

MOTOR UNIT (MU, LMU AND YMU)
PARTS

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MOTOR UNIT APPLICATION CHART

Units Covered		Operating Characteristics	General Usage	ASR Set	RT Set	High Speed Punch	High Speed Reader	Miniature Trans-Dist.	Miniature Repert.	Miniature Rec. Selector	Compact Page Printer	Tape Printer (Ticker)	Multiple Mounted Units	Variable Speed	Stack Mounted	Wall Mounted	Special
Teletype Code	Bell System Code																
LMU3 LMU4 LMU6 ① LMU10	28A 28B	AC Synchronous, 1/20 HP, 115V/60 cycle/3600RPM Series, 1/20 HP, 115V/60 cycle/3600 RPM, RF Sup. AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM Series, 1/20 HP, 115V/60 cycle/3600 RPM, RF Sup.	X X X											X			
LMU11 LMU12 LMU13 LMU14	28C 28D	AC Synchronous, 1/12 HP, 115V/60 cycle/3600 RPM AC Synchronous, 1/12 HP, 115V/60 cycle/3600 RPM Series, 1/15 HP, 115V/60 cycle/3600 RPM Series, 1/15 HP, 115V/60 cycle/3600 RPM, RF Sup.		X X	X X								X X				
LMU15 LMU19 LMU20 LMU21	35A 28LA	AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM AC Synchronous, 25 MHP, 115V/60 cycle/3600 RPM AC Synchronous, 25 MHP, 115V/60 cycle/3600 RPM AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM	X					X	X								
LMU23 LMU24 LMU26 LMU27		DC Series, 1/15 HP, 48V/3600 RPM AC Synchronous, 25 MHP, 115V/60 cycle/3600 RPM AC Synchronous, 25 MHP, 115V/60 cycle/3600 RPM AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM			X				X X	X X							
LMU28 LMU29 LMU30 LMU31	28E	Series, 1/20 HP, 115V/60 cycle/3600 RPM DC Series, 1/15 HP, 48V/3600 RPM AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM AC Synchronous, 25 MHP, 115V/60 cycle/3600 RPM	X		X					X				X			
LMU32 LMU33 LMU35 LMU36		Series, 1/15 HP, 115V/60 cycle/3600 RPM, RF Sup. AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM AC Synchronous, 25 MPH, 115V/60 cycle/3600 RPM AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM			X X	X X											
LMU37 LMU38 LMU39 LMU41		AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM Series, 1/15 HP, 115V/60 cycle/3600 RPM, RF Sup. Series, 1/20 HP, 115V/60 cycle/3600 RPM, RF Sup.	X X	X							X		X				
LMU42 LMU43 LMU45 LMU46	28F	AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM AC Synchronous, 25 MHP, 115V/60 cycle/3600 RPM AC Synchronous, 25 MHP, 115V/60 cycle/3600 RPM AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM				X	X X					X					
① LMU47 LMU49 LMU50 LMU51		Series, 1/20 HP, 115V/60 cycle/3600 RPM, RF Sup. AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM AC Synchronous, 1/12 HP, 115V/60 cycle/3600 RPM AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM	X X	X							X X			X			
LMU52 LMU55 LMU56 YMU1		AC Synchronous, 1/20 HP, 115V/60 cycle/3600 RPM AC Synchronous, 1/20 HP, 230V/50 cycle/3600 RPM AC Synchronous, 25 MPH, 115V/60 cycle/3600 RPM AC Synchronous, 1/12 HP, 115V/60 Cycle/3600 RPM	X						X					X			X

① Requires 173518 Mod. X11 for special variable speed application.

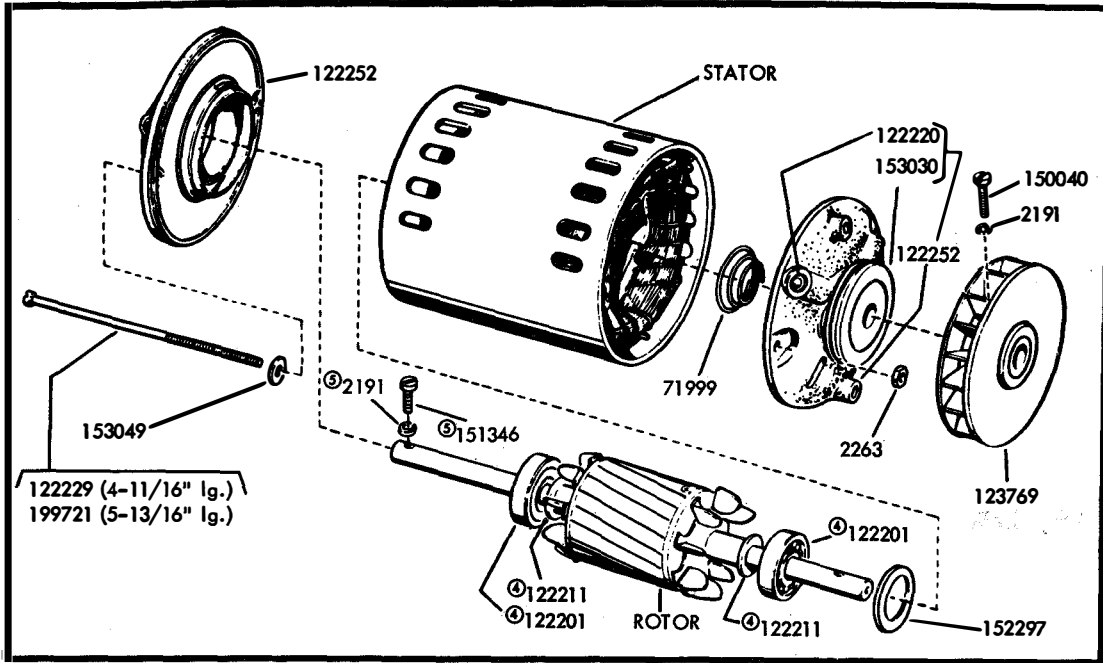
FIGURE 1. MOTOR UNIT APPLICATION CHART

SYNCHRONOUS MOTOR UNITS

Teletype Code	Motor Assembly	Motor Bracket	Mounting Plate	Thermostatic Switch	Fixed Capacitor	Spring or Clamp	Relay	Relay Insulator	Spring or Clamp	Cable Assembly	Jumper
LMU3	151795	305661	305660	122249	122245	305658	151923	305659	305658	151927	96264R (5" lg. Red)
LMU11	155595	305661	305660	160304	160299	305658	160303	305659	305658	151927	96264R (5" lg. Red)
LMU12	159739	305661	305660	160304	160299	305658	160303	305659	305658	151927	96264R (5" lg. Red)
LMU15	170764	305661	305660	122249	122245	305658	151923	305659	305658	151927	96264R (5" lg. Red)
LMU19	161984	142589		174471	162072	151922	173425	162196	151925	161099	96264R (5" lg. Red)
LMU20	161984	142589		174471	162072	151922	173425	162910	160302	162911	96264R (5" lg. Red)
LMU21	151795	164612		122249	122245	151922	151923	164603	151925	151927	96264R (5" lg. Red)
LMU24 and LMU56	310295	142589		fused	162072	151922	173425	162196	151925		176137 (9-1/4" lg. Black w/151626 Terminal) 96264R (5" lg. Red)
LMU26	161984	142589		174471	162072	151922	173425	162910	160302	162911	96264R (5" lg. Red)
LMU27		176948	176947	122249	122245	151922	151923	151924	151925		
LMU30	178500	305661	305660	122249	122245	305658	151923	305659	305658	151927	96264R (5" lg. Red)
LMU31	161984	142589		174471	162072	151922	173425	162196	151925	179016	96274R (10" lg Red)
LMU33	170764	305661	305660	①193781	122245	305658	151923	305659	305658	151927	96264R (5" lg. Red)
② LMU35	194924	171749		fused	①195172	171702	①195173	171704	171703	195178	
LMU36	178500	305661	305660	①193781	122245	305658	151923	305659	305658	151927	96264R (5" lg. Red)
LMU37	151795	194897		122249	122245	151922	151923	310341	151925	194899	96264R (5" lg. Red)
LMU38	151795	305661	305660	①193781	122245	305658	151923	305659	305658	151927	96264R (5" lg. Red)
LMU42	196830	196839		122249	122245	151922	151923	196794	151925	151927	96264R (5" lg. Red)
MU43	161984	171749		174471	162072	171702	173425	171704	171703	171810	96264R (5" lg. Red)
LMU45	161984	171749		174471	162072	171702	173425	171704	171703	193181	
LMU46	151795	305661	305660	122249	122245	305658	151923	305659	305658	193236	96264R (5" lg. Red)
LMU49	170764	172795	151920	122249	122245	151922	151923	151924	151925	151927	96264R (5" lg. Red)
③ LMU50	199718	304538	151920	307281	304793	151922	304792		304537	151927	312573 (6" lg. Red w/82474 Terminal) 312574 (6" lg. Black w/82474 Terminal)
LMU51	151795	194897		①193781	122245	151922	151923	310341	151925	194899	96264R (5" lg. Red)
LMU52	151795	164612		①193781	122245	151922	151923	164603	151925	151927	96264R (5" lg. Red)
LMU55	306063	305661	305660	320269	320270	305658	320271	305659	305658	151927	96264R (5" lg. Red)
YMU 1	306567	306423		160304	160299	160300	160303	306561	151925	306320	96262R (4" lg Red)

- ① For use with motor unit operating on 50 cycle current
- ② See page 10 for parts peculiar to LMU35
- ③ See page 6 for parts peculiar to LMU50

FIGURE 2. SYNCHRONOUS MOTOR CROSS — REFERENCE CHART



SYNCHRONOUS MOTOR ASSEMBLY - STANDARD OR HEAVY DUTY

SYNCHRONOUS MOTORS - Standard or Heavy Duty				
DUTY	MOTOR ASSEMBLY	STATOR	ROTOR	MOTOR DATA
Standard	151795	122251	128874	AC Synchronous, 1/20 HP, 115V: 50/60 Cycle, 3000/3600 RPM
Heavy	155595	②160306	160305	AC Synchronous, 1/12 HP, 115V: 60 Cycle, 3600 RPM
Heavy	159739	160306	160305	AC Synchronous, 1/12 HP, 115V: 60 Cycle, 3600 RPM
Standard	①170764	122251	128874	AC Synchronous, 1/20 HP, 115V: 50/60 Cycle, 3000/3600 RPM
Standard	178500	②122251	128874	AC Synchronous, 1/20 HP, 115V: 60 Cycle, 3600 RPM
Standard	③196830	196831	128874	AC Synchronous, 1/20 HP, 115V: 60 Cycle, 3600 RPM
Heavy	199718	199720	199719	AC Synchronous, 1/12 HP, 115V: 50 Cycle, 3000 RPM
Standard	306063	320272	128874	AC Synchronous, 1/20 HP, 230V: 50/60 Cycle, 3000/3600 RPM

- ① Without fan
- ② CW rotation (all others CCW rotation)
- ③ Arranged for inverted mounting
- ④ Common to all rotors
- ⑤ Not part of motor assemblies

FIGURE 3. SYNCHRONOUS MOTOR ASSEMBLIES (STANDARD OR HEAVY DUTY)

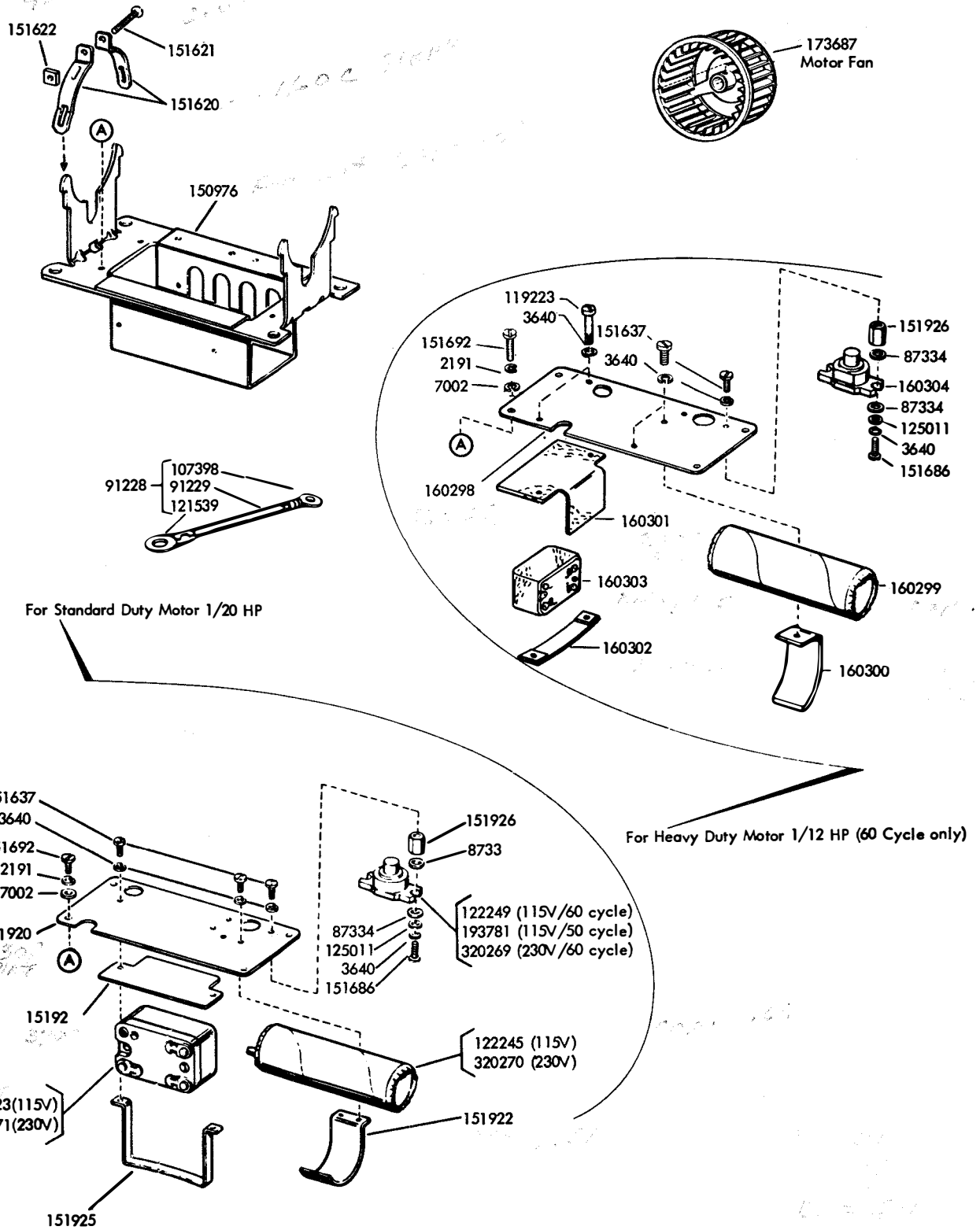


FIGURE 4. RELAY AND CAPACITOR MOUNTING (SYNCHRONOUS)

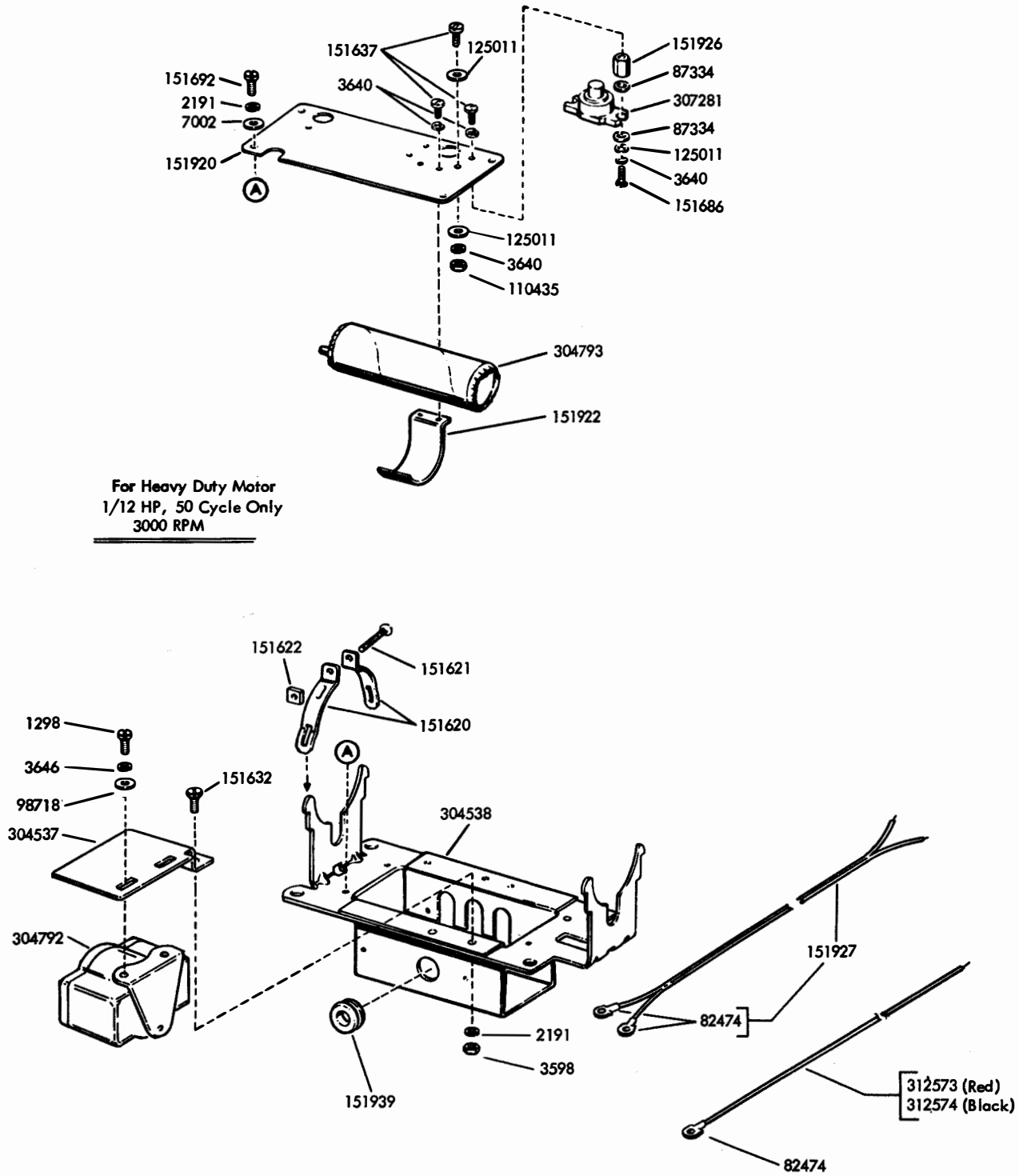


FIGURE 5. RELAY AND CAPACITOR MOUNTING (SYNCHRONOUS)

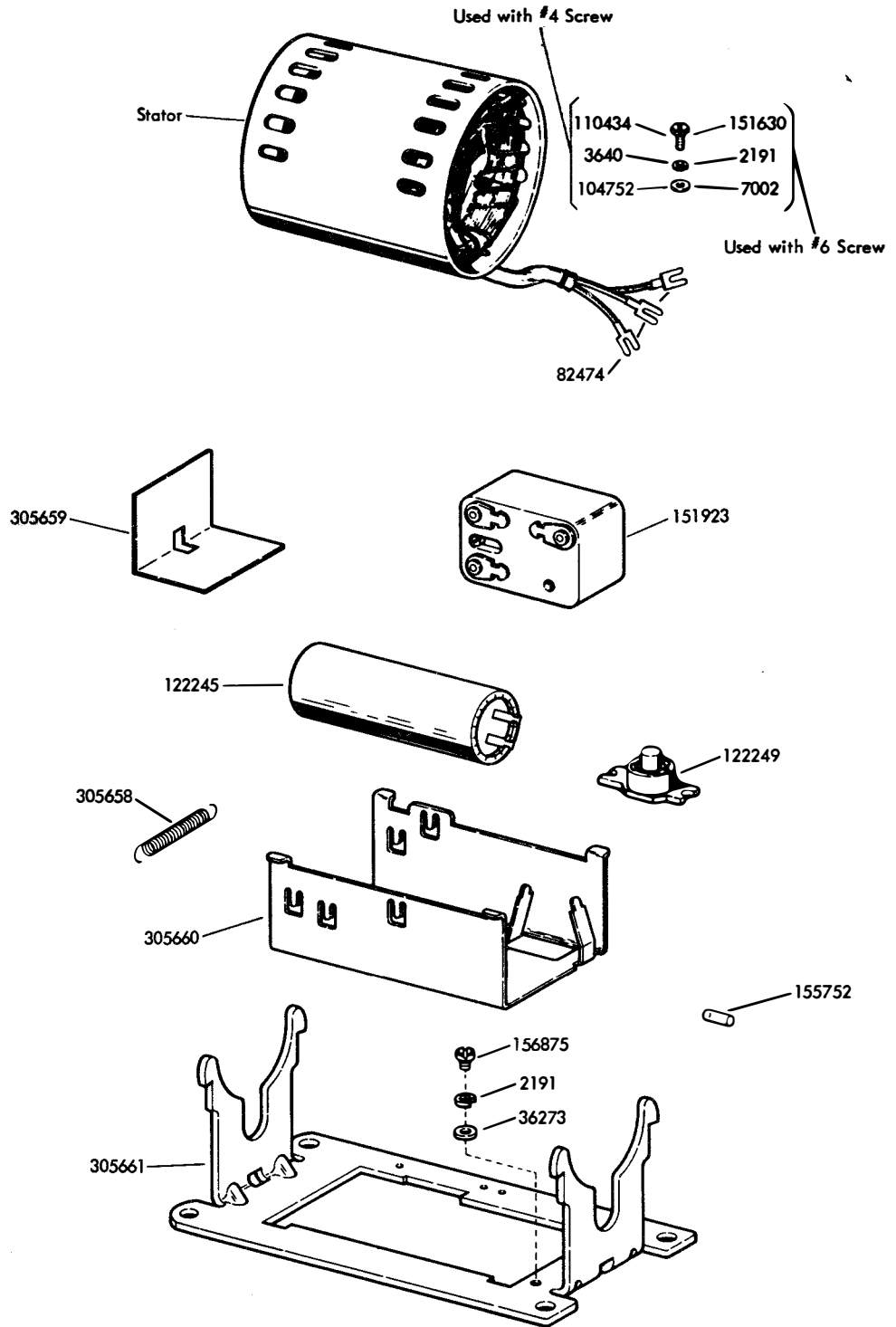


FIGURE 6. RELAY AND CAPACITOR MOUNTING

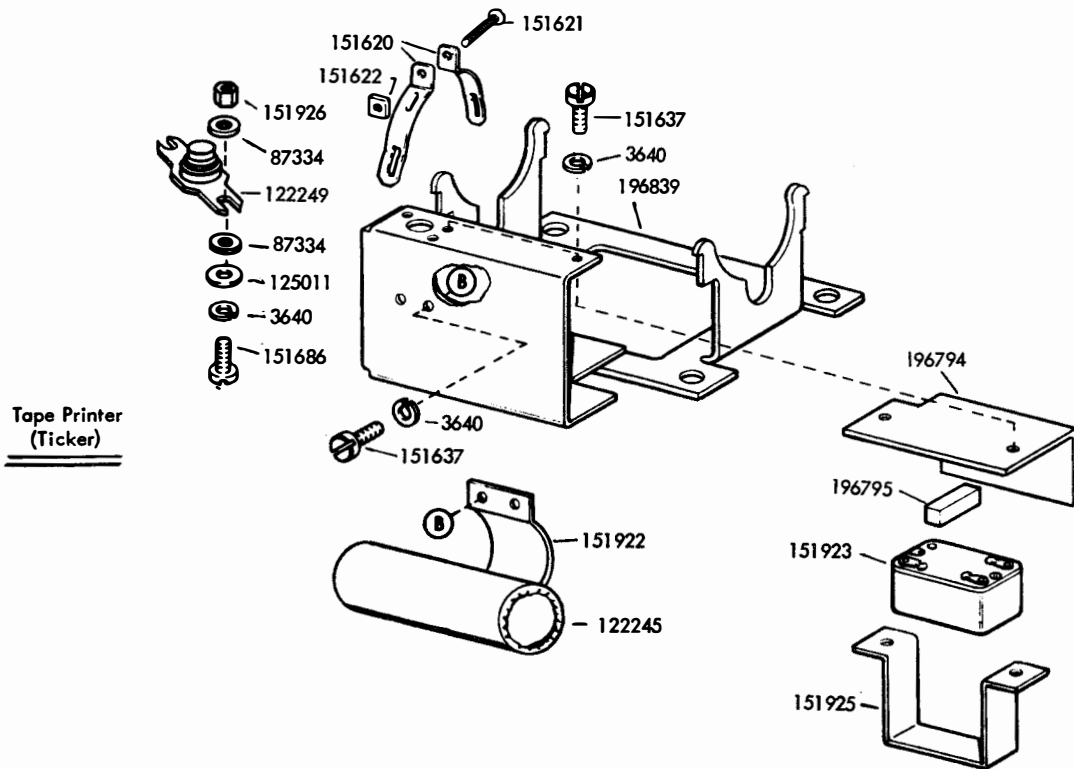
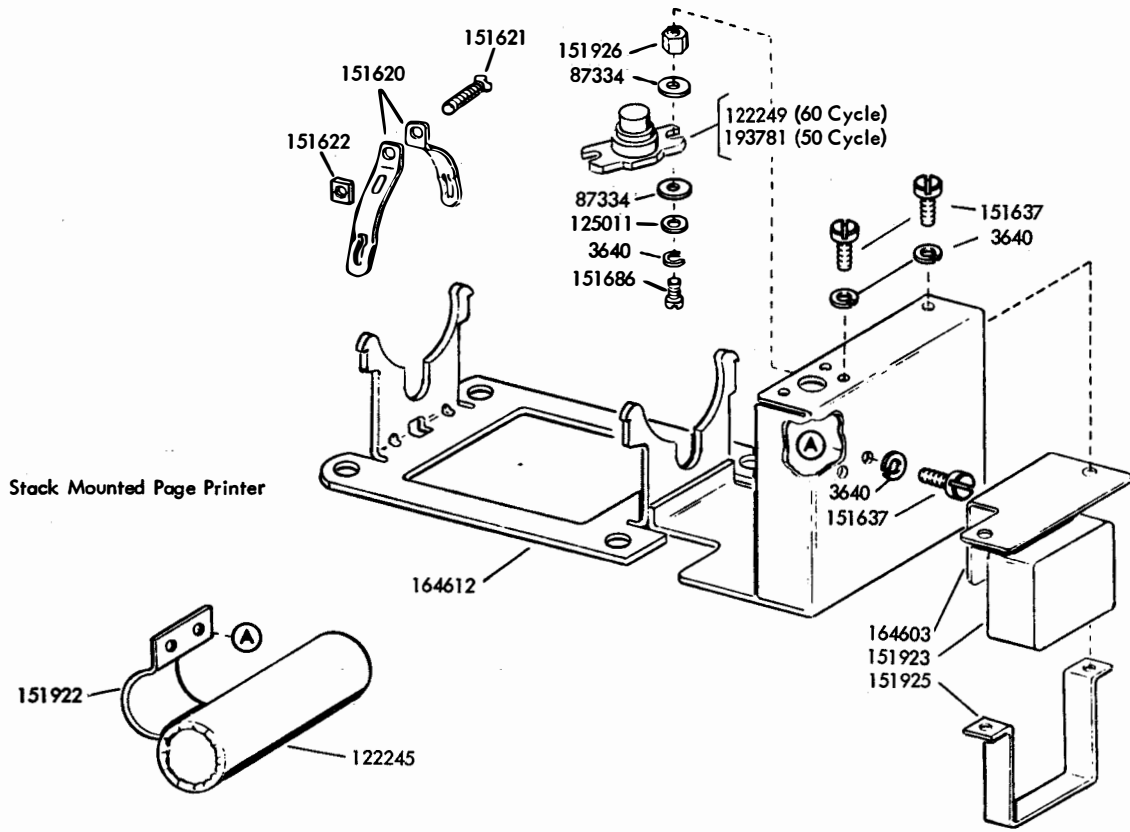
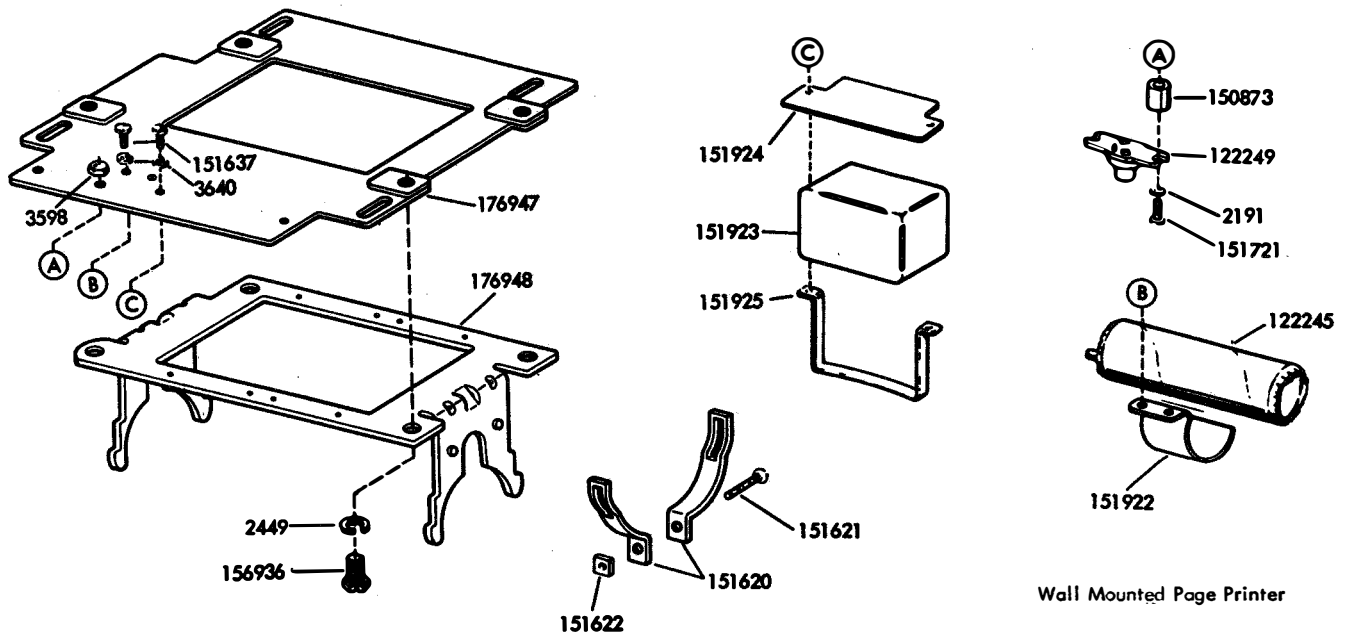
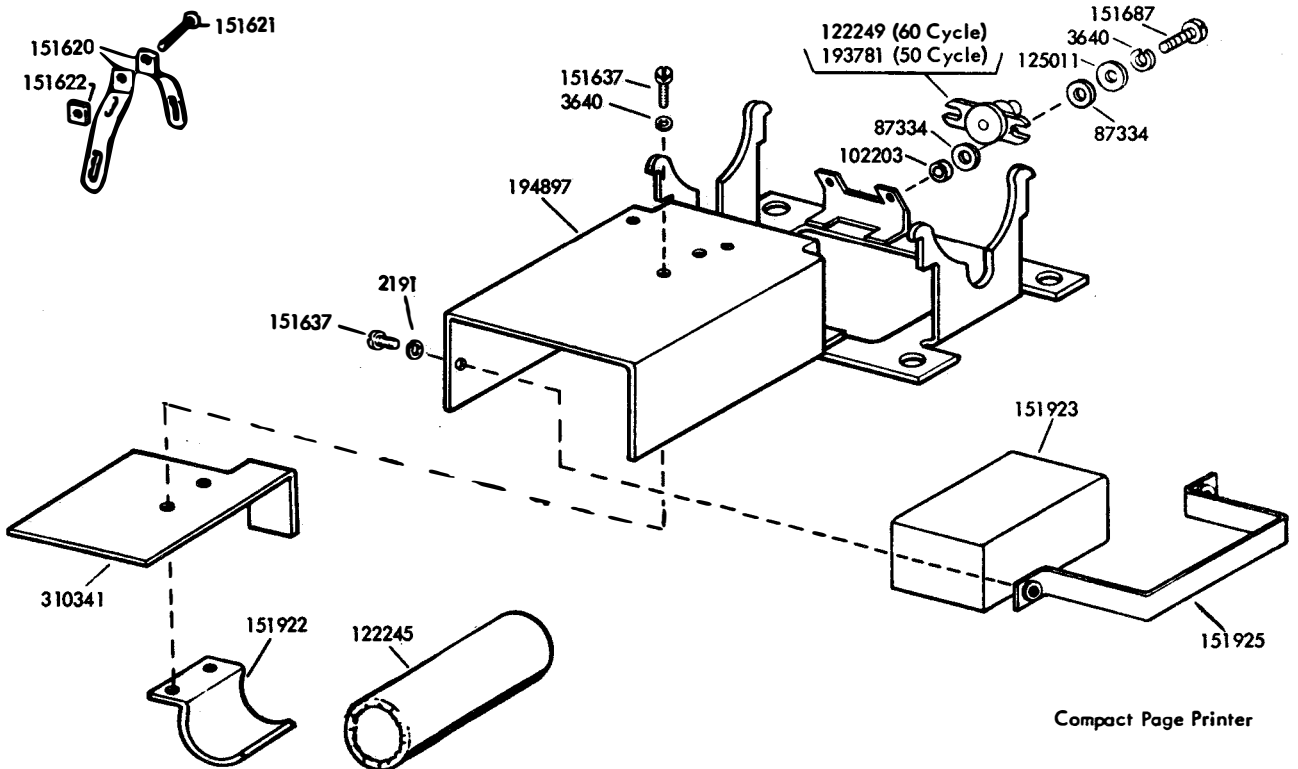


FIGURE 7. RELAY AND CAPACITOR MOUNTING (SYNCHRONOUS)

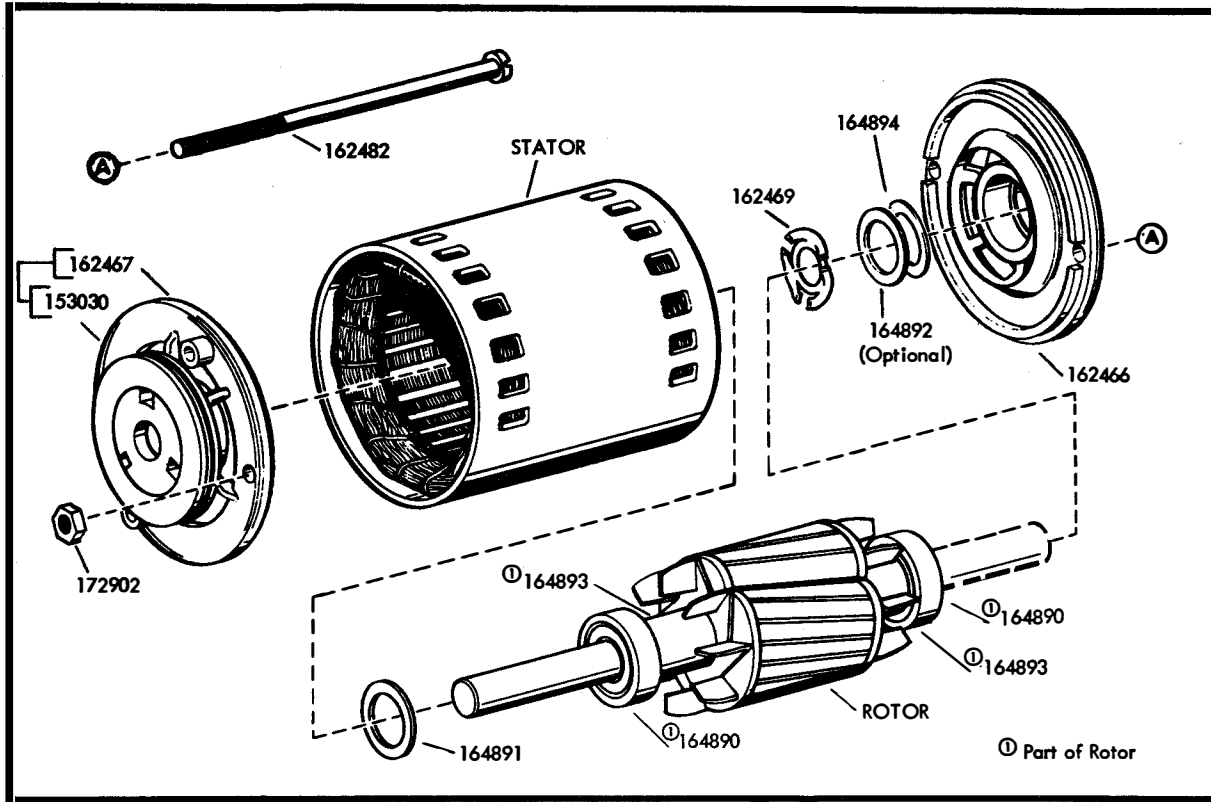


Wall Mounted Page Printer



Compact Page Printer

FIGURE 8. RELAY AND CAPACITOR MOUNTING (SYNCHRONOUS)



MINIATURE MOTOR ASSEMBLY

SYNCHRONOUS MOTORS - Miniature			
MOTOR ASSEMBLY	STATOR	ROTOR	MOTOR DATA
161984	162464	162465	AC Synchronous, 25 MHP, 115V: 60 Cycle, 3600 RPM
194924	195214	162465	AC Synchronous, 25 MHP, 115V: 50 Cycle, 3000 RPM
310295	162464	②310296	AC Synchronous, 25 MHP, 115V: 60 Cycle, 3600 RPM

② Has double shaft extension

FIGURE 9. SYNCHRONOUS MOTOR ASSEMBLIES (MINIATURE)

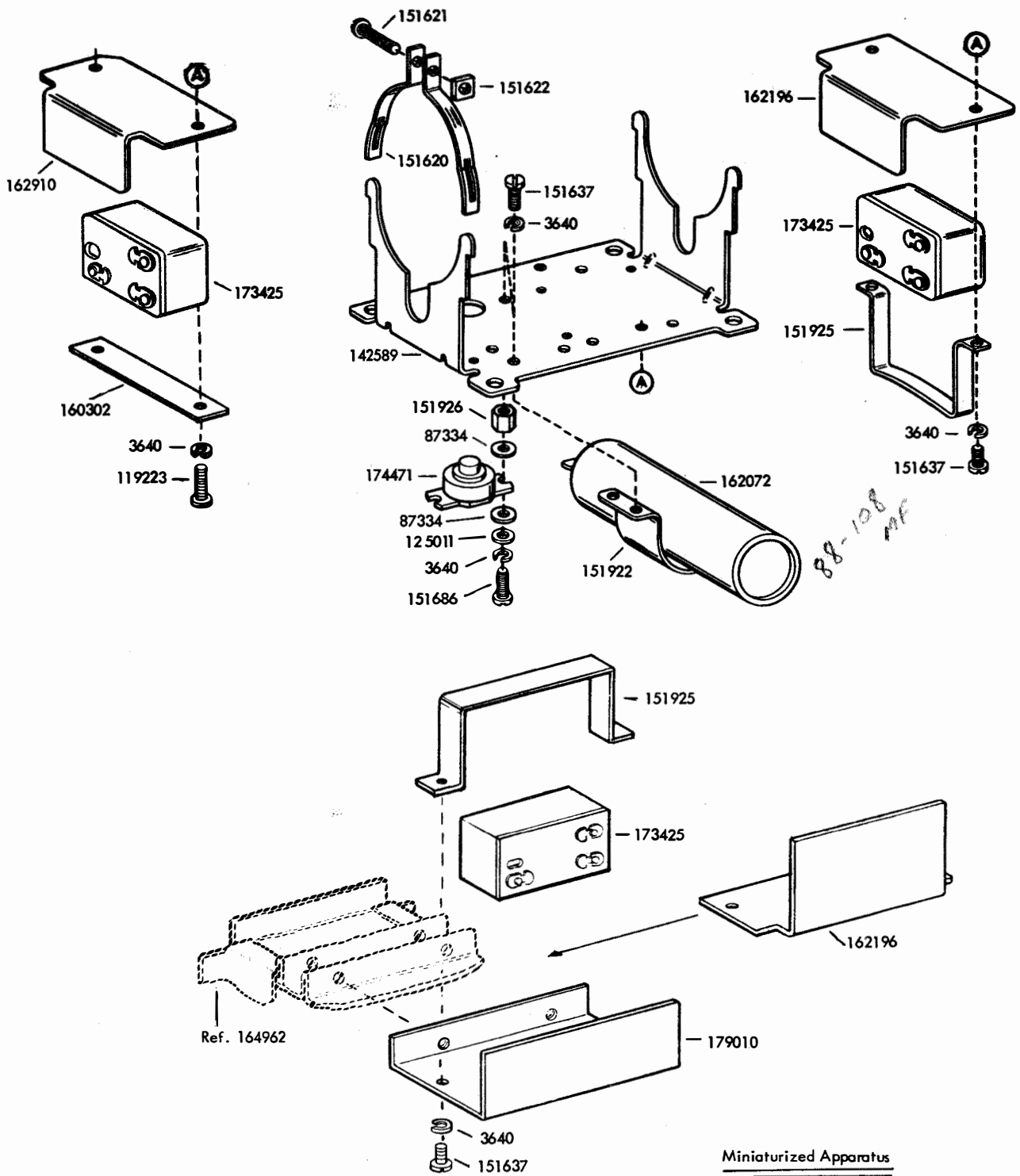


FIGURE 10. RELAY AND CAPACITOR MOUNTING (SYNCHRONOUS)

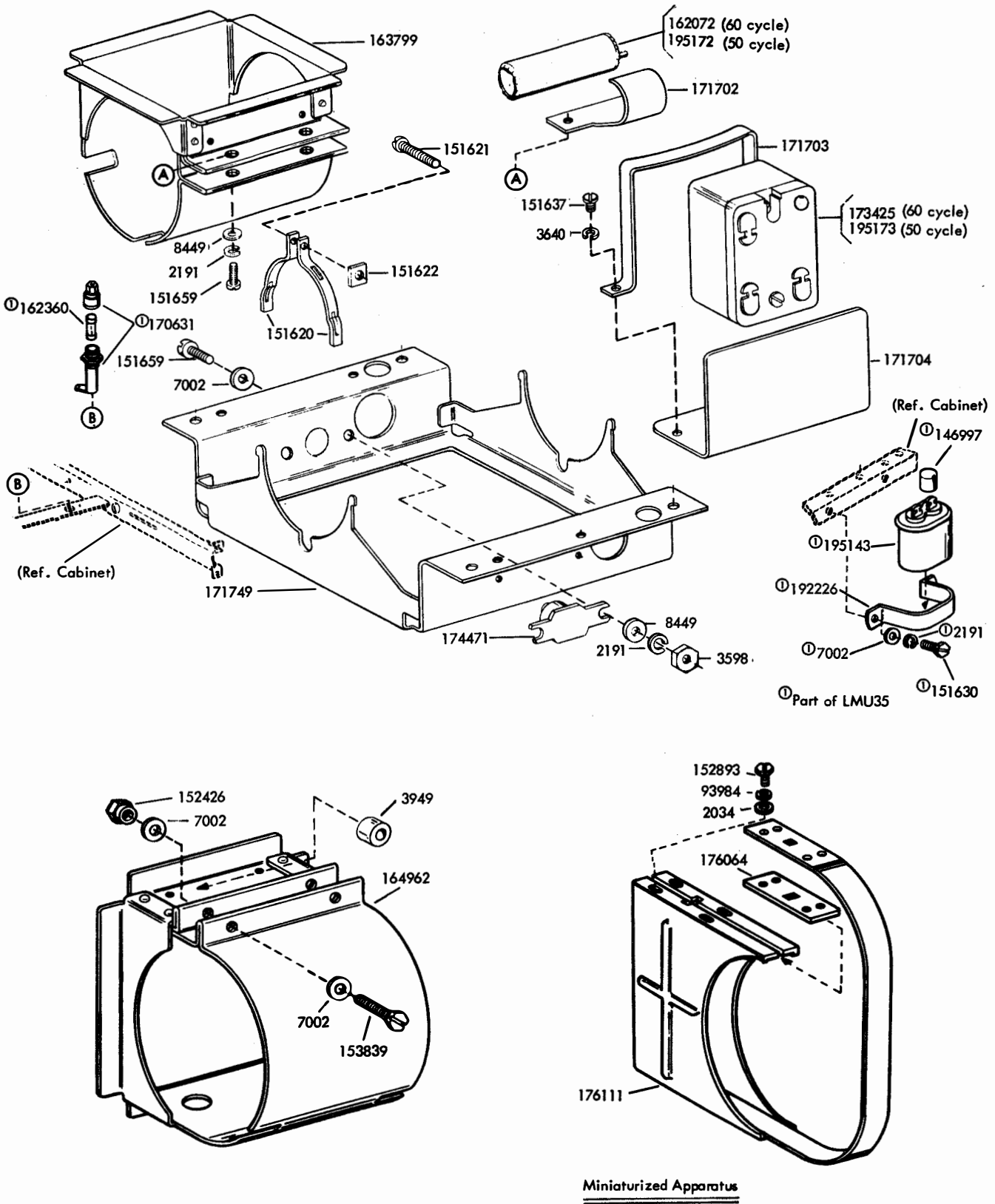
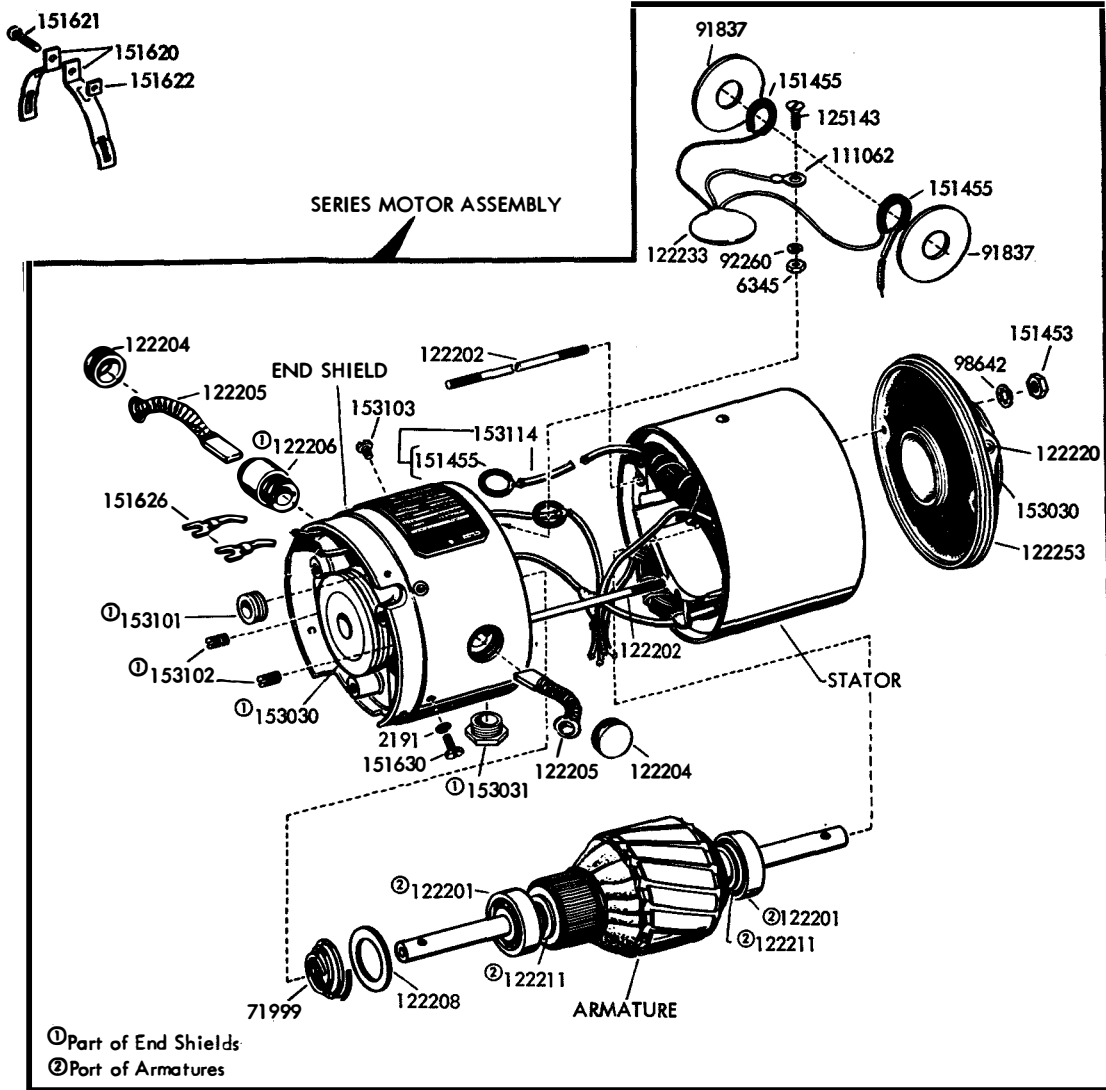


FIGURE 11. RELAY, CAPACITOR MOUNTING AND BRACKET (SYNCHRONOUS)

SERIES MOTOR UNITS

Teletype Code	Motor Assembly	Motor Bracket	Container	Lid	Nipple	Capacitor	Resistor	Electrical Noise Suppressor	Cable Assembly	Jumper
LMU4	150701	152046	152039	152040	152067	161579	161580	161578	152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals) 162684 (2-3/4" lg. w/164479 Terminal) 162685 (4" lg. w/164479 Terminal)
LMU6	150701	150976				161579	161580			91228 (2-1/2" lg. w/107398 and 121539 Terminals) 162684 (2-3/4" lg. w/164479 Terminal) 163268 (6-1/2" lg. White w/164479 Terminal) 163269 (2" lg. w/164479 Terminal)
LMU10	150701	152046	152039	152040	152067	161579	161580	161578	152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals) 162684 (2-3/4" lg. w/164479 Terminal) 162685 (4" lg. w/164479 Terminal)
LMU13	163272	150976				161579	161580			91228 (2-1/2" lg. w/107398 and 121539 Terminals) 162684 (2-3/4" lg. w/164479 Terminal) 163268 (6-1/2" lg. White w/164479 Terminal) 163269 (2" lg. w/164479 Terminal)
LMU14	161577	152046	152039	152040	152067	161579	161580	161578	152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals) 162684 (2-3/4" lg. w/164479 Terminal) 162685 (4" lg. w/164479 Terminal)
LMU23	164758	173751				173003	173004			91228 (2-1/2" lg. w/107398 and 121539 Terminals)
LMU28	179100	152046	179105	179106	179282	161579	179103	161578	179283	91228 (2-1/2" lg. w/107398 and 121539 Terminals)
LMU29	179190	152046	179420	179424	152067	179421	173004	179422	152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals)
LMU32	194060	152046	194057	179424	194063	161579	179103	161578	152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals)
LMU39	161577	152046	179420	179424	152067	161579	179103	161578	152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals)
LMU41	150701	152046	179420	179424	152067	161579	179103	161578	152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals)
LMU47	150701	152046	179420	179424	152067	161579	179103		152059	91228 (2-1/2" lg. w/107398 and 121539 Terminals)

FIGURE 12. SERIES MOTOR CROSS-REFERENCE CHART



SERIES MOTORS STANDARD OR HEAVY DUTY					MOTOR DATA
	MOTOR ASSEMBLY	STATOR	ARMATURE	END SHIELD	
Standard	150701	122221	122210	122200	Series, 1/20 HP, 115V: 60 Cycle, 3600 RPM
Heavy	161577	161576	161575	122200	Series, 1/15 HP, 115V: 60 Cycle, 3600 RPM
Heavy	①163272	161576	161575	163273	Series, 1/15 HP, 115V: 60 Cycle, 3600 RPM
Heavy	①164758	164756	164757	163273	DC Series, 1/15 HP, 48V: 3600 RPM
Standard	179100	122221	122210	179101	Series, 1/20 HP, 115V: 60 Cycle, 3600 RPM
Heavy	179190	164756	164757	122200	DC Series, 1/15 HP, 48V: 3600 RPM
Heavy	③194060	161576	161575	194062	Series, 1/15 HP, 115V: 60 Cycle, 3600 RPM

③ Arranged for Inverted Mounting

FIGURE 13. SERIES MOTOR ASSEMBLIES

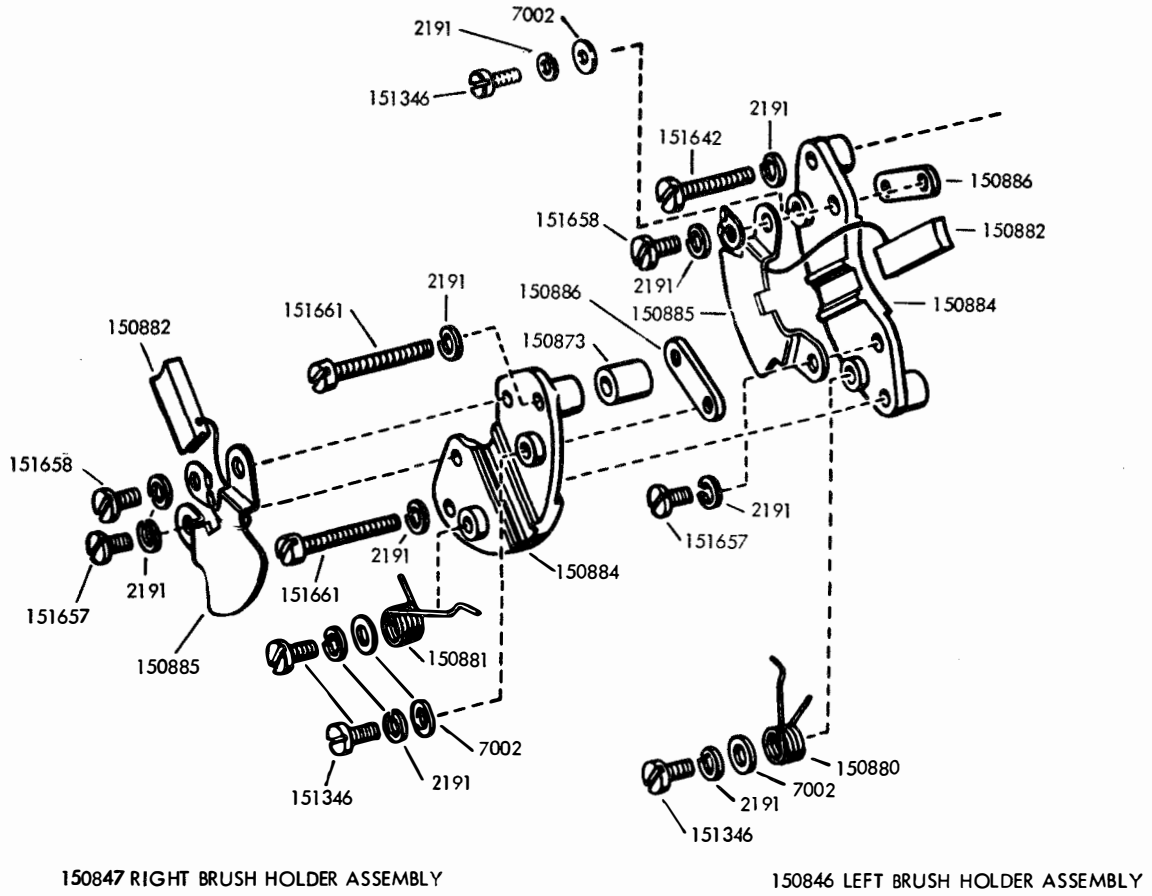


FIGURE 14. BRUSH ASSEMBLIES

FIGURE 15. 150845 GOVERNOR ASSEMBLY

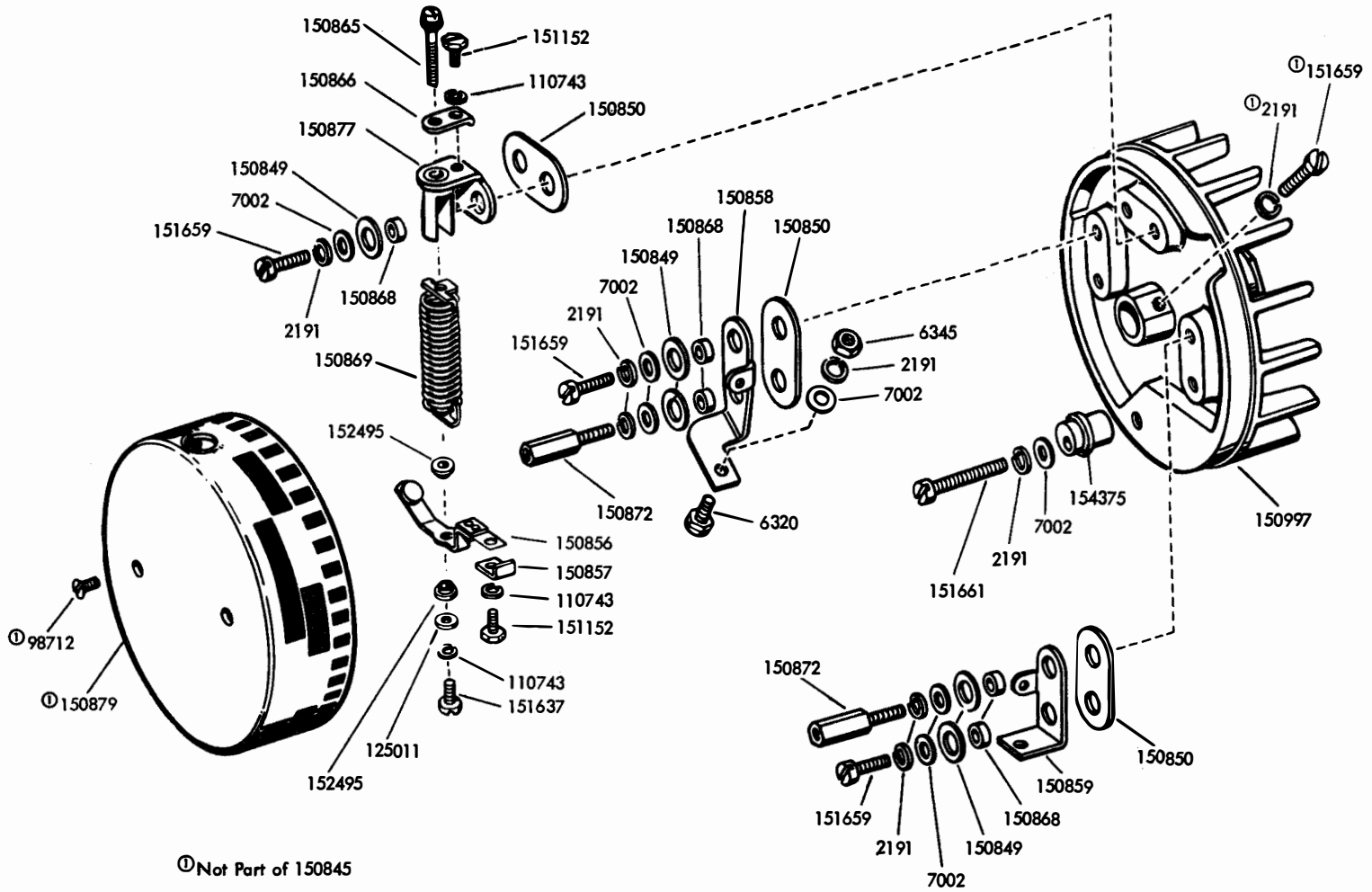
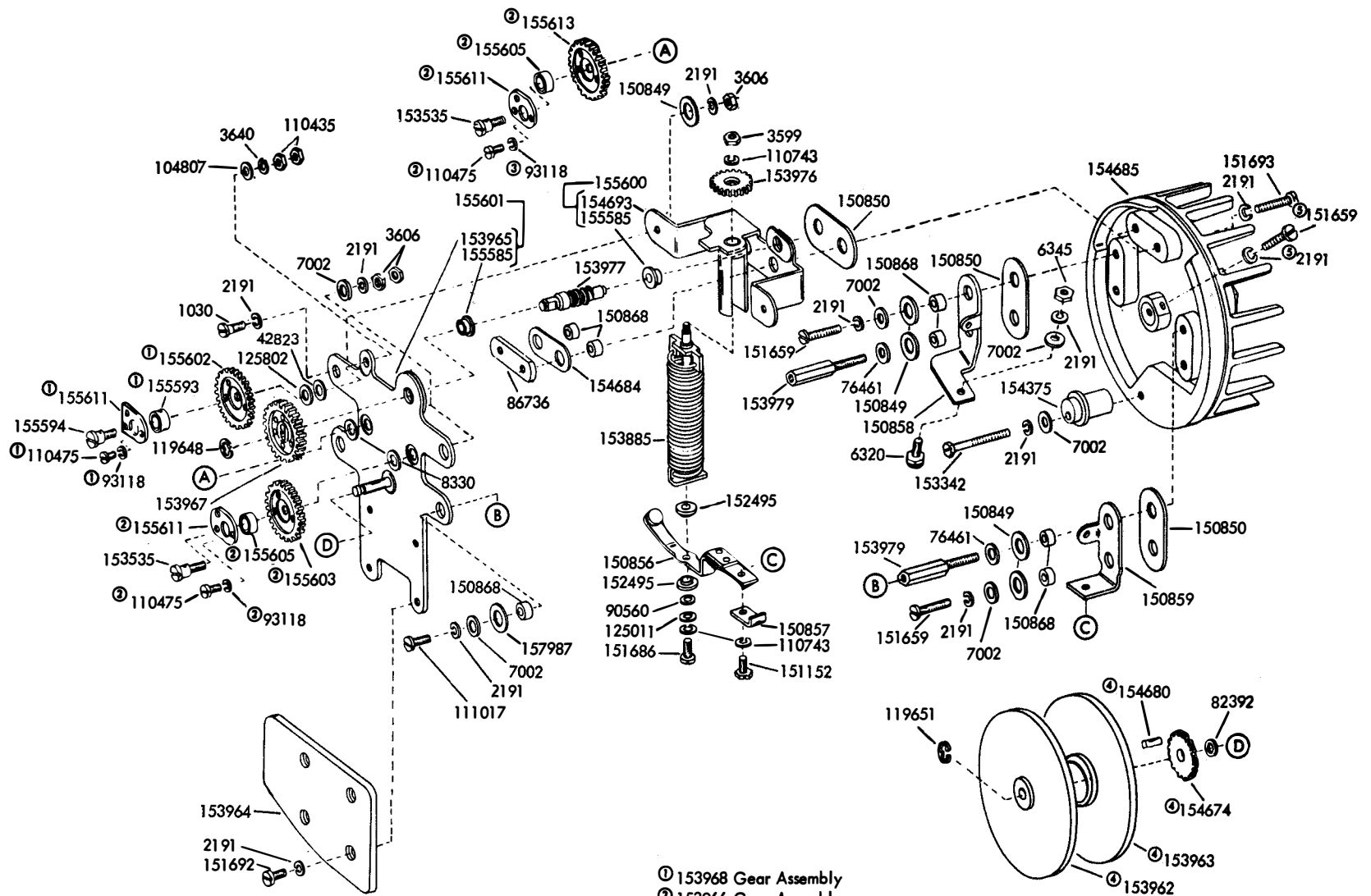


FIGURE 16. 154628 GOVERNOR ASSEMBLY



- ① 153968 Gear Assembly
- ② 153966 Gear Assembly
- ③ 153536 Gear Assembly
- ④ 154676 Disk Assembly
- ⑤ Not Part of 154628 Governor Assembly

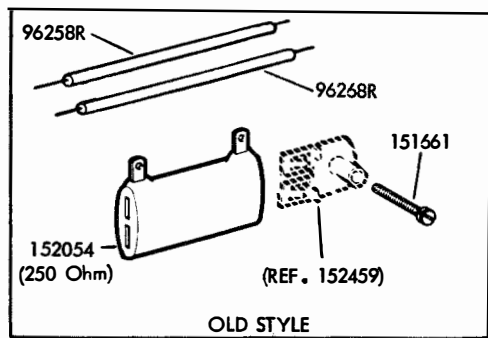
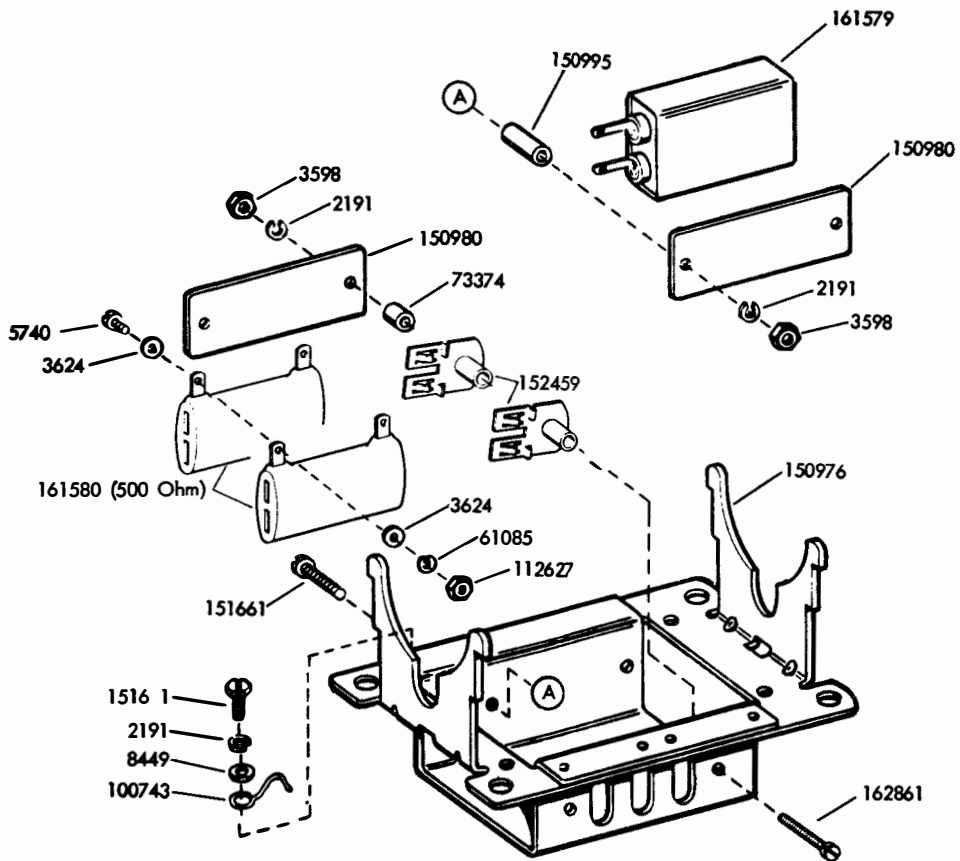
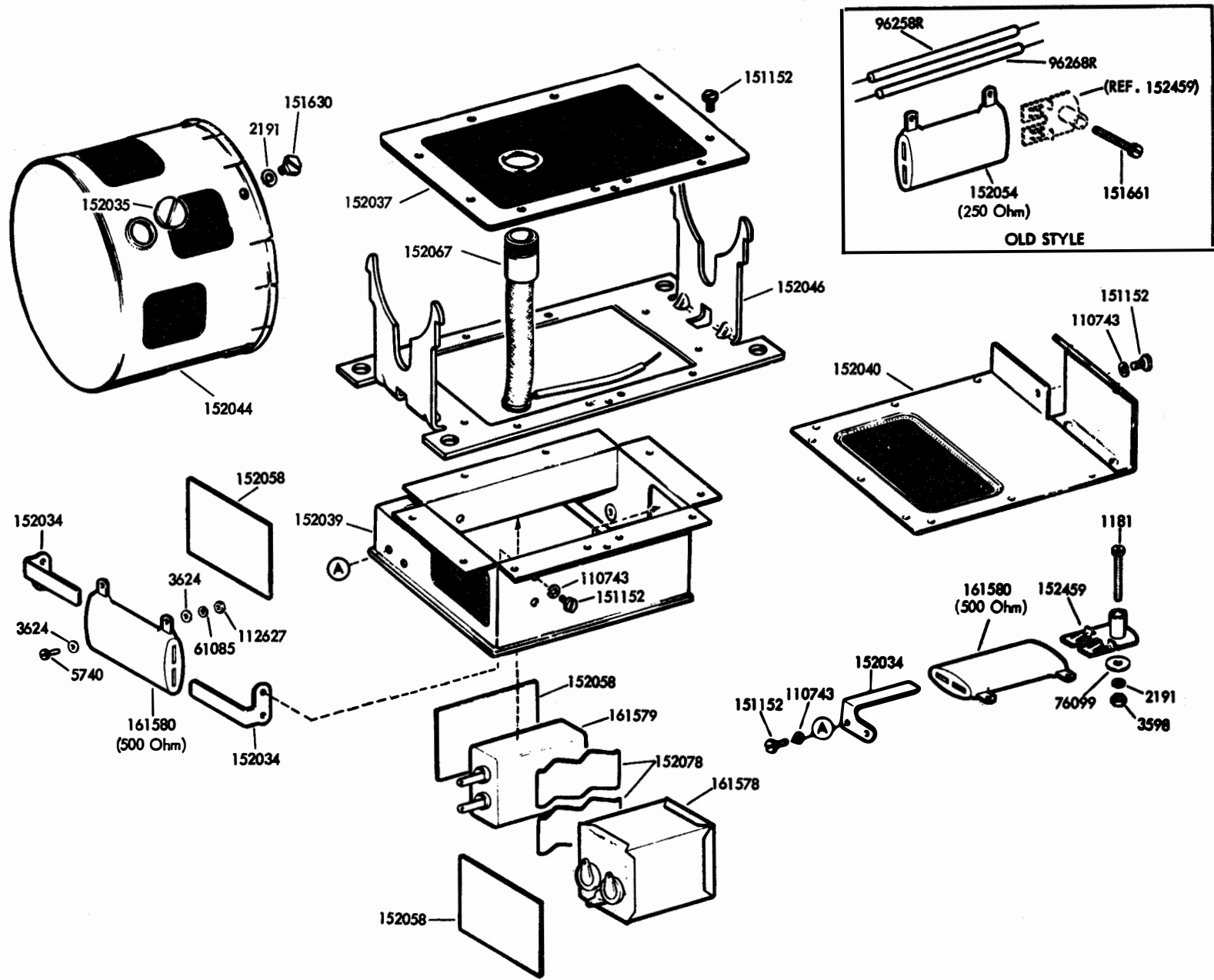


FIGURE 17. SERIES MOTOR MOUNTING PARTS

FIGURE 18. SERIES MOTOR MOUNTING PARTS WITH RF SUPPRESSION



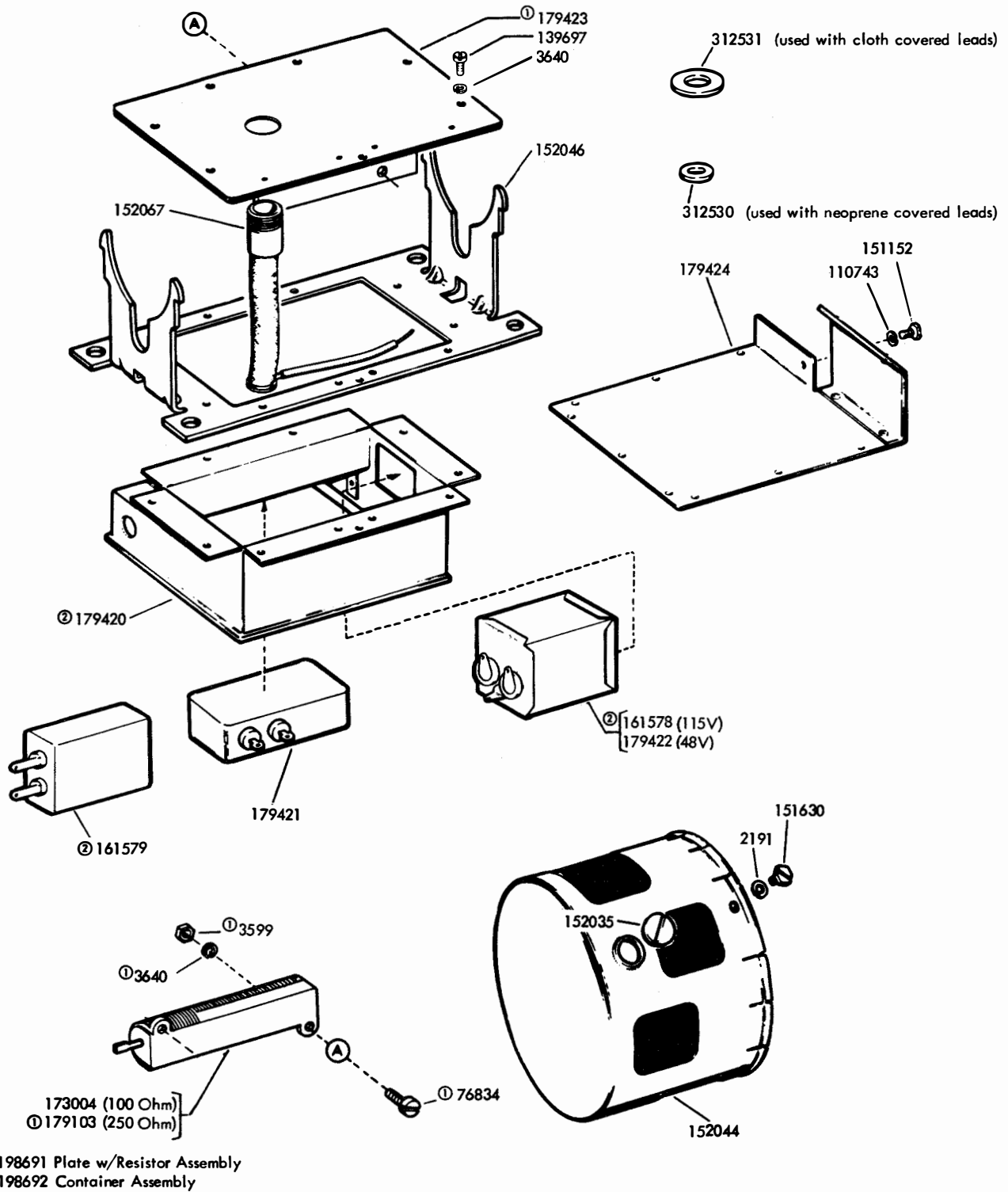


FIGURE 19. SERIES MOTOR MOUNTING PARTS WITH RF SUPPRESSION

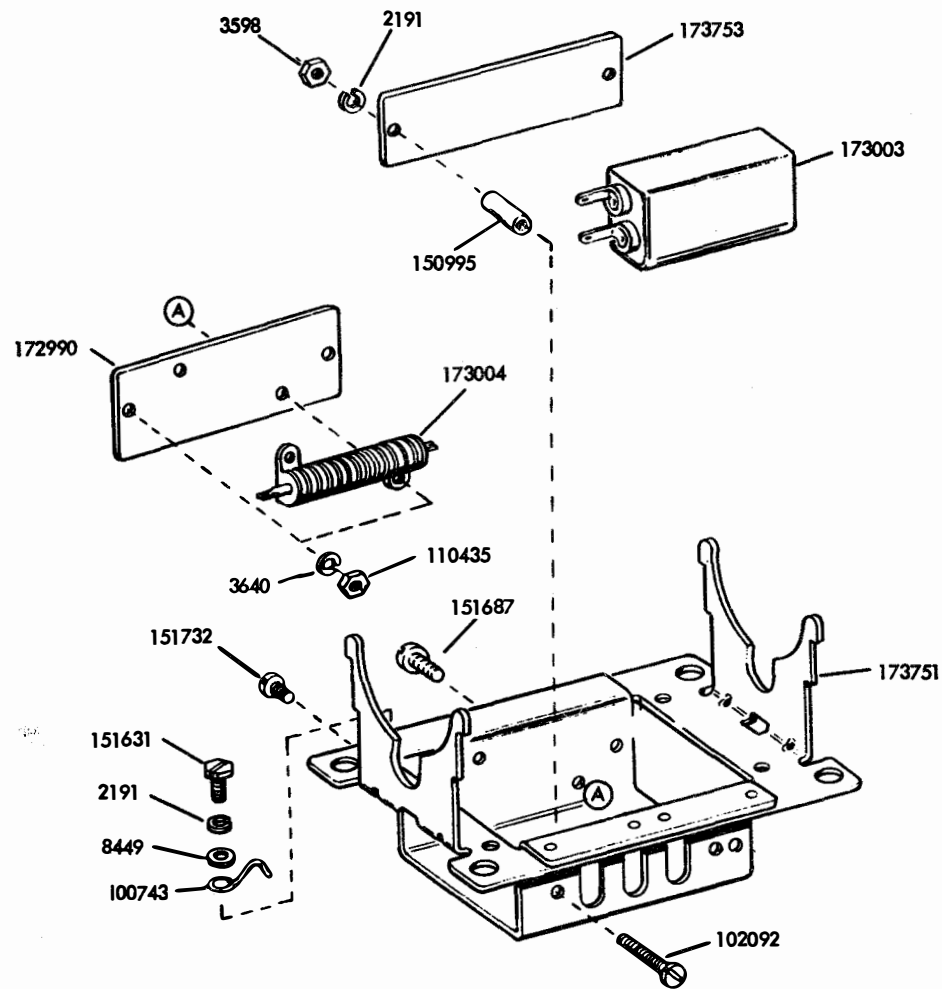
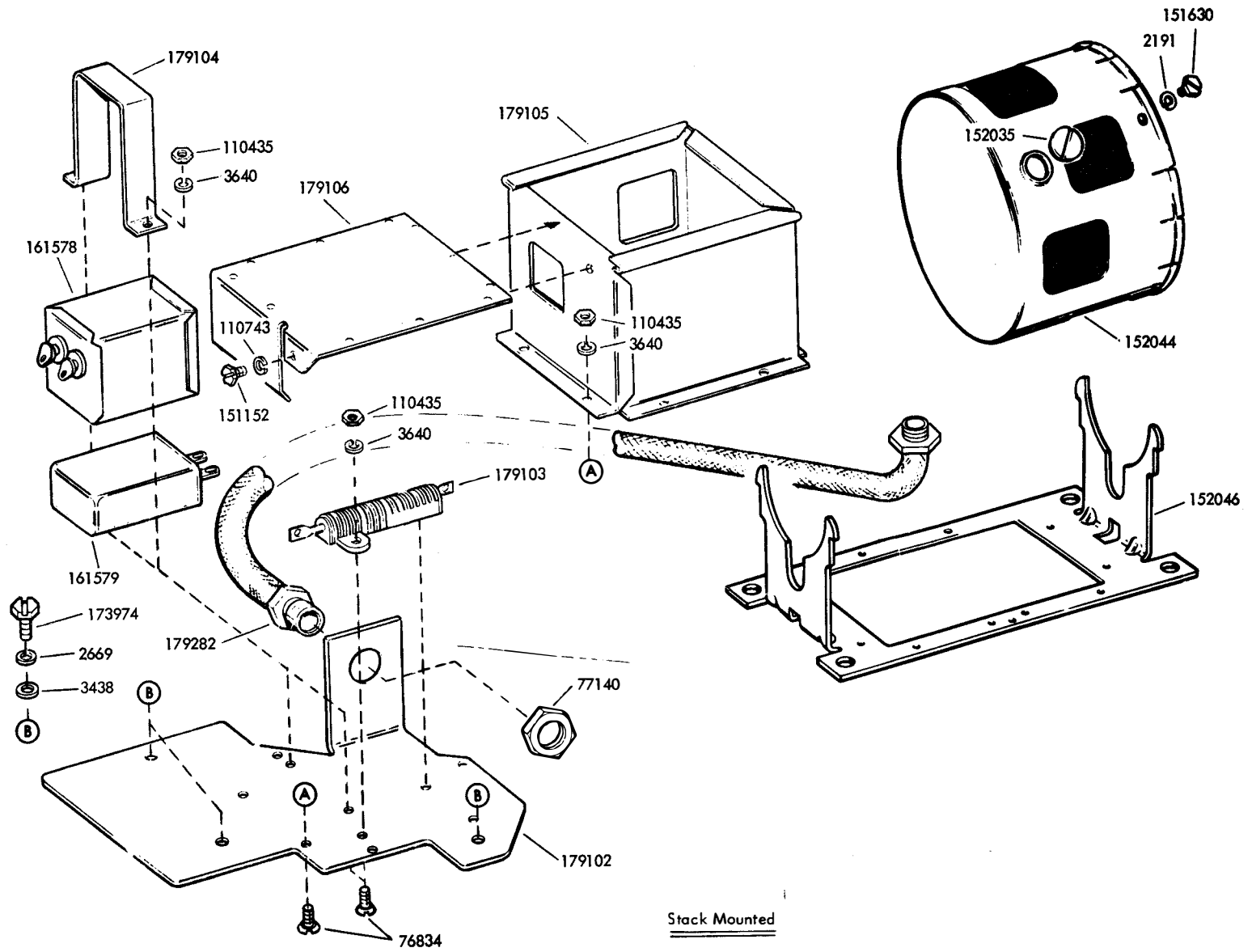


FIGURE 20. SERIES MOTOR MOUNTING PARTS

FIGURE 21. SERIES MOTOR MOUNTING PARTS WITH RF SUPPRESSION



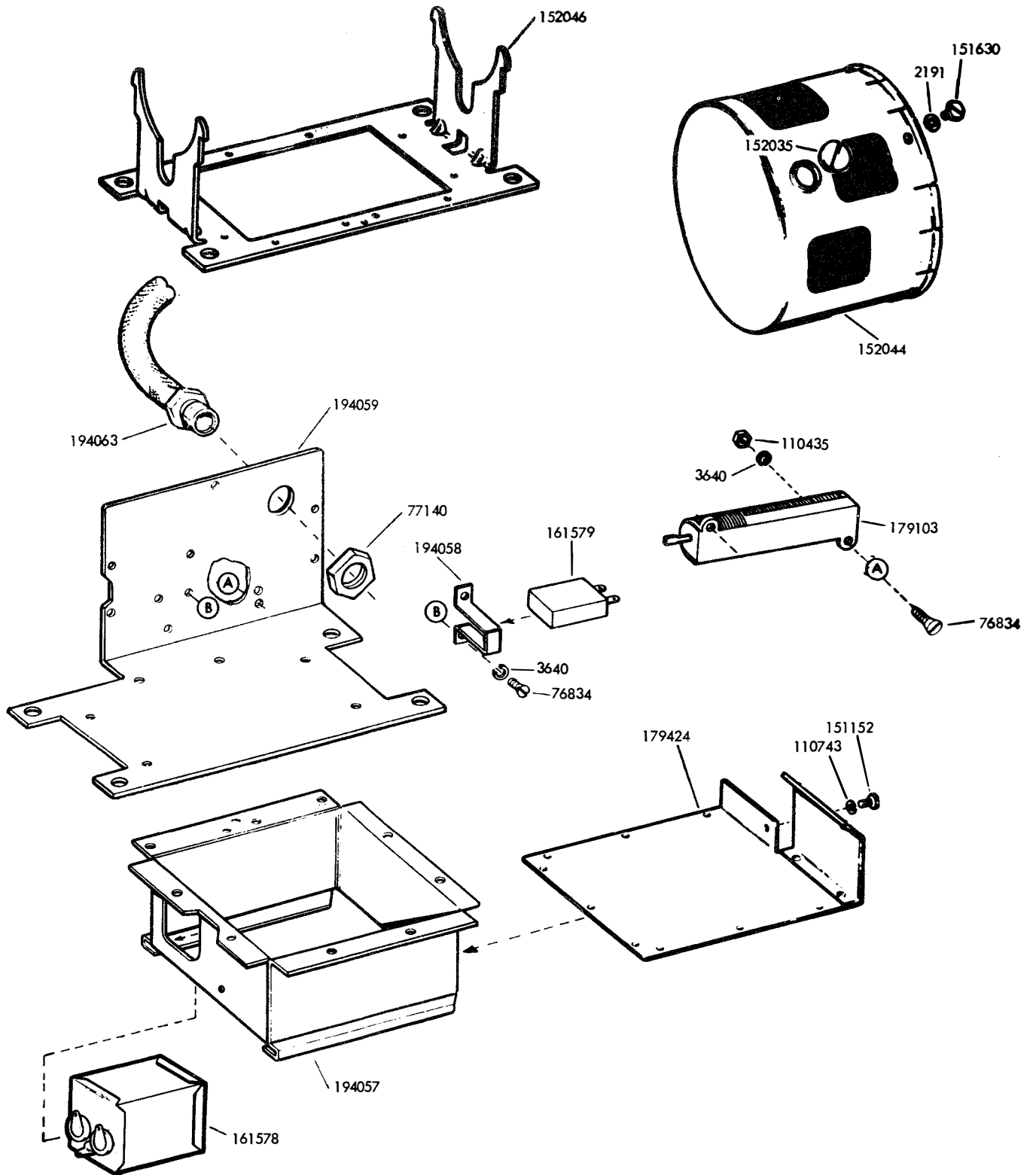
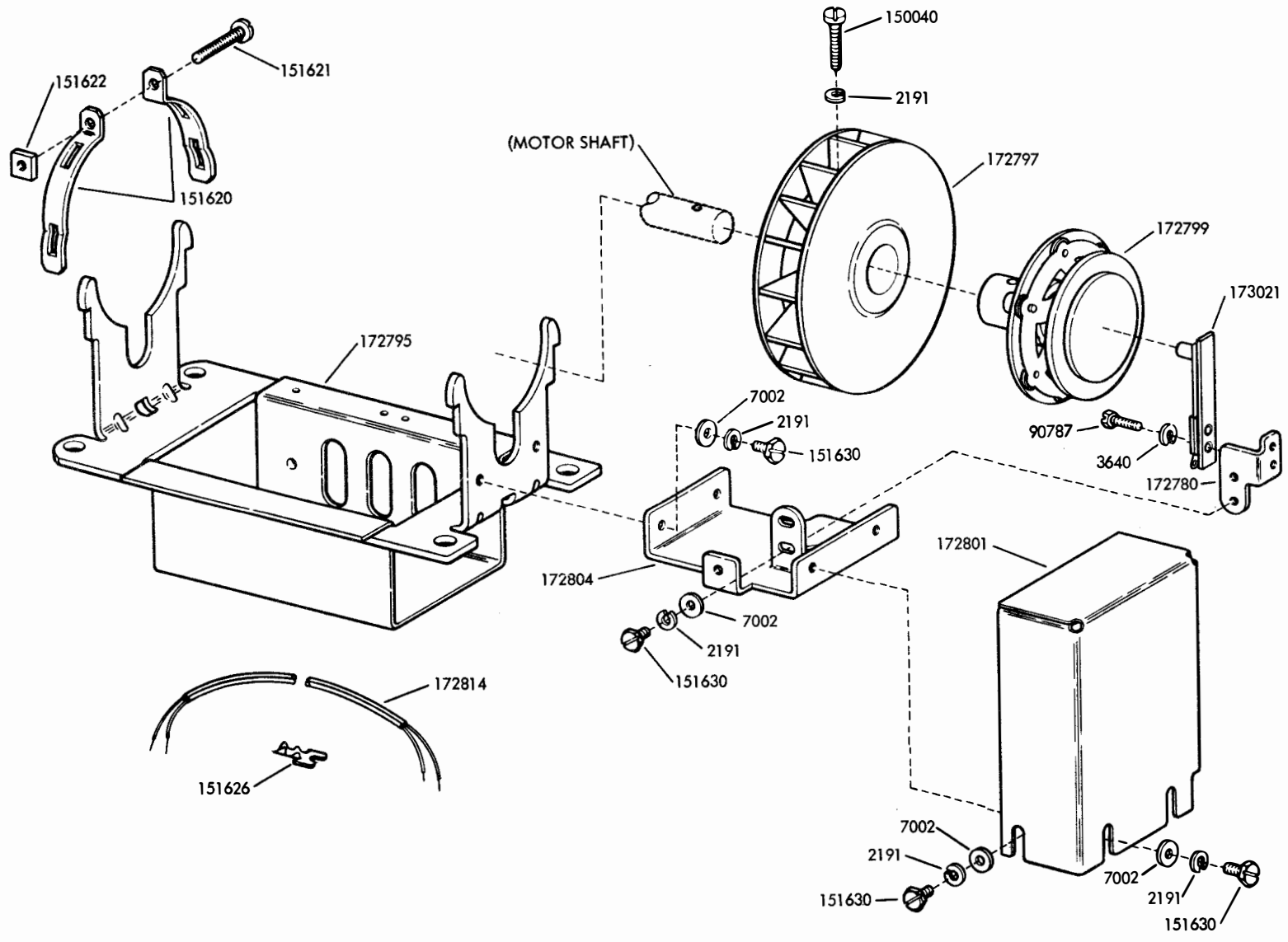
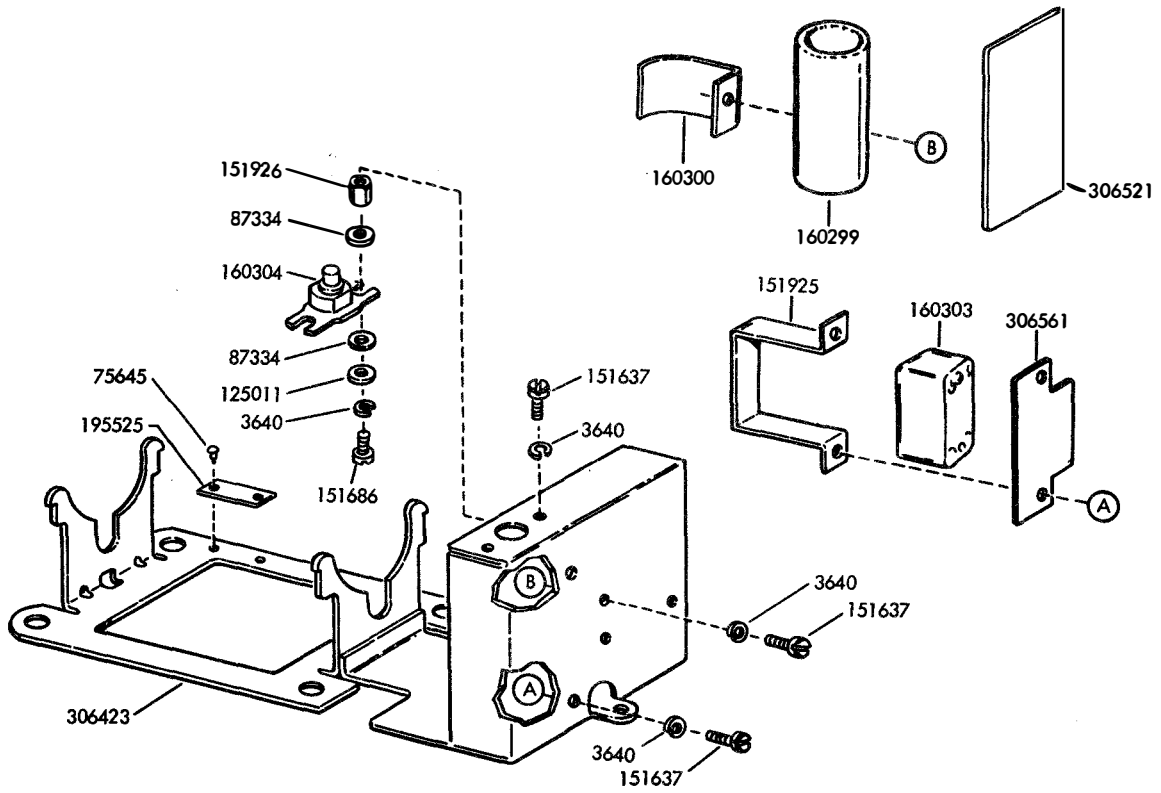


FIGURE 22. SERIES MOTOR MOUNTING PARTS WITH RF SUPPRESSION

FIGURE 23. SYNCHRONOUS MOTOR MOUNTING WITH CENTRIFUGAL SWITCH ASSEMBLY





306567 SYNCHRONOUS MOTOR ASSEMBLY - HEAVY DUTY
 motor equipped with eccentric end shields

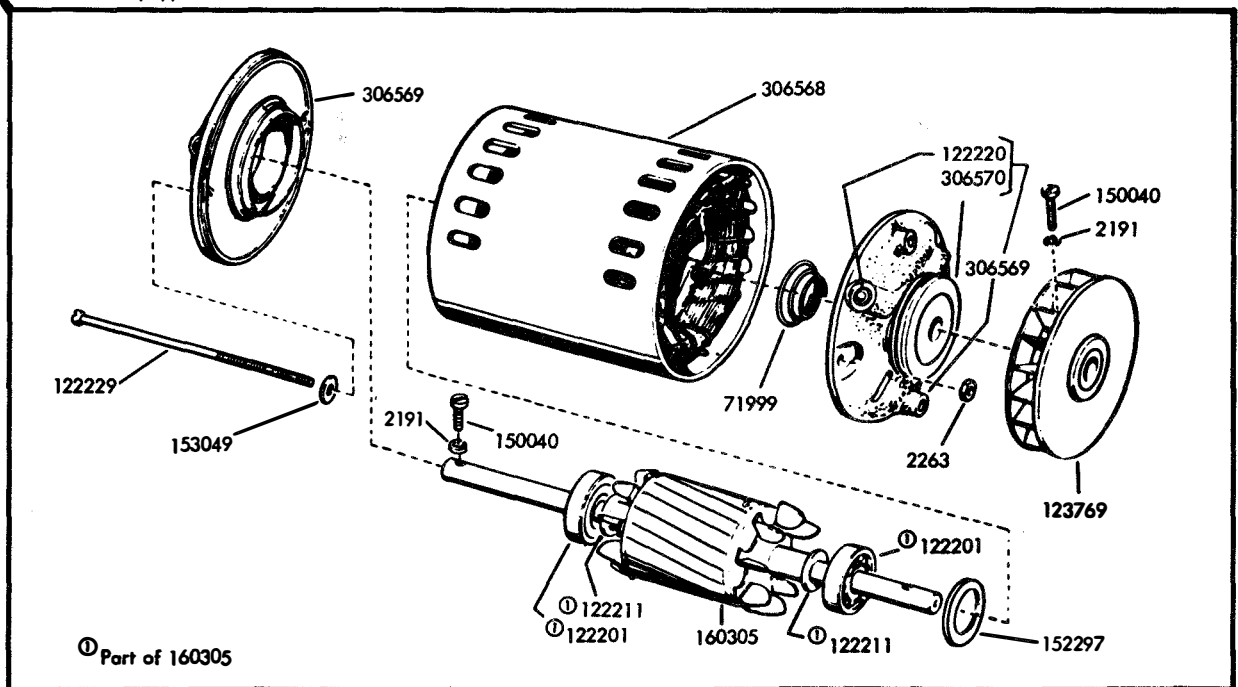


FIGURE 24. SYNCHRONOUS MOTOR UNIT

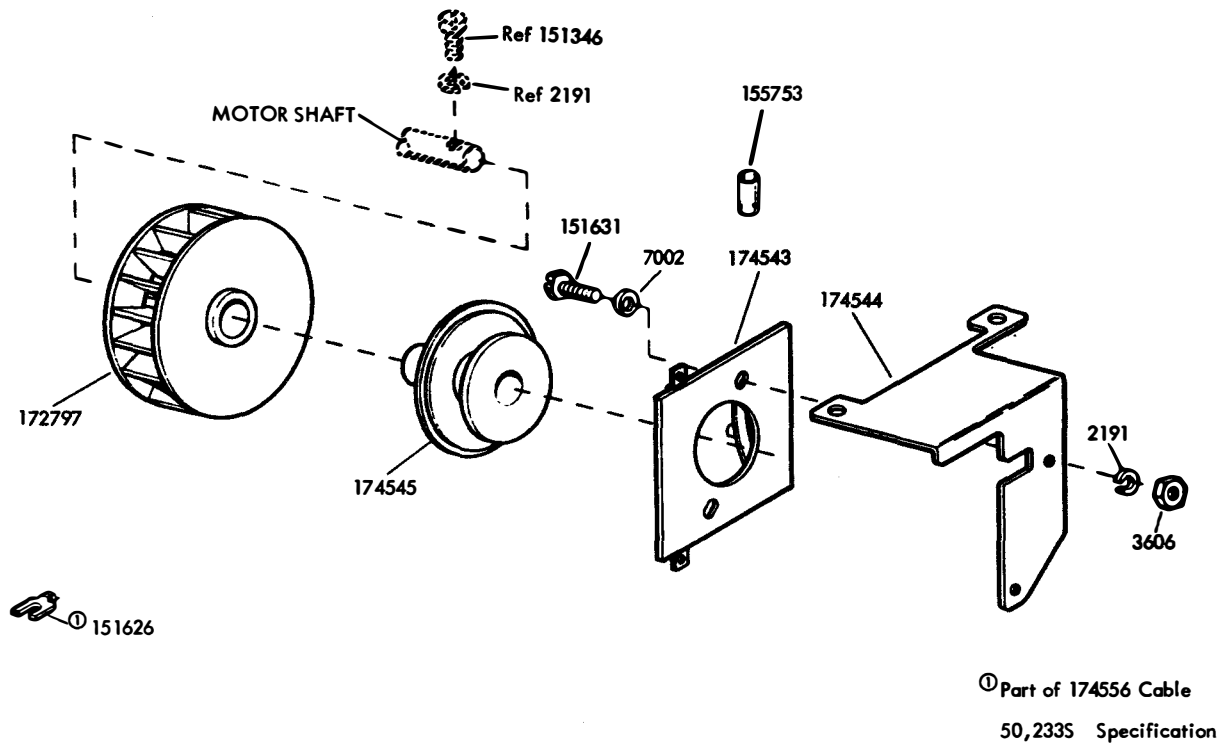


FIGURE 25. 174546 MODIFICATION KIT TO PROVIDE MOTOR RUNNING CONTACTS

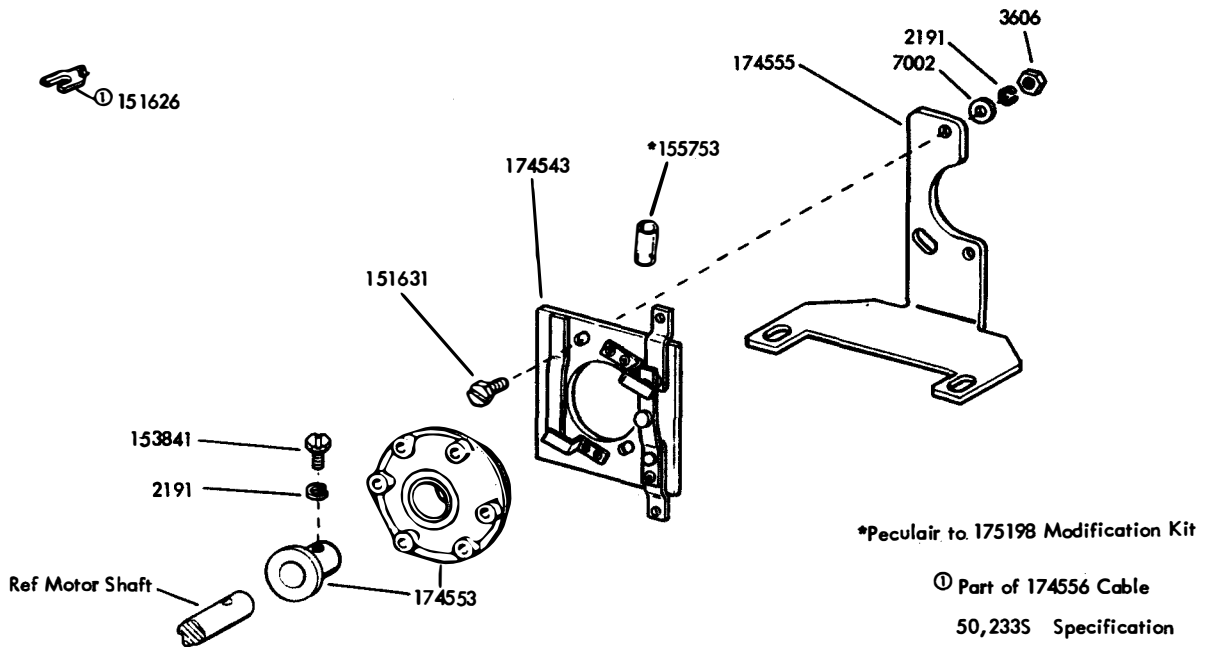


FIGURE 26. 174551 (LESS CABLE) 175198 (WITH CABLE) MODIFICATION KITS TO PROVIDE MOTOR RUNNING CONTACTS

MODIFICATION KITS
(Parts are illustrated on the pages indicated)

Modification Kit-Number	Part Number	Description	Quantity	Figure Number	Specification Number
198693	Modification Kit to Convert and LMU14 to and LMU39.				50,376S
	3640	Washer, Lock	7	19	
	75646	Screw, Drive	4		
	122233	Capacitor Assembly	1	13	
	139697	Screw, 4-40 x 9/32 Fil	7	19	
	151626	Terminal	1	13	
	152067	Nipple	1	19	
	161576	Stator, Motor	1	13	
	179424	Lid w/Insulator	1	19	
	198691	Plate w/Resistor Assembly	1	19	
	198692	Container Assembly	1	19	
	309431	Plate, Code (LMU39X)	1		
	312530	Washer, Textolite	1	19	
	312531	Washer, Fiber	1	19	
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	3640	Washer, Lock	8	19	
	75646	Screw, Drive	4		
	110743	Washer, Lock	1	19	
	122221	Stator, Motor	1	13	
	122233	Capacitor Assembly	1	13	
	139697	Screw, 4-40 x 9/32 Fil	7	19	
	151152	Screw, 4-40 x 3/16 Hex	1	19	
	151626	Terminal	1	13	
	151630	Screw, 6-40 x 1/4 Hex	4	19	
	152035	Plug	1	19	
	152044	Cover	1	19	
	152046	Bracket w/Cradle, Motor	1	19	
	152067	Nipple	1	19	
	179424	Lid w/Insulator	1	19	
	198691	Plate w/Resistor Assembly	1	19	
	198692	Container Assembly	1	19	
	309432	Plate, Code (LMU41X)	1		
	312530	Washer, Textolite	1	19	
	312531	Washer, Fiber	1	19	
306708	Modification Kit to Conver an LMU10 to an LMU47.				50,376S
	3640	Washer, Lock	7	19	
	75646	Screw, Drive	4		
	122221	Stator, Motor	1	13	
	122233	Capacitor Assembly	1	13	
	139697	Screw, 4-40 x 9/32 Fil	7	19	
	151626	Terminal	1	13	
	152067	Nipple	1	19	
	179424	Lid w/Insulator	1	19	
	198691	Plate w/Resistor Assembly	1	19	
	198692	Container Assembly	1	19	
	309433	Plate, Code (LMU47X)	1		
	312530	Washer, Textolite	1	19	
	312531	Washer, Fiber	1	19	
306709	Modification Kit to Convert an LMU4 to an LMU41.				50,376S
	3640	Washer, Lock	7	19	
	75646	Screw, Drive	4		
	122221	Stator, Motor	1	13	
	122233	Capacitor Assembly	1	13	
	139697	Screw, 4-40 x 9/32 Fil	7	19	
	151626	Terminal	1	13	
	152067	Nipple	1	19	
	179424	Lid w/Insulator	1	19	

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	198692	Container Assembly	1	19	
	309432	Plate, Code (LMU41X)	1		
	312530	Washer, Textolite	1	19	
	312531	Washer, Fiber	1	19	

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