

Instructions for Use - Rigibore Units

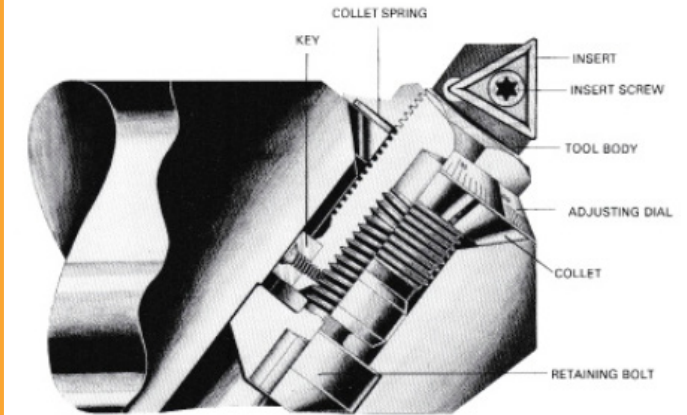


Rigibore Units

Type 'R' for roughing and semi-finish boring type

'TR' for finish boring

'F' for larger diameter boring



The collet clamping system of Rigibore units offers substantial advantages over similar units by firmly clamping the tool when the assembly is tensioned. The collet spring also keeps the dial in place when the retaining bolt is released for adjustment.

Dial graduations are easily read and each produces an adjustment of 0.01mm/.0004in on radius (0.02mm/.0008in on diameter). Graduations can be readily split to provide an even finer setting capability.

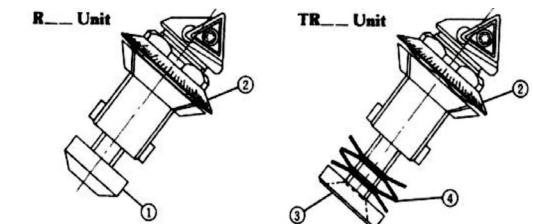
On top-adjusting (TR) units, modified components and additional spring washers at the back provide fine adjustment without releasing the retaining bolt.

Operating Instructions - The Standard Unit - Type 'R' - For Roughing & Semi-Finishing

Torque values for bolt (1) on Rigibore 'R' Units		
Unit Size	Min	Max
R2 ___	7 inch lbs / 0.8Nm	10 inch lbs / 1.1Nm
R3 ___	12 inch lbs / 1.4Nm	16 inch lbs / 1.8Nm
R5 ___	30 inch lbs / 4.3Nm	45 inch lbs / 5.1Nm
R7 ___	75 inch lbs / 8.5Nm	90 inch lbs / 10.2Nm
R10 ___	130 inch lbs / 14.7Nm	150 inch lbs / 17.0Nm

Note: minimum torque value is that at which the unit effectively clamps, maximum torque value is that at which the unit becomes difficult to unclamp

In roughing applications, at speeds in the region of 350 / 360 ft/min or 105 / 110 meters/min depths of cut of .125" / 5mm on size 5 units and .400" / 10mm on size 7 and 10 units have been recorded at feeds up to .008" / 0.2mm (These figures will vary depending on material and other cutting conditions).



1. Insert the Rigibore Unit into the boring bar & screw in the bolt (1). Roughly adjust the tool by turning the dial (2) - clockwise to increase diameter / anticlockwise to decrease diameter - to the approximate diameter required - with the retaining bolt (1) tightened only sufficiently to tension the assembly.
2. Using the correct spanner/wrench lightly tighten the dial (2) onto the bar flat and check for size
3. To re-adjust, release the retaining bolt (1) approximately one-quarter turn. **Note:** care should be taken in releasing the retaining bolt to retain tension in the assembly. Adjust with spanner/wrench, the desired graduation and firmly tighten the retaining bolt.

Do not over tighten. Each graduation on the dial adjusts .0004" / 0.01mm on radius. For adjustments finer than one graduation, use the Vernier scale marked on the boring bar.

Operating Instructions - Top Adjusting Units - Type 'TR' - For Fine Boring/Finishing

Recommended for depths of cut up to .010"/ 0.25mm

1. Insert the unit and roughly adjust as for type 'R'
2. Using a hexagon wrench, tighten the retaining screw (3) to fully compress the spring stack (4) and back-off ½ turn max.
3. Obtain final size by adjusting the dial (2) only. Do not change the retaining screw setting.

Note: When adjusting for a smaller diameter, always adjust under-size and then adjust clockwise to size.

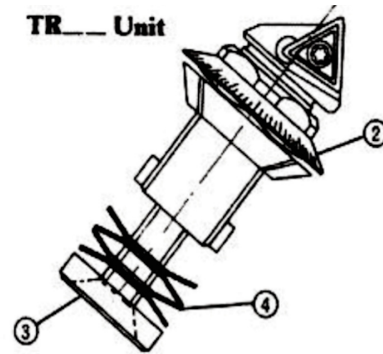
'TR' units are supplied with retaining screw and spring stack assembled in the correct order.

In the event that the spring stack becomes separated from the retaining screw and needs to be fitted, always remember that the disc spring nearest the unit should be with its outer rim towards the unit and other disc springs alternating as illustrated.

4. This will ensure that the outer rim of the disc spring seats against the counterbore in the back of the boring bar (note: the number of disc springs varies with the unit size).

In extreme cutting conditions i.e. interrupted cuts etc. the action of the 'TR' unit can be made more rigid by re-stacking these disc springs as shown in illustration (5) i.e. double stacking, but note that this will halve the adjustment range and must be pre-loaded by backing off the retaining screw only ¼ turn (or less).

Additional disc springs may have to be purchased to achieve this.



'TR' Units, as supplied, are fitted with:	
Unit	Disc Springs
Size 2	6
Size 3	5
Size 5	3
Size 7	4
Size 10	4

For flexibility of use, the 'TR' unit can be used as for the standard 'R' unit, i.e. by fully tightening the retaining screw. In this way, the 'TR' unit becomes only marginally less rigid than the standard 'R' unit but will reduce the effective life of the disc springs that lose their spring characteristics after sustained full compression.

Operating Instructions - Bush Mounted Units - Type 'BTR/MBTR'

Bush units are offered in both 2 screw and 3 screw types to interchange with most other units of this type. The common feature of all bush units is that they are constructed of a bush plus a 'TR' unit.

All instructions applicable to 'TR' units also apply to MBTR/BTR bush units.

