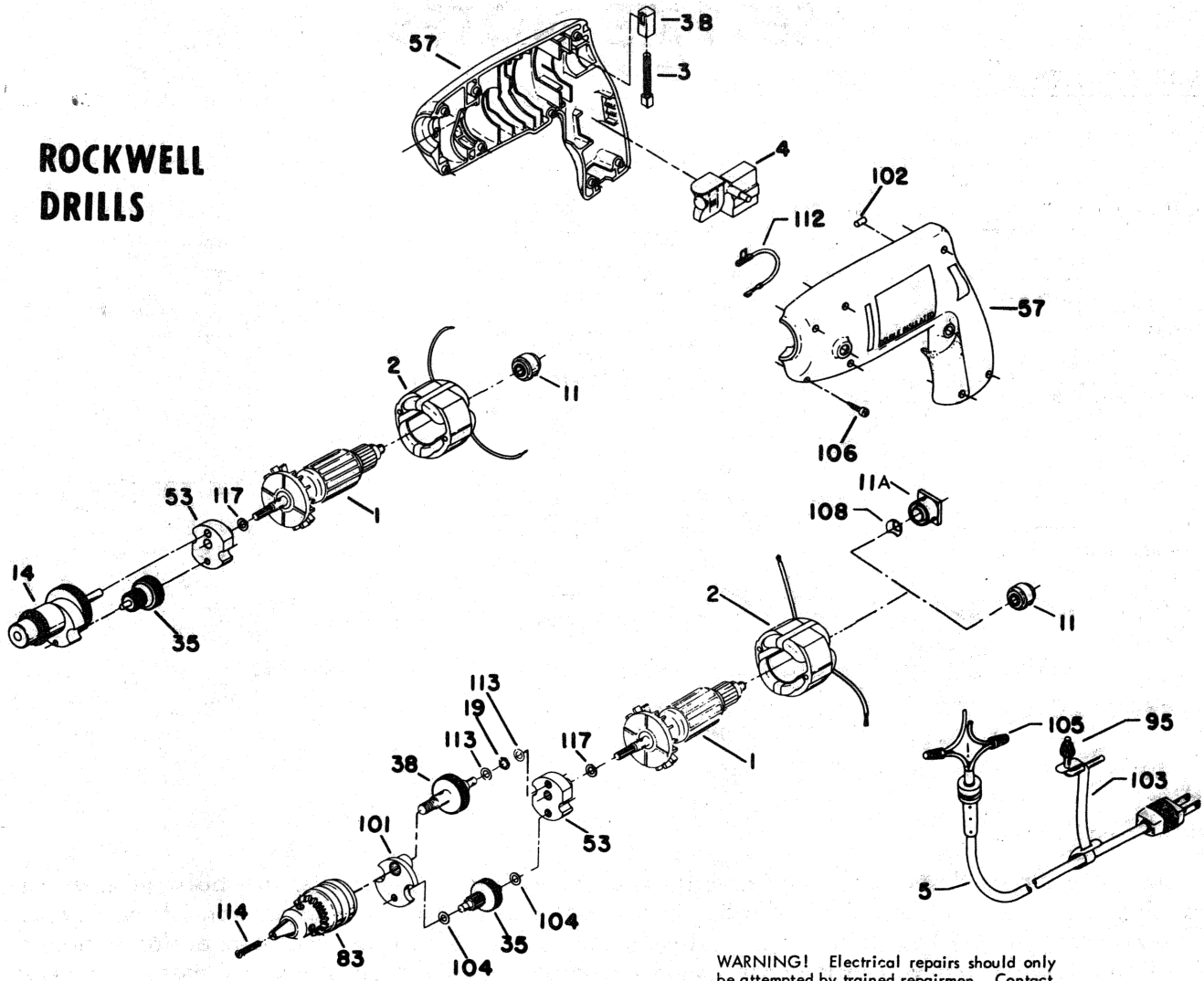


ROCKWELL DRILLS

**474
475
476
477
478**

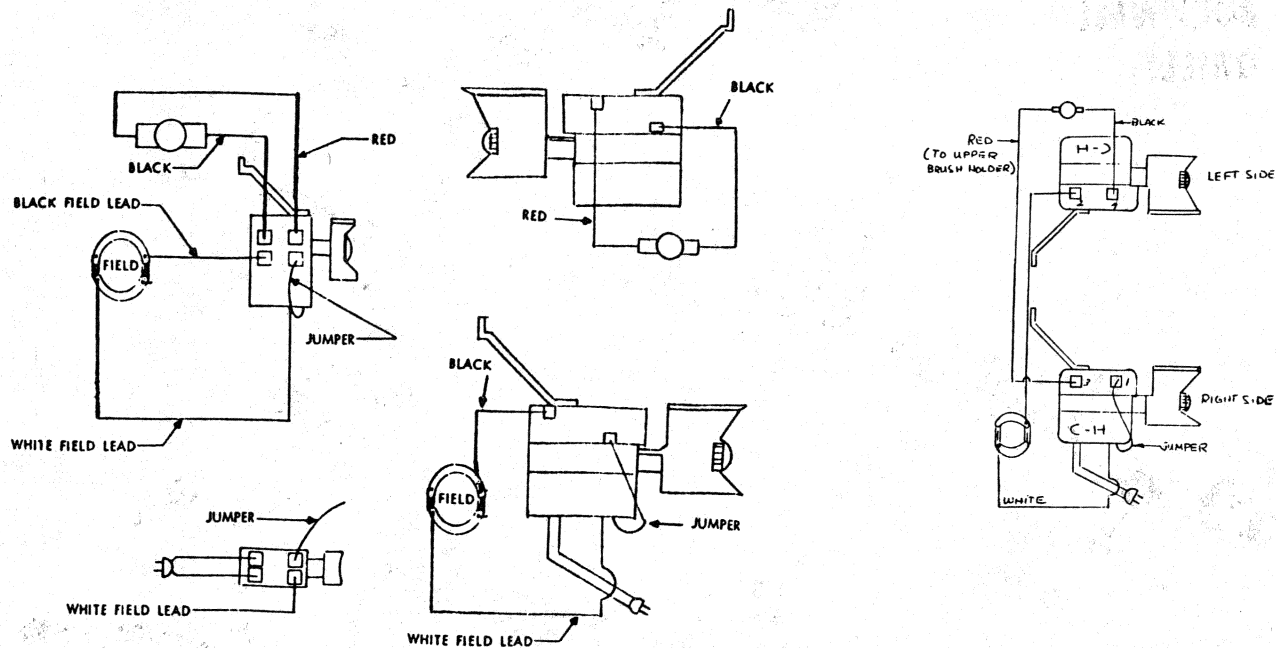


WARNING! Electrical repairs should only be attempted by trained repairmen. Contact the nearest Rockwell Service Center or other competent repair center.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	684715	Armature 115V (474,475, 476T1,477T1)	35	684806	Idler (474,475)	106	856480	Housing Screw
	680976	Armature 115V (476T2, 477T2,478)		684807	Idler (476T1,477T1)	108	849521	Spring Washer
	685903	Armature 220V (474,475, 476T1,477T1)		681755	Idler (478)	112	856397	Lead Assembly
	680985	Armature 220V (476T2, 477T2,478)	38	681089	Idler (476T2,477T2)	113	853058	Thrust Washer (476T2, 477T2, 478)
2	680989	Field 115V		680258	Spindle Gear Assy. (476T2,477T2)	114	856346	Chuck Screw (477T2,478)
	680984	Field 220V		681754	Spindle Gear Assy. (478)	117	848594	Washer (476T2,477T2,478)
3	852875	Brush	53	683552	Intermediate Plate (474, 475,476,477T1)		685545	Fibre Washer (474,475, 476T1,477T1)
3B	852874	Brush Holder		810637	Intermediate Plate (476T2, 477T2, 478)	*	810479	Fan
4	680222	Switch 115V (474,476)	57	686333	Housing Set (T1)(474,476)	*	856534	Gear Lubricant (4 lbs.)(1811 gm.)
	680225	Switch 115V (475,477,478)		686326	Housing Set (T2)(474,476)		ACCESSORIES	
	685598	Switch 220V (475,477,478)		686335	Housing Set (T1)(475,477,478)	*	56302	Auxiliary Handle Assy. Incl:
5	852894	Cord		686327	Housing Set (T2)(475,477,478)		680253	Self-Tapping Screw
11	684617	Commutator Bearing (T2)	83	681482	Chuck 1/16-3/8 (476T2,477T2)		680569	Handle
11A	853065	Commutator Bearing (T1)		681757	Chuck 5/64-1/2 (478)		684620	Self-Tapping Screw
14	684808	Spindle & Chuck Assy. (474,475)	95	56506	Chuck Key (474,475,476,477)			
	684809	Spindle & Chuck Assy. (476T1,477T1)		681767	Chuck Key (478)			
19	852872	Spindle Bearing (476T2, 477T2,478)	101	810491	Front Plate (476T2,477T2,478)			
			102	810495	Housing Pressure Plug			
			103	842323	Chuck Key Holder			
			104	845787	Thrust Washer (474,475,476,477)			
			105	846249	Nut Connector			

SERVICE NOTES

WIRING DIAGRAM:



Models 475, 477, 478

FIELD REPLACEMENT

The currently supplied service field has only two lead wires. Some units are built with a four lead wire field which is identical to the one service supplies with the exception of the jumper lead (two black wires) that is missing. (This jumper lead has no electrical connection with the field winding.) Suggest you remove the jumper lead from below the old field strip metal retainer and use it with the new field.

COMMUTATOR BEARING AND HOUSINGS

A limited quantity of units have been built with the square commutator bearing #853065 and the corresponding housing set #686327 on reversing models and #686326 on non-reversing models.

The square commutator bearing requires loading washer #849521 and the fan end washer #848594.

Fibre washer #685545 (Ref. 118) is used on units which have both the flex type commutator bearing #684617 and spur type gears. This washer is used to reduce the noise caused by armature end play.

SELF TAPPING INSERTS

Early models incorporated an auxiliary handle insert #680253 which is straight and has 5-6 outside course threads. This insert is used on housings which have a lip approximately 1/16" from the top of the hole.

Current models incorporate an auxiliary handle insert #684620 which is tapered and has 8-9 outside fine threads. This insert is used on housings which have straight holes.

THRUST WASHER #845787

The introduction of the spur gearing designs eliminates the need for idler thrust washers.