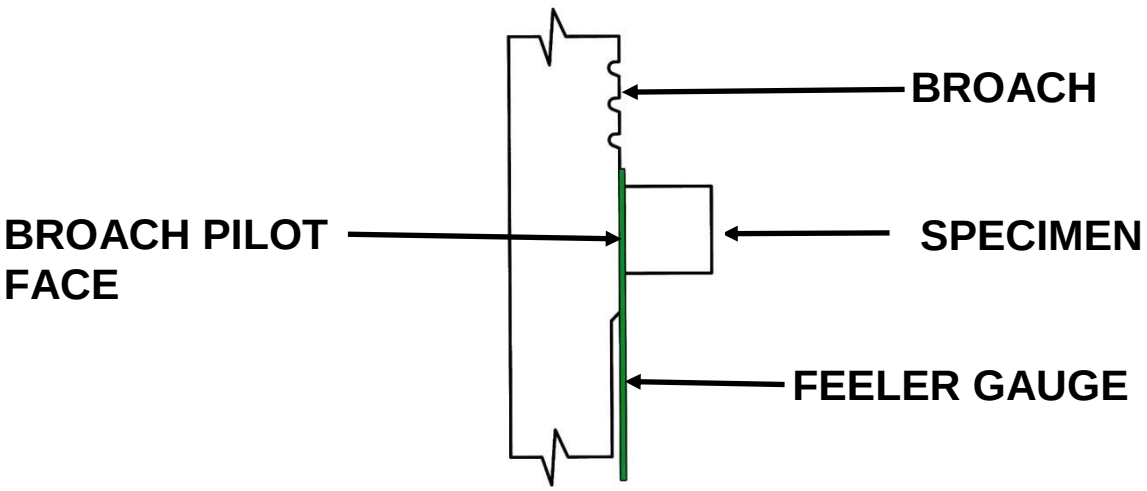


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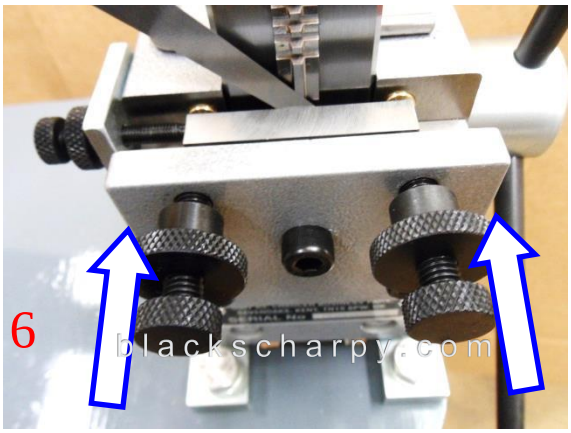
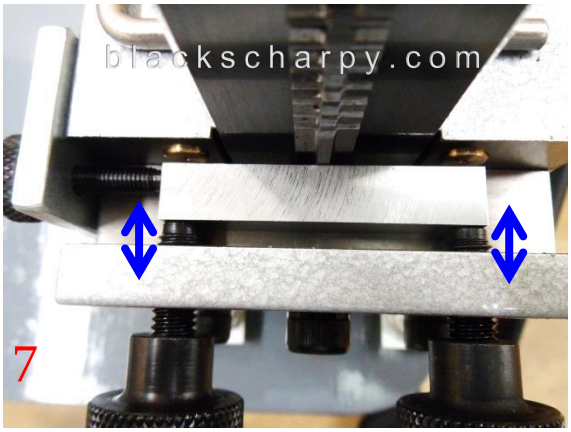
Table 1

NOTCH	BROACH TYPE	BROACH	FEELER GAUGE THICKNESS
2mm ‘V’	C	CNB30-027A2	0.005”
1mm ‘V’	M	CNB30-028A2	0.005”
2mm “U”	P	CNB30-006A2	0.016”
2mm ‘U’	N	CNB30-005A2	0.055”
3mm ‘U’	N	CNB30-005A2	0.016”
5mm ‘U’ (2 Cuts)	JS	CNB30-004A2	0.005” 1st CUT
0.13”/3.3mm “V”	H	CNB30-002A2	0.004”
3.5mm “V”	T	CNB30-035A2	0.004”

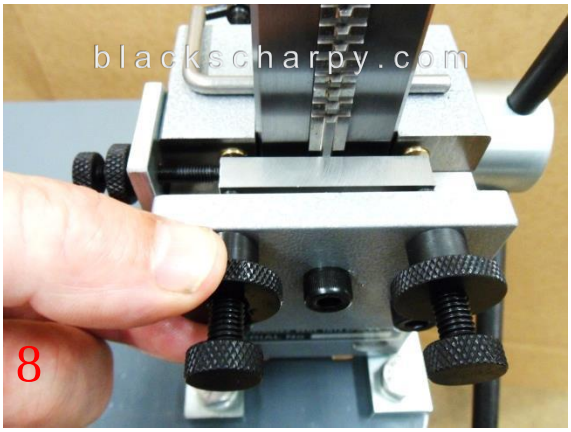
Set feeler gauge thickness as in table 1 and place between the broach pilot face and the specimen face



Advance the stop adjusting screws, so that the feeler gauge is a sliding fit



Ensure the stop adjusting screws are equally adjusted



Tighten the stop adjusting screw locknuts

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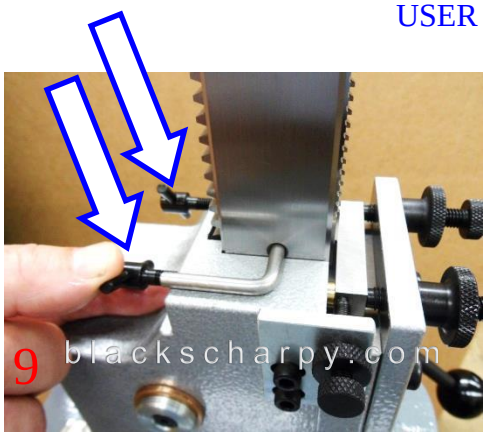
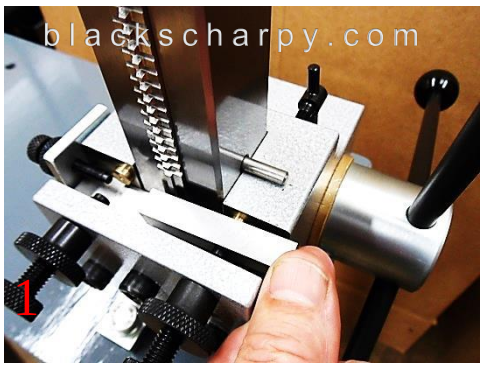


Tighten the clamping screws

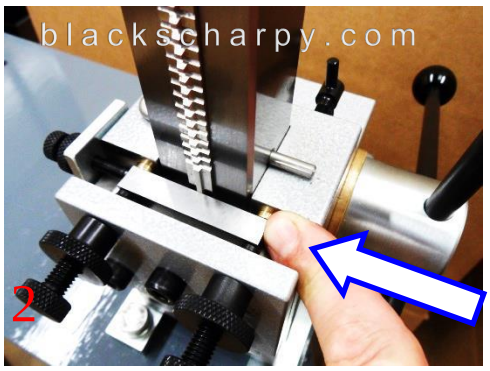
Recheck the feeler gauge is a sliding fit

If necessary readjust the stop adjusting screws until the feeler gauge is a sliding fit

6D. Broaching Specimen



Load specimen



Push specimen up against the axial adjusting screw

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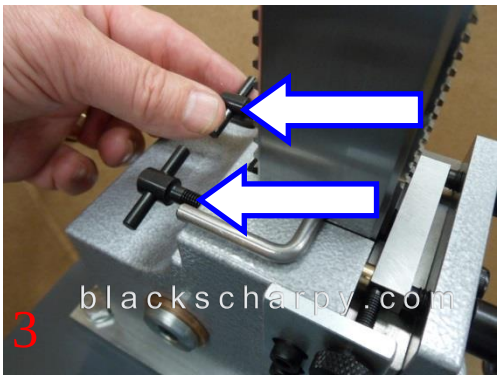
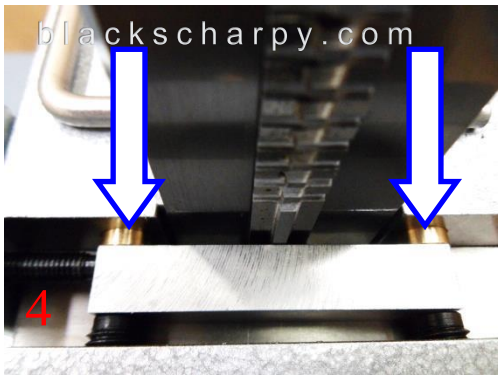


Clamp specimen using clamping screws

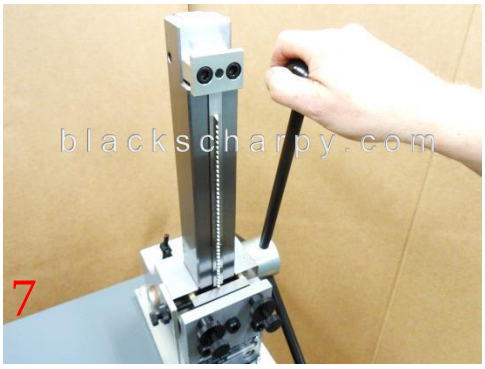


Clamping pins securing the specimen

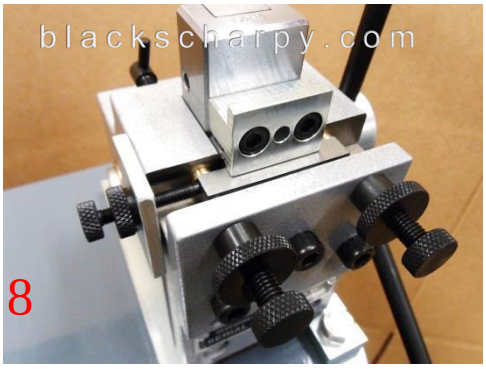
Apply cutting oil to the broach teeth, using brush supplied with machine.

Hold handle & remove rack supporting pin

We recommend RTD metal cutting liquid



Rotate the handle at an even rate to cut the notch



Stop when the broach has cut the notch and the top clamp has come to rest on the specimen

Note: To prevent damage to broach teeth always remove specimen BEFORE raising the broach

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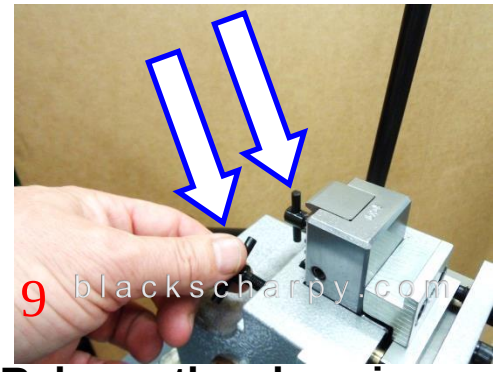


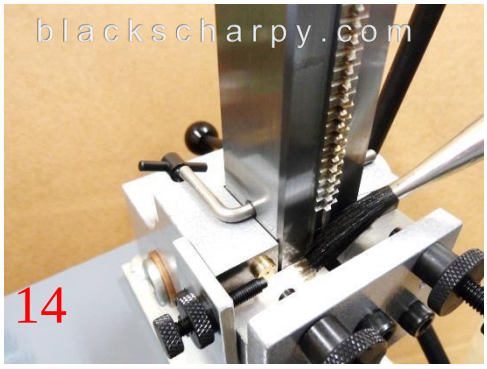
Release the clamping screws, raise the rack 1mm and remove the specimen

Specimen broached

Raise the broach

Fit rack support pin

Clean broach teeth using wire brush supplied with machine, ensuring cuttings are removed from teeth gulley's



Thoroughly clean clamping area using brush supplied. The machine is now ready to cut next notch

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6 E. Adjusting Depth of Cut

Check notch depth

Adjust the feeler gauge size, by the change in depth required

Note:
If the depth of notch needs to be increased, reduce the feeler gauge size.
If the depth of notch needs to be reduced, increase the feeler gauge size.

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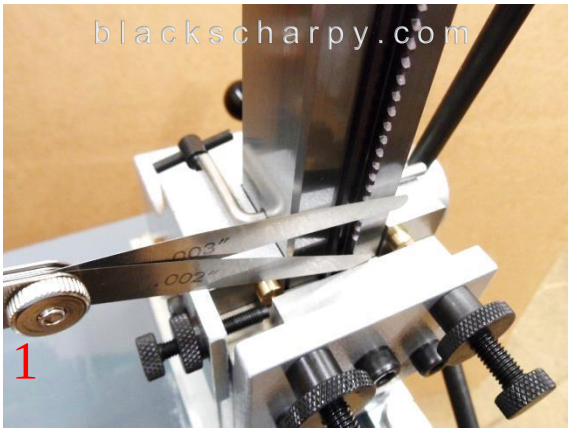
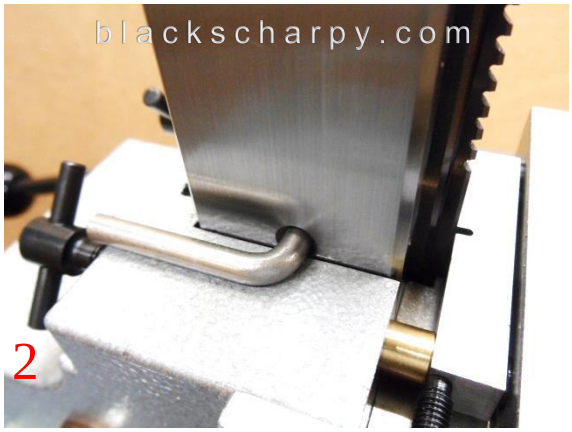
6 F. JS BROACHING, 5mm U notch



1st cut. Use feelers as in Table 1 to set the broach depth



1st cut completed, producing a 3mm deep notch

2nd cut. Place the 2mm packer, supplied with the broach, behind the specimen to produce a 5mm deep notch

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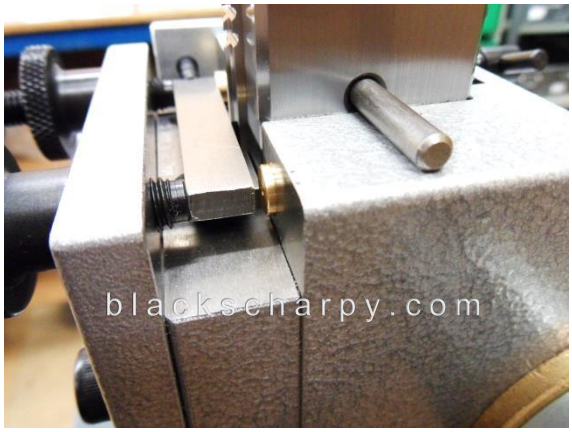
10 G. SUB SIZE SPACER (OPTION)



For 10mm square and 10 x 7.5mm sub-size specimens, NO SPACER is required.

For 10 x 5.0mm sub-size specimens, SPACER CNB35-033A4 is required.

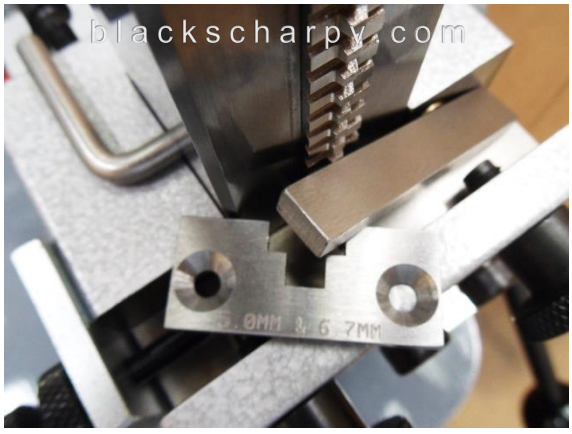
For 10 x 4.0mm sub-size specimens, SPACER CNB35-030A4 is required.

For 10 x 3.3 and 3.0mm sub-size specimens, SPACER CNB35-029A4 is required.

For 10 x 2.5mm sub-size specimens, SPACER CNB35-032A4 is required.

Fixing the spacer

The spacer is held in place by 2 countersunk slotted screws. If the spacer is removed to broach 10mm square or 10 * 7.5mm subsize specimens, secure the 2off countersunk slotted screws in the fixing holes, to prevent the broach cuttings from entering the holes.



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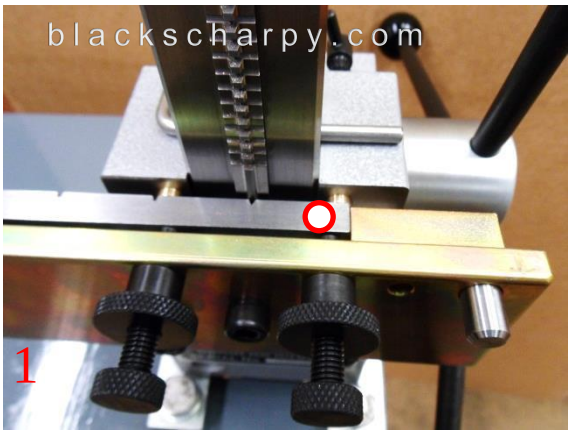
10 H. MULTI NOTCH (OPTIONS)

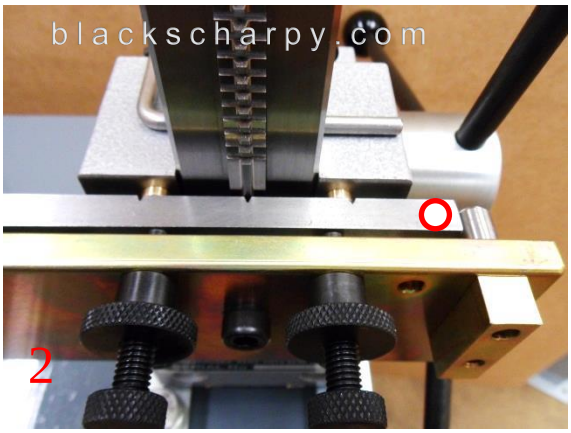
The multi notch attachment is normally fitted at RJW Ltd., but can be fitted by customers who have an engineering department

10mm square multi notch specimen

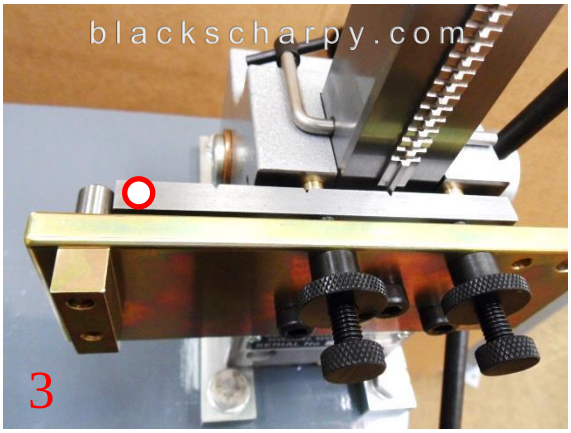
Broaching 10mm Square Multi Notch



Broaching 1st notch



Broaching 2nd notch



Broaching 3rd notch

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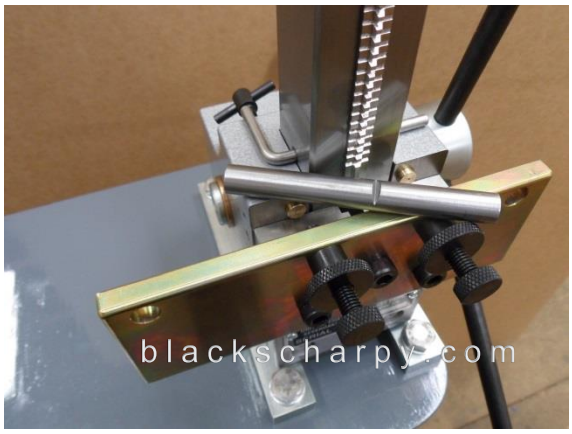
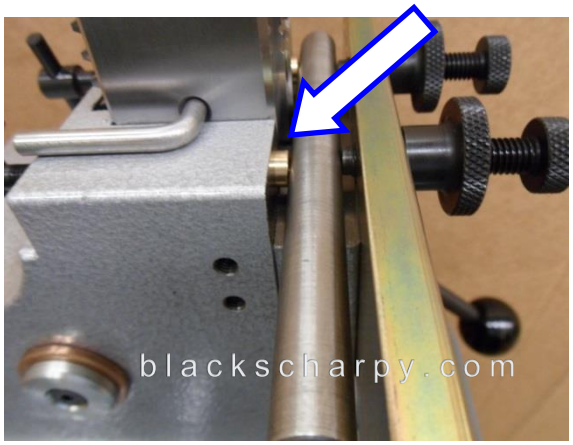
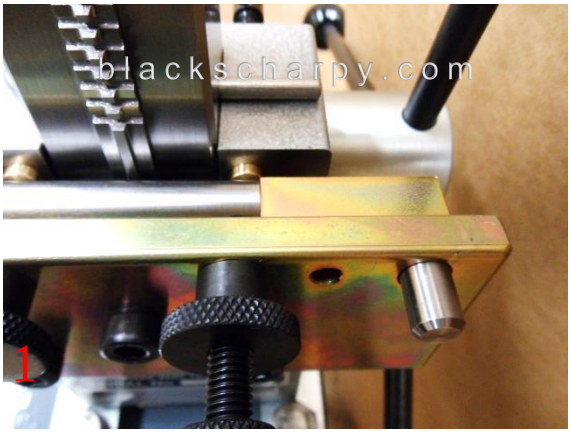
Broaching 0.45”/11.4mm Round Multi Notch, with “H” broach





Round multi notch specimen. Angular orientation of notches must be judged by eye or scribed lines.

A round specimen firmly clamped



Broaching 1st notch

Broaching 2nd notch

Note:
Up to 3 notches can be produced in square or round specimens, at a 28mm pitch

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