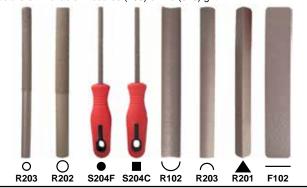
# PERMA-GRIT HAND TOOLS

#### HAND TOOLS

Perma-Grit Tools are made of Tungsten Carbide Grit, one of the hardest elements available, second only to diamonds. They are specifically designed and developed for aircraft builders, woodworkers, and modelers. These tools will cut, sand and shape tough composite materials, saving homebuilders hours of building time. Ideal for fuselage shaping and wing building, these tools are highly recommended by several kitplane manufacturers. Available in coarse (180) & fine (320) grit.



#### **ROTARY FILES**

Supplied with a 3mm integral arbor so they may be used in reversible drive drills and hobby drills. These files are well balanced and run smoothly, and cur a wide range of materials with little need for secondary finishing. Available in coarse and fine grit.



RF2F	12-00073	Wide Cone Fine	
RF3C	12-00074	Drum Coarse	
RF3F	12-00075	Drum Fine	
RF4C	12-00076	Pancake Coarse	
RF4F	12-00077	Pancake Fine	
RF5C	12-00078	Domehead Coarse	
RF5F	12-00079	Domehead Fine	
RF6C	12-00080	1/8 diameter Rod Coarse	
RF6F	12-02247	1/8 diameter Rod Fine	

### SANDING BLOCKS & FLEXI-STRIPS



These verstile sanding blocks are ideal for sanding large areas, creating straight edges, producing dihedral angles, profiling leading edges, feathering trailing edges, and more. The sanding blocks are coarse grit on one side and fine grit on the opposing side. The flexible grit strips can be cut and shaped to any form, external or internal.

Model #	Part No.	Description	Price
SB140	12-00064	140mm x 51mm Coarse one side, fine opp.	
SB280	12-00065	280mm x 51mm Coarse one side, fine opp.	
SB560	12-00066	560mm x 51mm Coarse one side, fine opp.	
FXT-103	12-00060	51mm x 280mm Fine Grit Strip	
FXT-104	12-00061	51mm x 280mm Coarse Grit Strip	
FXT-106	12-00062	51mm x 140mm Fine Grit Strip	
FXT-107	12-00063	51mm x 140mm Coarse Grit Strip	

#### 3/8" INCH NEEDLE FILE KIT WITH HANDLE

Set of 5 files: Hand, Round, Halfround, Square and 3-Square Extremely versatile tools, popular for detailed work. These file cuts in any direction and does not clog easily. Cuts quickly leaving an excellent finish .......P/N 12-01752

Model #	Part No.	Description	Price
F-101	12-00040	230mm x 38mm Flat Fine File	
F-102	12-00041	230mm x 38mm Flat Coarse	
R-200F	12-00042	230mm x 26mm / 36mm diameter Fine	
R-200C	12-00043	230mm x 26mm / 36mm diameter Coarse	
R-201C	12-00044	230mm x 38mm Tangent Coarse	
R-201F	12-00045	230mm x 38mm Tangent Fine	
R-202C	12-00046	18mm diameter tube Coarse	
R-202F	12-00047	18mm diameter tube Fine	
R-203C	12-00048	12mm diameter tube Coarse	
R-203F	12-00049	12mm diameter tube Fine	
R-204C	12-00050	6 mm round Coarse grit	
R-204F	12-00051	6 mm round Fine grit	
S-204C	12-00052	6 mm square Coarse grit	
S-204F	12-00053	6 mm square Fine grit	
R-101	12-00054	230mm x 38mm diameter Internal Fine grit	
R-102	12-00055	230mm x 38mm diameter Internal Coarse grit	
Set 8C	12-00056	contains: 8 popular shapes in Tool Roll F-101, F102, R-200C, R-201C, R-202C, R-203C, R-204C, S-204C	
Set 8F	12-00057	contains: 8 popular shapes in Tool Roll F-101, F102, R-200F, R-201F, R-202F, R-203F, R-204F, S-204F	
TR1	12-00058	Tool Roll - Holds 8 tools, red plastic w/velcro fastener	

# ROTARY CUTTING DISCS



These durable cutting discs are available in two sizes (19mm and 32mm) and come complete with a 3mm steel arbor to fit hobby drills. Will cut all woods, piano wire, composites, ceramics, stone, etc.

Model No.	Part No.	Description	Price
RD-1	12-00067	19mm diameter disc with arbor	
RD2	12-00068	32mm disc with arbor	
RD3	12-00069	19 & 32mm disc with arbor	

#### NEEDLE FILES

These extremely versatile tools are excellent for shaping and finishing. They will cut in any direction and do not clog easily. Our needle files cut quickly and leave an excellent finish. Very popular for detail work. Furnished in Medium 280 grit.

NFH         NF-1         RIF-1         LNF-1           Model No.         Part No.         Description         Price           NF1         12-00081         Set of 5 needle files w/ Handle            NF1         12-00082         Set of 5 needle files w/ Handle            NF-F         12-00083         Flat needle file only            NF-K         12-00085         Round needle file only            NF-R         12-00085         Round needle file only            NF-R         12-00085         Round needle file only            NF-T         12-00085         Round needle file only            NF-T         12-00085         Round needle file only            NF-T         12-00086         Square needle file only            NF-T         12-00087         Triangle needle file only            RIF-1         12-00098         Set of 5 Riffler files w/o Handle            RIF-1         12-00090         Flat Riffler file only            RIF-1         12-00091         Half-round Riffler file only            RIF-R         12-00093         Square Riffler file only         <	FILE HANDLE	NEEDLE FI	LES RIFFLER FILES LARGE NEEL	DLE FILES
Model No.         Part No.         Description         Price           NF1H         12-00081         Set of 5 needle files w/ Handle            NF1         12-00082         Set of 5 needle files w/ Handle            NF-F         12-00083         Flat needle file            NF-K         12-00084         Knife needle file only            NF-K         12-00085         Round needle file only            NF-R         12-00086         Square needle file only            NF-R         12-00087         Triangle needle file only            NF-T         12-00088         Set of 5 Riffler files w/ Handle            NF-T         12-00088         Set of 5 Riffler files w/ Handle            RIF-1         12-00089         Set of 5 Riffler file only            RIF-1         12-00090         Flat Riffler file only            RIF-R         12-00091         Half-round Riffler file only            RIF-R         12-00093         Square Riffler file only            RIF-T         12-00093         Square Riffler file only            RIF-T         12-00093				
NF1H         12:00081         Set of 5 needle files w/ Handle            NF1         12:00082         Set of 5 needle files w/o Handle            NF-F         12:00083         Flat needle file            NF-K         12:00084         Knife needle file only            NF-K         12:00085         Round needle file only            NF-S         12:00086         Square needle file only            NF-S         12:00087         Triangle needle file only            NF-T         12:00088         Set of 5 Riffler files w/ Handle            RIF-1         12:00089         Set of 5 Riffler files w/ Handle            RIF-1         12:00089         Set of 5 Riffler file only            RIF-1         12:00090         Flat Riffler file only            RIF-R         12:00091         Half-round Riffler file only            RIF-R         12:00092         Round Riffler file only            RIF-R         12:00093         Square Riffler file only            RIF-7         12:00094         Triangle Riffler file only            LNF-8         12:00				
NF1         12-00082         Set of 5 needle files w/o Handle            NF-F         12-00083         Flat needle file            NF-K         12-00084         Knife needle file only            NF-R         12-00085         Round needle file only            NF-R         12-00086         Square needle file only            NF-S         12-00087         Triangle needle file only            NF-T         12-00088         Set of 5 Riffler files w/ Handle            RIF-1         12-00089         Set of 5 Riffler files w/ Handle            RIF1         12-00089         Set of 5 Riffler files w/ Handle            RIF1         12-00089         Set of 5 Riffler file only            RIF-F         12-00090         Flat Riffler file only            RIF-R         12-00091         Half-round Riffler file only            RIF-R         12-00092         Round Riffler file only            RIF-R         12-00093         Square Riffler file only            RIF-T         12-00094         Triangle Riffler file only            LNF-F         12-00		Part No.		Price
NF-F         12-00083         Flat needle file            NF-K         12-00084         Knife needle file only            NF-R         12-00085         Round needle file only            NF-R         12-00086         Square needle file only            NF-S         12-00086         Square needle file only            NF-T         12-00087         Triangle needle file only            RIF-1         12-00088         Set of 5 Riffler files w/ Handle            RIF1         12-00089         Set of 5 Riffler files w/ Handle            RIF-1         12-00090         Flat Riffler file only            RIF-1         12-00091         Half-round Riffler file only            RIF-7         12-00092         Round Riffler file only            RIF-8         12-00093         Square Riffler file only            RIF-7         12-00093         Square Riffler file only            RIF-7         12-00094         Triangle Riffler file only            LNF-1         12-00095         Set of 5 Large needle file only            LNF-7         12-00098		12-00081		
NF-K         12-00084         Knife needle file only            NF-R         12-00085         Round needle file only            NF-S         12-00086         Square needle file only            NF-S         12-00087         Triangle needle file only            NF-T         12-00088         Set of 5 Riffler files w/ Handle            RIF-1         12-00089         Set of 5 Riffler files w/ Handle            RIF1         12-00090         Flat Riffler file only            RIF-F         12-00091         Half-round Riffler file only            RIF-R         12-00092         Round Riffler file only            RIF-R         12-00092         Round Riffler file only            RIF-S         12-00093         Square Riffler file only            RIF-T         12-00093         Square Riffler file only            LNF-1         12-00095         Set of 5 Large needle file only            LNF-1         12-00096         Flat Large needle file only            LNF-R         12-00097         Half-Round Large needle file only            LNF-R		12-00082	Set of 5 needle files w/o Handle	
NF-R         12:00085         Round needle file only            NF-S         12:00086         Square needle file only            NF-T         12:00086         Square needle file only            NF-T         12:00087         Triangle needle file only            RIF-1         12:00088         Set of 5 Riffler files w/ Handle            RIF-1         12:00089         Set of 5 Riffler files w/ Handle            RIF-1         12:00090         Flat Riffler file only            RIF-4         12:00091         Half-round Riffler file only            RIF-8         12:00092         Round Riffler file only            RIF-8         12:00093         Square Riffler file only            RIF-7         12:00093         Square Riffler file only            LNF-1         12:00095         Set of 5 Large needle file only            LNF-7         12:00096         Flat Large needle file only            LNF-8         12:00097         Half-Round Large needle file only            LNF-8         12:00098         Round Large needle file only            LNF-8		12-00083		
NF-S         12-00086         Square needle file only            NF-T         12-00087         Triangle needle file only            RIF-1         12-00088         Set of 5 Riffler files w/ Handle            RIF-1         12-00089         Set of 5 Riffler files w/ Handle            RIF-1         12-00089         Set of 5 Riffler files w/ Handle            RIF-1         12-00090         Flat Riffler file only            RIF-4         12-00091         Half-round Riffler file only            RIF-7         12-00092         Round Riffler file only            RIF-8         12-00093         Square Riffler file only            RIF-7         12-00093         Square Riffler file only            LNF-1         12-00095         Set of 5 Large needle file only            LNF-7         12-00096         Flat Large needle file only            LNF-8         12-00097         Half-Round Large needle file only            LNF-8         12-00098         Round Large needle file only            LNF-8         12-00098         Round Large needle file only			Knife needle file only	
NF-T         12-00087         Triangle needle file only            RIF-1         12-00088         Set of 5 Riffler files w/ Handle            RIF-1         12-00089         Set of 5 Riffler files w/ Handle            RIF-1         12-00090         Flat Riffler files w/ Handle            RIF-F         12-00090         Flat Riffler file only            RIF-R         12-00091         Half-round Riffler file only            RIF-R         12-00092         Round Riffler file only            RIF-R         12-00093         Square Riffler file only            RIF-T         12-00094         Triangle Riffler file only            RIF-T         12-00095         Set of 5 Large needle file only            LNF-1         12-00096         Flat Large needle file only            LNF-F         12-00097         Half-Round Large needle file only            LNF-R         12-00098         Round Large needle file only            LNF-S         12-00098         Round Large needle file only            LNF-T         12-00090         Triangle Large needle file only <td></td> <td>12-00085</td> <td>Round needle file only</td> <td></td>		12-00085	Round needle file only	
RIF-1         12-00088         Set of 5 Riffler files w/ Handle            RIF1         12-00089         Set of 5 Riffler files w/o Handle            RIF-1         12-00090         Flat Riffler file only            RIF-4         12-00091         Half-round Riffler file only            RIF-7         12-00092         Round Riffler file only            RIF-8         12-00093         Square Riffler file only            RIF-7         12-00094         Triangle Riffler file only            RIF-7         12-00095         Set of 5 Large needle files / no handle            LNF-1         12-00096         Flat Large needle file only            LNF-7         12-00097         Half-Round Large needle file only            LNF-8         12-00098         Round Large needle file only            LNF-8         12-00098         Round Large needle file only            LNF-8         12-00098         Square Large needle file only            LNF-7         12-00100         Triangle Large needle file only	NF-S	12-00086	Square needle file only	
RIF1         12-00089         Set of 5 Riffler files w/o Handle            RIF-F         12-00090         Flat Riffler file only            RIF-F         12-00091         Half-round Riffler file only            RIF-R         12-00092         Round Riffler file only            RIF-S         12-00093         Square Riffler file only            RIF-T         12-00094         Triangle Riffler file only            LNF-1         12-00095         Set of 5 Large needle files / no handle            LNF-1         12-00096         Flat Large needle file only            LNF-F         12-00097         Half-Round Large needle file only            LNF-R         12-00098         Round Large needle file only            LNF-R         12-00098         Round Large needle file only            LNF-S         12-00098         Square Large needle file only            LNF-S         12-00090         Triangle Large needle file only            LNF-T         12-00100         Triangle Large needle file only		12-00087		
RIF-F         12-00090         Flat Riffler file only            RIF-H         12-00091         Half-round Riffler file only            RIF-R         12-00092         Round Riffler file only            RIF-S         12-00093         Square Riffler file only            RIF-T         12-00094         Triangle Riffler file only            LNF-1         12-00095         Set of 5 Large needle files / no handle            LNF-1         12-00096         Flat Large needle file only            LNF-F         12-00097         Half-Round Large needle file only            LNF-R         12-00098         Round Large needle file only            LNF-R         12-00098         Round Large needle file only            LNF-S         12-00098         Round Large needle file only            LNF-S         12-00099         Square Large needle file only            LNF-T         12-00100         Triangle Large needle file only		12-00088	Set of 5 Riffler files w/ Handle	
RIF-H       12-00091       Half-round Riffler file only          RIF-R       12-00092       Round Riffler file only          RIF-S       12-00093       Square Riffler file only          RIF-T       12-00094       Triangle Riffler file only          LNF-1       12-00095       Set of 5 Large needle files / no handle          LNF-7       12-00096       Flat Large needle file only          LNF-F       12-00097       Half-Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-S       12-00099       Square Large needle file only          LNF-T       12-00090       Triangle Large needle file only		12-00089		
RIF-R       12-00092       Round Riffler file only          RIF-S       12-00093       Square Riffler file only          RIF-T       12-00094       Triangle Riffler file only          LNF-1       12-00095       Set of 5 Large needle files / no handle          LNF-F       12-00096       Flat Large needle file only          LNF-H       12-00097       Half-Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-S       12-00099       Square Large needle file only          LNF-T       12-00100       Triangle Large needle file only	RIF-F	12-00090	Flat Riffler file only	
RIF-S       12-00093       Square Riffler file only          RIF-T       12-00094       Triangle Riffler file only          LNF-1       12-00095       Set of 5 Large needle files / no handle          LNF-F       12-00096       Flat Large needle file only          LNF-F       12-00097       Half-Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-S       12-00098       Square Large needle file only          LNF-S       12-00090       Triangle Large needle file only          LNF-T       12-00100       Triangle Large needle file only		12-00091		
RIF-T       12-00094       Triangle Riffler file only          LNF-1       12-00095       Set of 5 Large needle files / no handle          LNF-F       12-00096       Flat Large needle file only          LNF-H       12-00097       Half-Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-S       12-00099       Square Large needle file only          LNF-T       12-00100       Triangle Large needle file only		12-00092	Round Riffler file only	
LNF-1       12-00095       Set of 5 Large needle files / no handle          LNF-F       12-00096       Flat Large needle file only          LNF-H       12-00097       Half-Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-S       12-00099       Square Large needle file only          LNF-T       12-00100       Triangle Large needle file only				
LNF-F       12-00096       Flat Large needle file only          LNF-H       12-00097       Half-Round Large needle file only          LNF-R       12-00098       Round Large needle file only          LNF-S       12-00099       Square Large needle file only          LNF-S       12-00099       Square Large needle file only          LNF-T       12-00100       Triangle Large needle file only		12-00094		
LNF-H         12-00097         Half-Round Large needle file only            LNF-R         12-00098         Round Large needle file only            LNF-S         12-00099         Square Large needle file only            LNF-S         12-00090         Square Large needle file only            LNF-T         12-00100         Triangle Large needle file only		12-00095		
LNF-R         12-00098         Round Large needle file only            LNF-S         12-00099         Square Large needle file only            LNF-T         12-00100         Triangle Large needle file only	LNF-F	12-00096		
LNF-S         12-00099         Square Large needle file only            LNF-T         12-00100         Triangle Large needle file only	LNF-H	12-00097	Half-Round Large needle file only	
LNF-T 12-00100 Triangle Large needle file only				
		12-00099	Square Large needle file only	
NFH 12-00101 Needle File handle only		12-00100	Triangle Large needle file only	
	NFH	12-00101	Needle File handle only	

#### LARGE NEEDLE FILE HANDLE

Comfortable plastic handle with brass collet to accept all large (18cms) needle files. Overall length 115mm. Collect 5mm. P/N 12-00166

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