

Part preparation & operating parameters for roller burnishing

Roller burnishing

Coolant

For most metals use any standard grade, light-weight, low-viscosity lubricating oil, or any mineral, sulphur, or soluble oil compatible with the metal or alloy to be burnished and recommended for fine surface finishing.

For aluminum or magnesium alloys use a highly refined oil-based coolant with low viscosity.

For cast iron a mineral seal oil is ideal. Flooding the part is recommended.

Filtration of the coolant is highly recommended to remove metal particles and grit.

Maintenance & repair

The Roll-a-Finish tool requires only routine maintenance. For long tool life and optimum performance, tool should be kept free of grit and other foreign matter. Rolls, cage, and mandrel should be examined at regular intervals and replaced when the desired size and finish are no longer obtainable. It is always advisable to replace a complete set of rolls, as there will be some sacrifice of tolerance and finish quality if new and used rolls are mixed.

Tools may be returned to Cogsdill for inspection and reconditioning to return them to original operating performance. Contact Cogsdill's Returns Department for a Return Material Authorization Number to assist us in processing your repair order. We will advise price and delivery before proceeding with the repair.

Interchangeability

Mandrel and race assemblies are interchangeable with tool adjustment assemblies within specified ranges. For example, the "R"-style tools from .500 to 1.000 inch (12.7 to 25.4mm) have a common adjustment assembly.

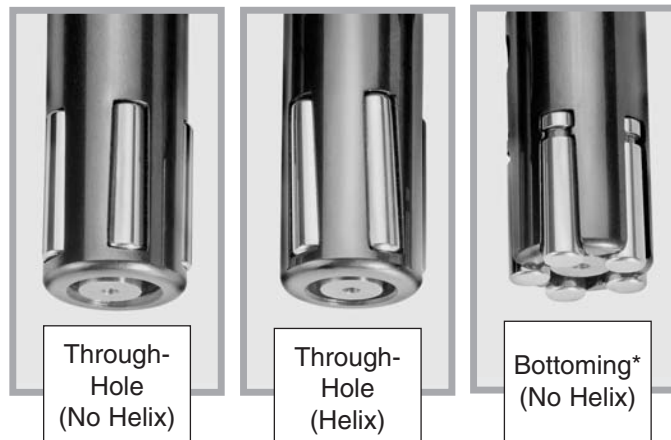
All standard Roll-a-Finish tools .500 inch and above can be changed from through-hole to bottoming by changing cage and rolls.

Speed and feed recommendations for internal Roll-a-Finish tools with self-feeding cages ⁽¹⁾

DIAMETER		RPM	FEED PER REVOLUTION	
INCHES	MM		INCHES	MM
.187	4.76	1500-4300	.010-.012	.2540-.3048
.250	6.35	1500-4300	.010-.012	.2540-.3048
.312	7.94	1300-3700	.012-.014	.3048-.3556
.375	9.52	1020-3100	.016-.020	.4064-.5080
.437	11.11	875-2600	.018-.023	.4572-.5842
.500	12.70	765-2300	.018-.023	.4572-.5842
.562	14.28	675-2000	.018-.023	.4572-.5842
.625	15.87	610-1800	.030-.036	.7620-.9144
.750	19.05	505-1500	.030-.036	.7620-.9144
.875	22.22	335-1300	.034-.039	.8636-.9906
1.000	25.40	380-1100	.048-.052	1.219-1.321
1.125	28.57	340-1000	.051-.056	1.295-1.422
1.250	31.75	305-900	.064-.069	1.625-1.752
1.375	34.92	275-825	.077-.082	1.956-2.083
1.500	38.10	255-750	.090-.095	2.286-2.413
1.625	41.27	235-700	.084-.088	2.133-2.235
1.750	44.45	215-650	.097-.101	2.464-2.565
1.875	47.62	205-610	.110-.114	2.794-2.895
2.000	50.80	190-575	.123-.127	3.124-3.226
2.125	53.97	180-540	.136-.141	3.454-3.581
2.250	57.15	170-510	.149-.154	3.785-3.912
2.375	60.32	160-485	.162-.167	4.115-4.242
2.500	63.50	150-460	.175-.180	4.445-4.572
2.625	66.67	145-435	.088-.090	2.235-2.286
2.750	69.85	140-415	.095-.097	2.413-2.464
2.875	73.02	130-400	.101-.102	2.565-2.591
3.000	76.20	125-380	.101-.103	2.565-2.616
3.500	88.90	110-325	.128-.130	3.251-3.302
4.000	101.60	95-285	.154-.156	3.912-3.962

(1) When the self-feeding tool is used with power feed, the feed rate MUST exceed the maximum feed rate (shown at left) for a given size. This prevents the rolls from collapsing in the cage and eliminating the burnishing action.

POWER FEEDING CAGES: The feed rate for "SR" and bottoming-style "B" tools with power-feeding cages must be from .010 IPR (.25mm/rev.) up to the maximum rate (shown at left) for the self-feeding tools for the same diameter.



*Mandrel may be cut off if it does not allow full bottoming.

Cogsdill-Nuneaton Limited

www.rollerburnishingtool.co.uk