



BULLETIN 1167B

PARTS

MODEL 28
TYPING REPERFORATOR
AND
TAPE PRINTER SETS
(LPR & LTP)

TELETYPE[®]

CORPORATION

SUBSIDIARY OF *Western Electric Company* INC.

SKOKIE, ILLINOIS, U. S. A.

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MARCH, 1961

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TELETYPE AND BELL SYSTEM CODE REFERENCE CHART

Unit	Teletype Code	Bell System Code	Self-Contained Set Components	Multiple Mtg. Set Components	ASR Set Components	RT Set Components
Typing Reperforator	LPR3	28A (AWA)				X
	LPR4	28A (AWA)	X			
	LPR7	28B (AWA)	X			
	LPR10	28D (ARC)			X	
	LPR22	28C (ARC)	X			
		28E (ARD)	X			
	LPR23	28D (ARC)	X			
	LPR25	28F (ARD) 28D (ARC)	X			X
Reperforator Base	LRB3	28A	X			
	LRB5	28C			X	
	LRB21	28D	X			
Multiple Reperforator Base	LMRB201**	28B		X		
Motor Unit	LMU3	28A	X		X	
	LMU6	28B	X		X	
	LMU12	28C		X		
Electrical Service Unit	LESU12	28D	X		X	
	LESU30	28D-1			X	
Sprocket & Belt Sets	161680 (60 WPM)	28K		X		
	162213 (75 WPM)	28L		X		
	162217 (100 WPM)	28M		X		
Gear Sets Typing Reperforator (LPR)	159893 (60 WPM)	28N			X	
	159890 (75 WPM)	28P			X	
	159887 (100 WPM)	28R			X	
	163023 (60 WPM)	28N-1			X	
	163024 (75 WPM)	28P-1			X	
	163025 (100 WPM)	28R-1			X	
Gear Sets Auxiliary Base (LRB)	161811 (60 WPM)	28S			X	
	161812 (75 WPM)	28T			X	
	161813 (100 WPM)	28U			X	

Model 28 TAPE PRINTER SET		
Description	Teletype Code	Bell System Code
TAPE PRINTER	LTP1	28LA
TAPE PRINTER KEYBOARD	LTPK1 ^{BRV}	28LA
COVER	LSRC201 ^{AB}	28LA
MOTOR	LMU3	28A

Components of the Model 28 Typing Reperforator Set Covered in this Bulletin	
Typing Reperforator	LPR: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 21, 22, 23, 25, 26, 27, 32, 34, 34, 35, 36, 37
Reperforator Base Send - Receive	LRB: 2, 3, 5, 6, 7, 8, 9, 10, 11, 19, 20, 21, 22, 24, 26, 27, 28, 32
Keyboard Base Send - Receive	LTRK: 1
Motor Unit	LMU: 3, 4, 6, 12, 14
Electrical Service Unit	LESU: 12, 27, 30
Cover	LSRC: 200** LRC: 200
Table	LT: 200**
Cabinet	LBAC: 202**, 203**, 213**, 214**
Multiple Mounting Base	LMRB: 200**, 201**, 202**, 203**
Gears For:	
Typing Reperforator Two - shaft (LPR)	See Page 2-26
Auxiliary Base (LRB)	See Page 1-16
Receive - only Base Single Plate (LRB)	See Page 1-6
Send - Receive Keyboard Base (LTPK)	See Page 6-18
Multiple Mounting Base (LMRB)	See Page 1-10

Components of Model 28 Tape Printer Set Covered in this Bulletin	
Tape Printer	LTP: 1
Send - Receive Keyboard	LTPK1 ^{BRV}
Motor	LMU: 3
Cover	LSRC201 ^{AB}

TYPEWHEEL AND COLOR CODE CHART			
Typewheel Code	Part Number	Matching Arrangements	
		Typebox	Keytop
ARA	173965	RA	ARK, RK, XB
ARC	173971	RC	ARP, RT, YC
ARE	173970	RE	ARE, RE, XL
ARG	173966	RG	ARG, RG
ARJ	173968	RJ	ARW, RJ
ARK	163675	--	--
ARL	163676	--	--
ARM	163677	--	--
ARP	163678	--	--
ARS	173969	RS	ARM, RS, WU, YE
ART	163680	--	--
ARX	163682	--	--
ARY	163681	YE	BRQ
ARZ	163679	RZ	ARU, RZ
AWA	173967	WY	BRJ, WY, XJ, XY

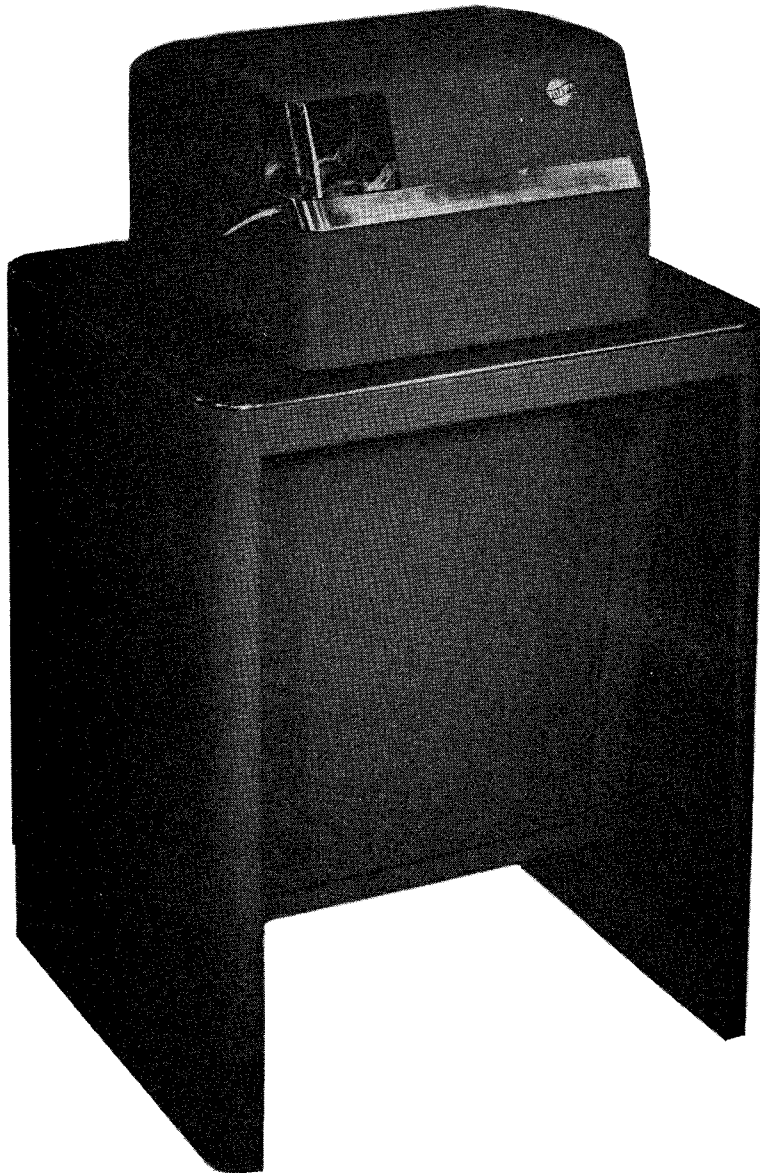
PAINT FINISH COLOR CODE CHART (for parts and assemblies requiring a paint finish)					
SMOOTH FINISHES			WRINKLE FINISHES		
Suffix	Color	Bell System Code	Suffix	Color	Bell System Code
BB	Black Semi-gloss	34	AA	Black	37
BA	Black High Gloss		AB	Gray Green	40
BK	Gray Green		AC	Light Brown	38
BH	Light Gray	AD	Dark Brown		
BU	Light Gray Semi-gloss		AF	Federal Gray	
BV	Federal Gray				
BZ	Charcoal Gray				
BX	Sunland Beige				

Suffix to be applied following the part number

BELL SYSTEM ONLY

When ordering parts from this bulletin, prefix each number with the letters TP.

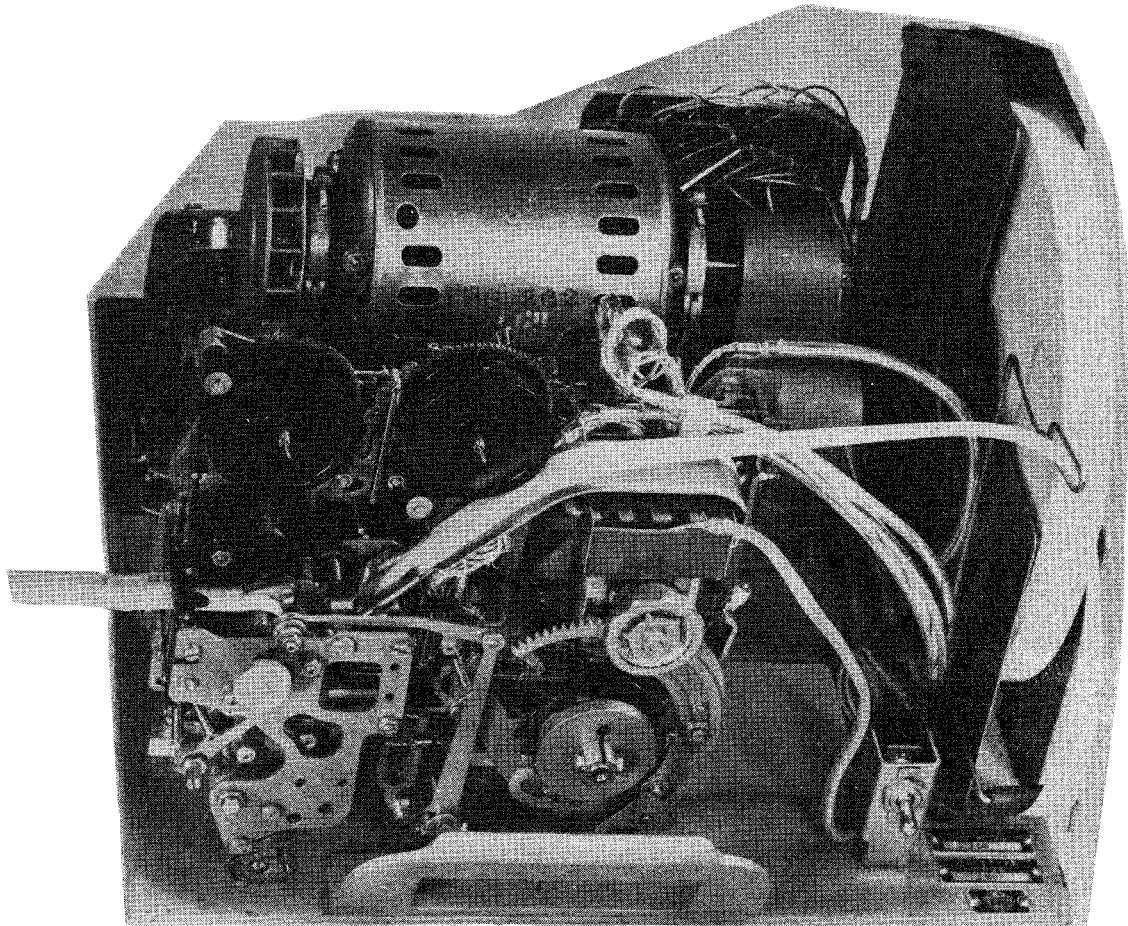
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MODEL 28 TYPING REPERFORATOR SET (REC. ONLY)

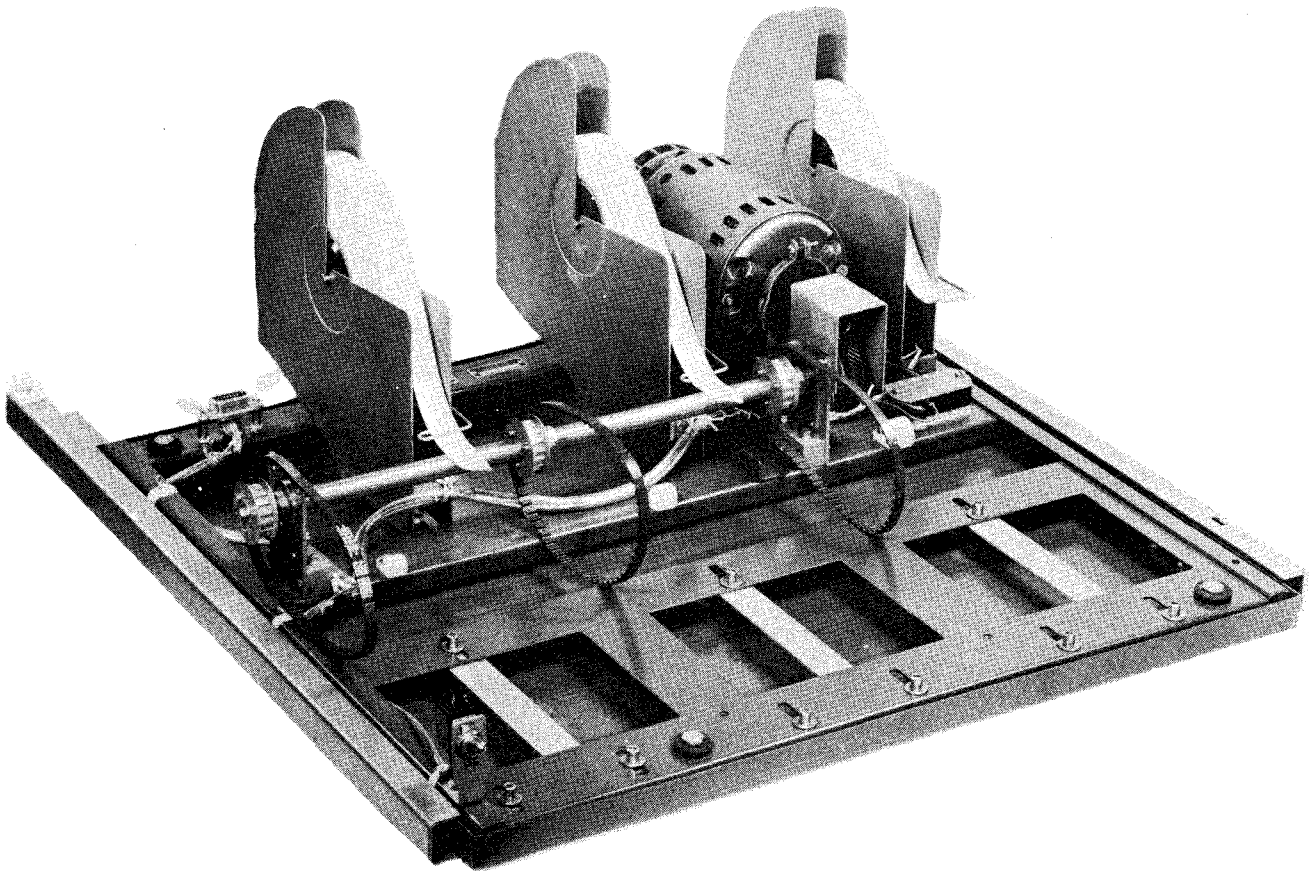
consists of

TYPING REPERFORATOR UNIT (LPR), REPERFORATOR BASE (LRB), MOTOR UNIT (LMU),
ELECTRICAL SERVICE UNIT (LESU), REPERFORATOR COVER (LRC) AND REPERFORATOR TABLE (LT)



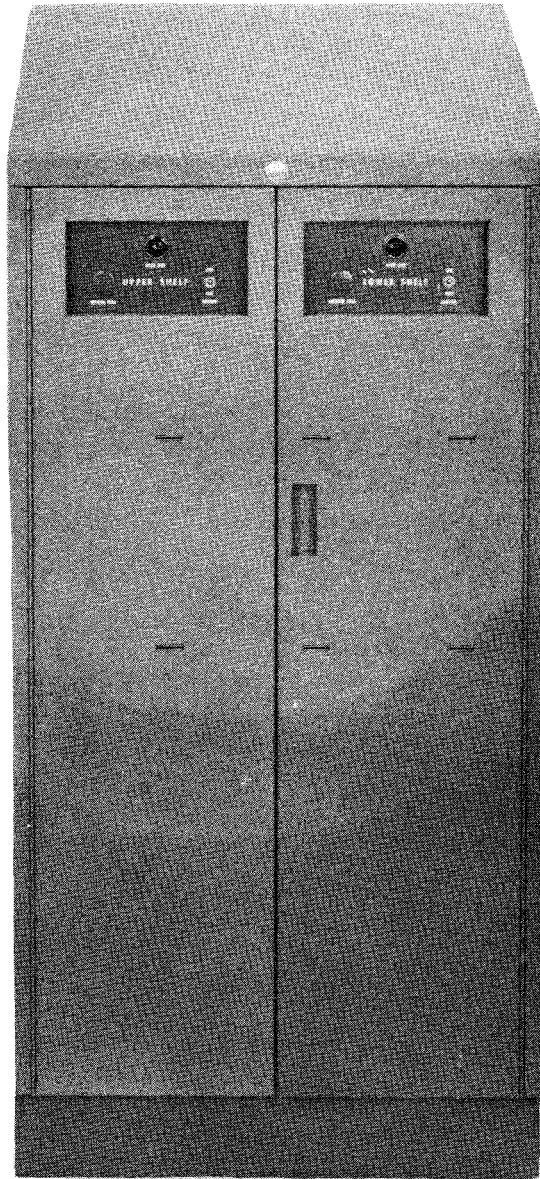
MODEL 23 TYPING REPERFORATOR UNIT (LPR), REPERFORATOR BASE (LRB) AND MOTOR UNIT (LMU)

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MODEL 28 MULTIPLE REPERFORATOR BASE (LMRB)
AND MOTOR UNIT (LMU)

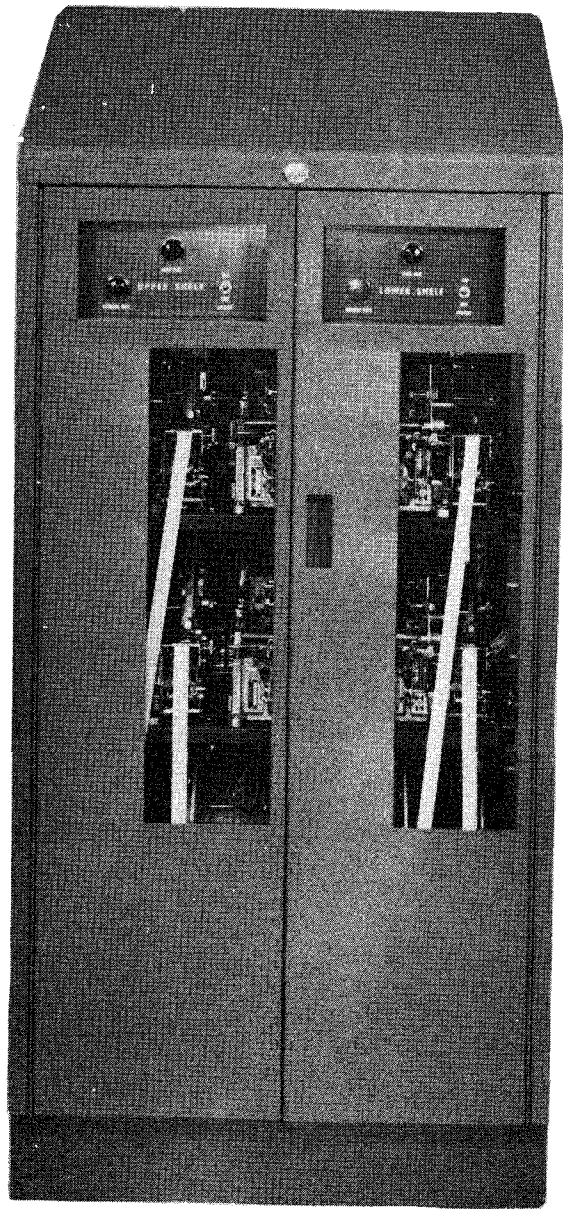
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MODEL 28 APPARATUS CABINET (LBAC) - RECEIVING ONLY

housing 6 typing reperforator units - multiple mounted

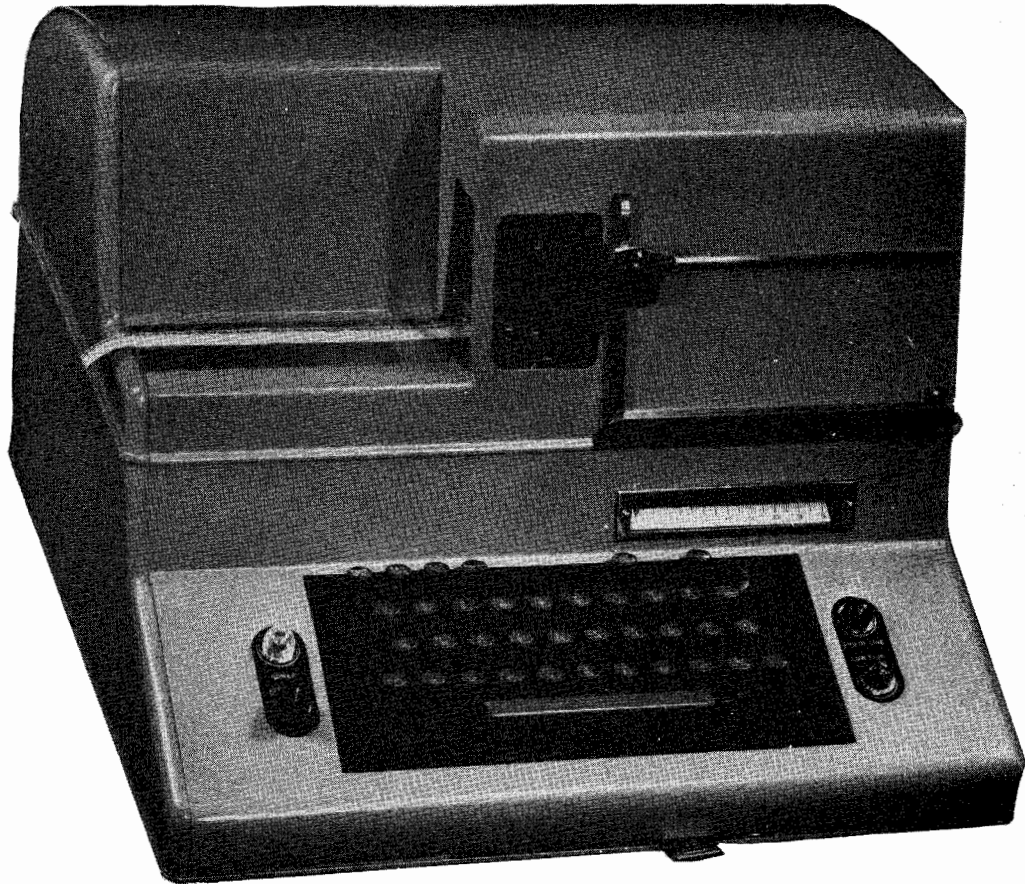
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MODEL 28 APPARATUS CABINET (LBAC) - MONITORING

housing 6 typing reperforator units and tape winders - multiple mounted

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MODEL 28 SEND-RECEIVE TYPING REPERFORATOR SET

Consists of

SEND-RECEIVE KEYBOARD BASE (LTRK), TYPING REPERFORATOR UNIT (LPR), COVER (LSRC) AND MOTOR UNIT (LMU)



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SECTION 1

RECEIVING ONLY BASE AND VARIABLE FEATURES

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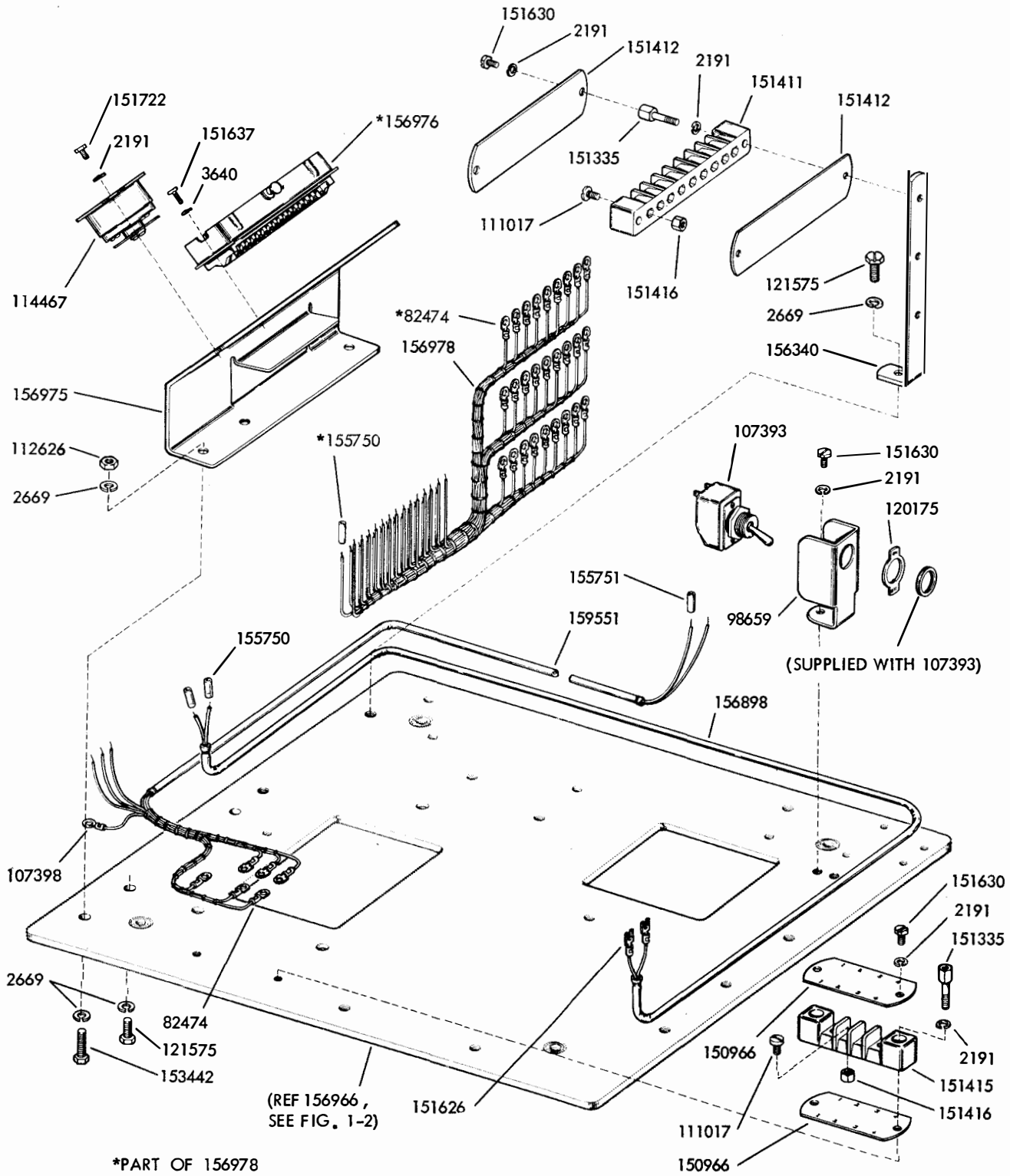


FIGURE 1-1. REPERFORMER BASE (SINGLE PLATE)

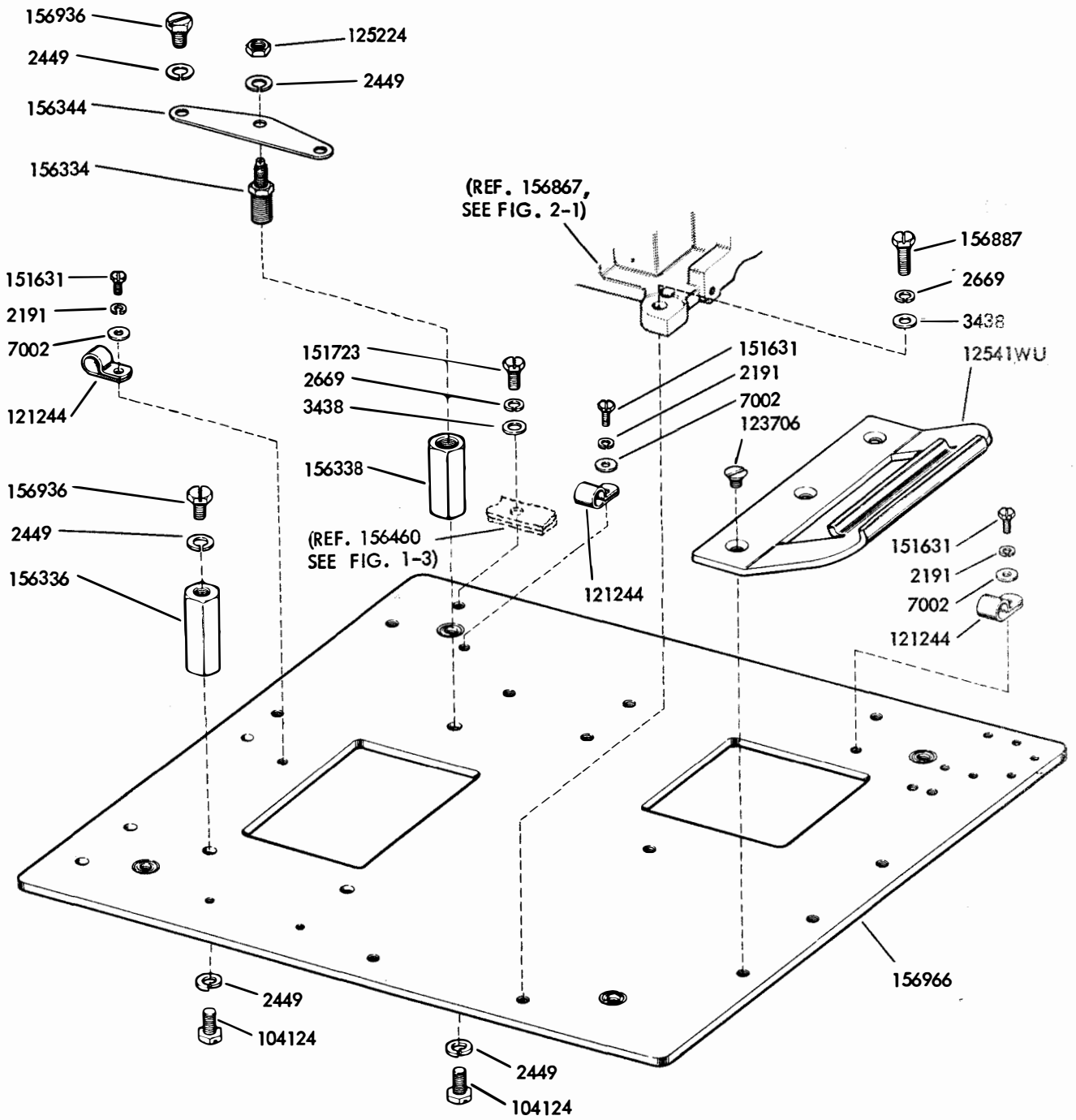


FIGURE 1-2. REPERFORATOR BASE (SINGLE PLATE)

GEAR SETS (ORDER SEPARATELY)						
SET NUMBER	PINION	DRIVEN GEAR	SPEED			
			7.00 UNIT CODE		7.42 UNIT CODE	
			O.P.M.	W.P.M.	O.P.M.	W.P.M.
161519	161104	161103	-----	-----	404	67 (50 BAUD)
161654	156982	156981	390	65	368	60
161655	156984	156983	-----	-----	460	75
161656	156986	156985	636	106	600	100

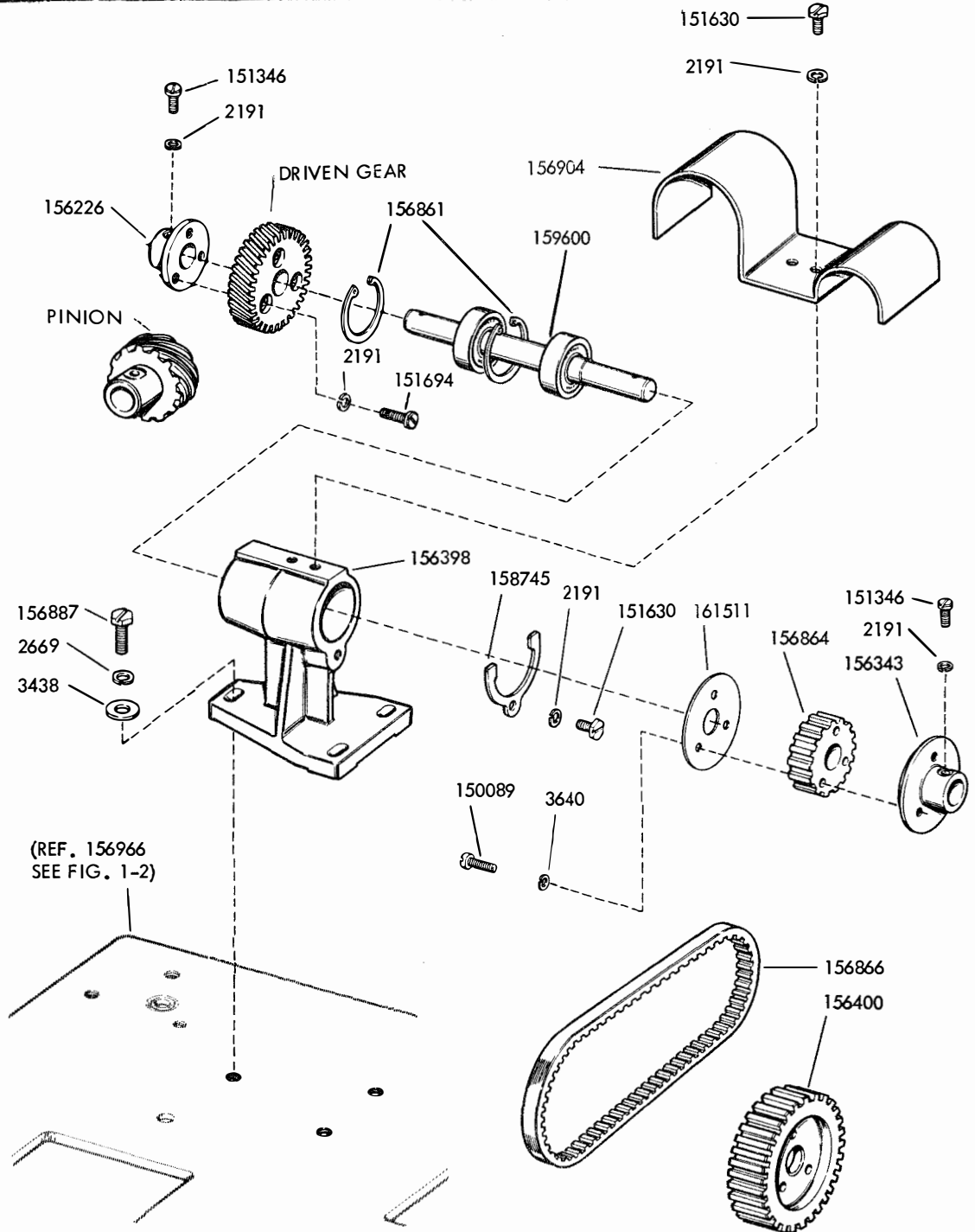
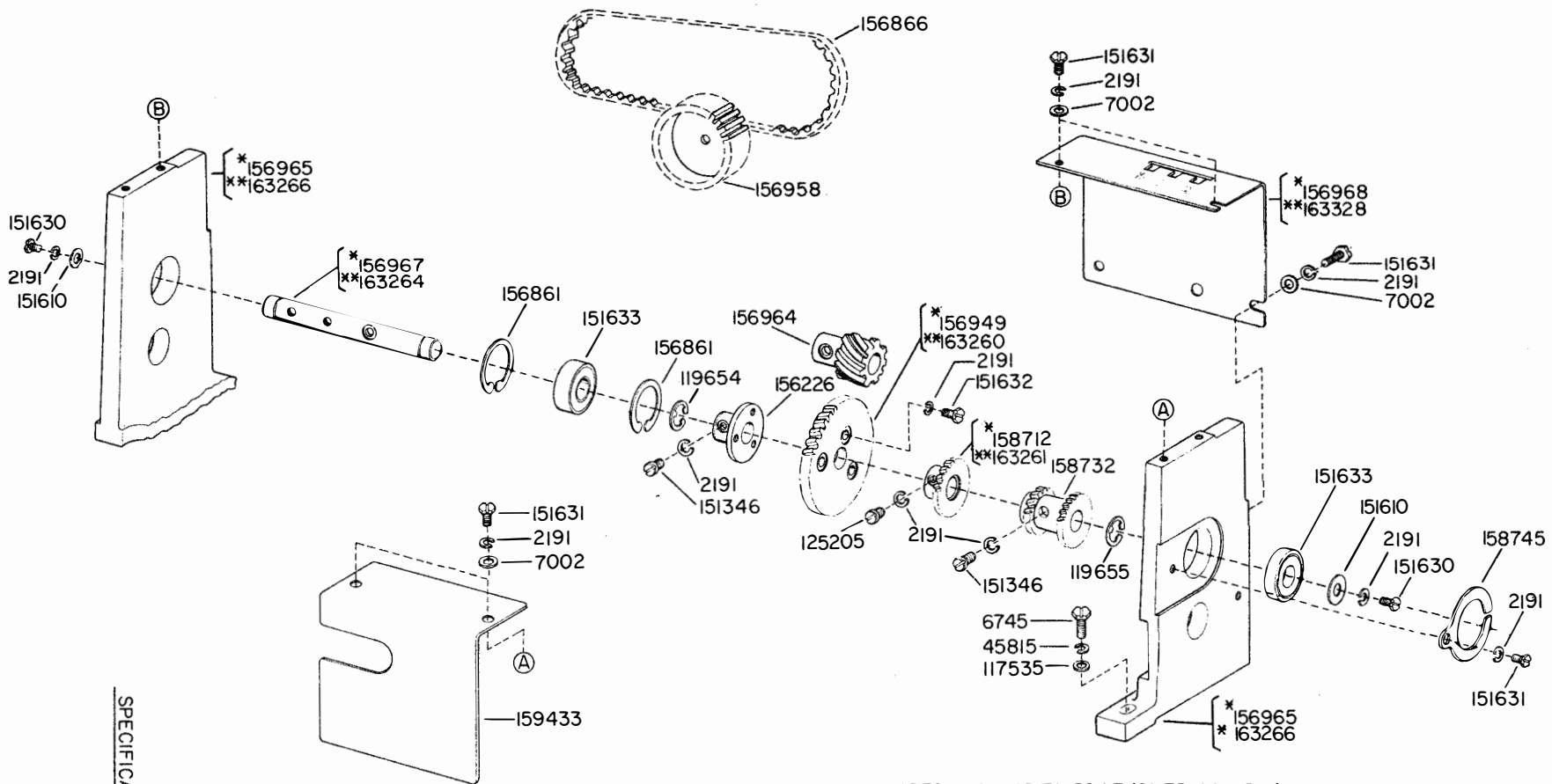


FIGURE 1-5. 159377 MODIFICATION KIT TO PROVIDE SINGLE SPEED DRIVE

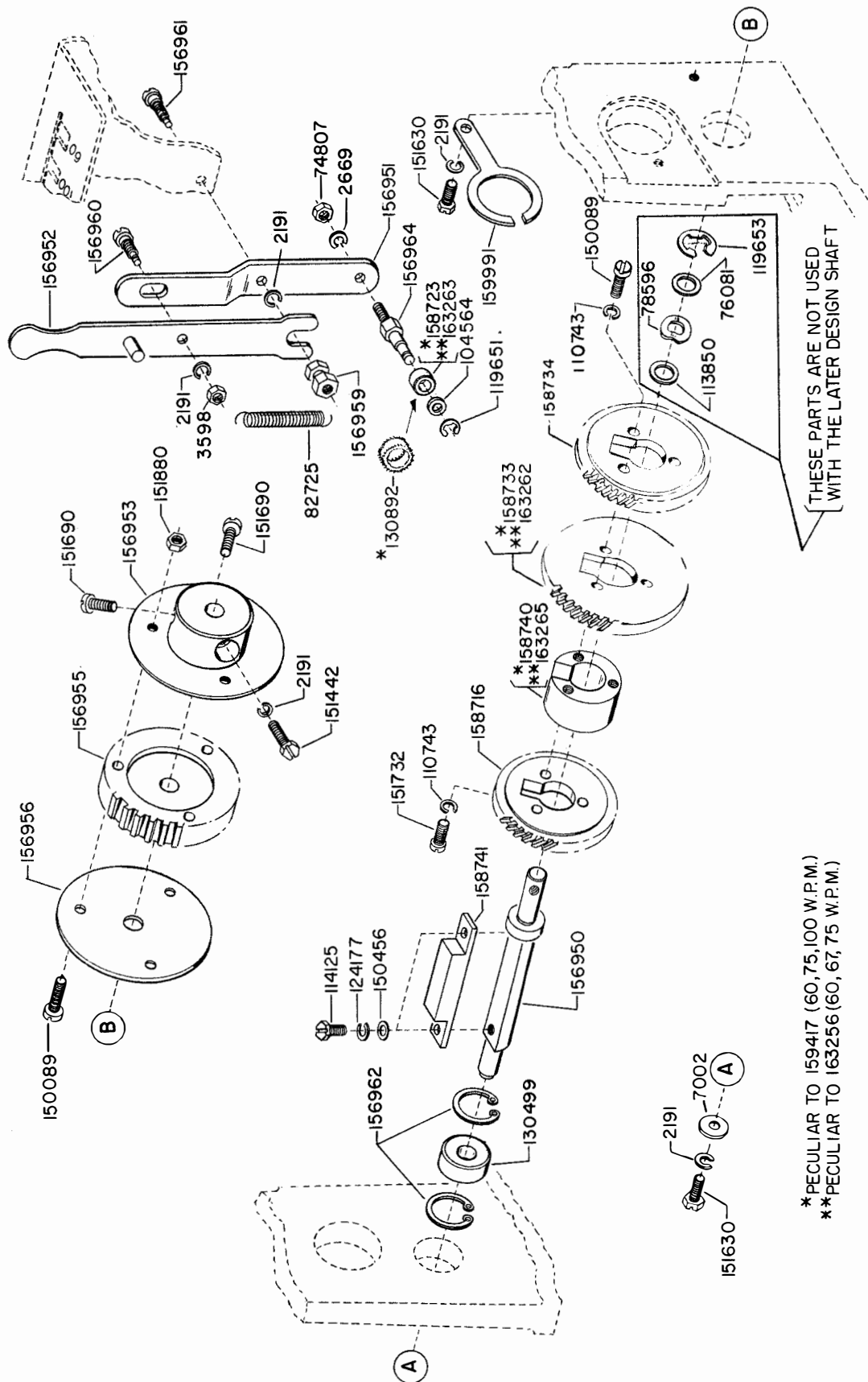
FIGURE 1-6 159417 AND 163256 MODIFICATION KITS TO PROVIDE VARIABLE SPEED DRIVE
(INCLUDES PARTS ON THIS PAGE AND FIG. 1-7)



SPECIFICATION 58015

*PARTS PECULIAR TO 159417 (60,75,100 W.P.M.)
 **PARTS PECULIAR TO 163256 (60,67, 75 W.P.M.)

11678



* PECULIAR TO 159417 (60, 75, 100 W.P.M.)
 ** PECULIAR TO 163256 (60, 67, 75 W.P.M.)

FIGURE I-7 159417 AND 163256 MODIFICATION KITS TO PROVIDE VARIABLE SPEED DRIVE (INCLUDES PARTS ON THIS PAGE AND I-6)

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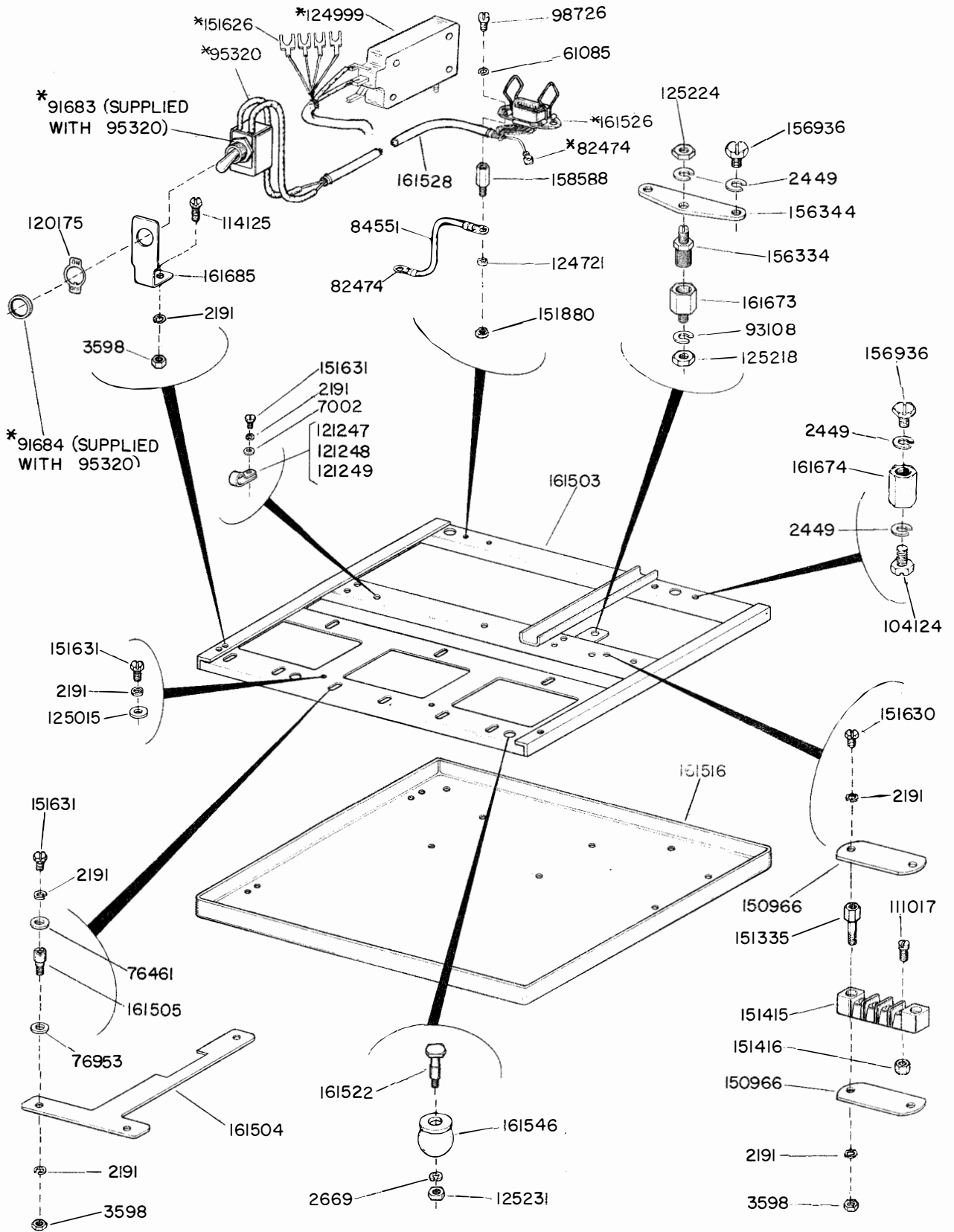


FIGURE I-8. MULTIPLE REPERFORATOR BASE

SPEED CHANGES FOR MULTIPLE MOUNTING UNITS (5 LEVEL - 7.42 UNIT CODE)				
	BAUD	45.5	56.9	75
	W.P.M.	60	75	100
	O.P.M.	368	460	600
SPEED AT MOTOR (Using 161680 Mod. Kit at reperformator)	GEAR SET	161530	161533	161536
	GEAR	161531-44T	161534-47T	161537-42T
	PINION	161532-9T	161535-12T	161538-14T
SPEED AT REPERFORATOR (Using 161530 Gear Set at Motor)	MOD. KIT	161680	162213	162217
	HUB	161509	162215	162220
	CROSS-SHAFT SPROCKET	161510-16T	162214-20T	162219-27T
	RETAINER	161511	162216	162221
	BELT	161520	161520	162222
	REPERFORATOR SPROCKET	156400-28T	156400-28T	162218-29T

SPEED CHANGES FOR MULTIPLE MOUNTING UNITS (5 LEVEL - 7.00 UNIT CODE)					
	BAUD	45.5	50	75	84.7
	W.P.M.	65	71	106	121
	O.P.M.	390	428	636	726
AT MOTOR	GEAR	164340-37T	164338-40T	164340-37T	164338-40T
	PINION	164339-10T	164337-9T	164339-10T	164337-9T
AT REPERFORATOR	MOD. KIT	173584	161680	162213	173023
	HUB	161509	161509	162215	162220
	CROSS-SHAFT SPROCKET	161510-16T	161510-16T	162214-20T	162219-27T
	RETAINER	161511	161511	162216	162221
	BELT	162222	161520	161520	162222
	REPERFORATOR SPROCKET	173583-33T	156400-28T	156400-28T	156400-28T

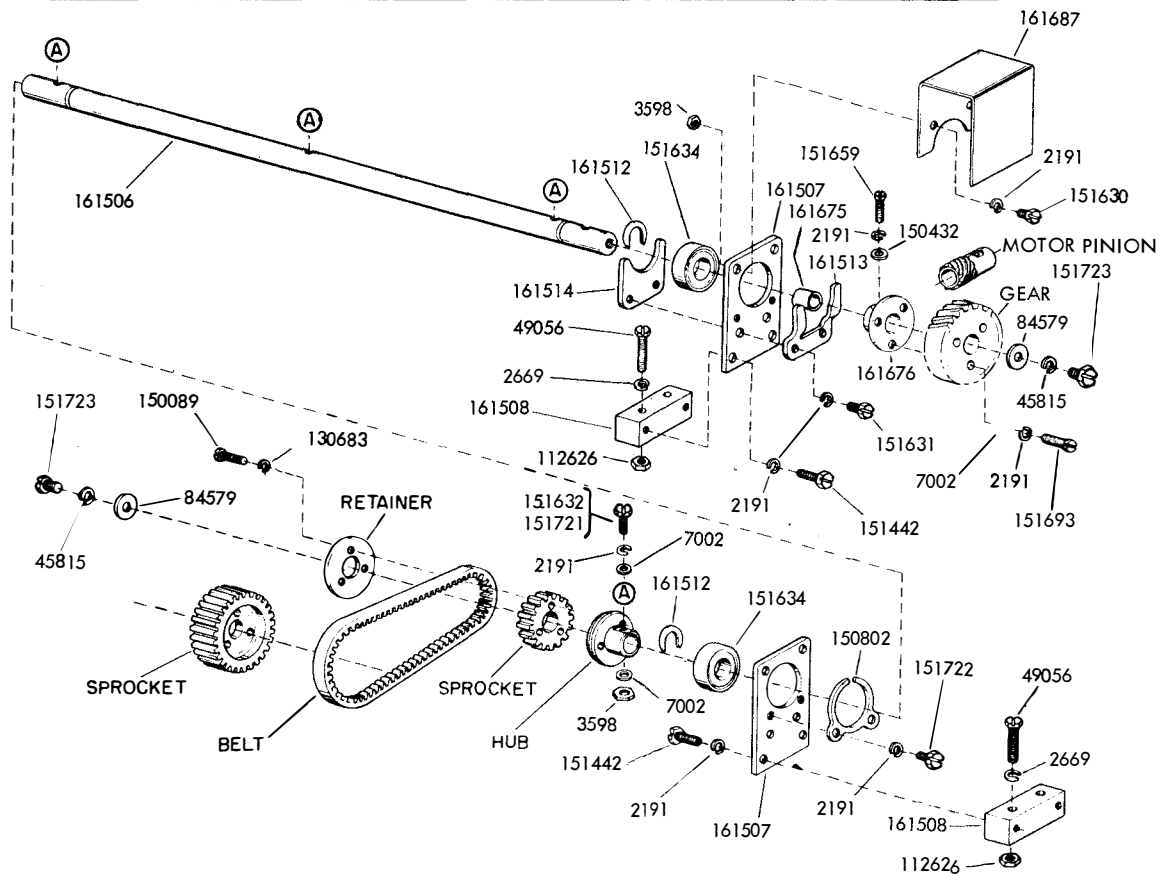
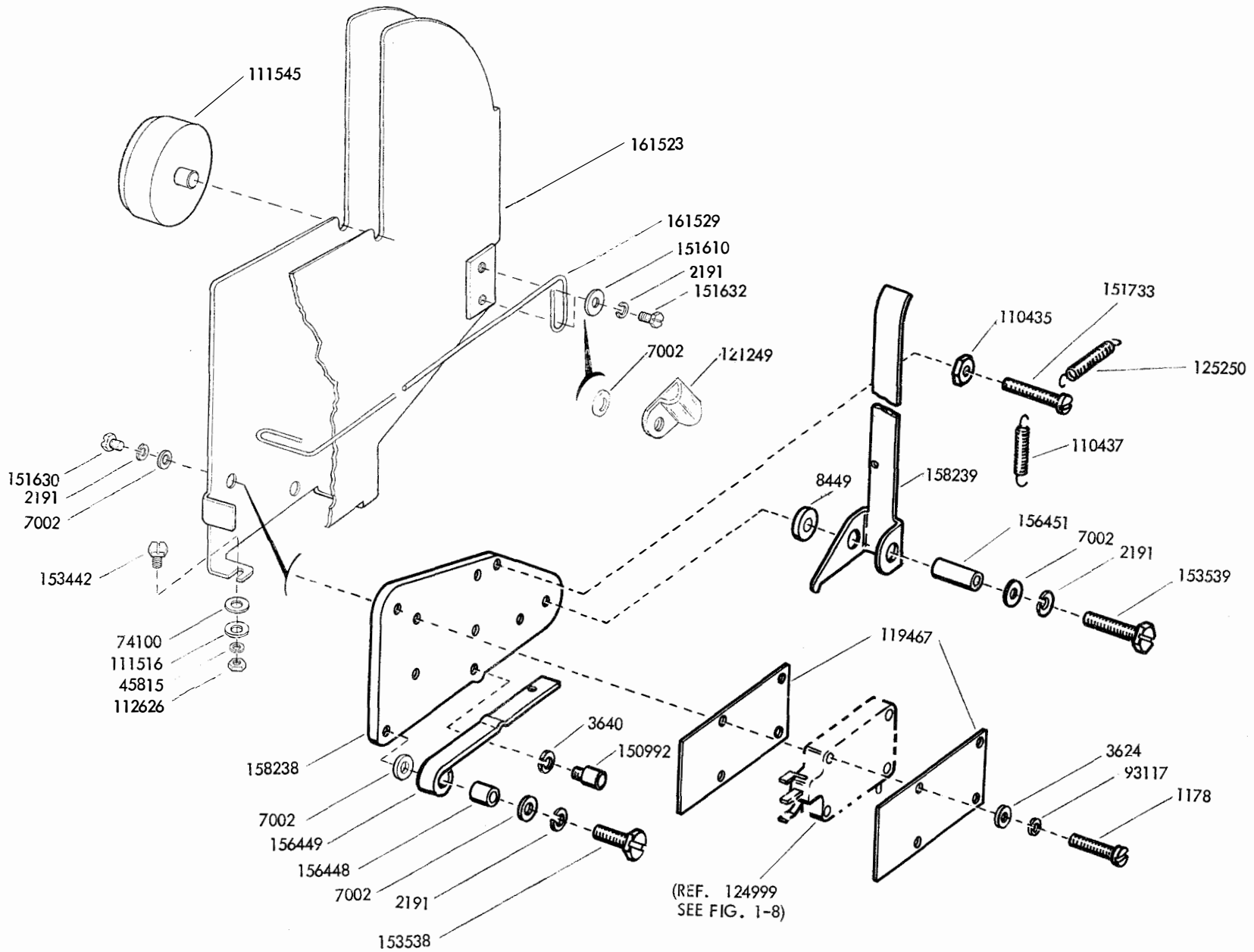
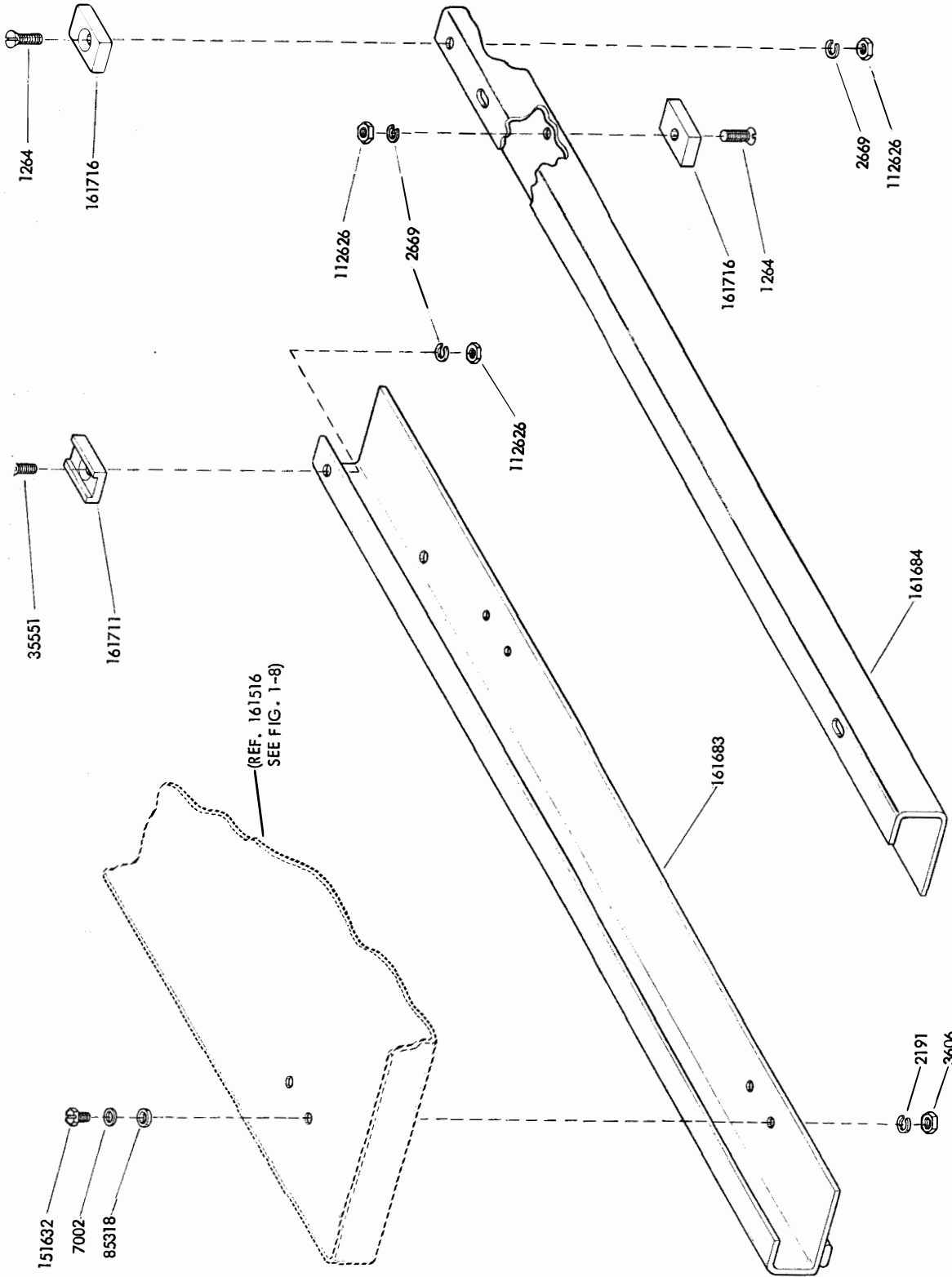


FIGURE 1-9. SHAFT MECHANISM FOR MULTIPLE REPERFORATOR BASE

FIGURE 1-10. TAPE CONTAINER

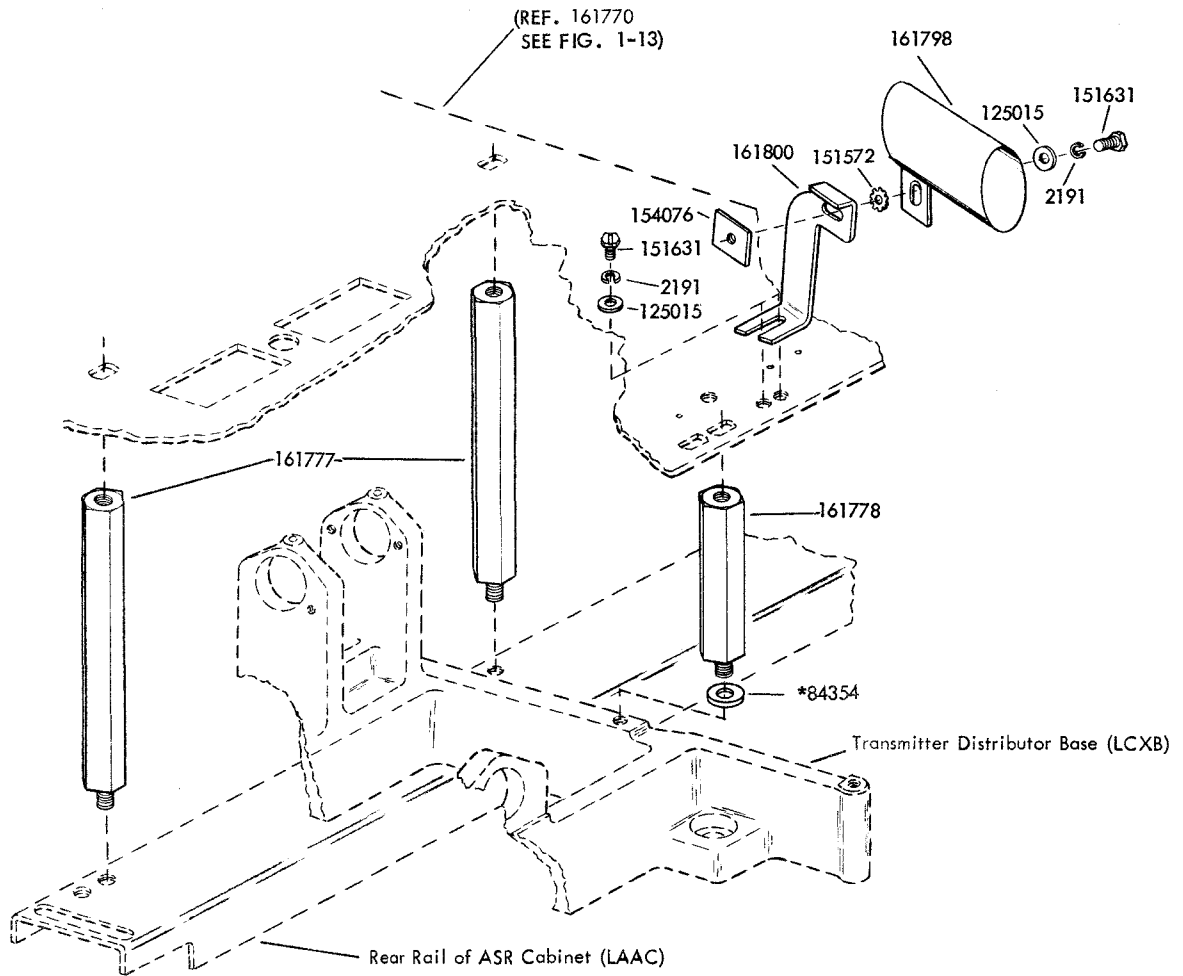


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SPECIFICATION 59645

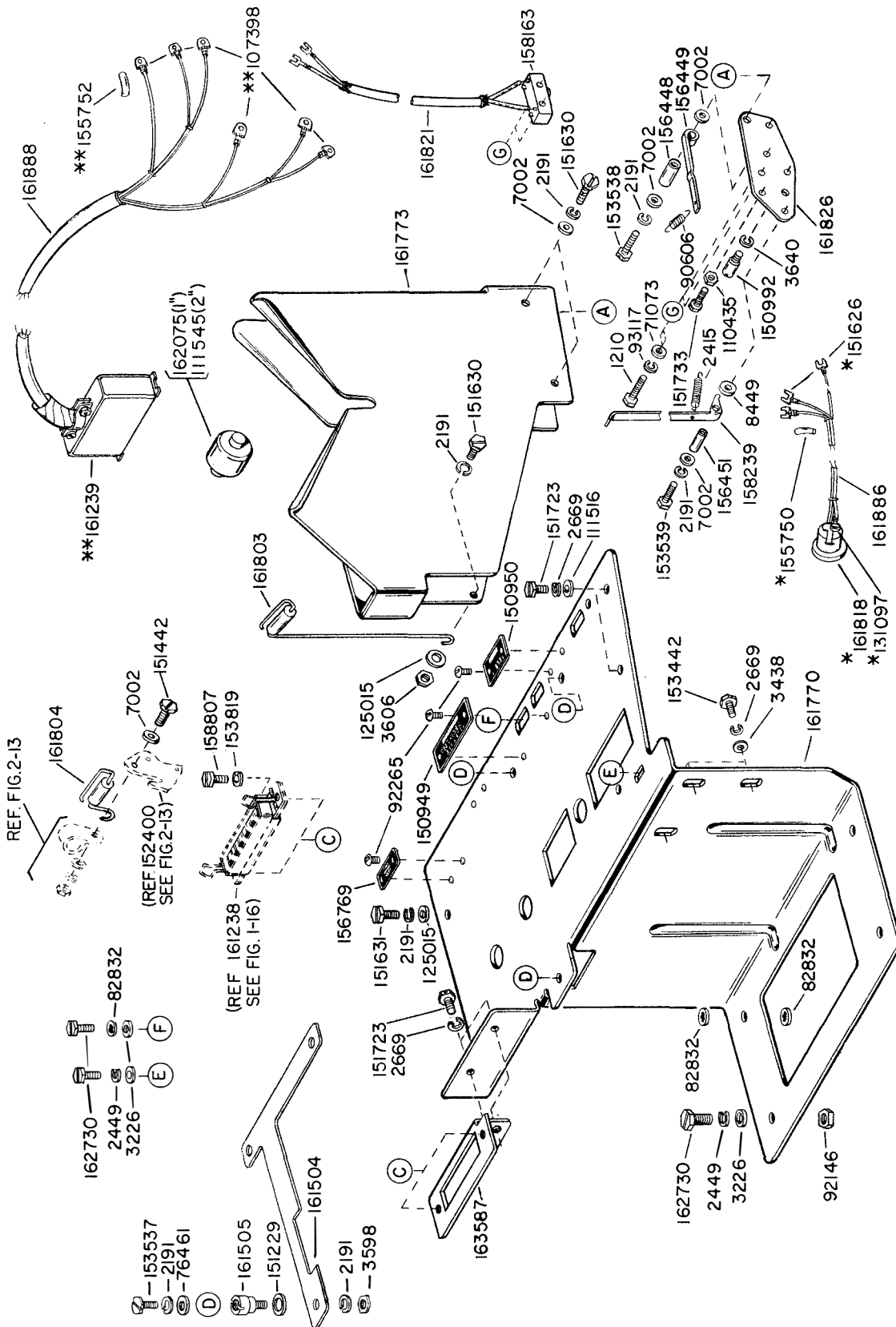
FIGURE 1-11. 161678 MODIFICATION KIT TO INSTALL A MULTIPLE REPERFORATOR BASE (LMRB) IN A MODEL 28 CABINET (LBAC)



SPECIFICATION 5929S

*NOT REQUIRED WHEN UNIT IS
EQUIPPED WITH BASE ISOLATION
PARTS.

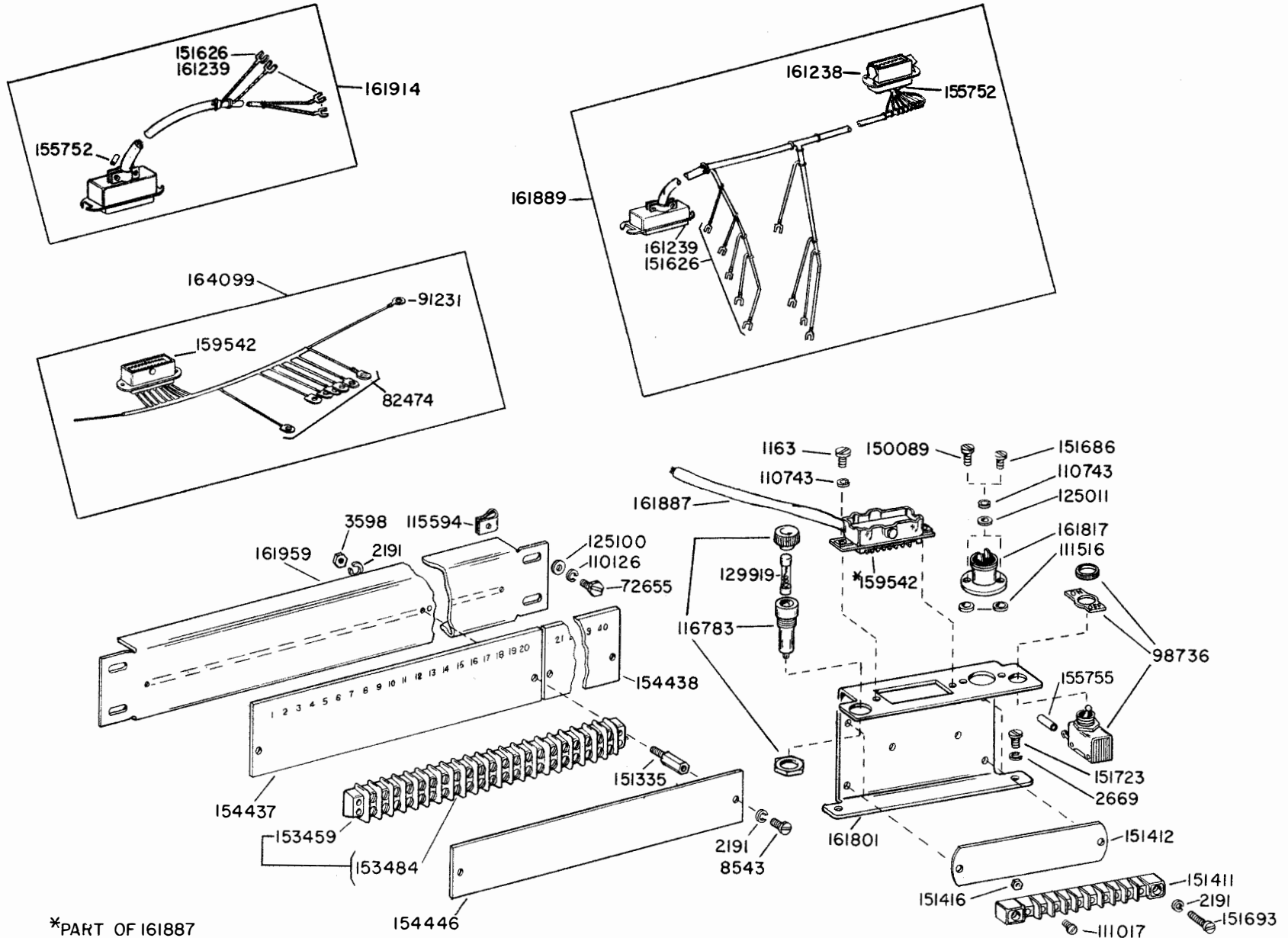
FIGURE 1-12. 161815 MODIFICATION KIT TO MOUNT AN AUXILIARY TYPING REPERFORATOR BASE



* PART OF 161886
 ** PART OF 161888

FIGURE I-13 AUXILIARY REPERFORATOR BASE

FIGURE I-16. ELECTRICAL COMPONENTS



1678

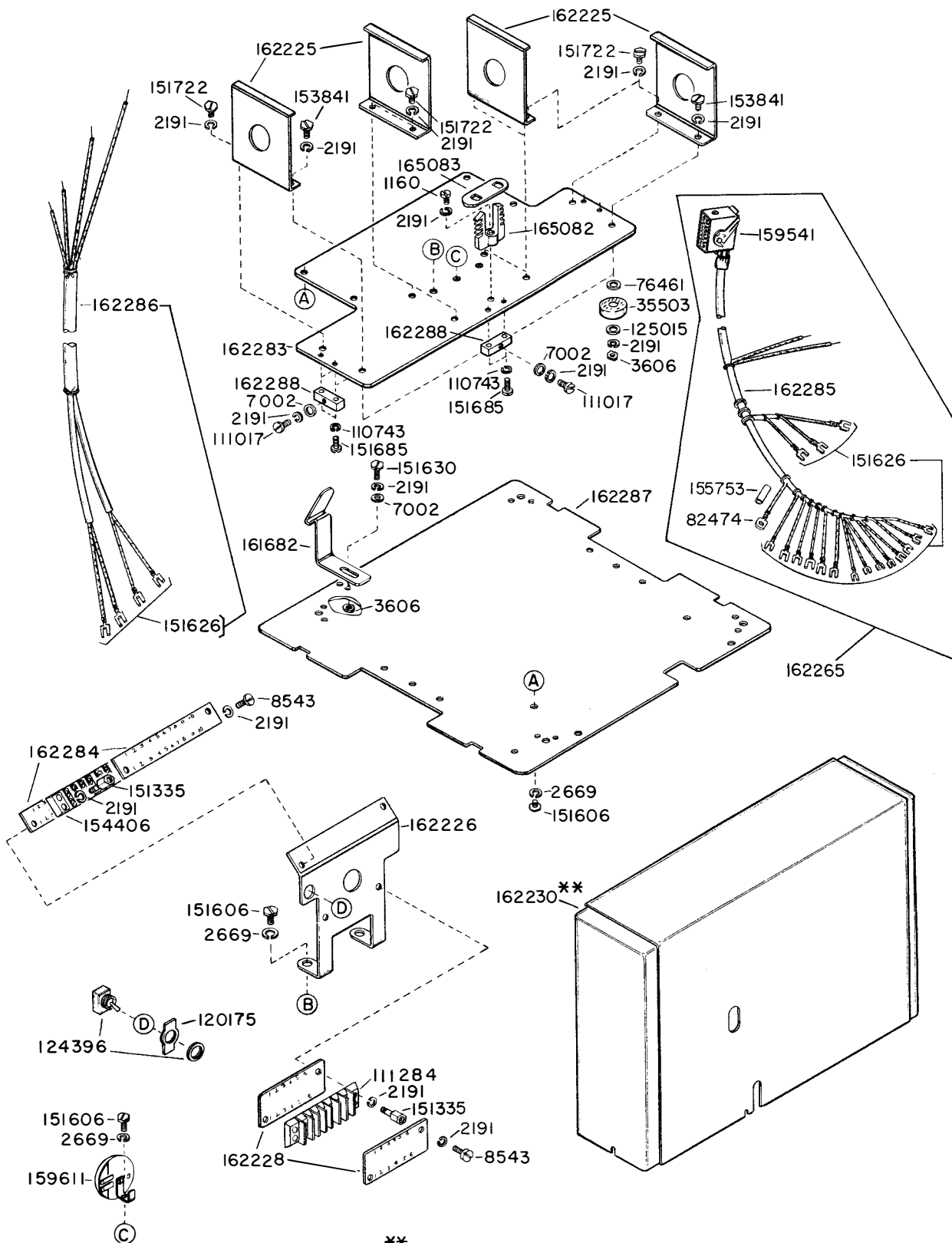


FIGURE I-17. TYPING REPERFORATOR BASE WITH EXTENSION

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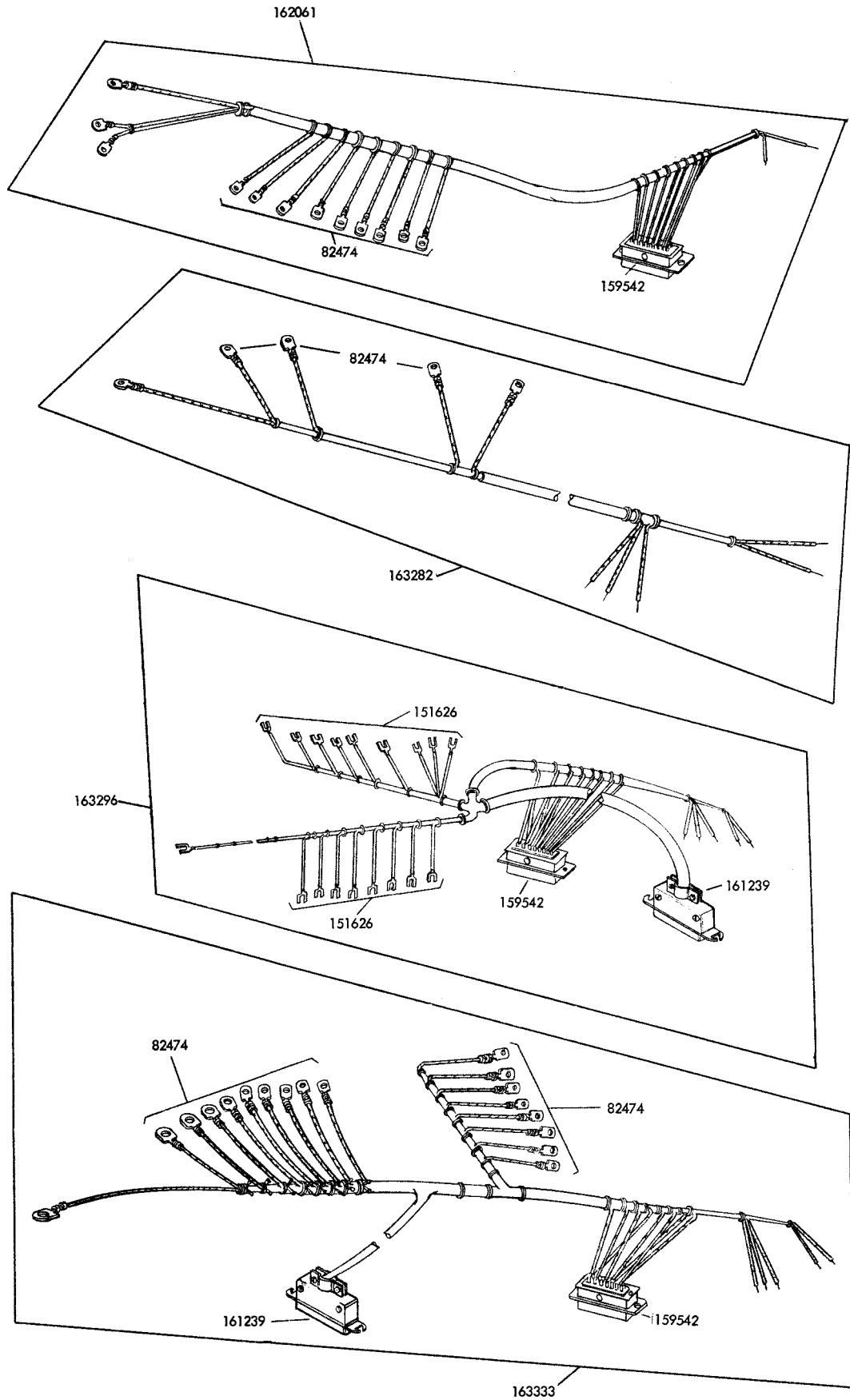


FIGURE 1-18. CONTROL CABLES

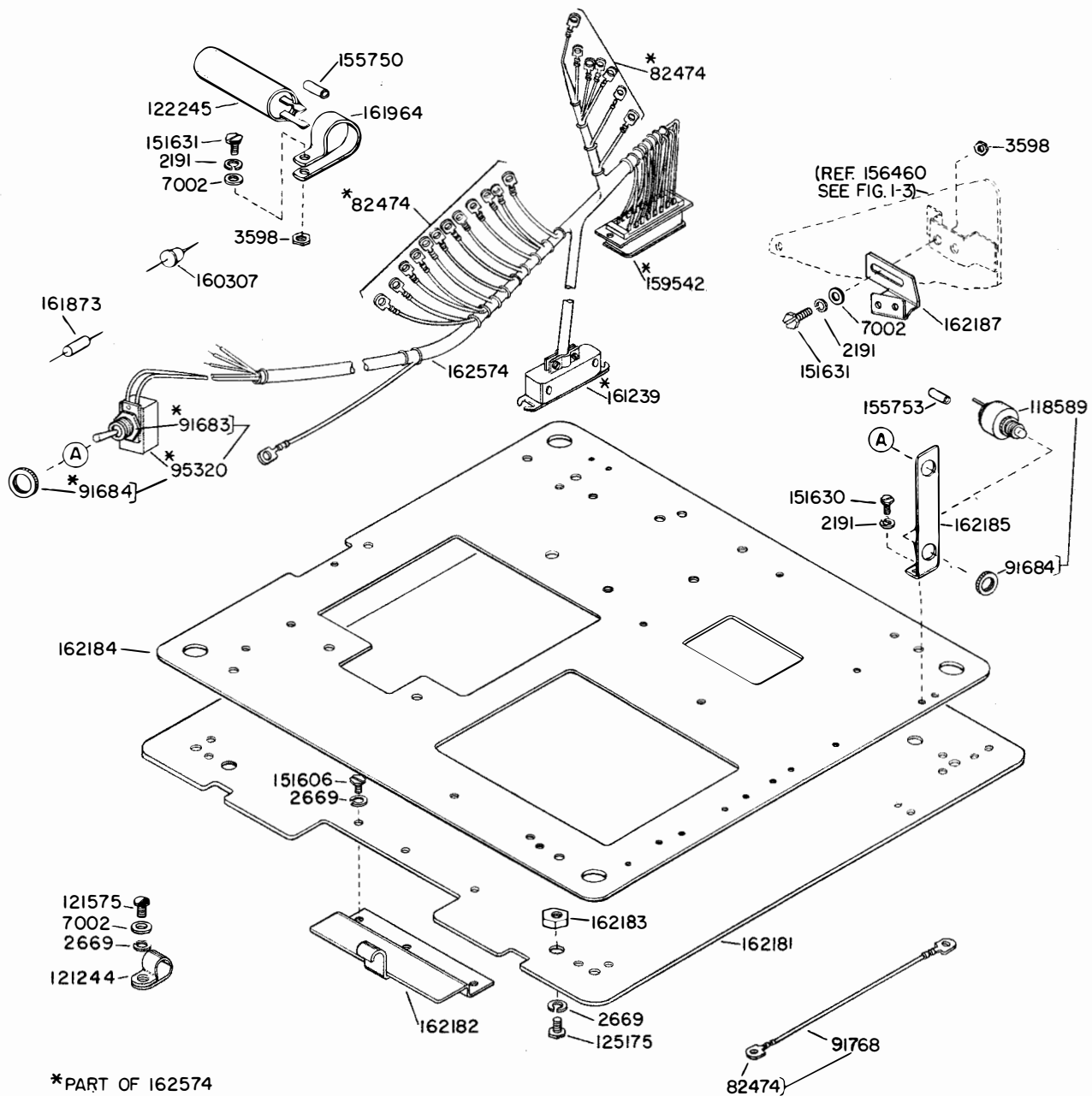
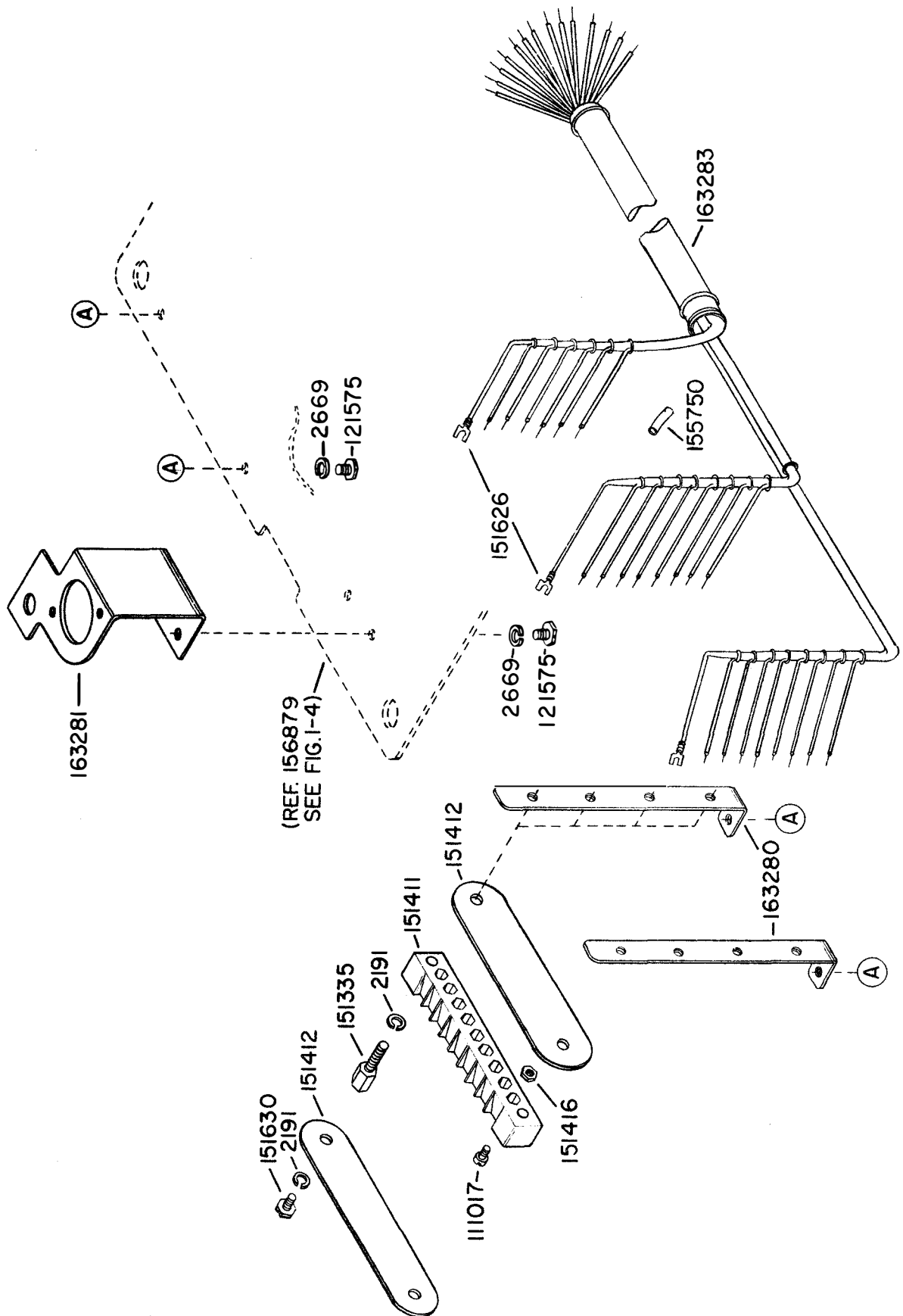
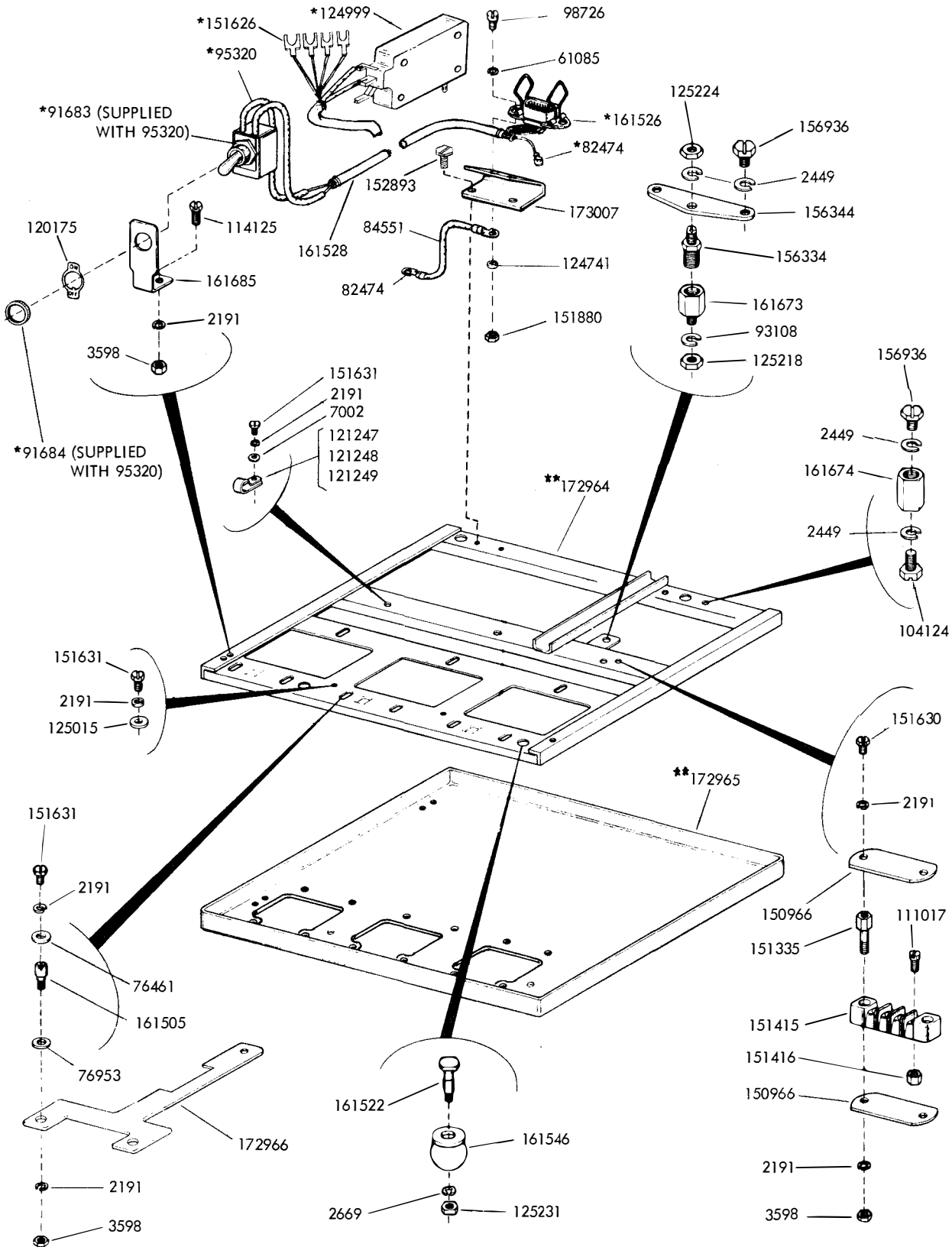


FIGURE I-19. REPERFORATOR BASE (DOUBLE PLATE)
(WITH A.C. TO D.C. TAPE FEED OUT CIRCUIT)



(REF. 156879
SEE FIG. I-4)

FIGURE I-20. ELECTRICAL COMPONENTS



*PART OF 161528
 **USED WITH CHAD DISPOSAL
 MODIFICATION KIT

FIGURE 1-21. MULTIPLE REPERFORATOR BASE

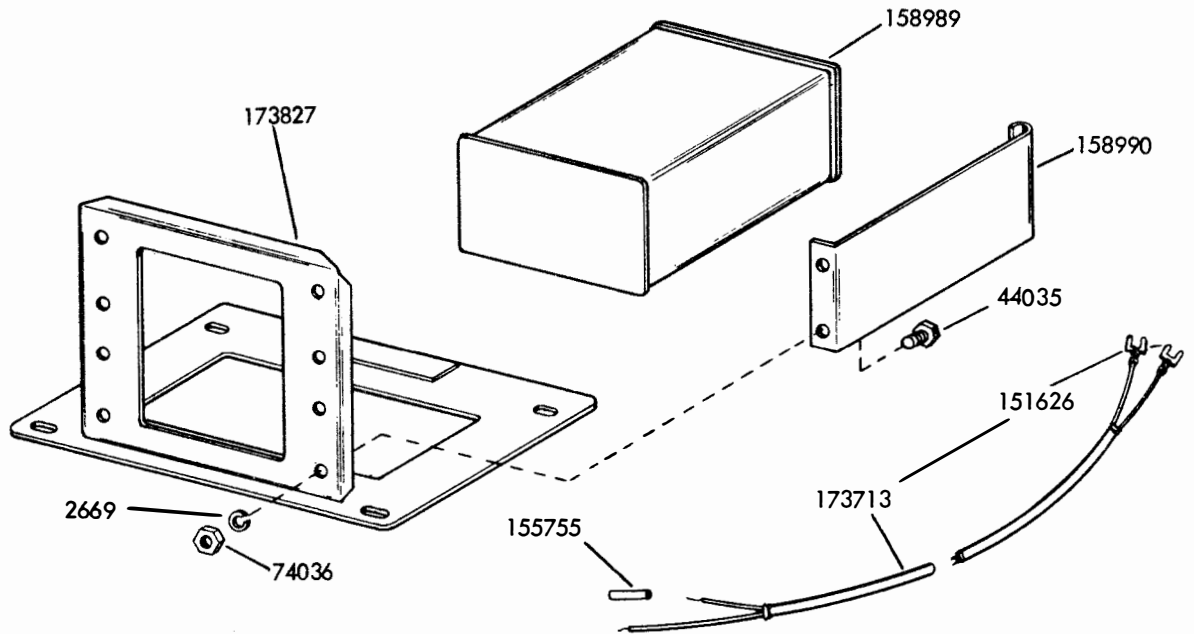


FIGURE 1-22 . 173484 MODIFICATION KIT TO PROVIDE POWER CORRECTION FACTOR

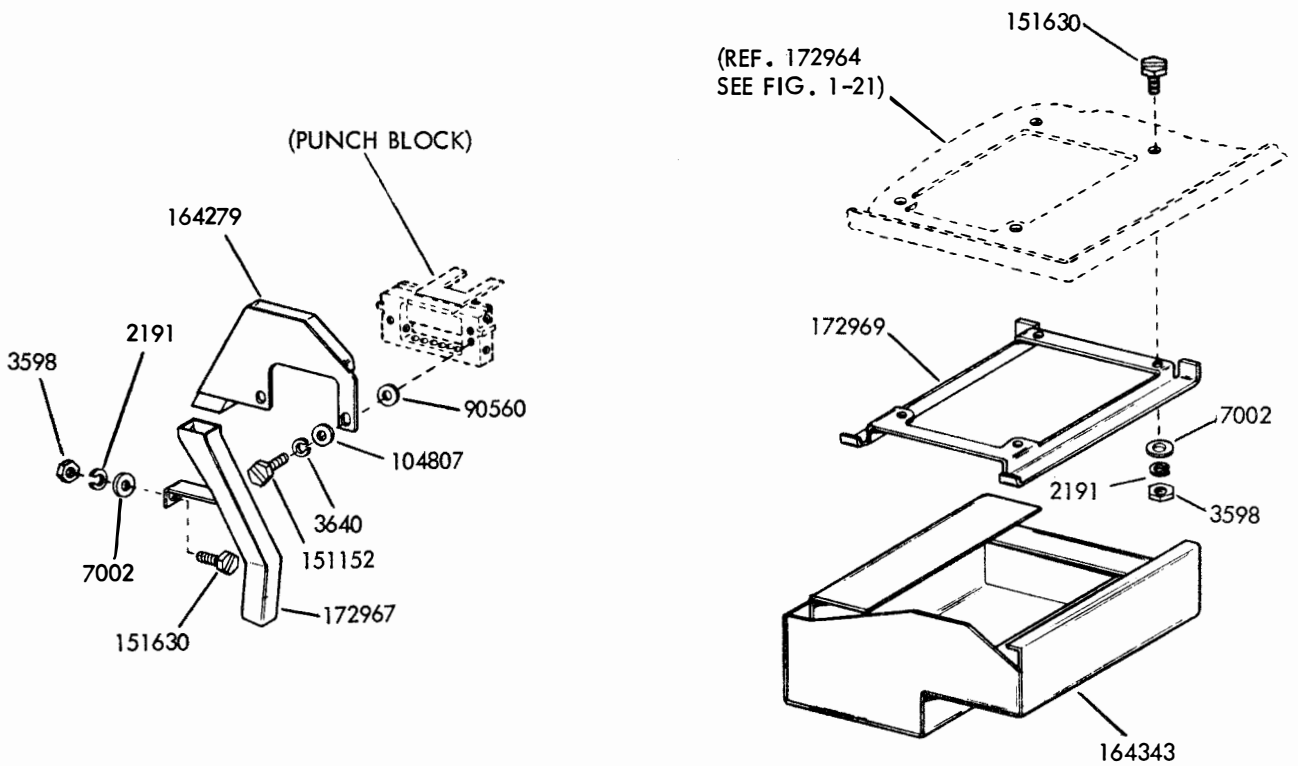
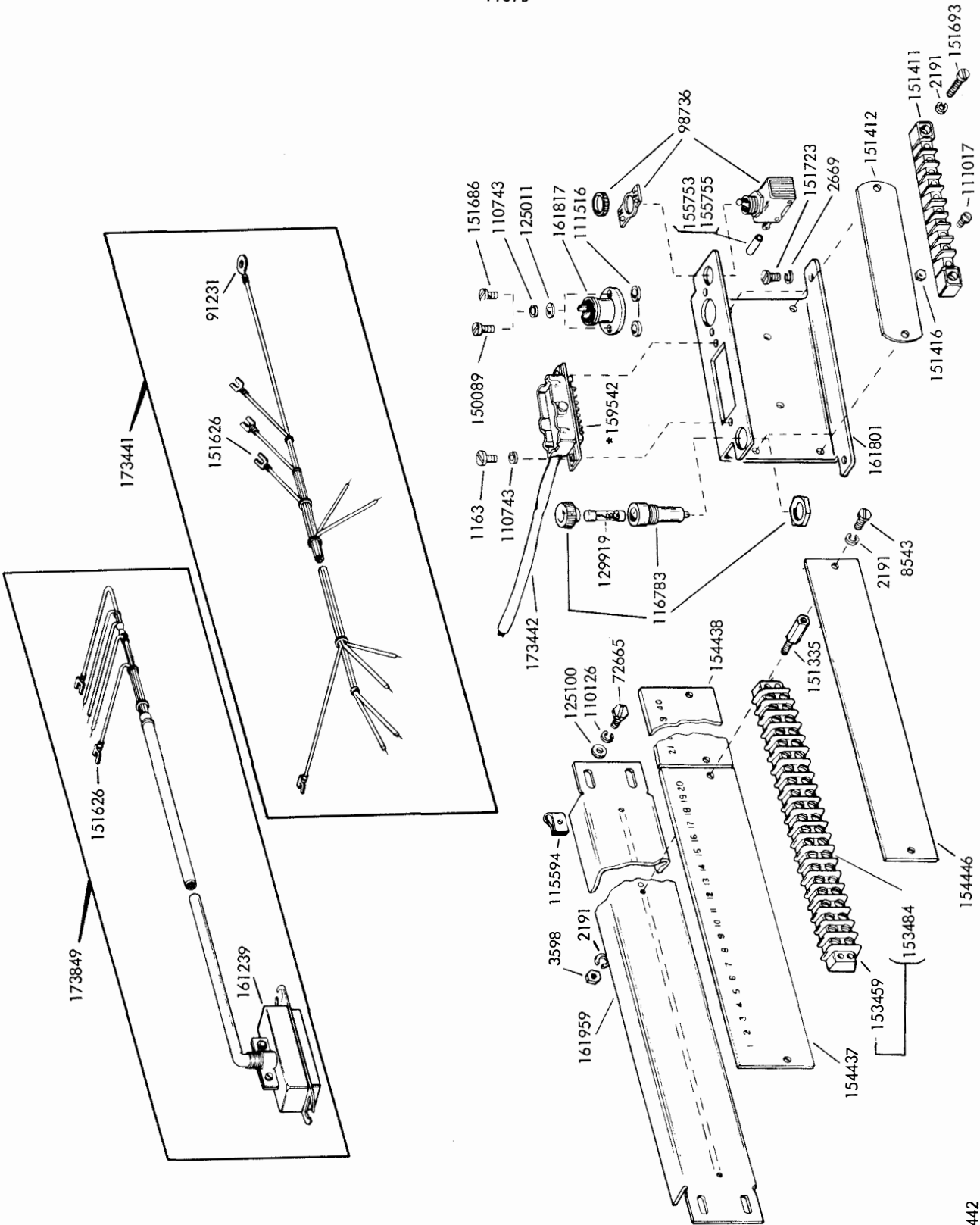


FIGURE 1-23 . 164341 MODIFICATION KIT TO PROVIDE CHAD DISPOSAL



* Part of 173442

FIGURE 1-24. ELECTRICAL COMPONENTS

NUMERICAL INDEX (Continued)

Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
1163	Screw (4-40 x 3/16 Fil) 1-17, 1-24	101633	Washer, Flat 1-15	150089	Screw (4-40 x 1/2 Fil) 1-6, 1-8, 1-10, 1-16, 1-17, 1-24
1178	Screw (2-56 x 7/16 Fil) 1-11	104124	Screw (1/4-32 x 11/32 Hex) 1-3, 1-5, 1-9, 1-22	150432	Washer, Flat 1-10
1210	Screw (2-56 x 5/8 Fil) 1-14	104564	Washer, Flat 1-8	150456	Washer, Spacing 1-8
1264	Screw (10-32 x 1/2 Fil) 1-12	104807	Washer, Flat 1-23	150652	Screw (4-40 x 37/64) 1-16
2191	Washer, Lock 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8, 1-9, 1-10, 1-11, 1-12, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-20, 1-21, 1-22, 1-23, 1-24 1-25	107393	Switch 1-2	150802	Clamp 1-10
2415	Spring 1-14	107398	Switch 1-2, 1-14	150949	Plate, Name 1-14
2449	Washer, Lock 1-9, 1-13, 1-14, 1-15, 1-22	110126	Washer, Lock 1-17, 1-24	150950	Plate, Name 1-14
2669	Washer, Lock 1-2, 1-3, 1-5, 1-6, 1-8, 1-9, 1-10, 1-12, 1-19, 1-15, 1-17, 1-18, 1-20, 1-21, 1-22, 1-23	110435	Nut (4-40 Hex) 1-11, 1-14	150966	Insulator 1-2, 1-9, 1-22
3226	Washer, Flat 1-14	110437	Spring 1-11	150992	Stud 1-11, 1-14
3438	Washer, Flat 1-3, 1-5, 1-6, 1-14	110743	Washer, Lock 1-8, 1-16, 1-17, 1-18, 1-24	151152	Screw (4-40 x 1/4 Hex) 1-16, 1-23
3598	Nut (6-40 Hex) 1-5, 1-8, 1-9, 1-10, 1-14, 1-17, 1-20	111017	Screw (6-40 x 5/16 Fil) 1-2, 1-5, 1-9, 1-17, 1-18, 1-21, 1-22	151229	Washer, Flat 1-14
3606	Nut (6-40 Hex) 1-12, 1-14, 1-15, 1-18	111284	Board, Terminal 1-18	151335	Stud 1-2, 1-5, 1-9, 1-17, 1-18, 1-21, 1-22, 1-24
3624	Washer, Flat 1-4, 1-11	111516	Washer, Flat 1-11, 1-14, 1-17, 1-24	151346	Washer, Lock 1-6, 1-7, 1-15, 1-16
3640	Washer, Lock 1-2, 1-4, 1-5, 1-6, 1-11, 1-14, 1-16, 1-23	111545	Filler (2") 1-4, 1-11, 1-14	151411	Block 1-2, 1-5, 1-17, 1-21, 1-24
3646	Washer, Lock 1-5	112626	Nut (10-32 Hex) 1-2, 1-10, 1-11 1-12	151412	Insulator 1-2, 1-5, 1-17, 1-21, 1-24
6565	Screw (8-32 x 1-1/4 Fil) 1-5	113850	Washer, Flat 1-8	151415	Block 1-2, 1-9, 1-22
7002	Washer, Flat 1-3, 1-4, 1-5, 1-7, 1-8, 1-9, 1-10, 1-11, 1-12, 1-14, 1-18, 1-20, 1-22, 1-23, 1-24	114125	Screw (6-40 x 3/8 Hex) 1-8, 1-9, 1-16, 1-22	151416	Nut (6-40 Hex) 1-2, 1-5, 1-9, 1-17 1-21, 1-24
8449	Washer, Flat 1-4, 1-11, 1-14	114467	Connector 1-2, 1-5	151442	Screw (6-40 x 1/2 Hex) 1-8, 1-10, 1-14, 1-15
12541WU	Handle 1-3	115594	Nut, Spec (8-32) 1-17, 1-24	151562	Lamp 1-5
35503	Foot, Rubber 1-18	116783	Holder 1-5, 1-7, 1-24	151572	Washer, Star 1-13
35551	Screw (10-32 x 3/4 Fil) 1-11	117535	Washer, Flat 1-7	151606	Screw (10-32 x 1/4 Hex) 1-5, 1-15, 1-18, 1-20
44034	Screw (10-32 x 9/16 Hex) 1-23	118589	Switch, Push 1-20	151610	Washer, Flat 1-4, 1-7, 1-11
45815	Washer, Lock 1-7, 1-10, 1-11	119467	Insulator 1-4, 1-11	151618	Screw (6-40 x 7/16 Fil) 1-16
49056	Screw (10-32 x 7/8 Hex) 1-10	119651	Ring, Retaining 1-8, 1-16	151626	Terminal 1-2, 1-4, 1-5, 1-9, 1-14, 1-17, 1-18, 1-19, 1-21, 1-22, 1-23
61085	Washer, Lock 1-9, 1-20, 1-22	119652	Ring, Retaining 1-16	151630	Screw (6-40 x 1/4 Hex) 1-2, 1-4, 1-5, 1-6, 1-7, 1-8, 1-9, 1-10, 1-11, 1-14, 1-15, 1-18, 1-20, 1-21, 1-22, 1-23
71073	Washer, Flat 1-14	119653	Ring, Retaining 1-8	151631	Screw (6-40 x 5/16 Hex) 1-3, 1-4, 1-5, 1-7, 1-9, 1-10, 1-13, 1-14, 1-15, 1-20, 1-22
72655	Screw (8-32 x 1/2 Hex) 1-12, 1-24	119654	Ring, Retaining 1-7	151632	Screw (6-40 x 3/8 Hex) 1-7, 1-11, 1-12, 1-15
74036	Nut (10-32 Hex) 1-23	119655	Ring, Retaining 1-7	151633	Bearing 1-7, 1-15
74100	Washer, Leather 1-11	120175	Plate, Instruction 1-2, 1-5, 1-9, 1-18, 1-22	151634	Bearing 1-10
74807	Nut (10-32 Hex) 1-8	121242	Clamp, Cable (1/8" I.D.) 1-5	151637	Screw (4-40 x 1/4 Fil) 1-2, 1-5
76081	Washer, Flat 1-8	121243	Clamp, Cable (3/16" I.D.) 1-4	151657	Screw (6-40 x 1/4 Fil) 1-18, 1-24
76461	Washer, Flat 1-9, 1-14, 1-18, 1-22	121244	Clamp, Cable (1/4" I.D.) 1-3, 1-20	151658	Screw (6-40 x 5/16 Fil) 1-16, 1-18
76953	Washer, Flat 1-9, 1-22	121245	Clamp, Cable (5/16" I.D.) 1-5	151659	Screw (6-40 x 1/2 Fil) 1-10
78596	Washer, Friction 1-8	121247	Clamp, Cable (7/16" I.D.) 1-9, 1-22	151685	Screw (4-40 x 5/16 Fil) 1-18
82474	Terminal 1-2, 1-5, 1-9, 1-17, 1-18, 1-19, 1-20, 1-22	121248	Clamp, Cable (1/2" I.D.) 1-9, 1-22	151686	Screw (4-40 x 3/8 Fil) 1-17, 1-24
82725	Spring 1-8	121249	Clamp, Cable (5/8" I.D.) 1-9, 1-11, 1-22	151690	Screw (10-32 x 29/64 Fil) 1-8
82832	Washer, Star 1-14	121575	Screw (10-32 x 5/16 Hex) 1-2, 1-5, 1-20, 1-21	151692	Screw (6-40 x 3/16 Fil) 1-20
83877	Spring 1-4	122245	Capacitor 1-20	151693	Screw (6-40 x 9/16 Fil) 1-10, 1-17 1-24
84354	Washer, Flat 1-13	123706	Screw (10-32 x 1/4 Flat) 1-3	151694	Screw (6-40 x 11/32 Fil) 1-6
84579	Washer, Flat 1-10	124177	Washer, Lock 1-8, 1-16	151721	Screw (6-40 x 3/4 Hex) 1-4, 1-10
84551	Strap 1-9, 1-22	124396	Switch, Assembly 1-5, 1-18	151722	Screw (6-40 x 3/16 Hex) 1-2, 1-5, 1-10, 1-18
85318	Washer, Leather 1-12	124721	Washer, Lock 1-9	151723	Screw (10-32 x 3/8 Hex) 1-3, 1-10, 1-14, 1-17, 1-24
90560	Washer, Flat 1-23	124999	Switch 1-4, 1-9, 1-24	151731	Screw (4-40 x 7/8 Fil) 1-16
90606	Spring 1-4	125011	Washer, Flat 1-17, 1-24	151732	Screw (6-40 x 11/32 Fil) 1-8, 1-16
91231	Terminal Wire 1-17, 1-24	125015	Washer, Flat 1-4, 1-9, 1-13, 1-14, 1-15, 1-18, 1-22	151733	Screw (4-40 x 9/16 Fil) 1-11, 1-14
91683	Nut (15/32-32 Hex) 1-9, 1-20, 1-22	125100	Washer, Flat 1-17, 1-24	151819	Jumper 1-5
91684	Nut (15/32-32 Ring) 1-9, 1-20, 1-22	125175	Screw (10-32 x 5/16 Hex) 1-20	151827	Strap 1-5
91768	Strap, Terminal 1-5, 1-20	125205	Screw (6-40 x 7/16 Fil) 1-7	151880	Nut (4-40 Hex) 1-8, 1-9, 1-16, 1-22
92146	Nut (1/4-20 Hex) 1-14	125218	Nut (1/4-32 Hex) 1-9, 1-22	152893	Screw (4-40 x 1/4 Hex) 1-22
92260	Washer, Lock 1-16	125224	Nut (1/4-32 Hex) 1-3, 1-5, 1-9, 1-22	153442	Screw (10-32 x 1/2 Hex) 1-2, 1-8, 1-11, 1-14
92265	Screw (2-56 x 1/8 Rd) 1-14	125231	Nut (10-32 Hex) 1-9, 1-22	153459	Black, Terminal 1-17, 1-24
93108	Washer, Lock 1-9, 1-22	125250	Spring 1-11	153484	Screw, Terminal 1-17, 1-24
93117	Washer, Lock 1-4, 1-11, 1-14	129919	Fuse (4 Amp) 1-5, 1-17, 1-24	153537	Screw (6-40 x 9/32 Hex) 1-14
95320	Switch 1-9, 1-20, 1-22	130499	Bearing 1-8, 1-15		
98659	Bracket 1-2	130683	Washer, Lock 1-10		
98726	Screw (3-48 x 1/4 Fil) 1-9, 1-22	130892	Washer, Felt 1-8, 1-16		
98736	Switch, Toggle 1-17, 1-24	131097	Terminal 1-14		
99381	Foot, Rubber 1-5				

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Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
153538	Screw (6-40 x 7/16 Hex) 1-11, 1-14	156968	Plate 1-7	161519	Gear Set 1-6
153539	Screw (6-40 x 11/16 Hex) 1-4, 1-11, 1-14	156971	Screw (2-56 x 3/4 Fil) 1-4	161520	Belt 1-10
153819	Washer, Lock 1-14	156972	Cable Assemblv 1-4	161522	Panel, Left 1-9, 1-22
153839	Screw (6-40 x 5/8 Hex) 1-16	156975	Bracket 1-2	161523	Panel Assembly 1-11
153841	Screw (6-40 x 9/16 Hex) 1-18	156976	Connector 1-2	161526	Connector 1-9, 1-22
154076	Plate 1-13	156978	Cable Assemblv 1-2	161528	Cable Assembly 1-9
154406	Board, Terminal 1-18	156981	Gear 1-6	161529	Guide 1-11
154437	Insulator 1-17, 1-24	156982	Pinion 1-5	161530	Gear Set 1-10
154438	Insulator 1-17, 1-24	156983	Gear 1-6	161531	Gear 1-10
154446	Insulator 1-17, 1-24	156984	Pinion 1-6	161532	Pinion 1-10
155750	Sleeve Insulatina 1-2, 1-5, 1-14, 1-20, 1-21	156985	Gear 1-6	161533	Gear Set 1-10
155752	Sleeve, Insulating 1-14, 1-17	156986	Pinion 1-6	161534	Gear 1-10
155753	Sleeve Insulatina 1-18, 1-20, 1-24	158163	Switch 1-14	161535	Pinion 1-10
155755	Sleeve, Insulating 1-5, 1-17, 1-23	158215	Plate (6-40) 1-5	161536	Gear Set 1-10
156057	Washer, Flat 1-16	158238	Plate 1-11	161537	Gear 1-10
156226	Hub 1-6, 1-7	158239	Lever 1-11, 1-14	161538	Pinion 1-10
156334	Stud 1-3, 1-5, 1-9, 1-22	158588	Stud 1-9	161546	Mount 1-9, 1-22
156336	Post 1-3, 1-5	158712	Gear 1-7, 1-16	161654	Gear Set 1-6
156337	Washer, Flat 1-5	158716	Gear, Helical (39T) 1-8, 1-16	161655	Gear Set 1-6
156338	Post 1-3, 1-5	158723	Roller 1-8, 1-16	161656	Gear Set 1-6
156339	Lever 1-5	158732	Gear 1-7, 1-16	161673	Post 1-9, 1-22
156340	Bracket 1-2	158733	Gear 1-8, 1-16	161674	Post 1-9, 1-22
156342	Plate 1-4	158734	Gear 1-8, 1-16	161676	Hub 1-10
156343	Hub 1-6	158736	Nut, Cap (6-40) 1-16	161678	Modification Kit 1-12
156344	Bracket 1-3, 1-5, 1-9	158740	Block 1-8	161680	Modification Kit 1-10
156398	Holder 1-6	158741	Bar 1-8, 1-16	161682	Clip, Cover 1-19
156400	Sprocket (28T) 1-6, 1-10, 1-16	158745	Clamp Bearina 1-6, 1-7, 1-15	161683	Channel 1-12
156444	Base 1-5	158746	Bracket, Machined 1-16	161684	Channel 1-12
156445	Washer, Spring 1-5	158807	Screw (3-48 x 3/16 Hex) 1-14	161685	Bracket 1-9, 1-22
156446	Handle 1-5	158889	Capacitor 1-23	161687	Guard 1-10
156448	Bushing 1-4, 1-11, 1-14	158990	Bracket 1-23	161711	Block 1-12
156449	Lever 1-4, 1-11, 1-14	159287	Insulator 1-15	161716	Block 1-12
156451	Bushing 1-4, 1-11, 1-14	159433	Plate 1-7	161770	Bracket 1-14
156452	Lever 1-4	159540	Post 1-4	161772	Bracket 1-15
156460	Panel, Assembly 1-4	159541	Connector 1-5, 1-18	161773	Block 1-14
156470	Guide W/Roller. Tao 1-4	159542	Connector 1-5, 1-7, 1-19, 1-20, 1-24	161777	Stud 1-13
156588	Clamp 1-15	159543	Washer, Flat 1-4	161778	Stud 1-13
156769	Plate, Name 1-14	159551	Cable Assembly 1-2	161779	Shaft W/Bearing 1-15
156807	Disk 1-15	159589	Bracket 1-5	161780	Ring, Retaining 1-15
156808	Disk 1-15	159592	Cable Assembly 1-5	161781	Hub 1-15
156861	Ring, Retaining 1-6, 1-7	159600	Shaft 1-6	161782	Gear 1-15
156864	Sprocket 1-6	159603	Washer, Capacitor 1-5	161783	Gear 1-15
156866	Belt 1-6, 1-7	159604	Screw, Special 1-5	161784	Gear (18T) 1-16
156879	Plate 1-5	159610	Mount 1-5	161785	Gear (24T) 1-16
156887	Screw (10-32 x 9/16 Hex) 1-3, 1-5, 1-6	159611	Bell Assembly 1-18	161786	Gear (26T) 1-16
156898	Cable, Assembly 1-2	159928	Cable Assembly 1-5	161787	Shaft w/Bearing 1-15
156904	Guard 1-6	159929	Brack 1-5	161788	Cable Assembly 1-16
156936	Screw. (1/4-32 x 5/16 Hex) 1-3, 1-5, 1-9, 1-22	159931	Clamp, Cable 1-5	161789	Sprocket 1-16
156949	Gear 1-7	159932	Keeper 1-5	161790	Gear (44T) 1-16
156950	Shaft 1-8	159991	Plate 1-8	161791	Gear (47T) 1-16
156951	Link 1-8	160307	Rectifier, Selector 1-20	161792	Gear (39T) 1-16
156952	Lever W/Post, Guide 1-8	161103	Gear 1-6	161793	Block 1-16
156953	Hub 1-8	161104	Pinion 1-6	161794	Block 1-16
156954	Stud 1-8	161238	Connector 1-17	161795	Stud 1-16
156955	Sprocket 1-8	161239	Connector, Plug 1-14, 1-17, 1-19, 1-20, 1-24	161796	Stud 1-16
156956	Retainer 1-8	161301	Post 1-14	161797	Plate 1-16
156958	Sprocket (21T) 1-7	161503	Base 1-9	161798	Guide w/Bracket 1-13
156959	Bushing 1-8	161504	Plate 1-9, 1-14	161800	Bracket 1-13
156960	Screw, Shoulder 1-8	161505	Stud 1-9, 1-14, 1-22	161801	Bracket 1-17, 1-24
156961	Screw, Shoulder (6-40) 1-18	161506	Shaft 1-10	161803	Guide w/Roller 1-14
156962	Ring, Retaining 1-8	161507	Plate 1-10	161804	Guide w/Roller 1-14
156964	Gear 1-7	161508	Bar 1-10	161805	Guard 1-15
156965	Frame 1-7	161509	Hub 1-10	161806	Belt 1-16
156966	Plate 1-3	161510	Sprocket (16T) 1-10	161809	Stud 1-15
156967	Shaft 1-7	161511	Retainer 1-6, 1-10, 1-16	161811	Gear Set 1-16
		161512	Retainer 1-10	161812	Gear Set 1-16
		161513	Clamp 1-10	161813	Gear Set 1-16
		161514	Plate 1-10	161815	Modification Kit 1-13
		161516	Pan, Oil 1-9	161817	Connector 1-17, 1-24
				161818	Connector 1-14

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161819	Guard 1-14	162225	Bracket, Mounting 1-18	163449	Pinion 1-16
161821	Cable Assembly 1-14	162226	Bracket, Terminal Strip 1-18	163450	Gear 1-16
161824	Stud 1-15	162228	Insulator 1-18	163451	Gear Set 1-16
161826	Plate 1-14	162230	Cover, Service Assembly 1-18	163587	Bracket, Mounting
161873	Resistor (5000 BHM) 1-20	162283	Lamp 1-18	164099	Cable, Assembly 1-17
161886	Cable Assembly 1-14	162284	Insulator 1-18	164279	Chad Chute Assembly 1-23
161887	Cable Assembly 1-17	162285	Cable Assembly 1-18	164337	Pinion 1-10
161888	Cable Assembly 1-14	162286	Cable Assembly, Rectifier 1-18	164338	Gear 1-10
161889	Cable Assembly 1-17	162287	Plate, Cover Base 1-18	164339	Pinion 1-10
161914	Cable Assembly 1-17	162288	Bar, Cover 1-18	164340	Gear 1-10
161959	Plate 1-17, 1-24	162373	Cable Assembly 1-4	164343	Chad Container 1-23
161964	Clamp, Tube 1-20	162574	Cable Assembly, Control 1-20	165082	Clamp, Cable 1-18
162061	Cable Assembly, Control 1-19	162730	Screw (1/4-20 x 5/8 Hex) 1-14	172964	Base 1-22
162075	Core, (1") 1-4, 1-14	163260	Gear, Helical (36T) 1-7	172965	Base 1-22
162181	Plate, Lower Base 1-20	163261	Gear, Helical (22T) 1-7	172966	Plate "T" 1-22
162182	Handle w/Strike 1-20	163262	Gear, Helical (49T) 1-8	172967	Chad Chute Assembly 1-23
162183	Bushing 1-20	163263	Roller 1-8	172969	Bracket 1-23
162184	Plate, Upper Base 1-20	163264	Shaft, Gear Shift 1-7	173007	Bracket 1-22
162185	Bracket, Switch 1-20	163265	Block 1-8	173073	Modification Kit 1-10
162187	Bracket, Mounting 1-20	163266	Frame, Gear Shift 1-7	173441	Cable Assembly 1-24
162213	Modification Kit 1-10	163280	Bracket, Mounting 1-21	173442	Cable Assembly 1-24
162214	Sprocket (20T) 1-10	163281	Bracket 1-21	173484	Modification 1-23
162215	Hub 1-10	163282	Cable Assembly, Control 1-19	173583	Sprocket (33T) 1-10
162216	Retainer 1-10	163283	Cable Assembly 1-21	173584	Modification Kit 1-10
162217	Modification Kit 1-10	163296	Cable Assembly, Control 1-19	173713	Cable Assembly 1-23
162218	Sprocket (29T) 1-10	163328	Plate, Gear Shift Guide 1-7	173820	Gear Set 1-16
162219	Sprocket (27T) 1-10	163333	Cable Assembly, Control 1-19	173821	Pinion 1-16
162220	Hub 1-10	163446	Pinion 1-16	173822	Gear 1-16
162221	Retainer 1-10	163447	Gear 1-16	173827	Plate, Mounting 1-23
162222	Belt 1-10	163448	Gear Set 1-16	173849	Cable Assembly 1-24



SECTION 2

TYPING REPERFORATORS, TAPE PRINTER AND VARIABLE FEATURES

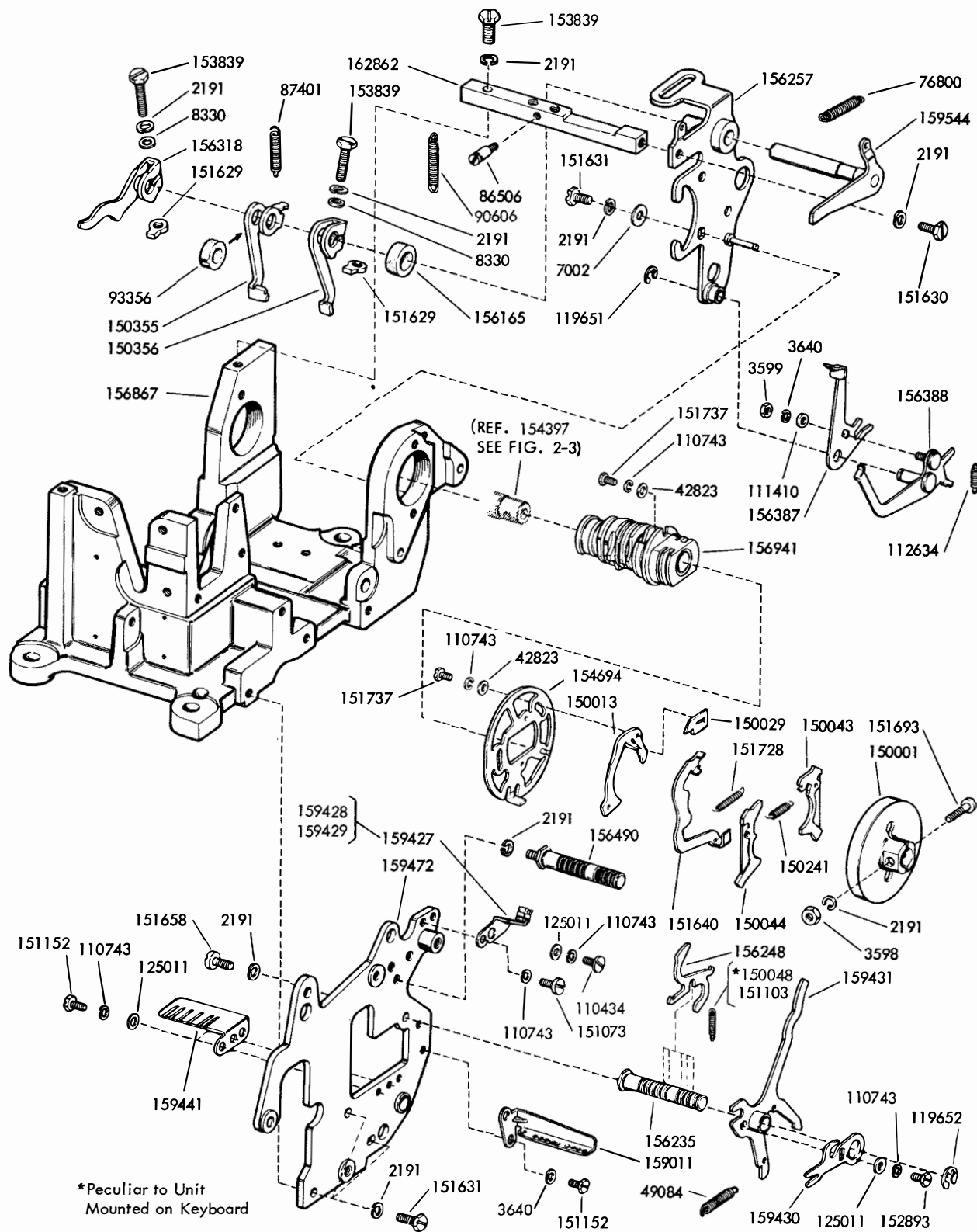


FIGURE 2-1. FRAME MECHANISM

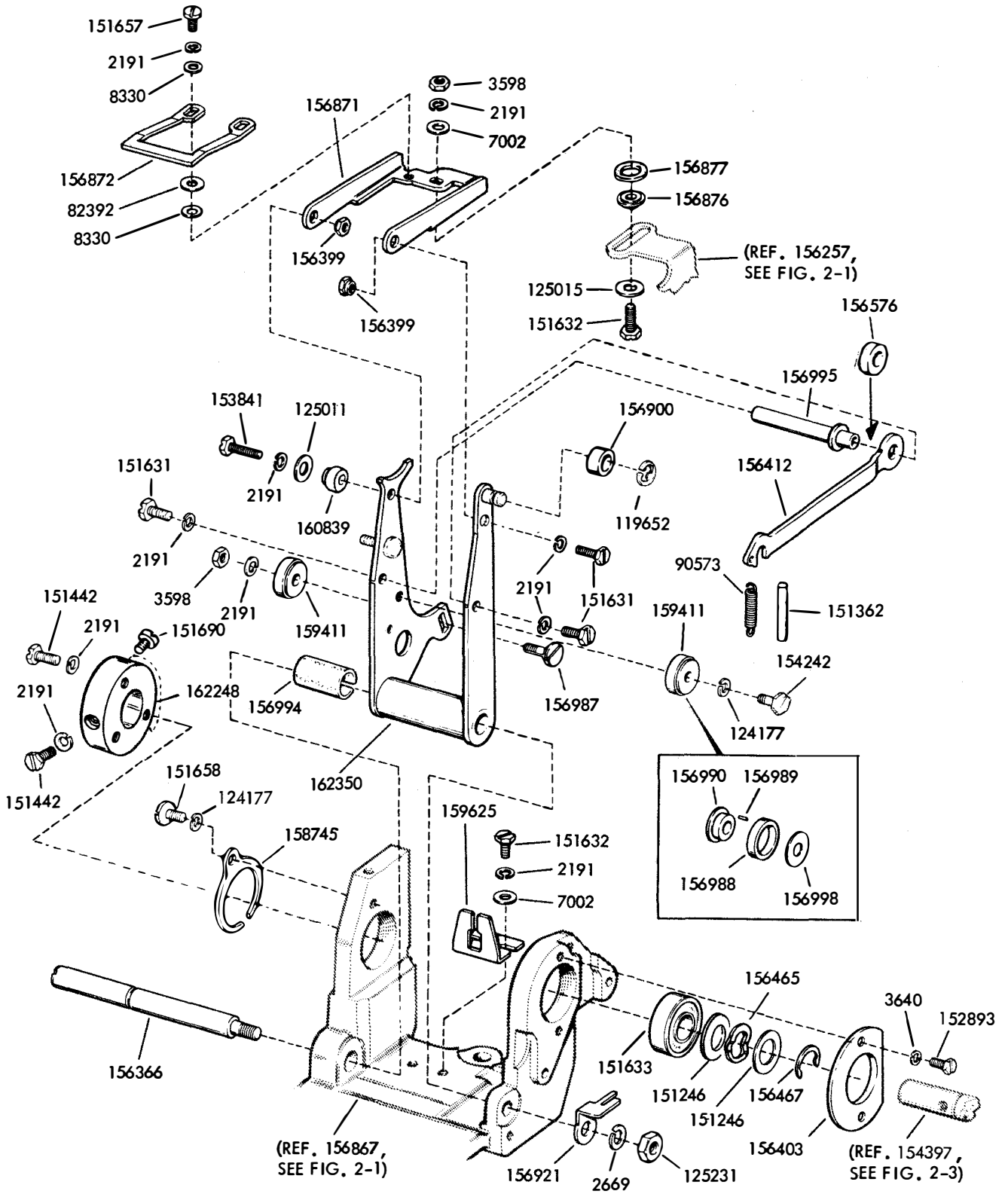
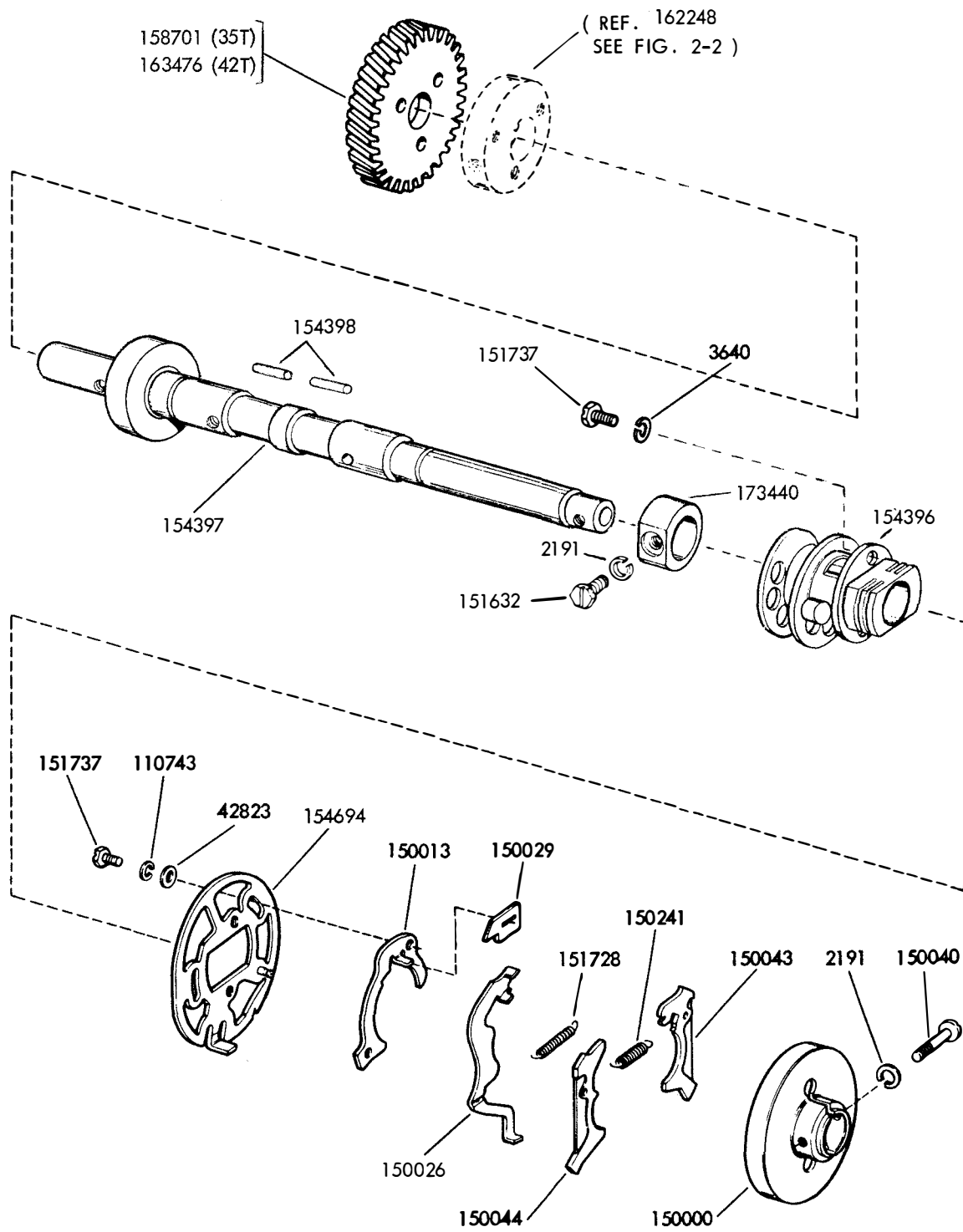
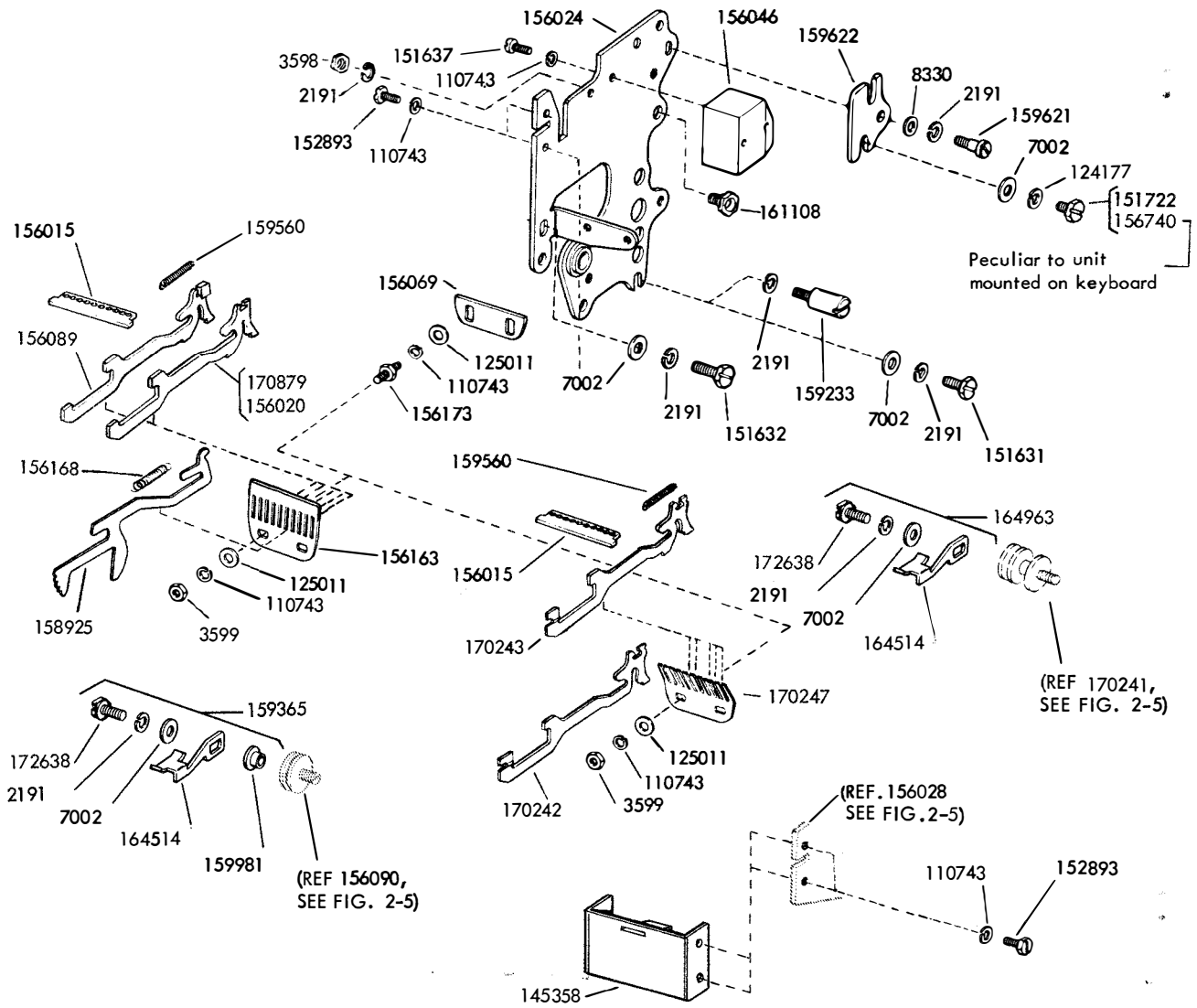


FIGURE 2-2. FRAME MECHANISM



For Early Design Shafts
See Figure 2-42

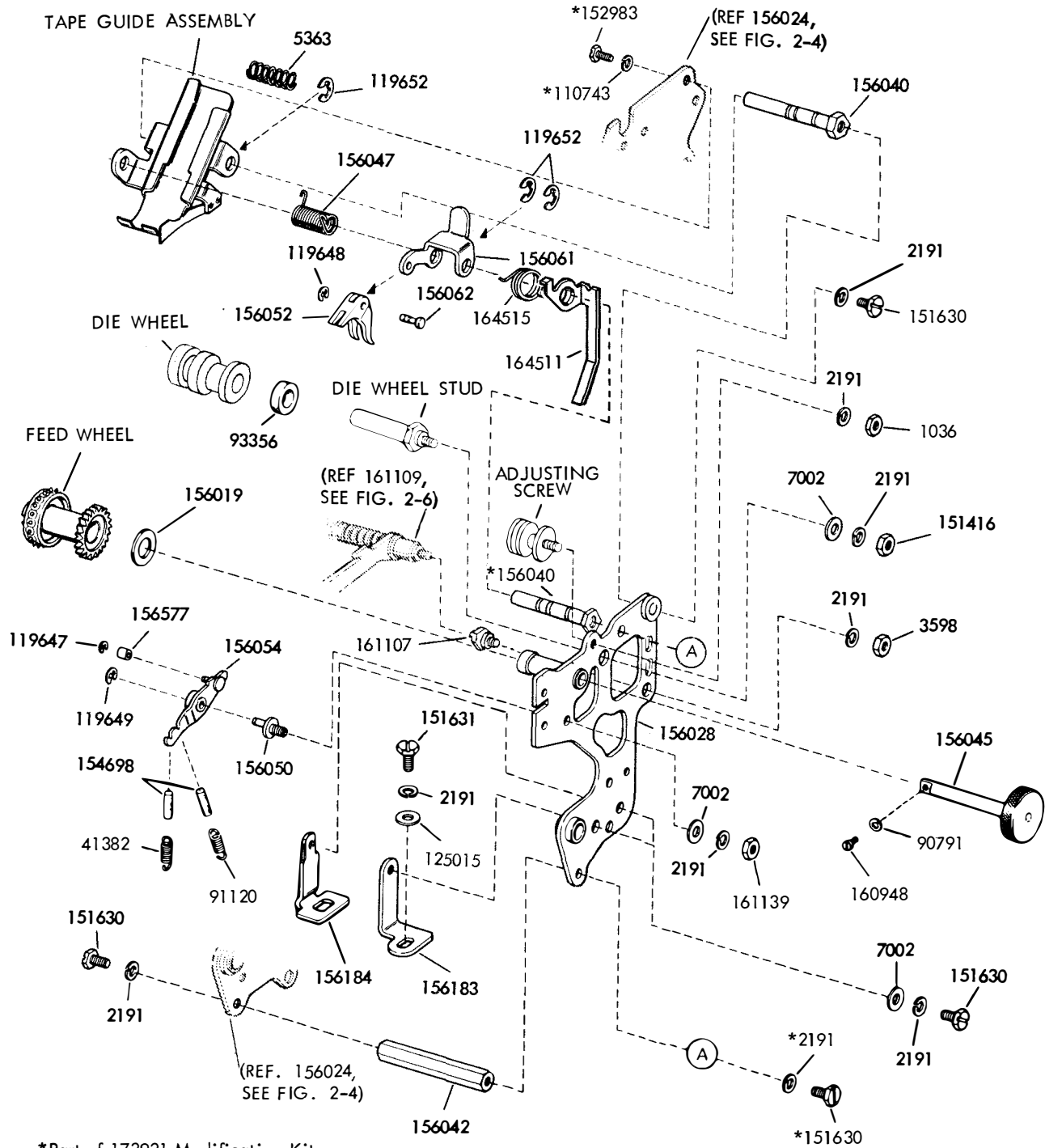
FIGURE 2-3. MAIN SHAFT MECHANISM



TYPING REPERFORATORS - 5 LEVEL CODE			
	Chadless	Fully Perforated W/Retractable Bail	Fully Perforated W/Retractable Slides
*Punch Assembly	159656	170778	173770
Feed Hole Pins	—	170782	170249
Code Hole Pins	156002	170781	170248
Feed Pin Slide	—	170879	170242
Code Pin Slide	156020 156089	156089	170243
Punch Slide Guide	156163	156163	170247

* SEE FIGURE 2-43 FOR PUNCH BLOCK ASSEMBLIES

FIGURE 2-4. PUNCH REAR PLATE MECHANISM



*Part of 173921 Modification Kit

	TYPING REPERFORATORS			TAPE PRINTER
	Chadless	Fully Perforated W/Retractable Bail	Fully Perforated W/Retractable Slides	
Tape Guide Assembly	156036	156036	156036	145357
Die Wheel	156055	170788	170788	145353
Feed Wheel	156008	170779	170779	145356
Die Wheel Stud	156044	170219	170219	170219
Adjusting Screw	156090	170241	170241	170241

FIGURE 2-5. PUNCH FRONT PLATE MECHANISM

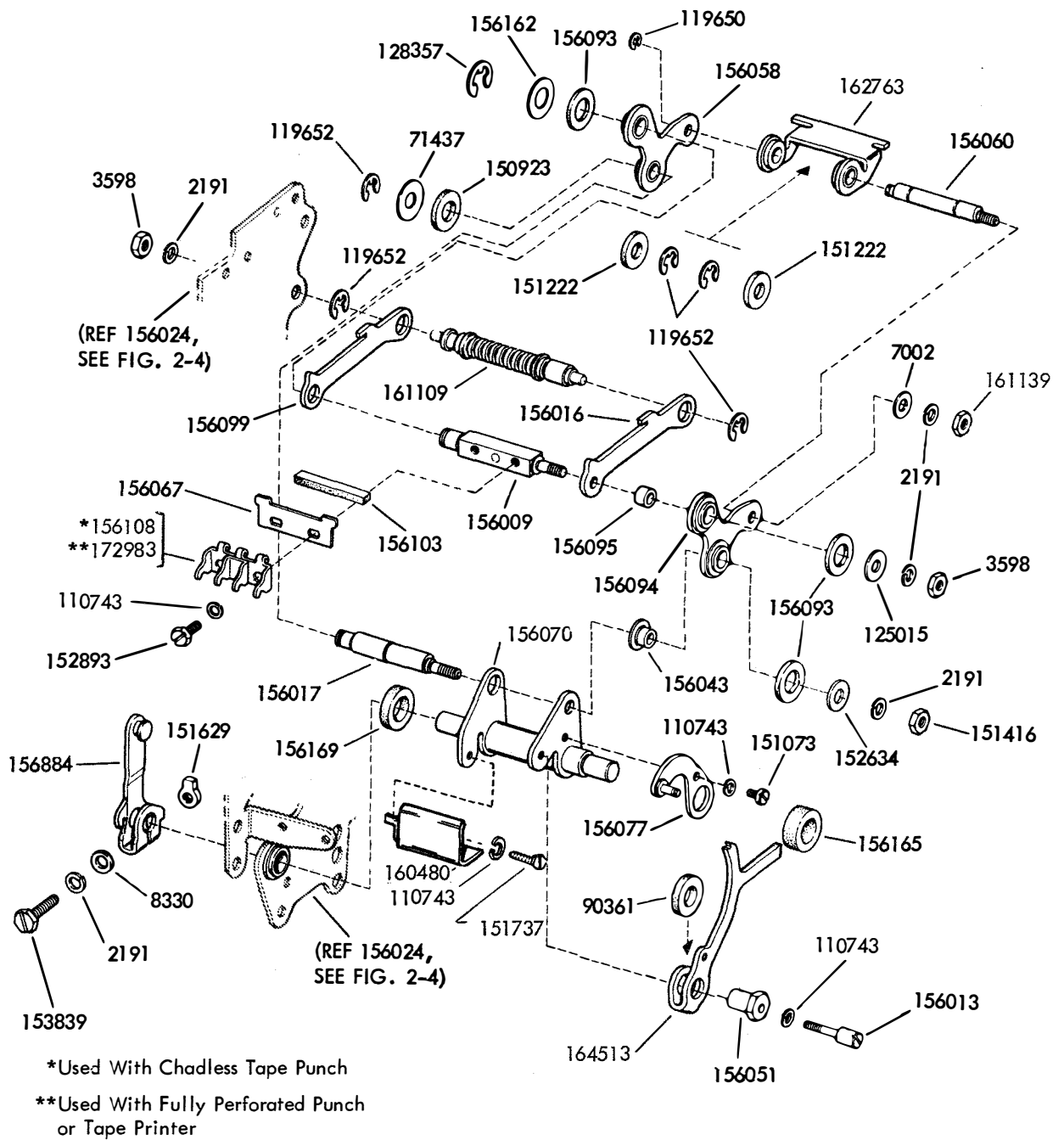
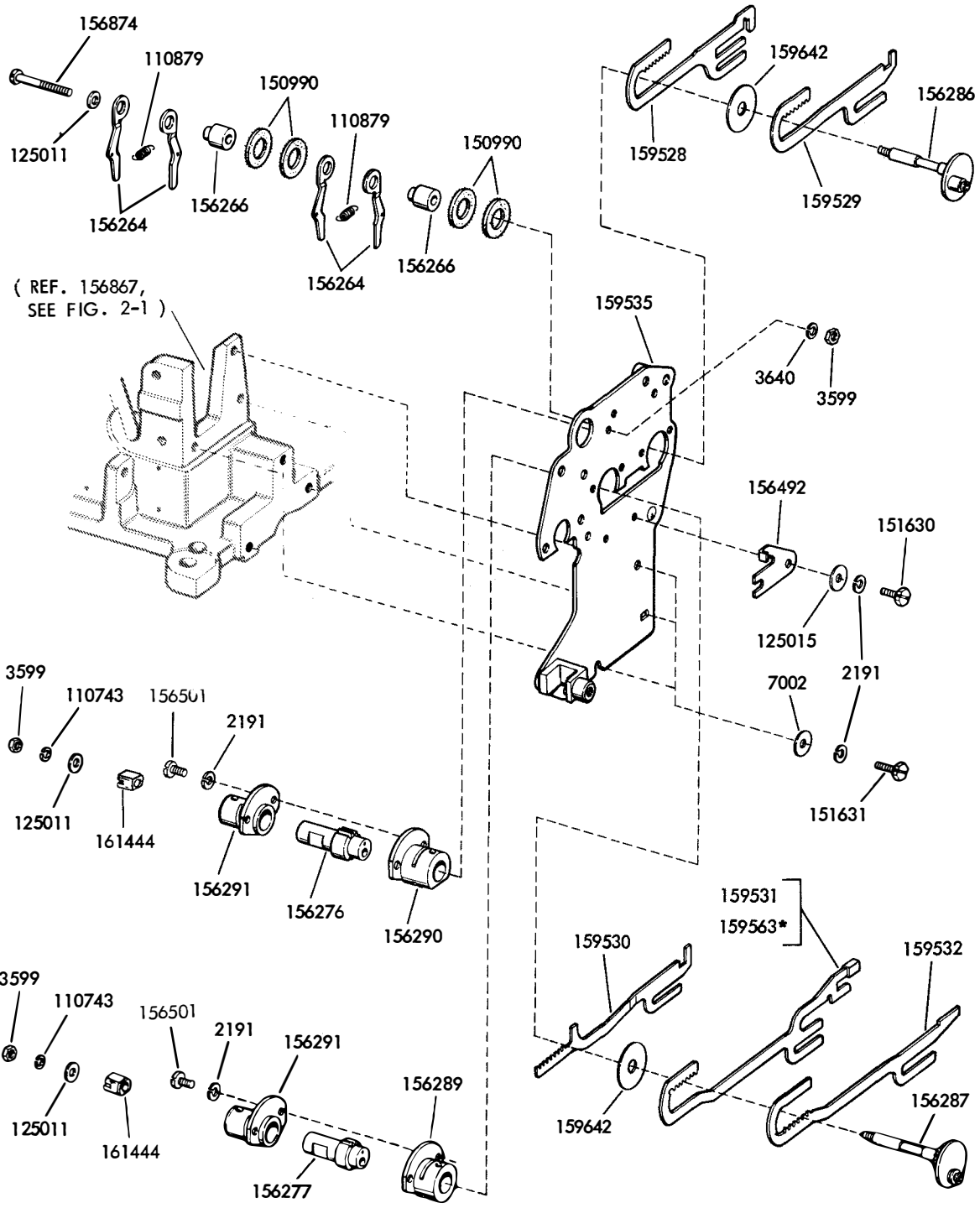
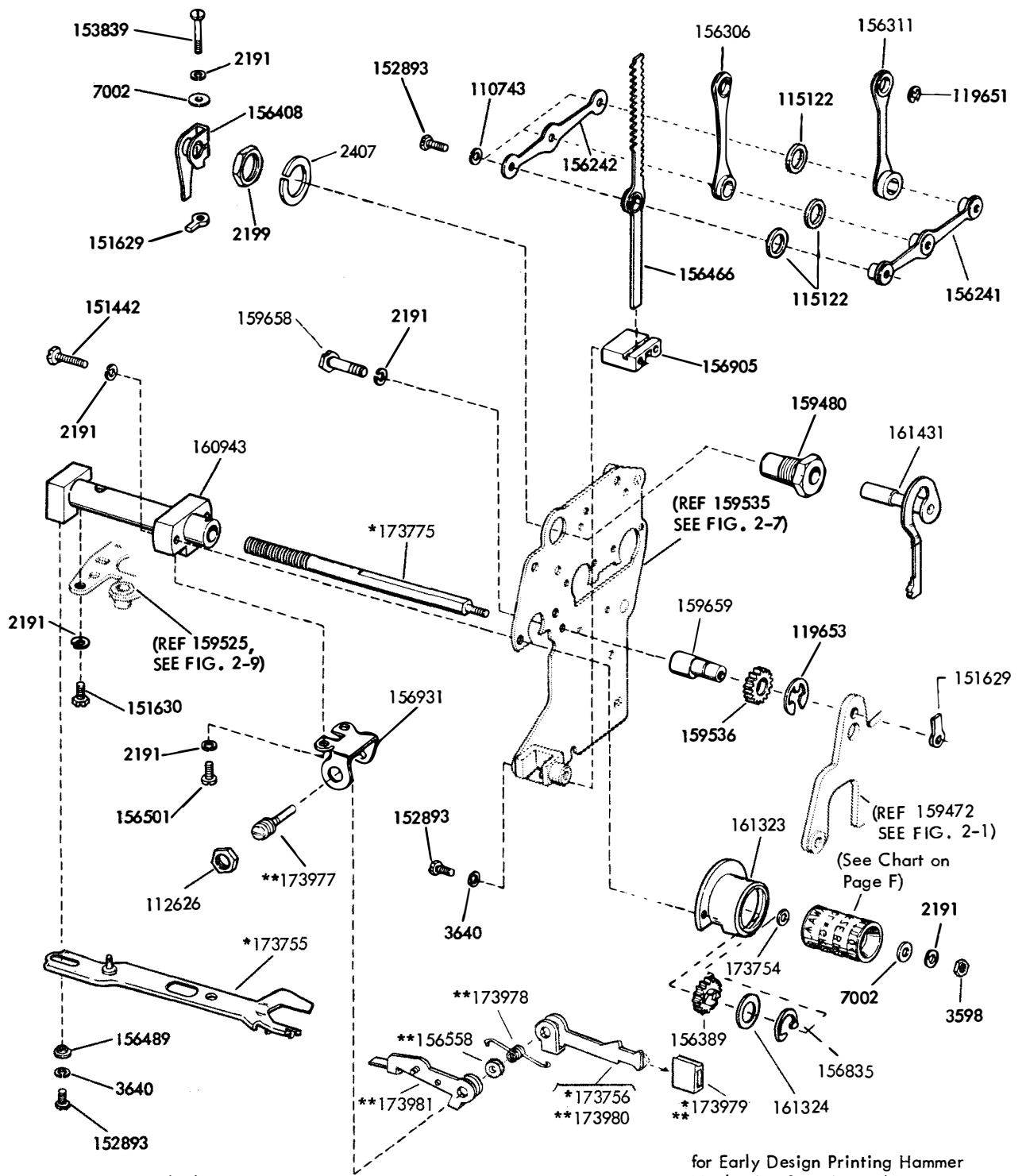


FIGURE 2-6. PUNCH BAIL MECHANISM



*USED ON UNITS WITH LETTERS-FIGURES CONTACT

FIGURE 2-7. ROTARY POSITIONING MECHANISM



*Parts Used When Printing
Between Feed Hole

**Part of 176318 Mod. Kit (Spec. 50029S)

for Early Design Printing Hammer
Mechanism See Fig. 2-44

FIGURE 2-8. ROTARY POSITIONING MECHANISM

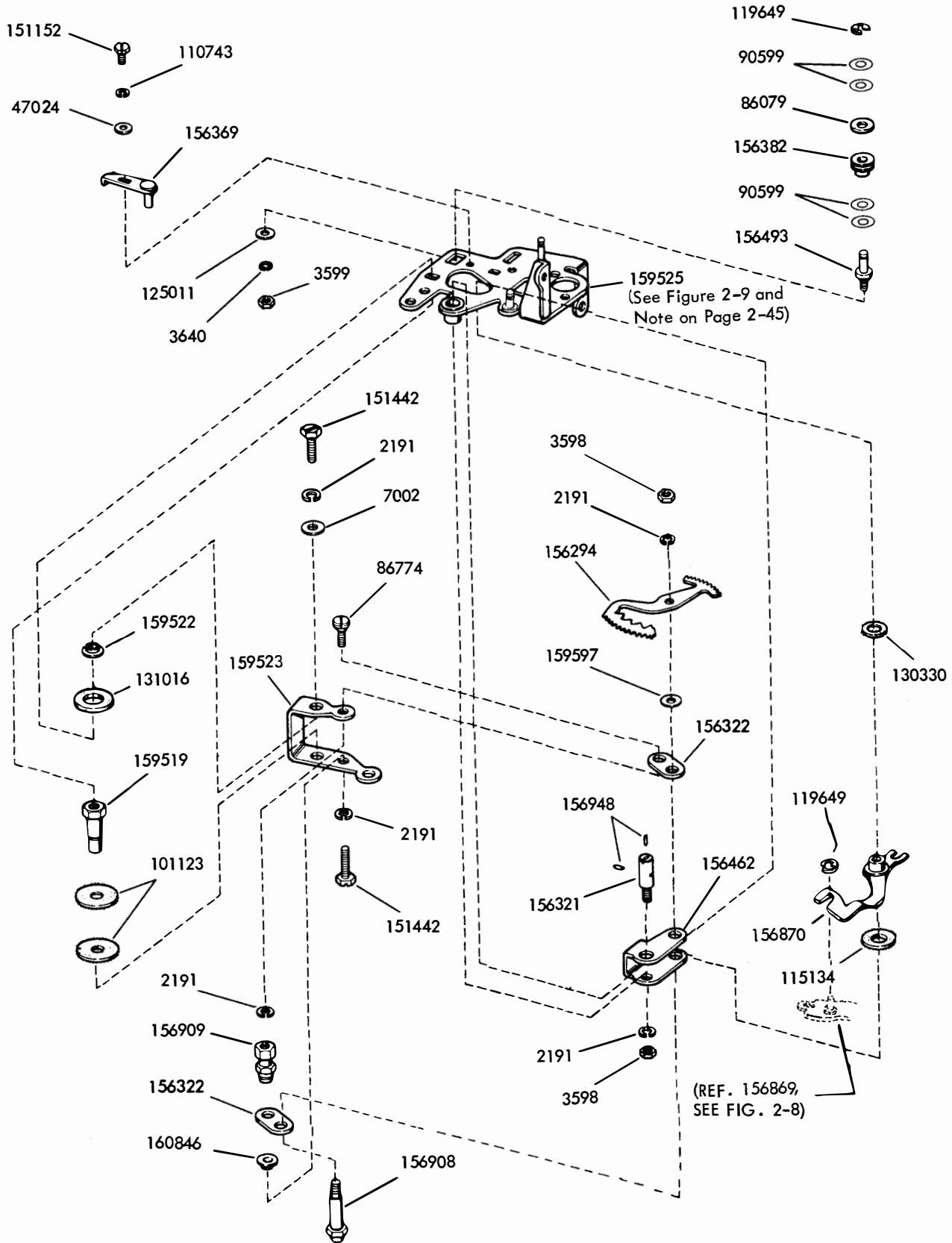


FIGURE 2-9. AXIAL POSITIONING MECHANISM

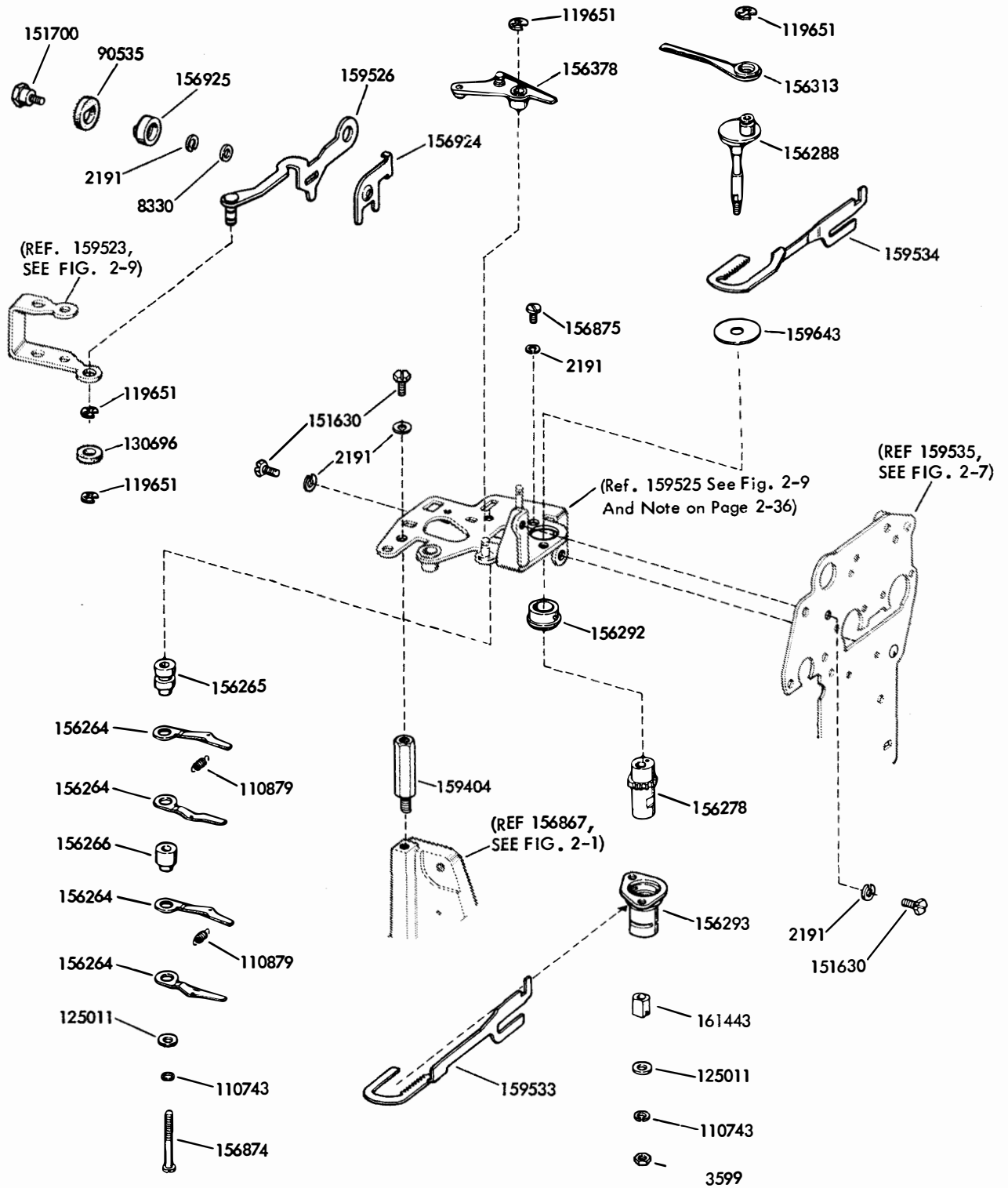


FIGURE 2-10. AXIAL POSITIONING MECHANISM

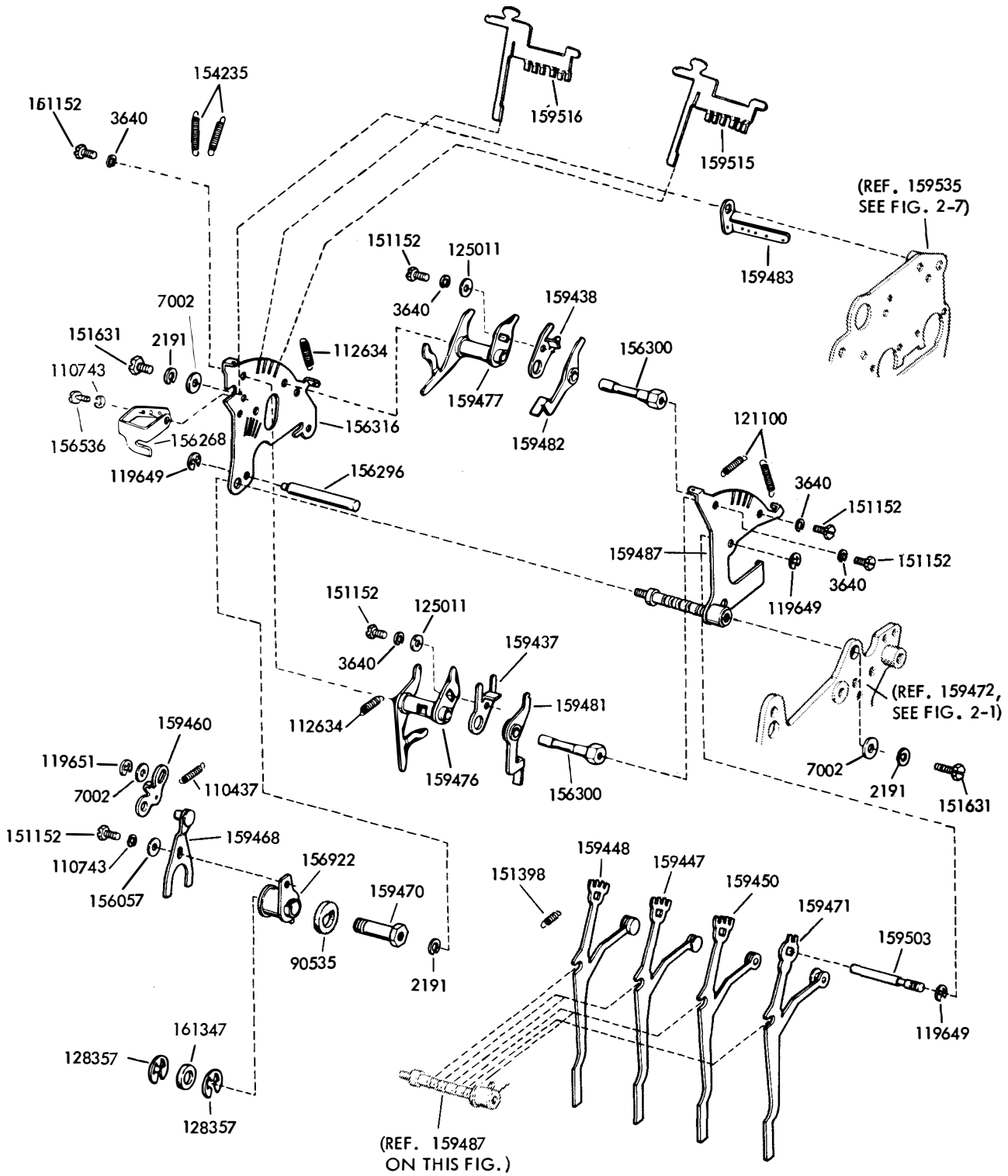


FIGURE 2-11. FUNCTION BOX MECHANISM

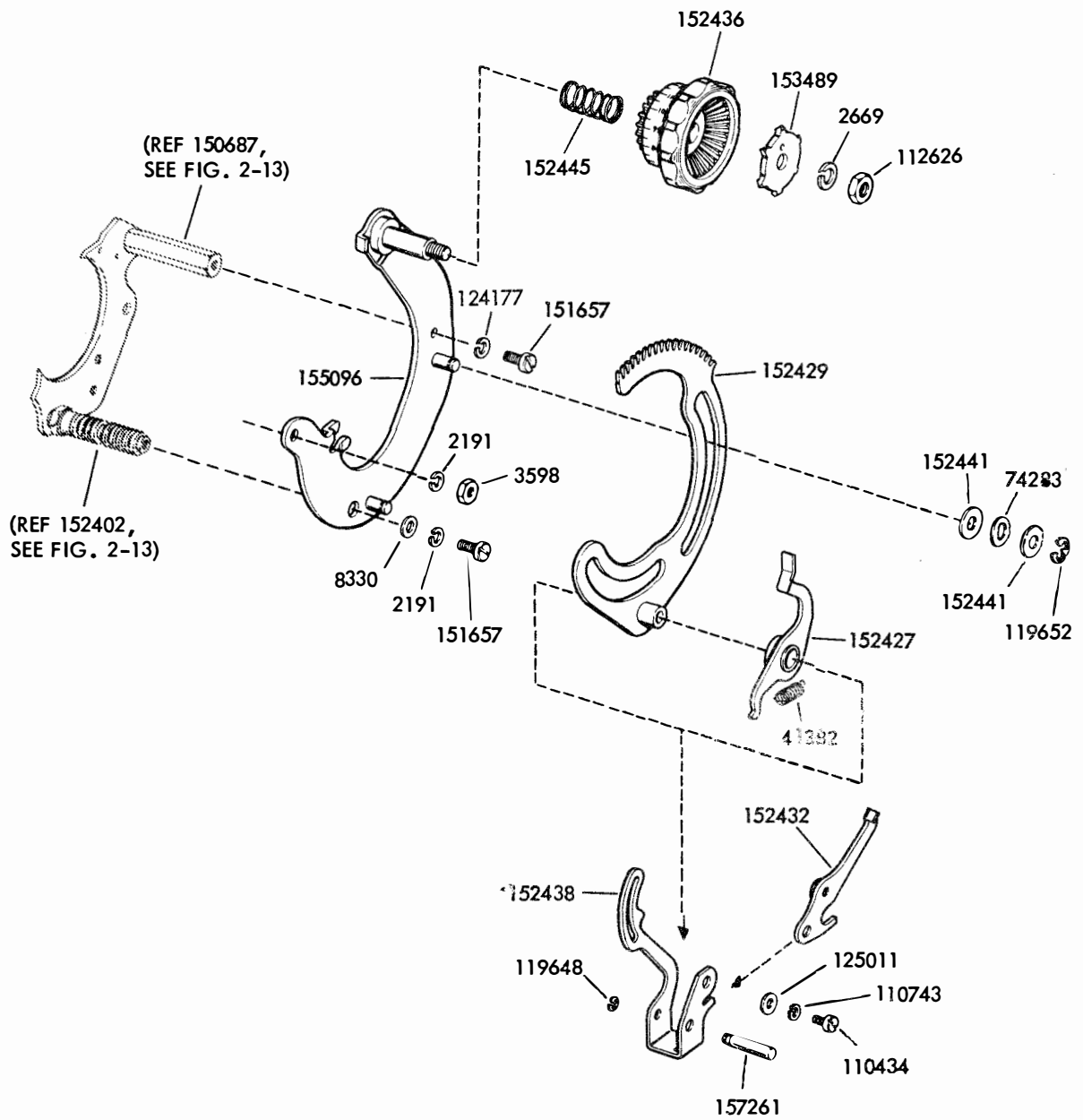


FIGURE 2-12. RANGE FINDER MECHANISM

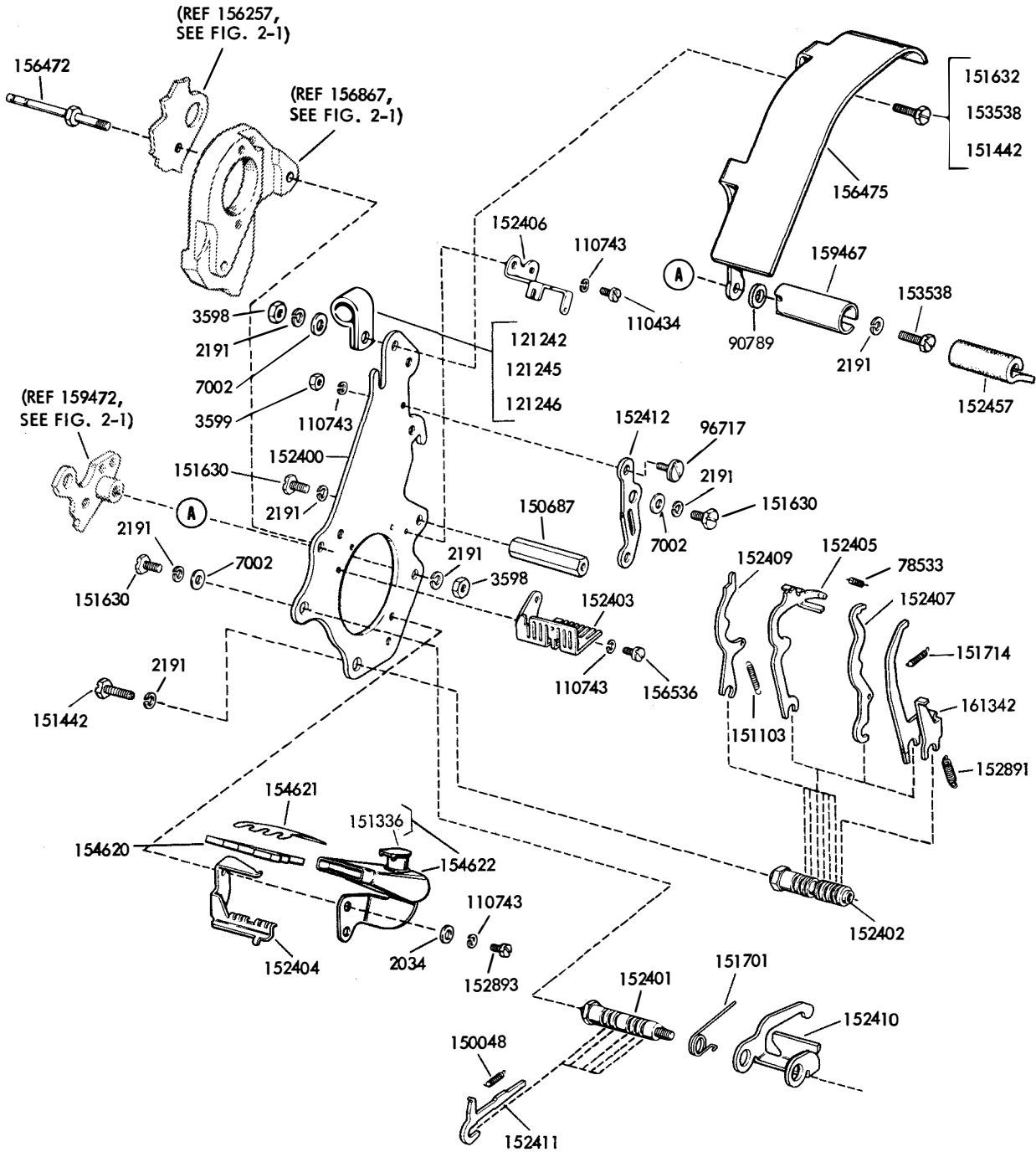


FIGURE 2-13. SELECTING MECHANISM

1167B

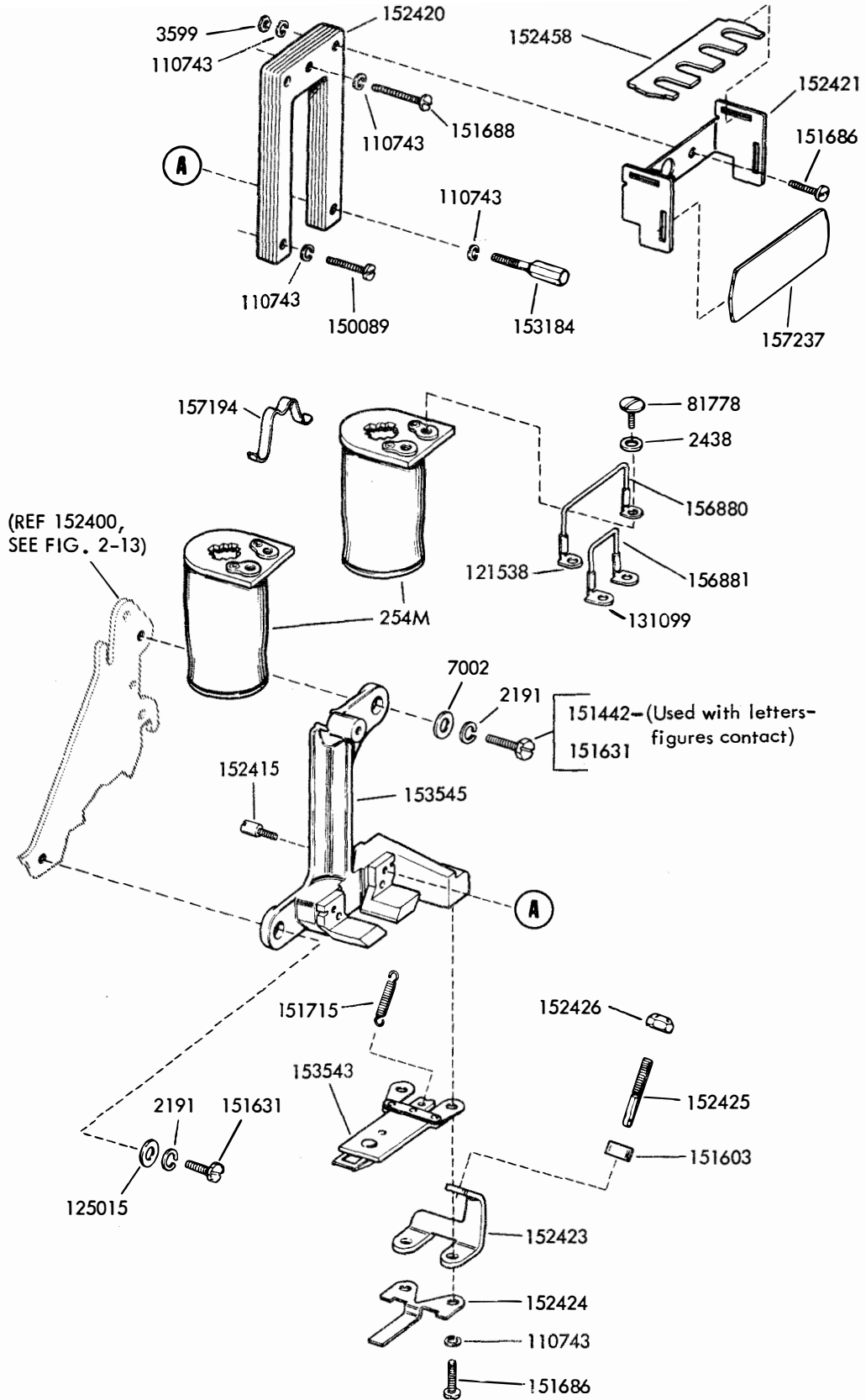


FIGURE 2-14. SELECTING MAGNET MECHANISM

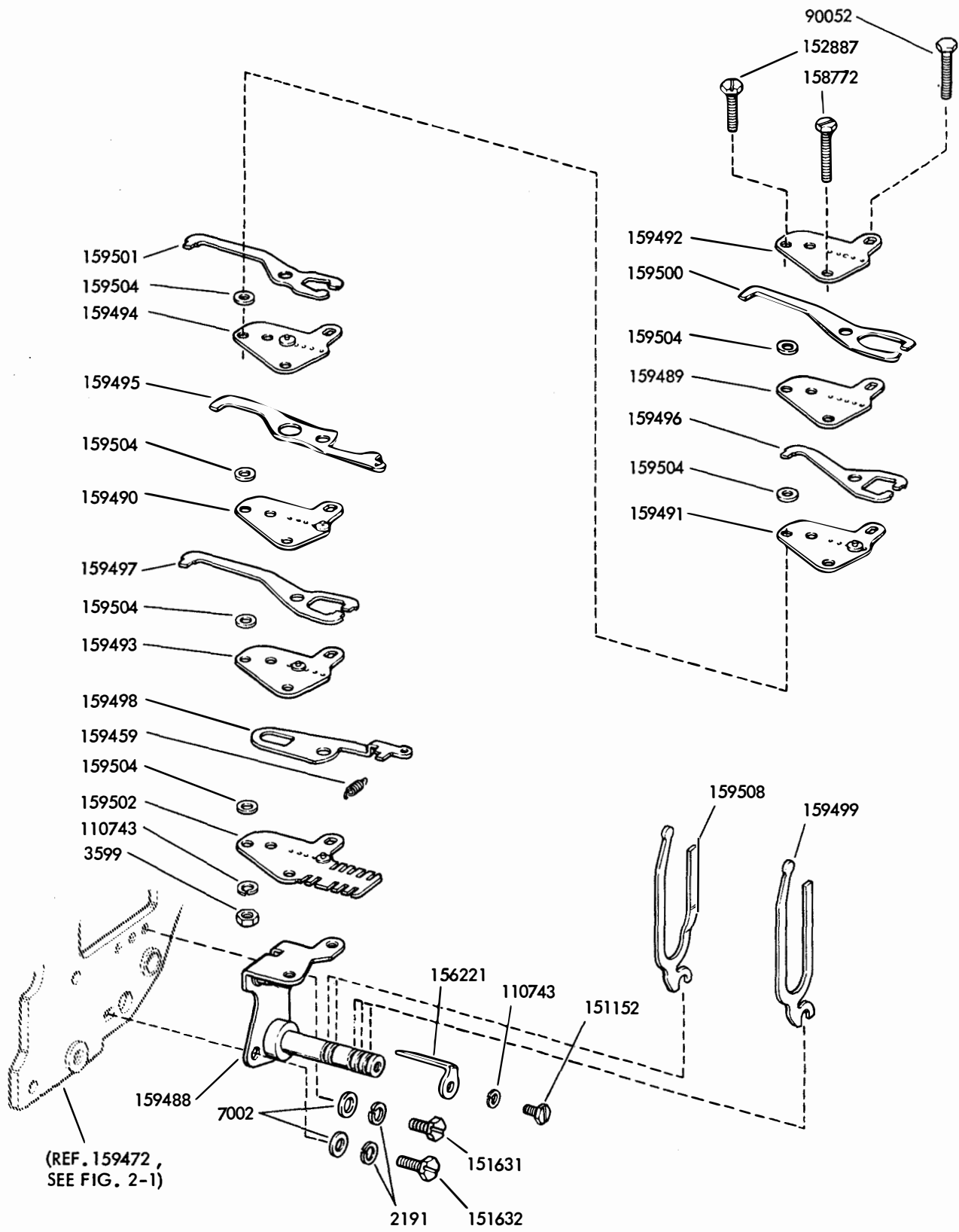


FIGURE 2-15. TRANSFER MECHANISM

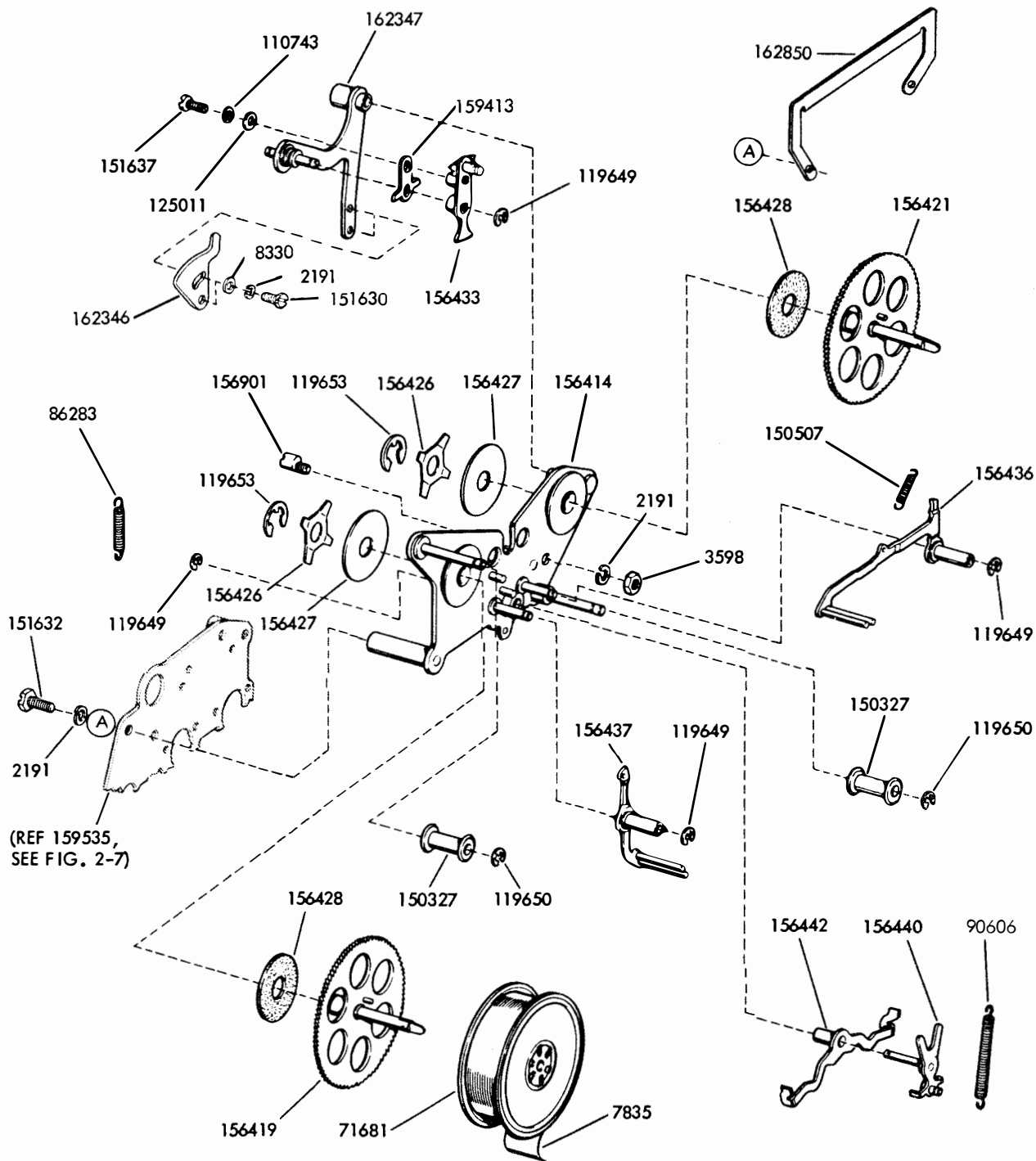


FIGURE 2-16. RIBBON FEED MECHANISM

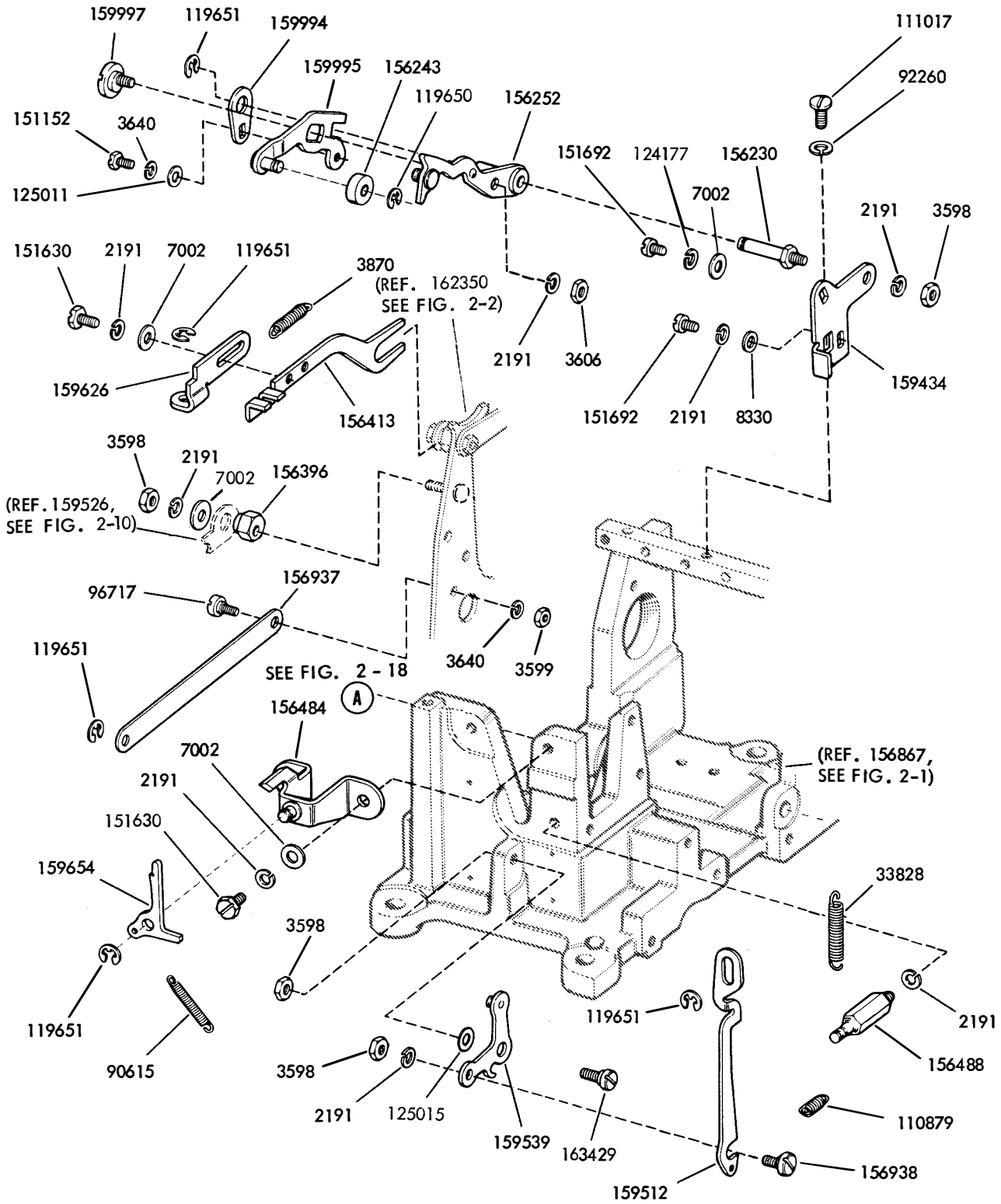


FIGURE 2-17. TYPING MECHANISM

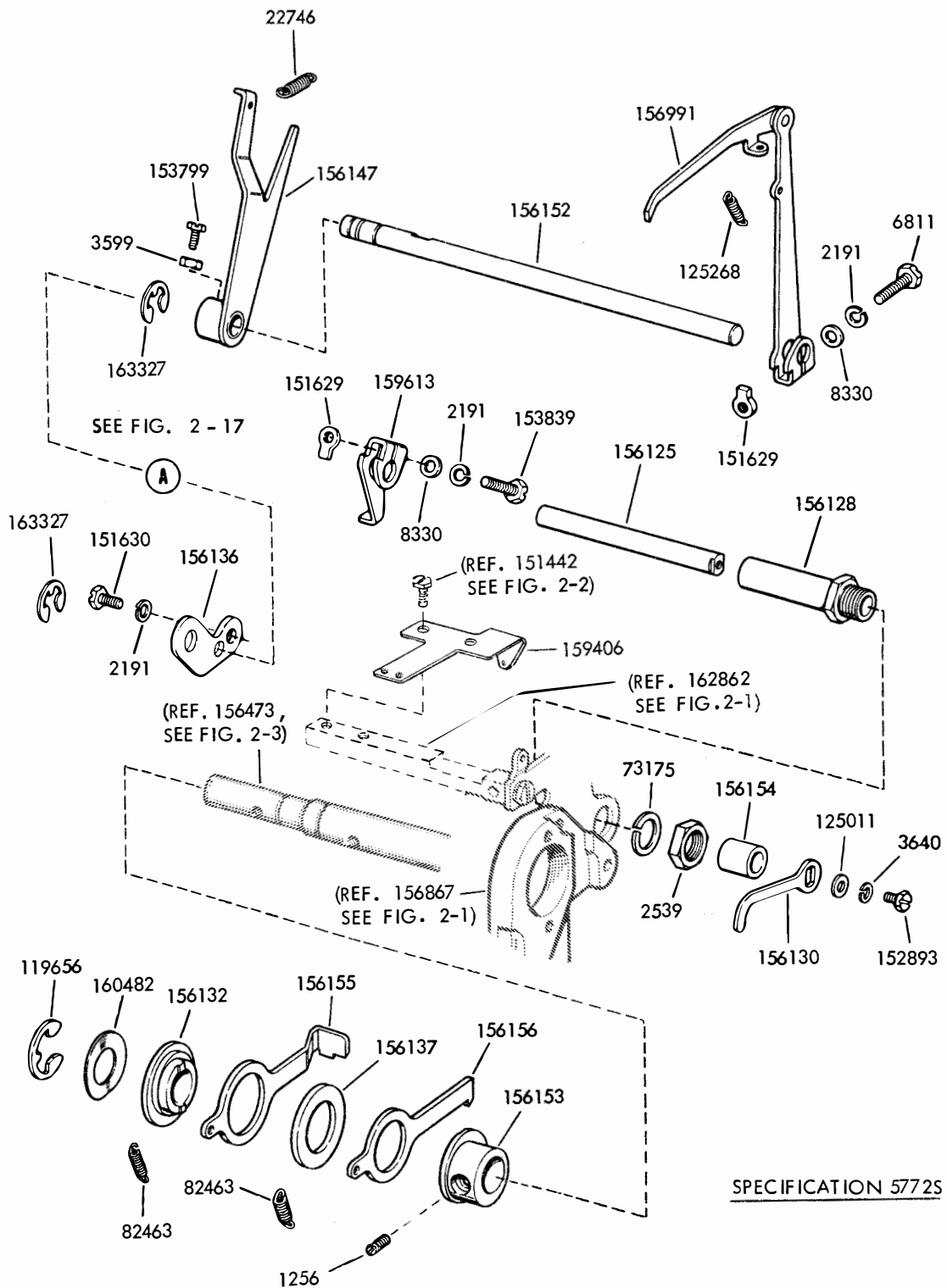


FIGURE 2-18. 159351 AND 162434 MODIFICATION KITS TO ADD NON-INTERFERING BLANK TAPE FEED OUT (INCLUDES ALL PARTS ON THIS PAGE AND FIGURES 2-19, 2-20)

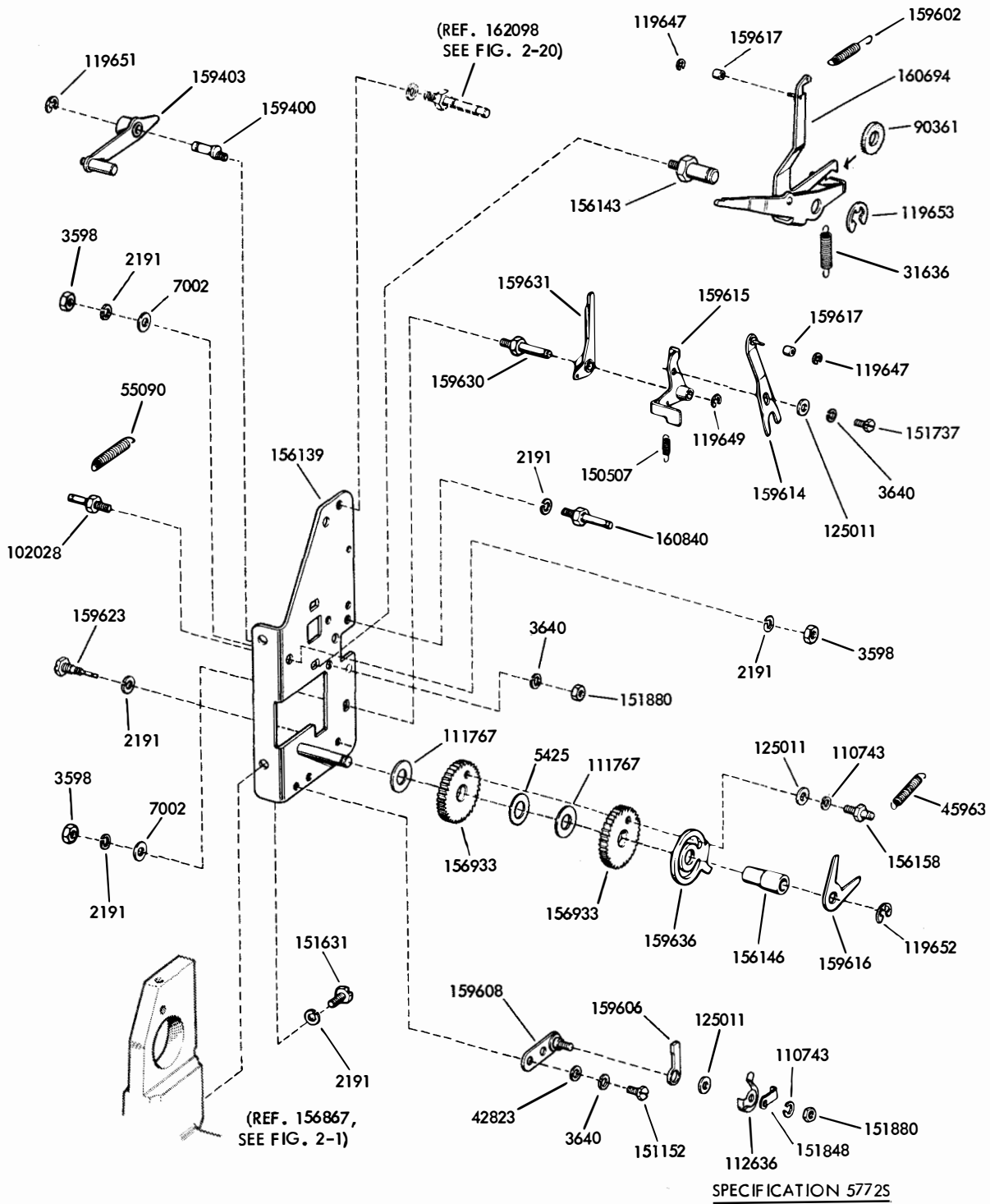


FIGURE 2-19. 159351 AND 162434 MODIFICATION KITS TO ADD NON-INTERFERING BLANK TAPE FEED OUT (INCLUDES ALL PARTS ON THIS PAGE AND FIGURES 2-18, 2-20)

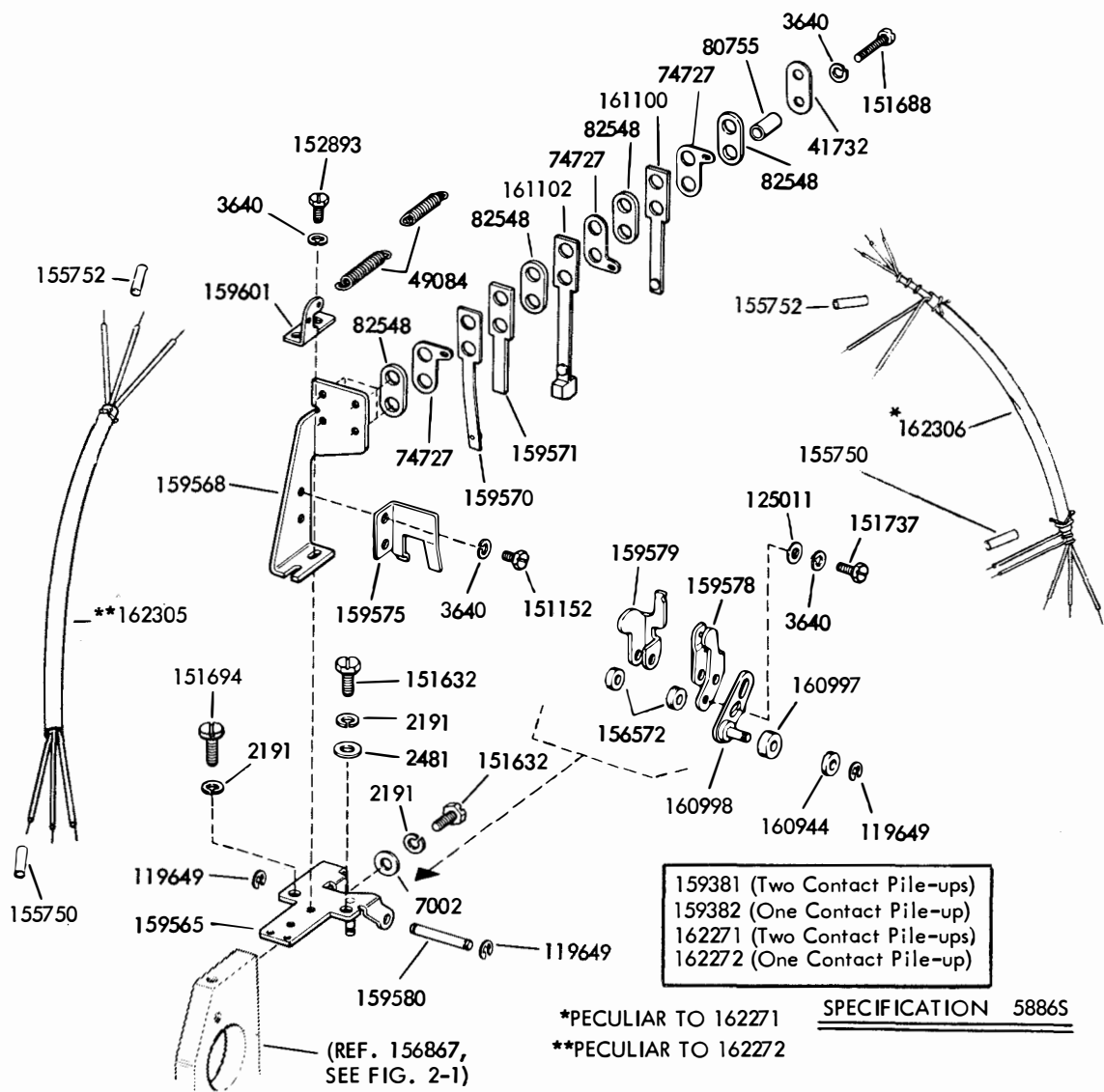


FIGURE 2-21. 159381, 159382, 162271, AND 162272 MODIFICATION KITS TO ADD TIMING CONTACTS.

VARIABLE FEATURES OF THE MODIFICATION KIT			
MODIFICATION KIT	CONTACT TRANSFER	ASSEMBLY MAKE-ONLY	CABLE*
159379		158950	
159380	156078		
162273	156078		162304
162274		158950	162303
163945	156078		163946

*CABLES ILLUSTRATED ON PAGE 2-34

SPECIFICATION 5886S

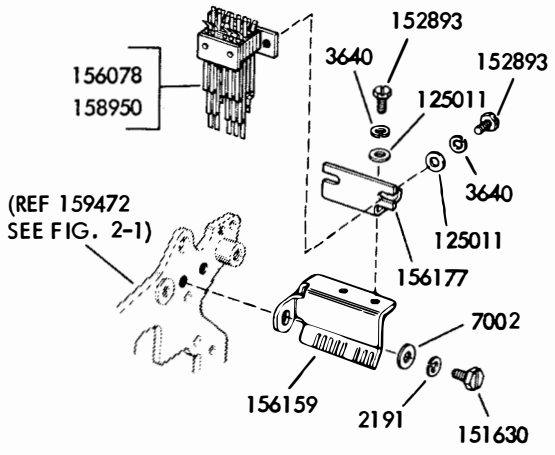
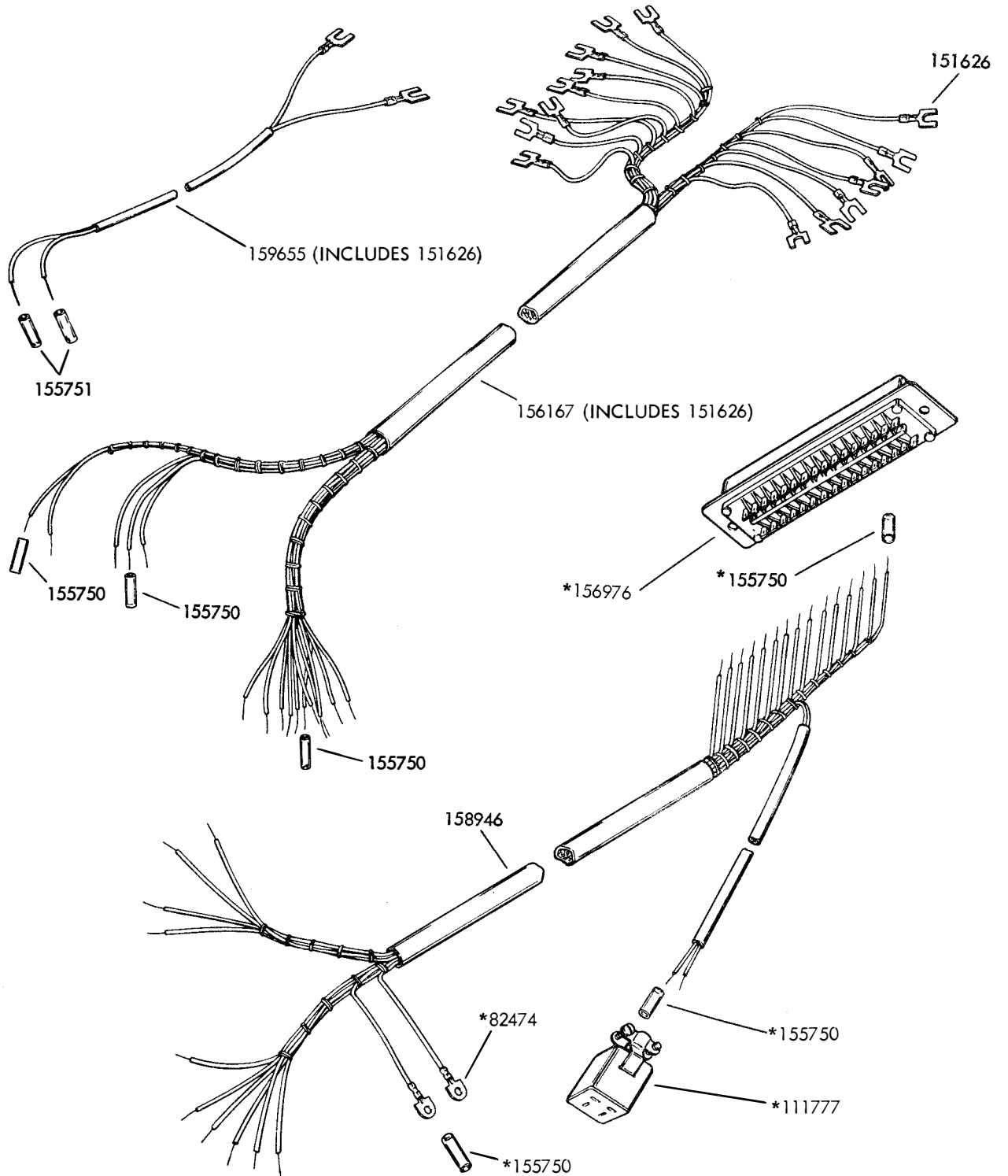


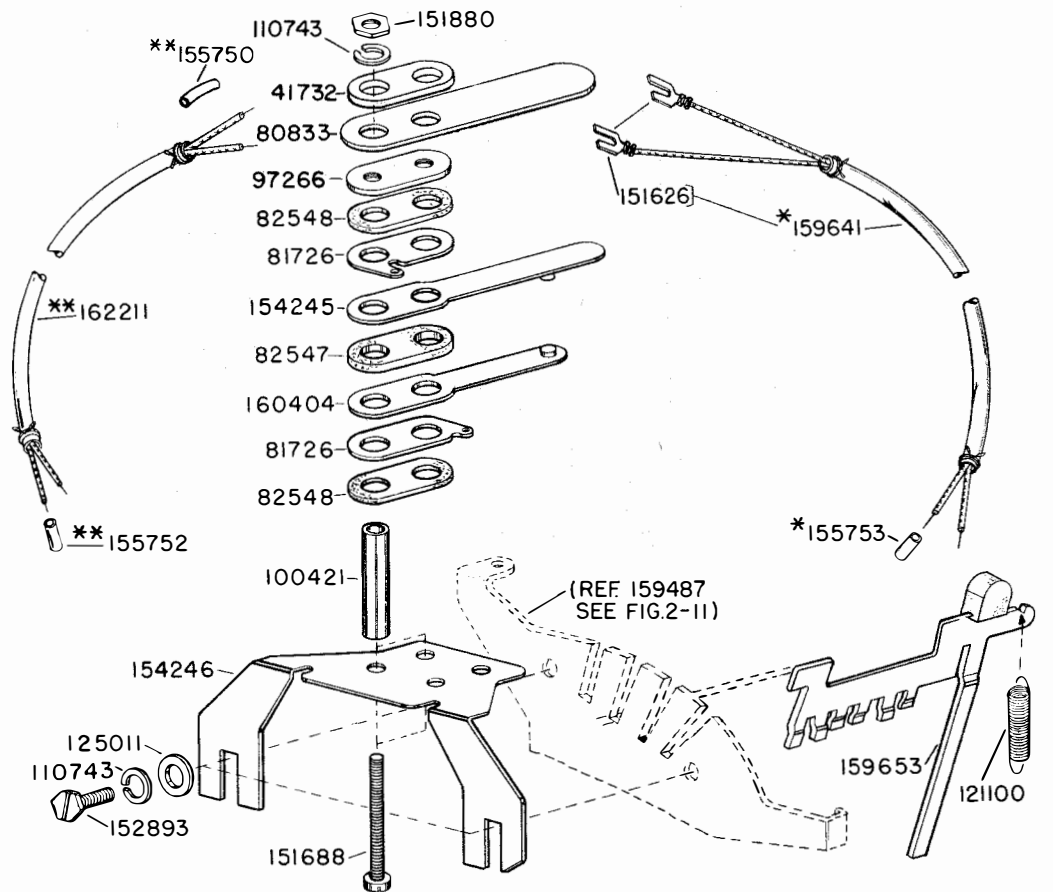
FIGURE 2-22. MODIFICATION KITS TO ADD CODE READING CONTACTS

1167B



*PECULIAR TO 158946

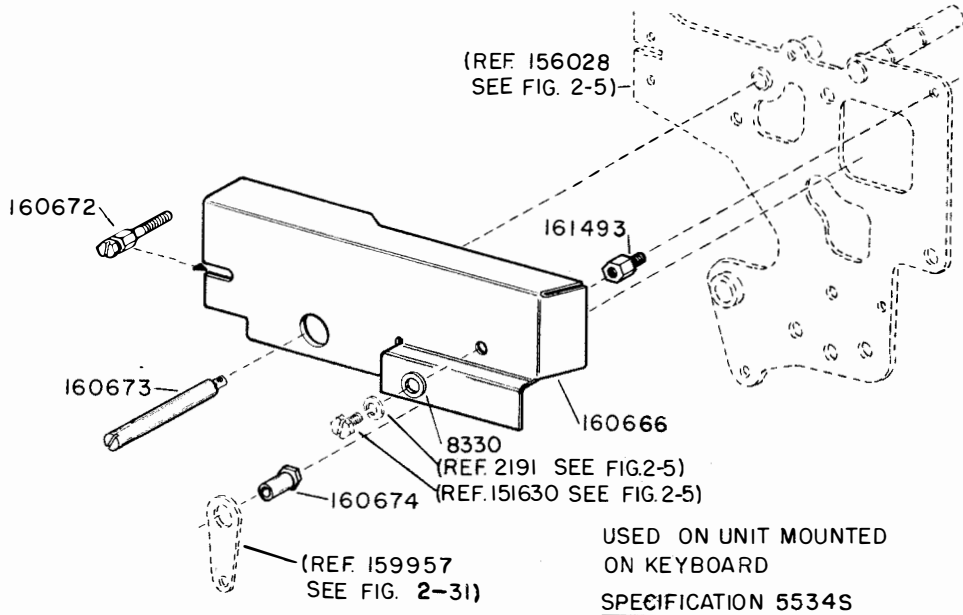
FIGURE 2-23. CABLES



SPECIFICATION 5878S

* PECULIAR TO 159360
 ** PECULIAR TO 162242

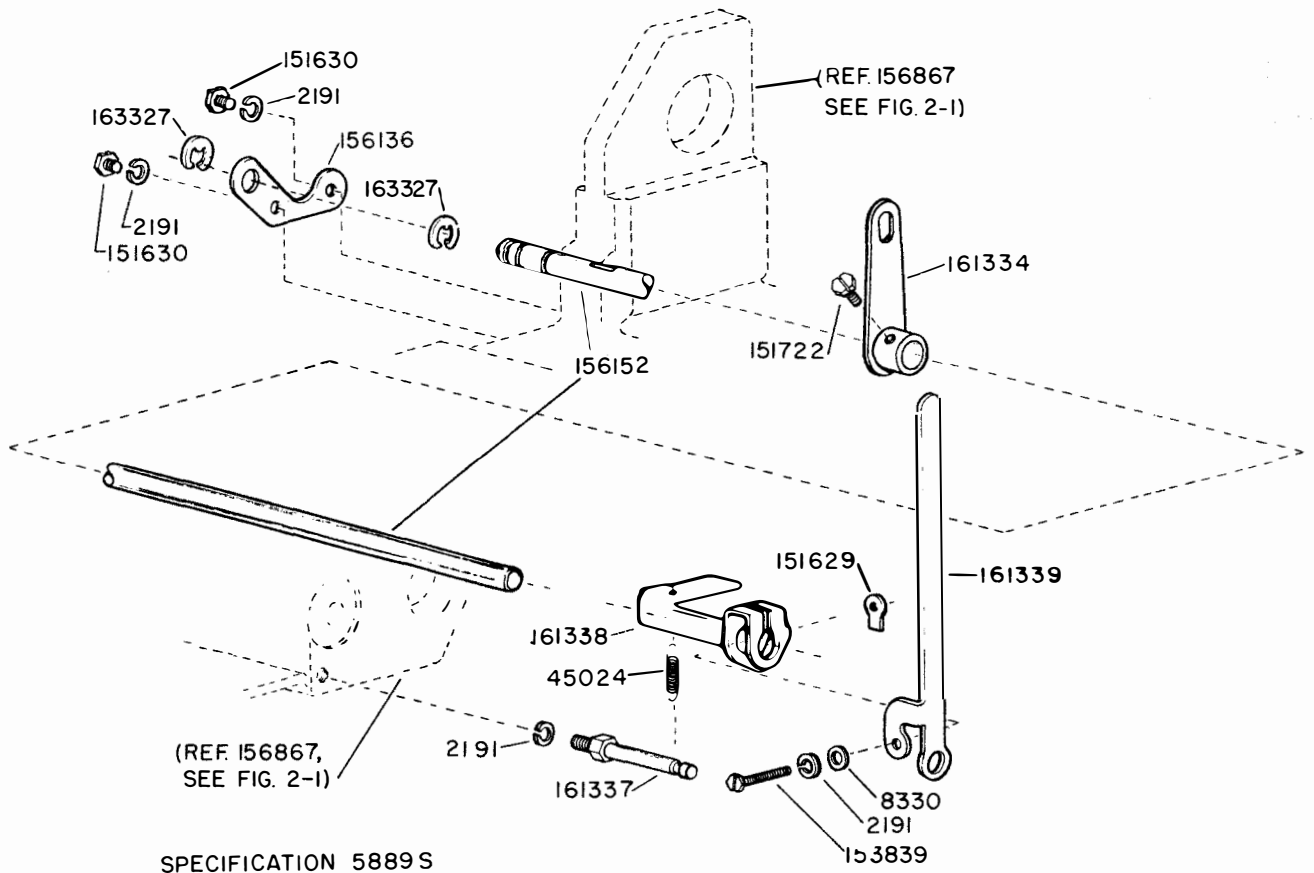
FIGURE 2-24. 159360 AND 162242 MODIFICATION KITS TO ADD SIGNAL BELL CONTACT (ON UPPER CASE "S")



USED ON UNIT MOUNTED
 ON KEYBOARD
SPECIFICATION 5534S

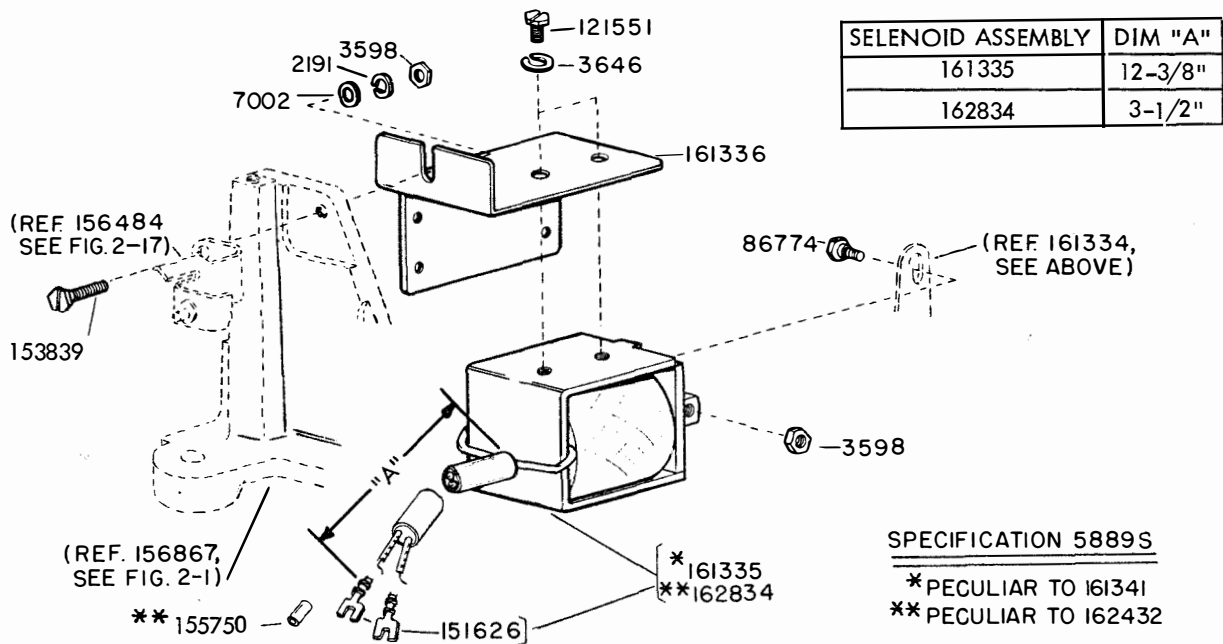
FIGURE 2-25. 16088! MODIFICATION KIT TO ADD GUARD TO COVER BACKSPACE MECHANISM

1167B



SPECIFICATION 5889 S

FIGURE 2-26. 161340 MODIFICATION KIT TO ADD MANUAL INTERFERING LETTERS TAPE FEED-OUT



SPECIFICATION 5889 S

* PECULIAR TO 161341
 ** PECULIAR TO 162432

FIGURE 2-27. 161341 AND 162432 MODIFICATION KITS TO ADD SOLENOID OPERATION TO LETTERS FEED-OUT

GEAR SETS - 5 LEVEL CODE						
SET NUMBER	PINION	DRIVEN GEAR	SPEED			
			7.00 UNIT CODE		7.42 UNIT CODE	
			O.P.M.	W.P.M.	O.P.M.	W.P.M.
159893	159894 (S)	159895 (F)				
163023	163021 (N)	163022 (N)	390	65	368	60
173992	173993 (S)	173994 (F)	390	65		
163457	163455 (S)	163456 (F)	428	71		
159890	159891 (S)	159892 (F)			460	75
163024	163019 (N)	163020 (N)				
159887	159888 (S)	159889 (F)	636	106	600	100
163025	163015 (N)	163018 (N)				
163502	163501 (S)	163500 (F)	643	107		

(N)=NYLON (S)=STEEL (F)=FIBER

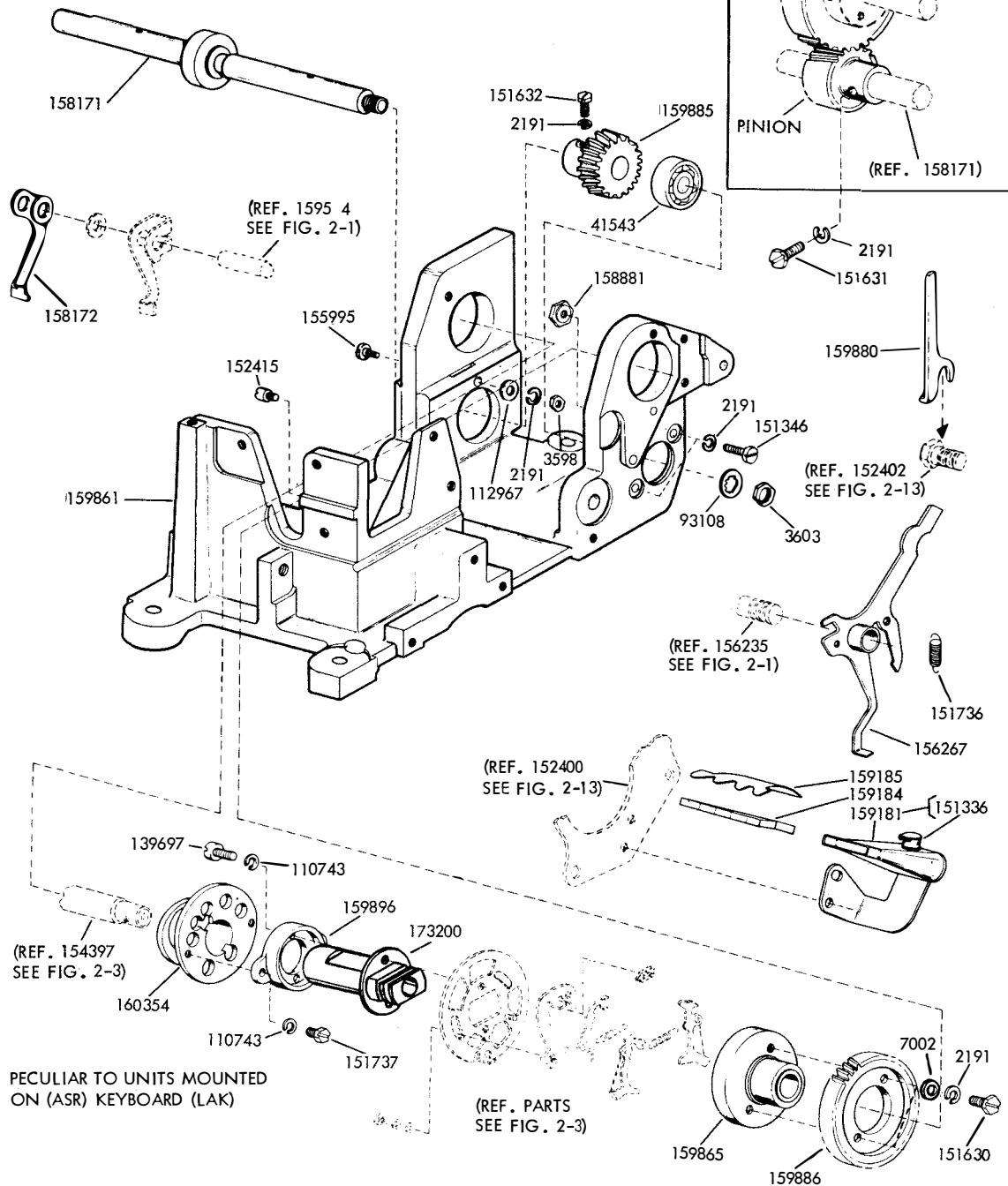
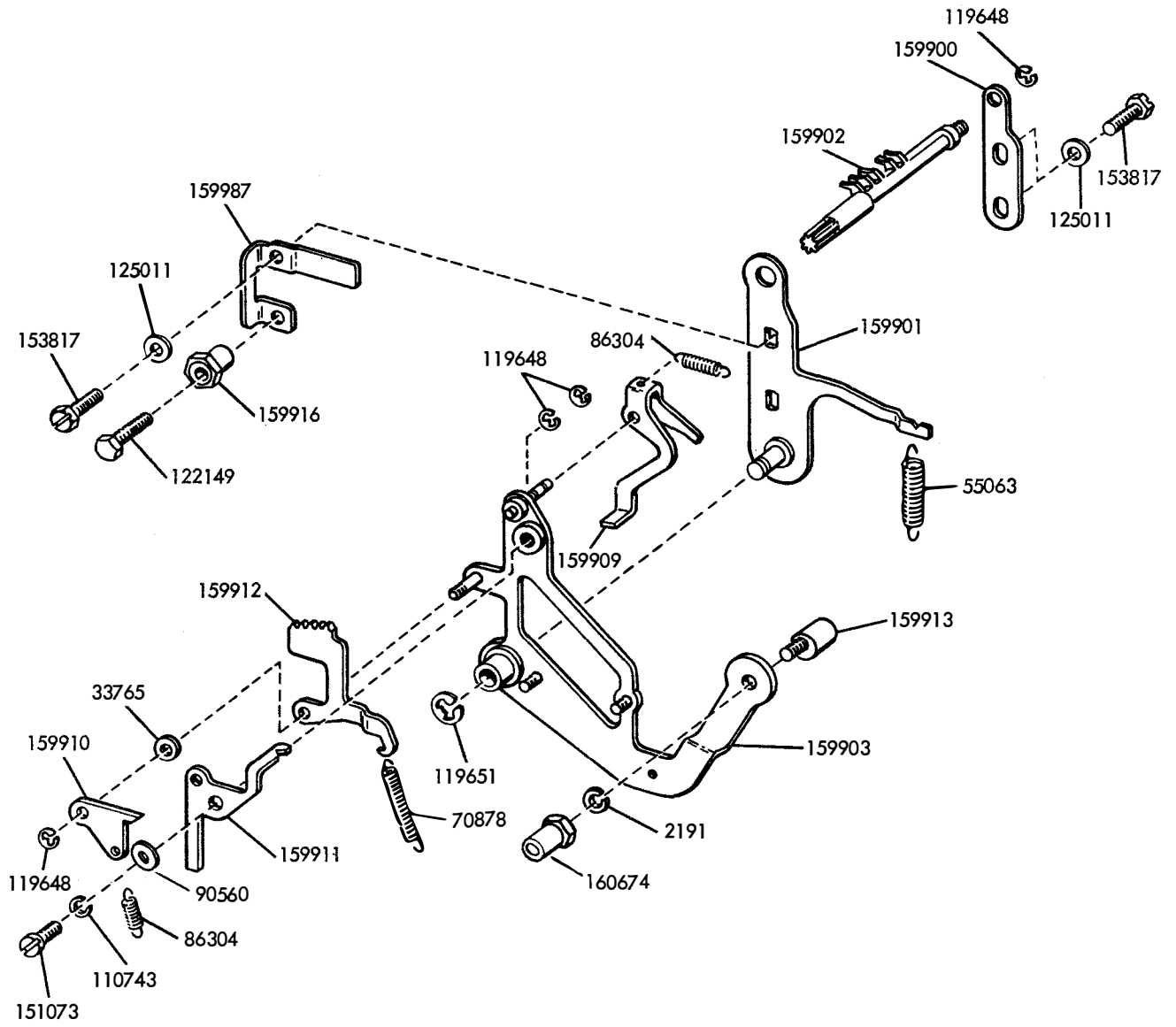
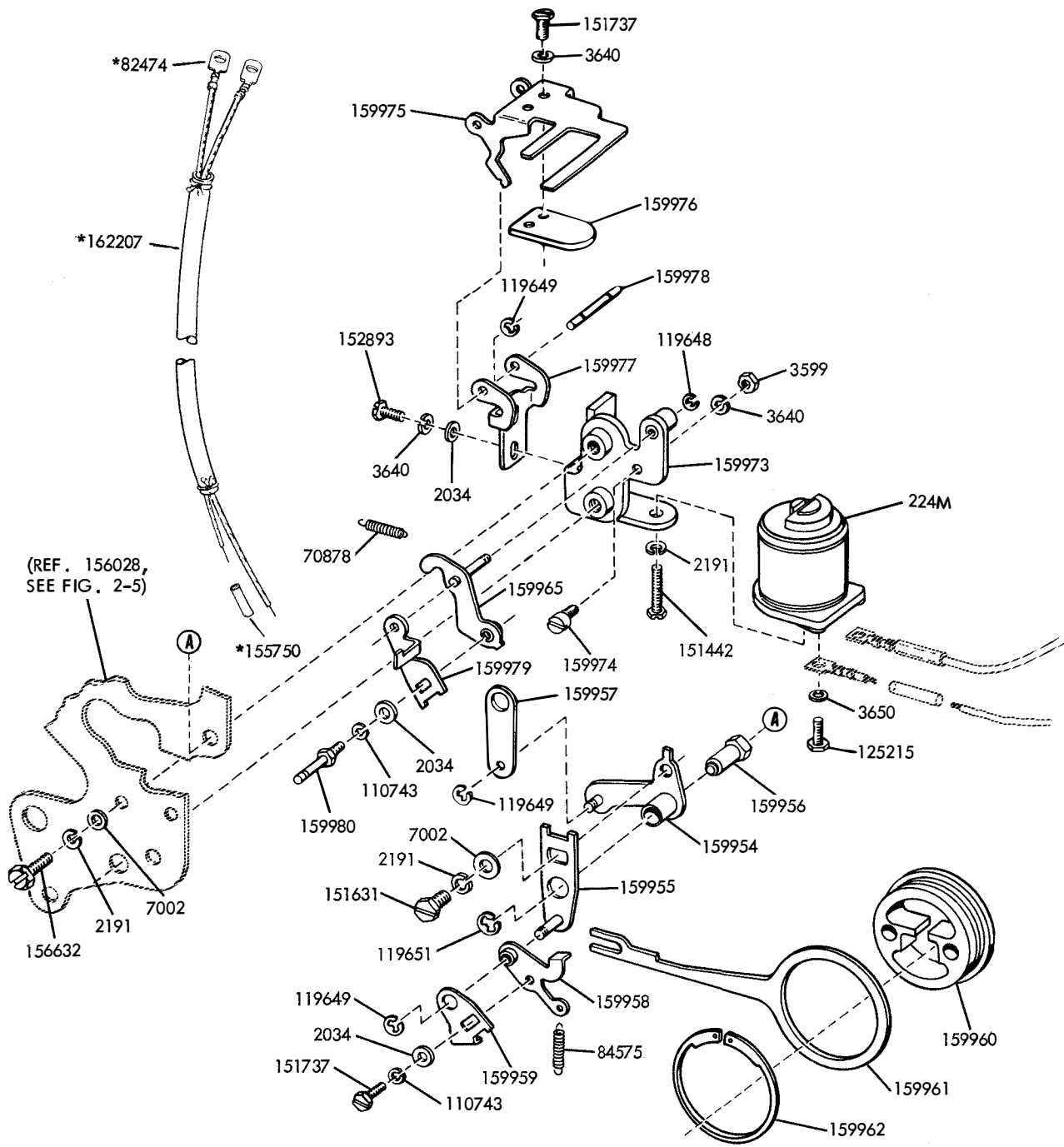


FIGURE 2-28. TWO-SHAFT MECHANISM



SPECIFICATION 5534S

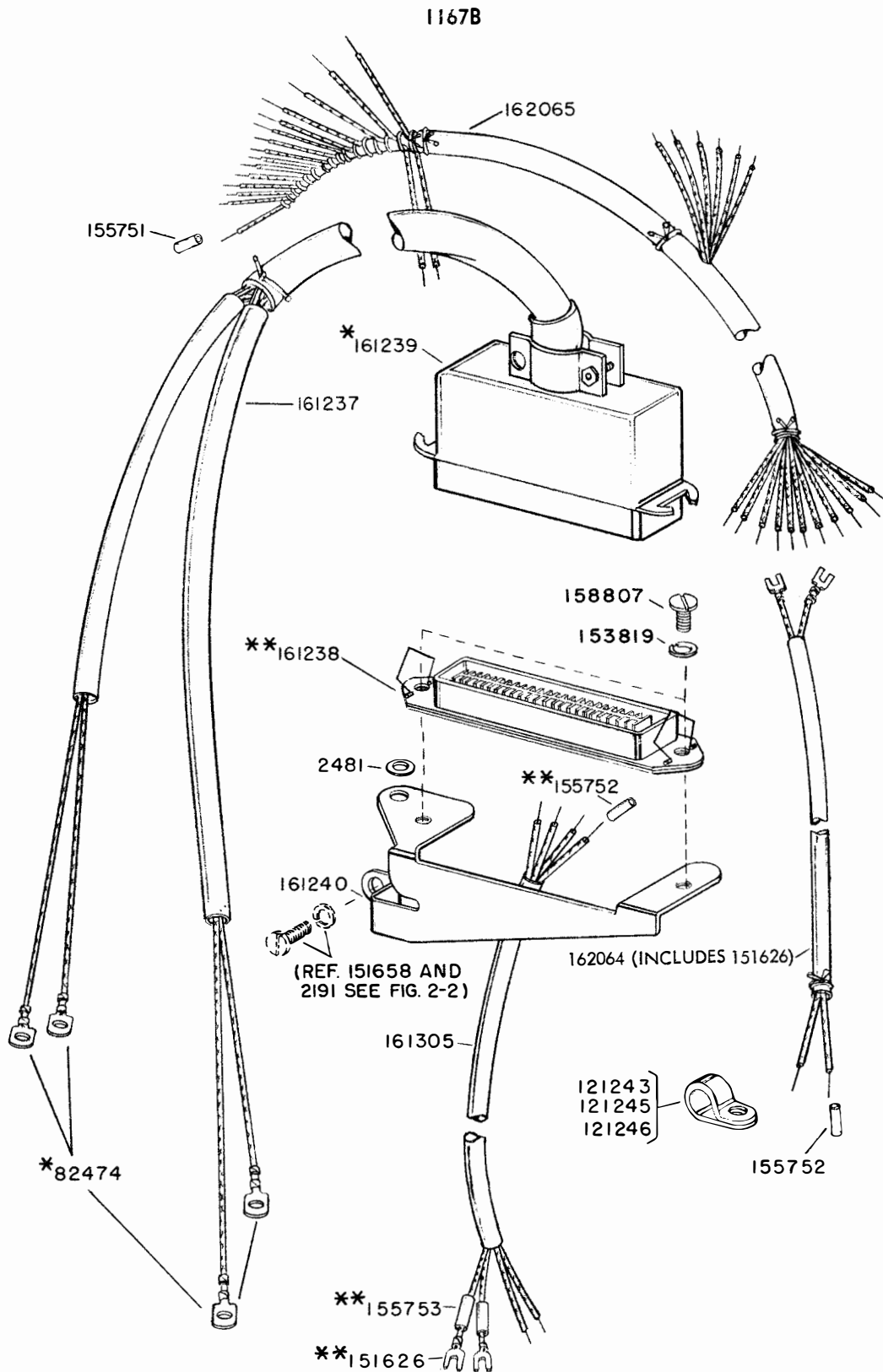
FIGURE 2-29. 159363 MODIFICATION KIT TO ADD MANUAL BACKSPACE



* PECULIAR TO 162245

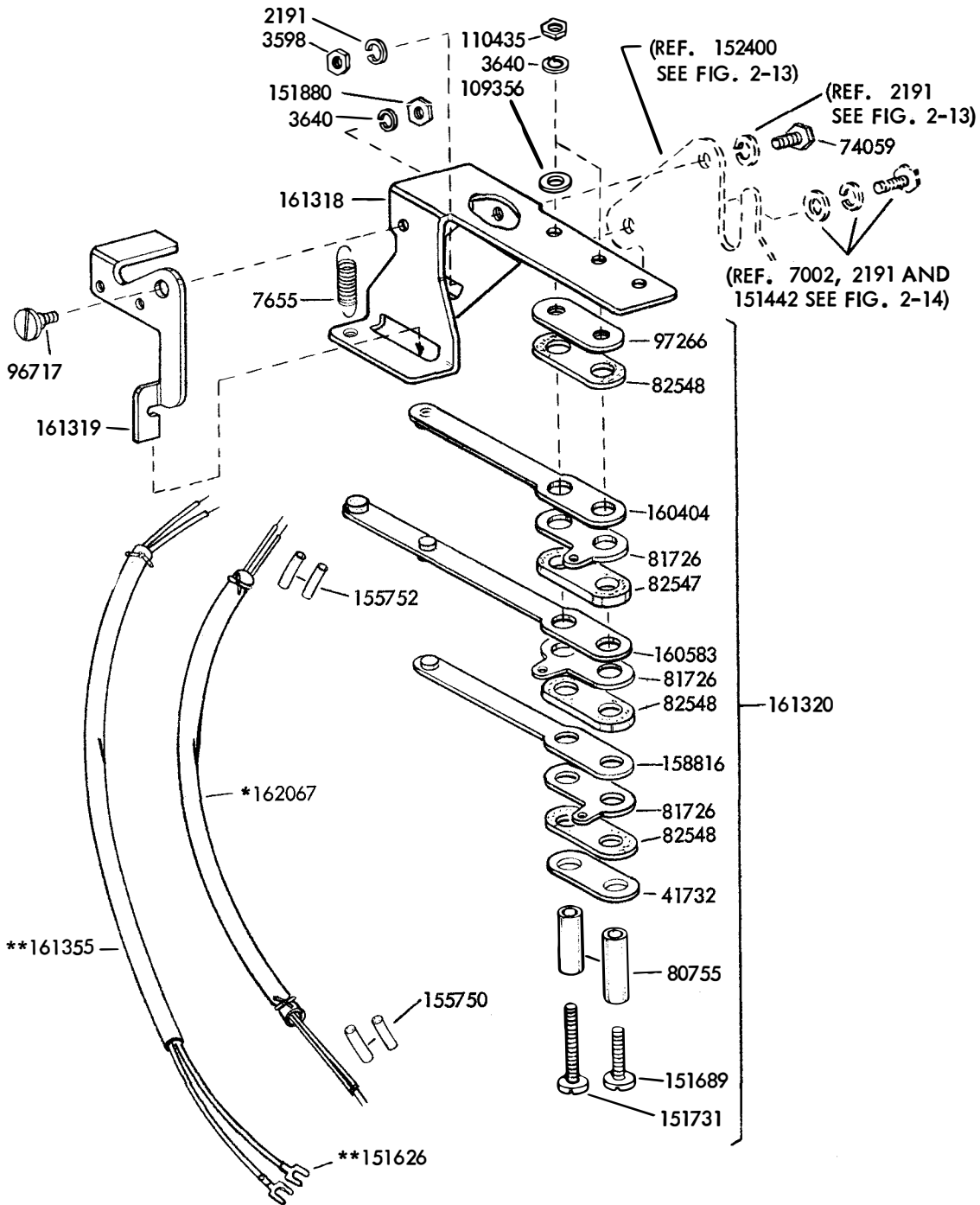
SPECIFICATION 55345

FIGURE 2-30. 161304 AND 162245 MODIFICATION KITS TO ADD POWER DRIVE TO BACKSPACE



*PART OF 161237
 **PART OF 161305

FIGURE 2-31 CABLES

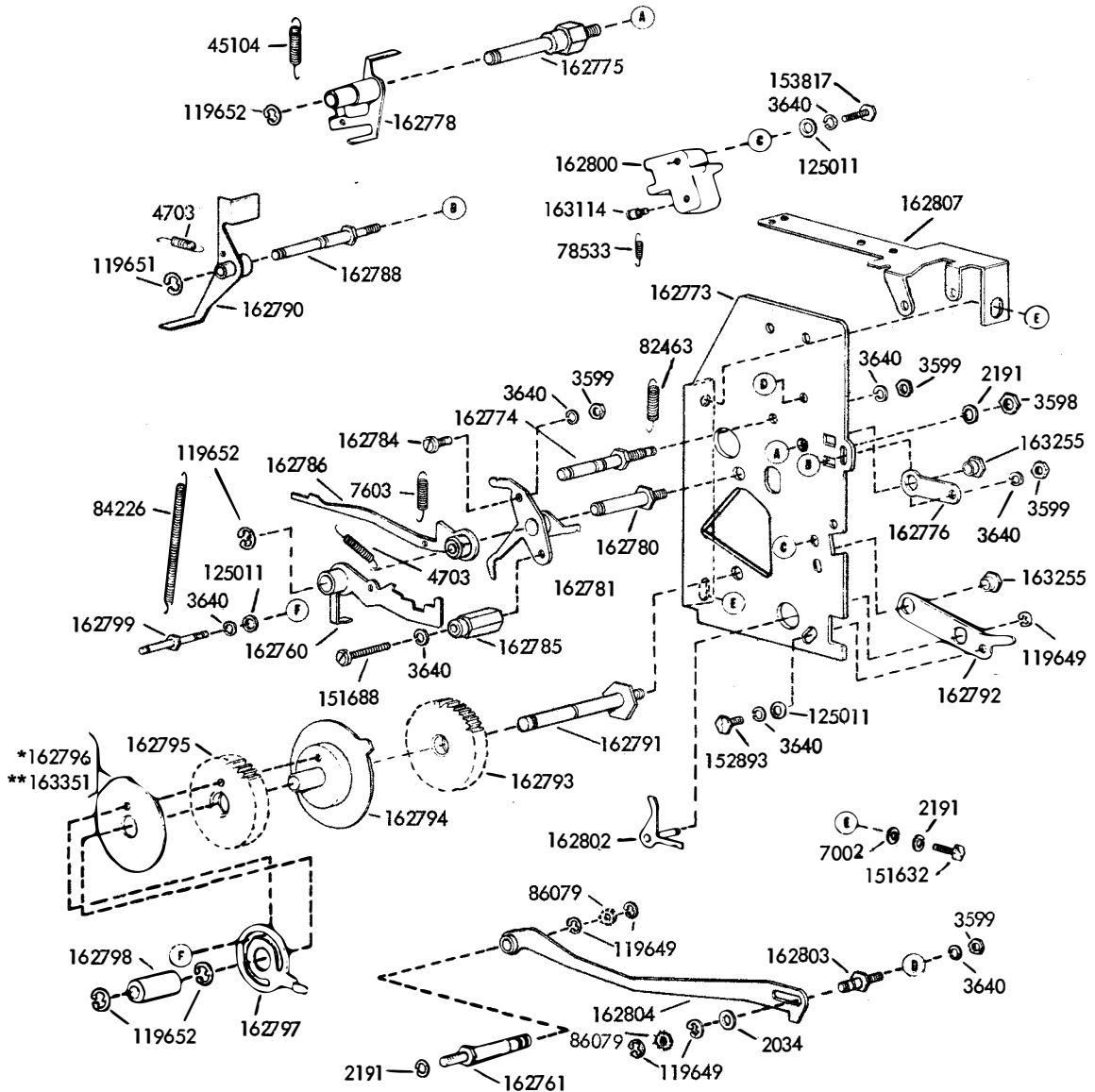


SPECIFICATION 59055

* PECULIAR TO 162247

**PECULIAR TO 161321

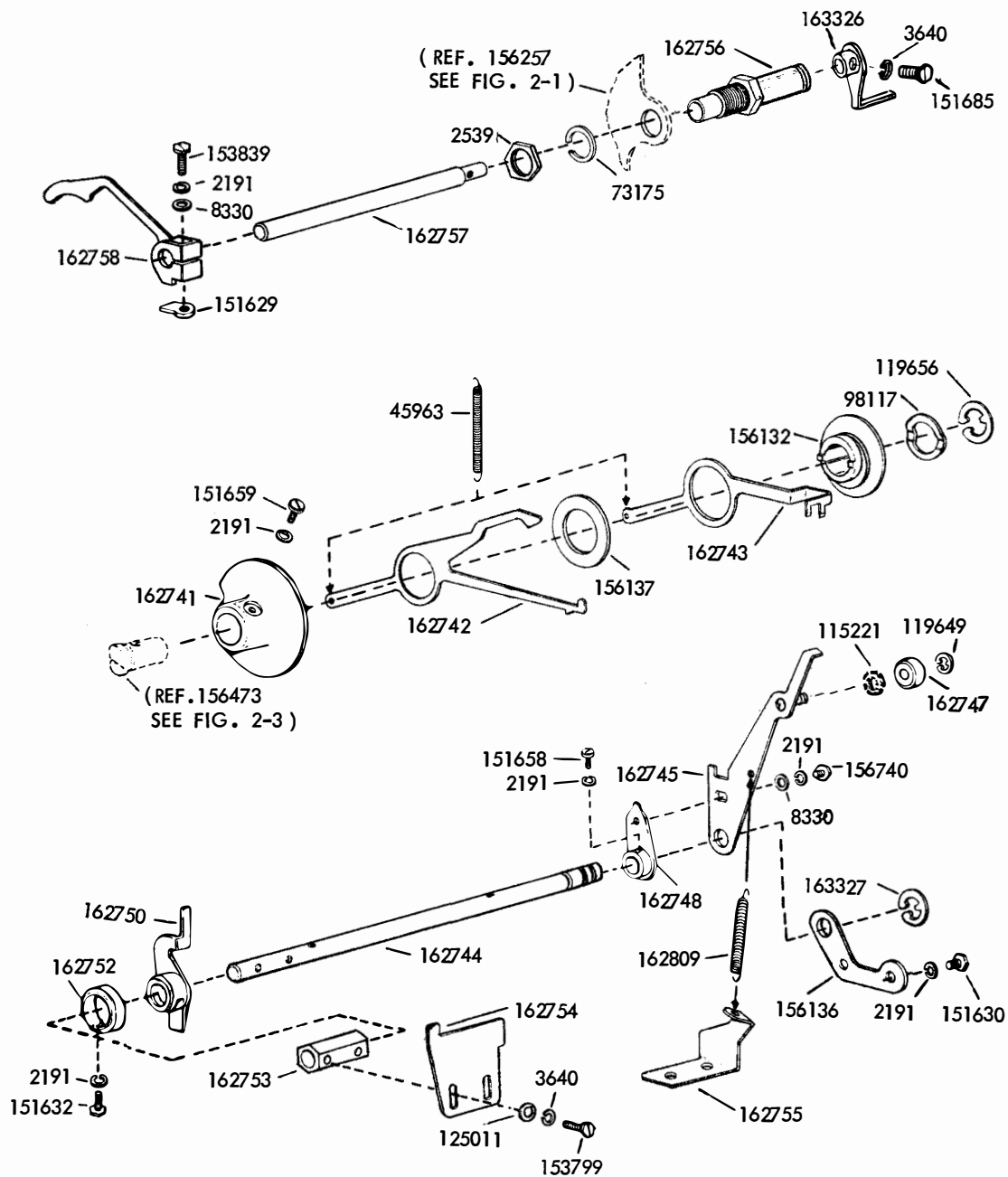
FIGURE 2-32. 161321 AND 162247 LETTERS - FIGURES CONTACT ASSEMBLY



SPECIFICATION 59455

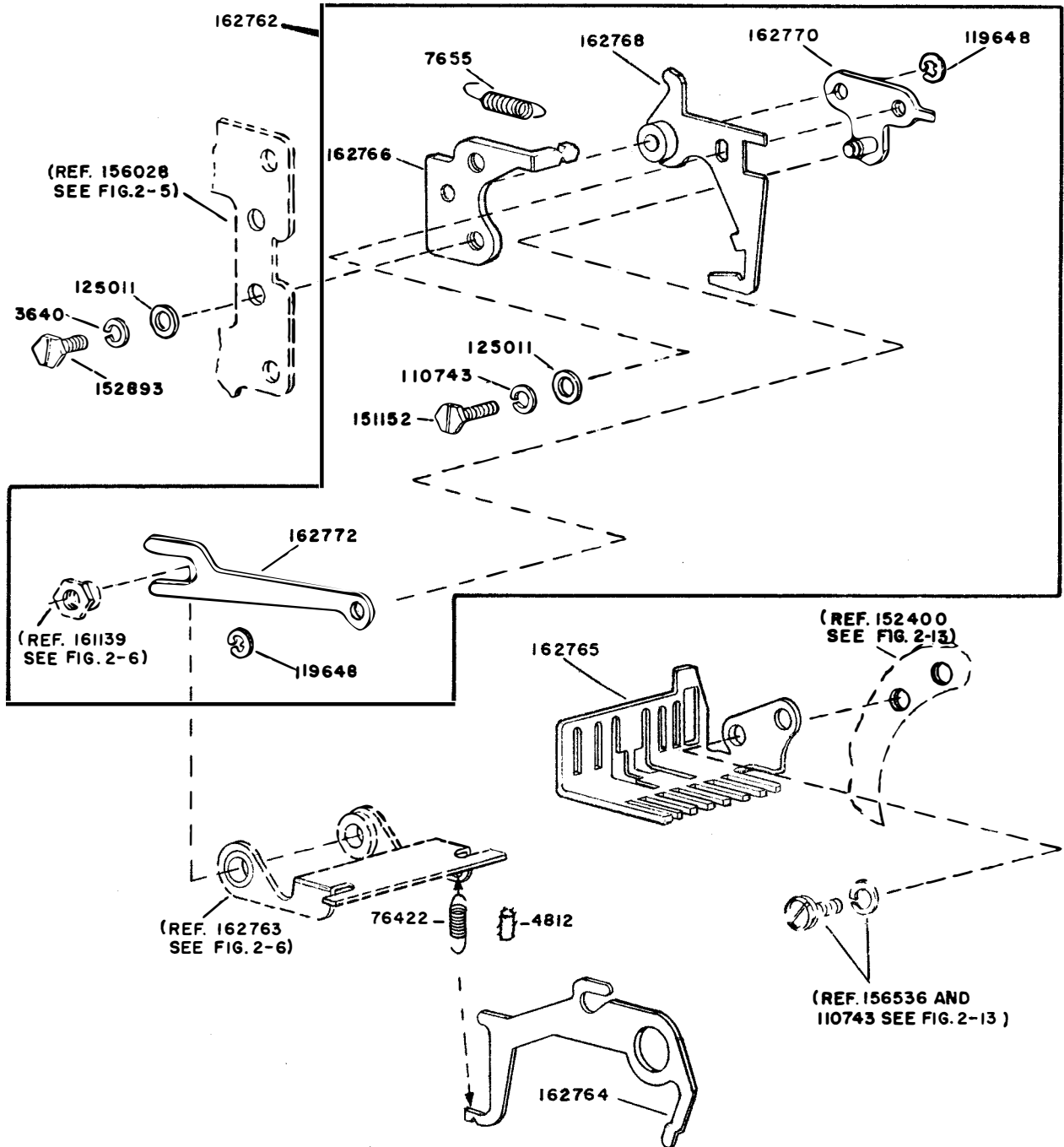
*PECULIAR TO 162379 (4 Second Time Delay at 100 W.P.M.)
 **PECULIAR TO 163347 (16 Second Time Delay at 100 W.P.M.)

FIGURE 2-33. 162379 AND 163347 MODIFICATION KITS TO ADD NON-INTERFERING AUTOMATIC LETTERS FEED-OUT
 (INCLUDES ALL PARTS ON THIS PAGE AND FIGURES 2-34, 2-35)



SPECIFICATION 59455

FIGURE 2-34. 162379 AND 163347 MODIFICATION KITS TO ADD NON-INTERFERING AUTOMATIC LETTERS FEED-OUT
(INCLUDES ALL PARTS ON THIS PAGE AND FIGURES 2-33, 2-35)



SPECIFICATION 5945S

FIGURE 2-35. 162379 AND 163347 MODIFICATION KITS TO ADD NON-INTERFERING AUTOMATIC LETTERS FEED-OUT (INCLUDES ALL PARTS ON THIS PAGE AND FIGURES 2-33, 2-34)

1167B

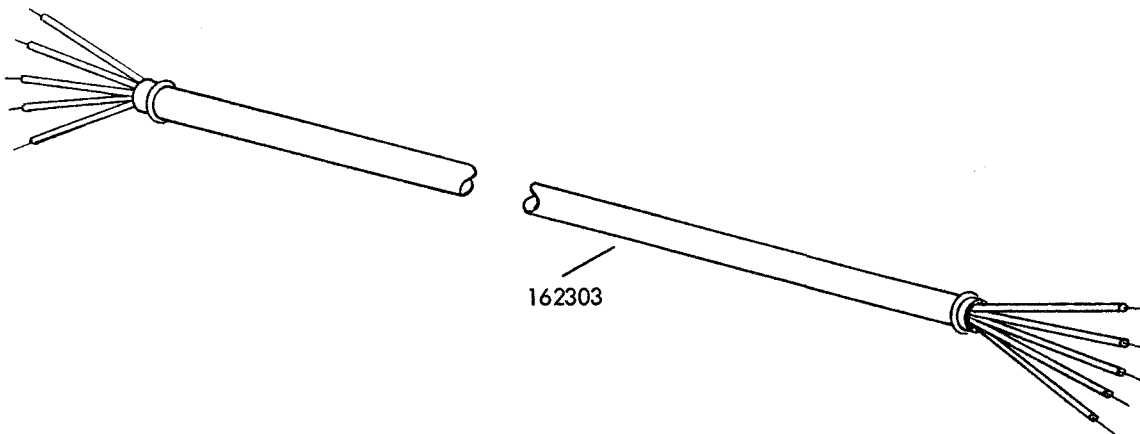
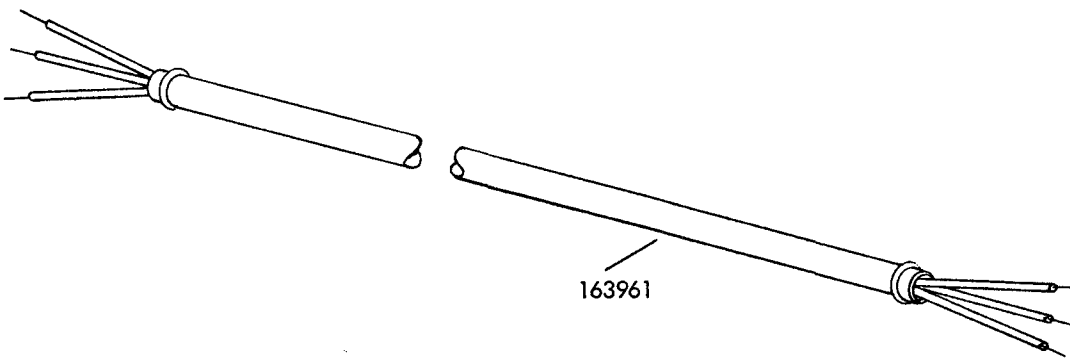
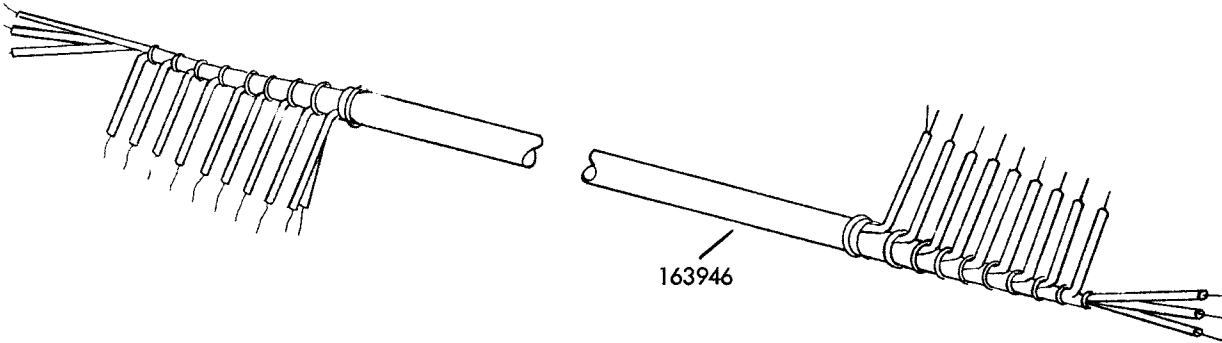
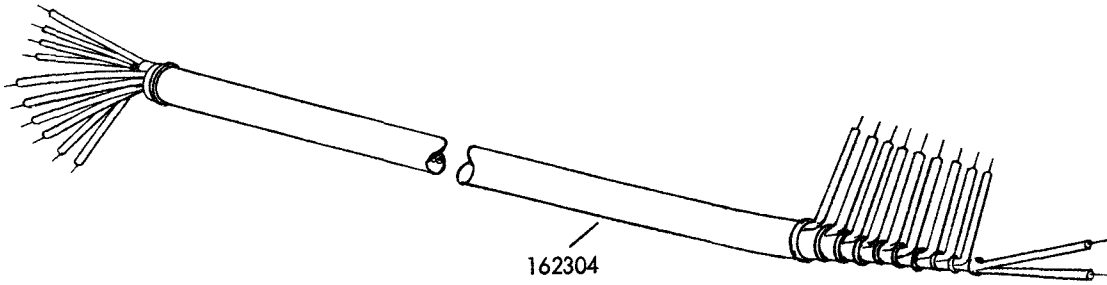


FIGURE 2-36. CODE READING CABLES

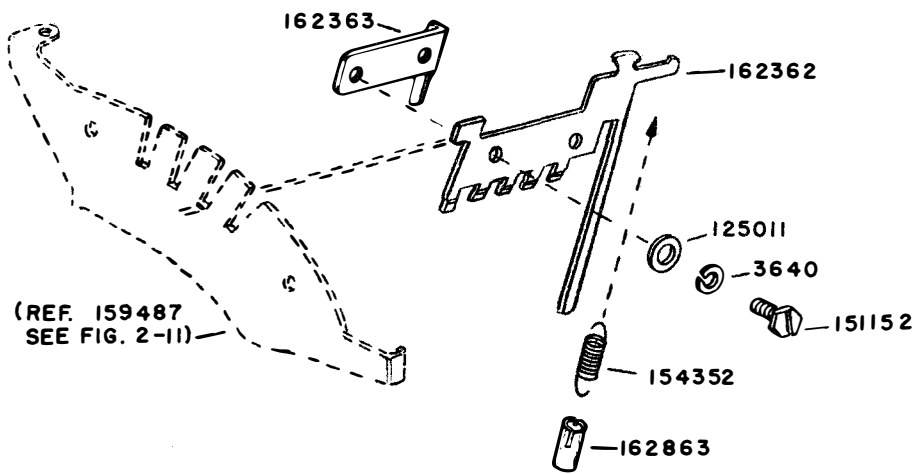


FIGURE 2-37. 162375 MODIFICATION KIT TO PROVIDE UNSHIFT ON SPACE

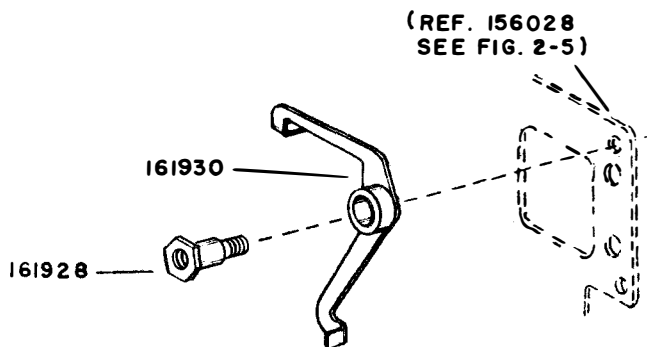


FIGURE 2-38. 161828 MODIFICATION KIT TO MAKE TAPE BACKSPACE AND BLANK FEED-OUT COMPATIBLE

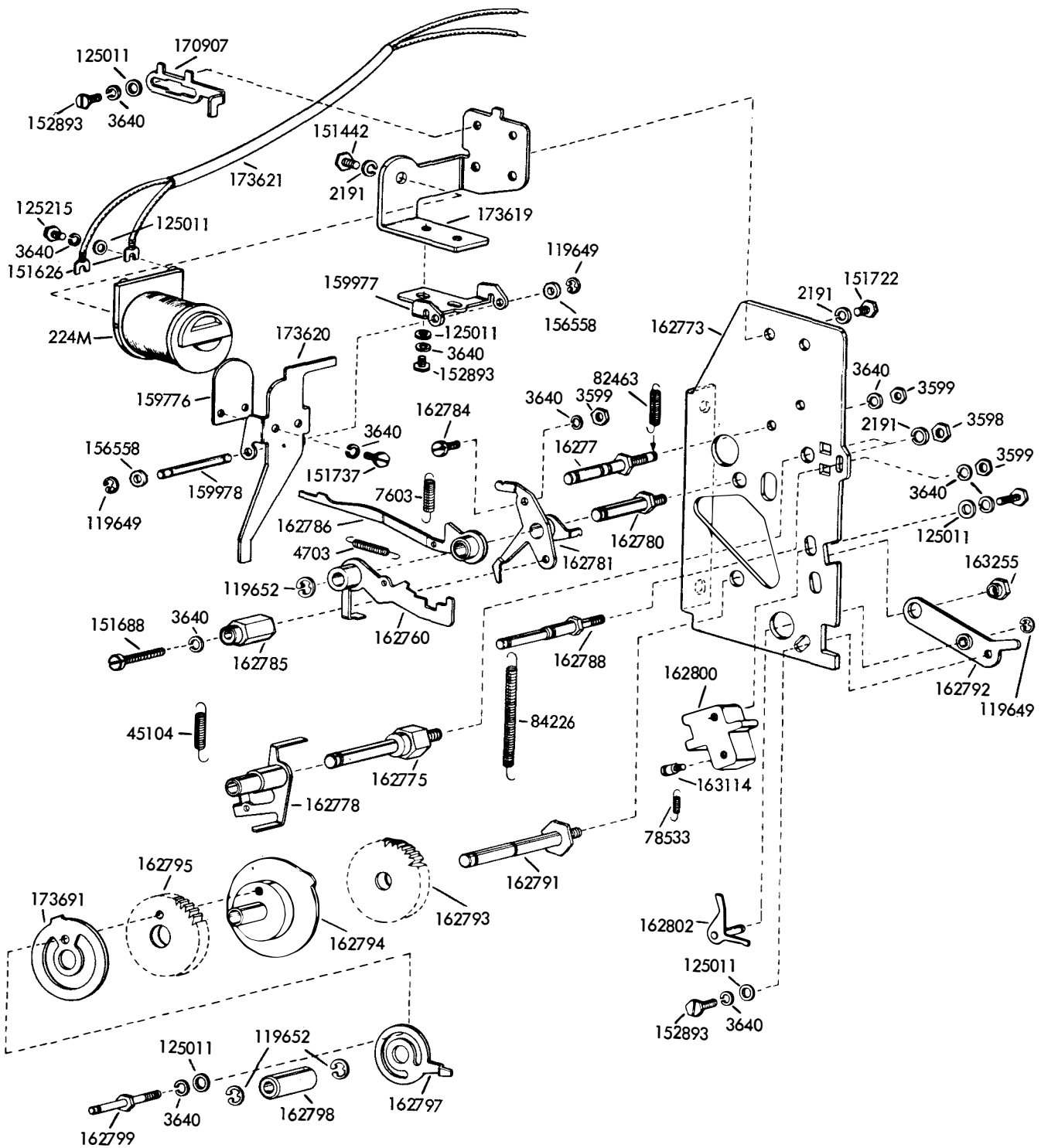


FIGURE 2-39. 173443 MODIFICATION KIT TO ADD REMOTE CONTROL
NON-INTERFERING LETTERS FEED-OUT
(INCLUDES ALL PARTS ON THIS FIGURE AND FIGURES 2-40 AND 2-41)

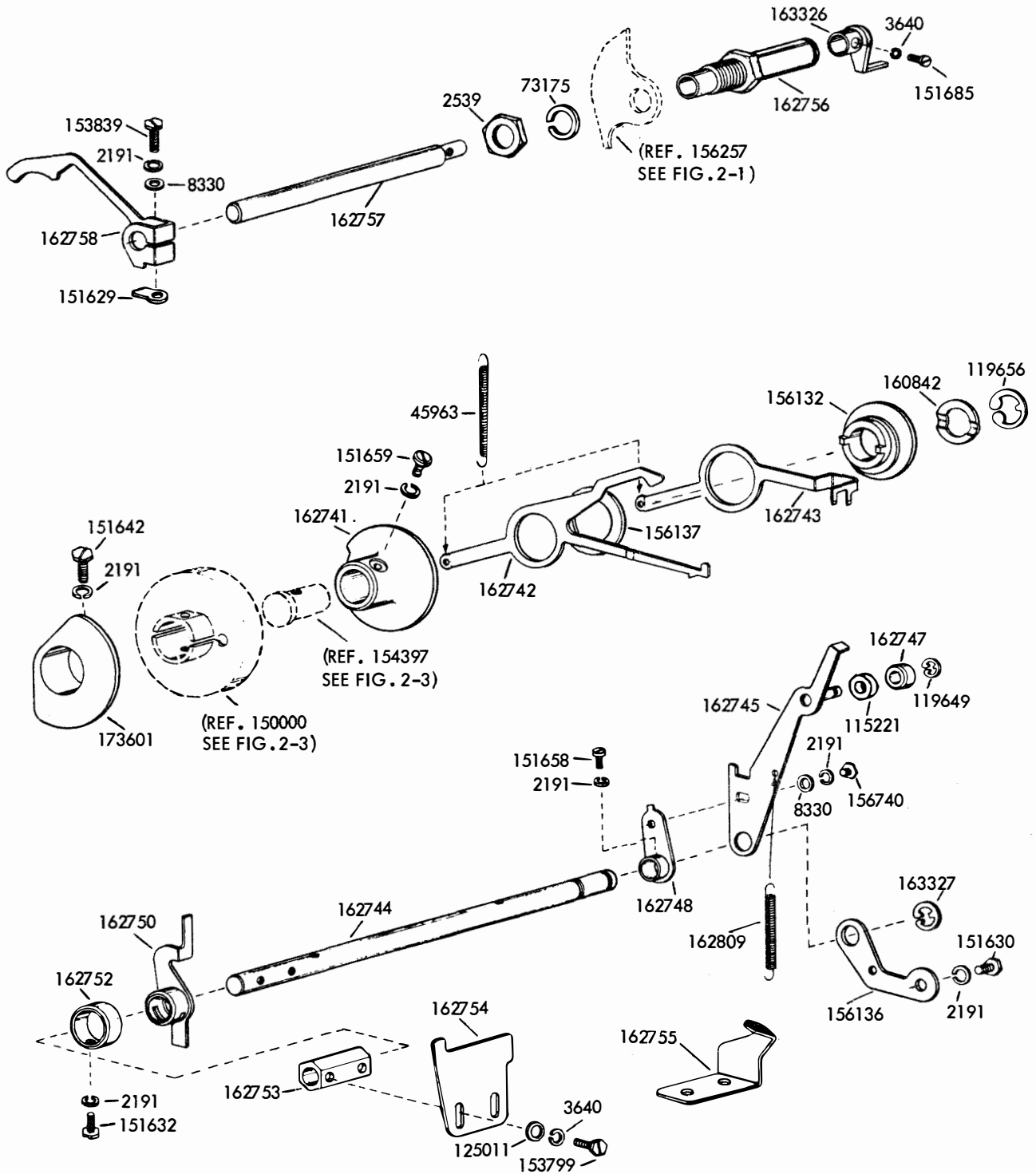


FIGURE 2-40. 173443 MODIFICATION KIT TO ADD REMOTE CONTROL
NON-INTERFERING LETTERS FEED-OUT
(INCLUDES ALL PARTS ON THIS FIGURE AND FIGURES 2-39 AND 2-41)

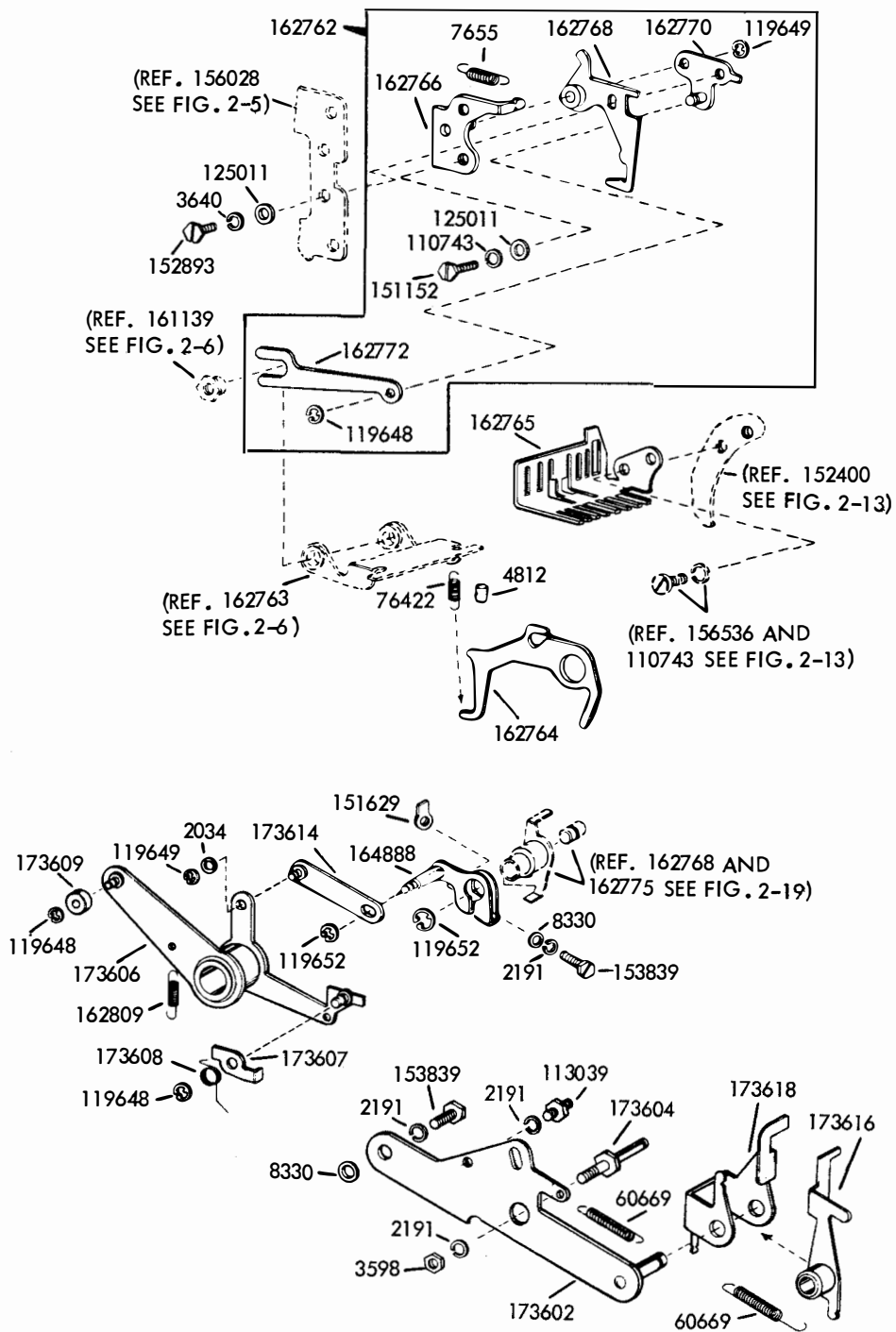
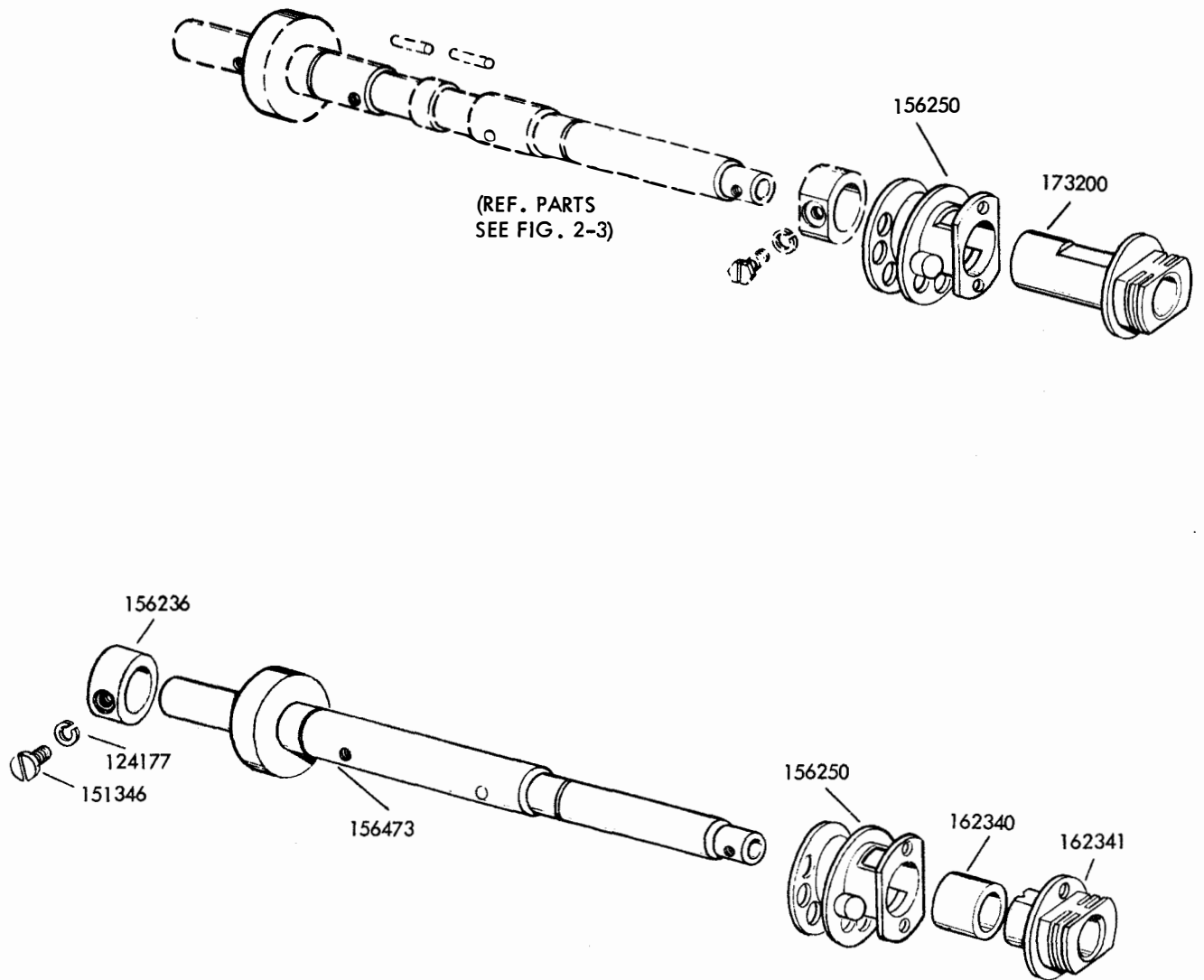


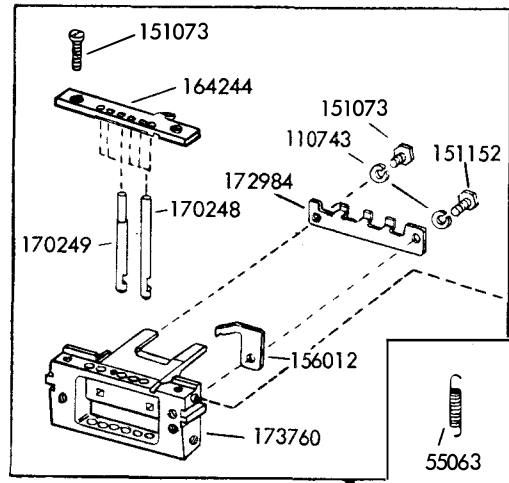
FIGURE 2-41. 173443 MODIFICATION KIT TO ADD REMOTE CONTROL NON-INTERFERING LETTERS FEED-OUT

(INCLUDES ALL PARTS ON THIS FIGURE AND FIGURES 2-39 AND 2-40)

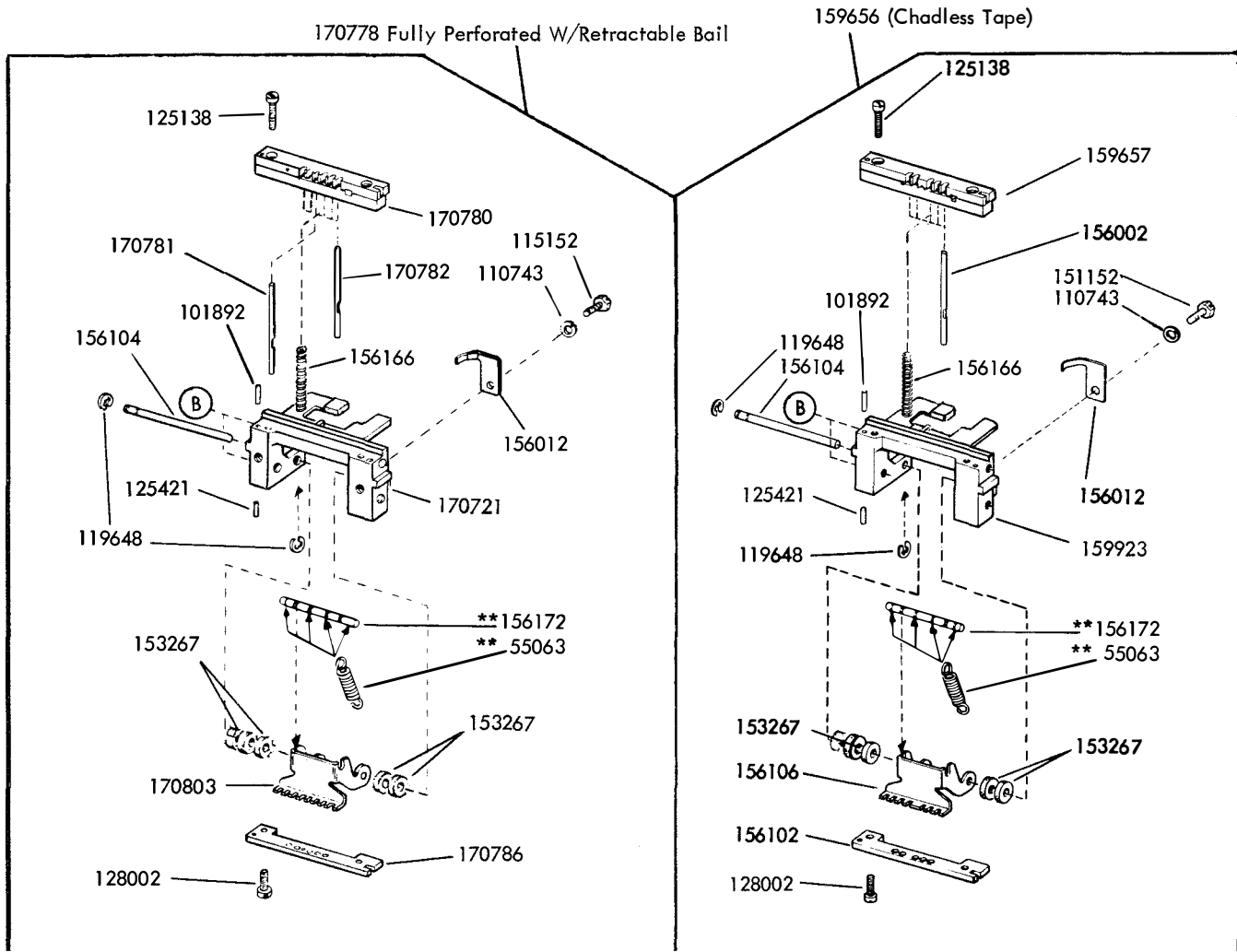


EARLY DISIGNS

FIGURE 2-42 . MAIN SHAFT MECHANISMS

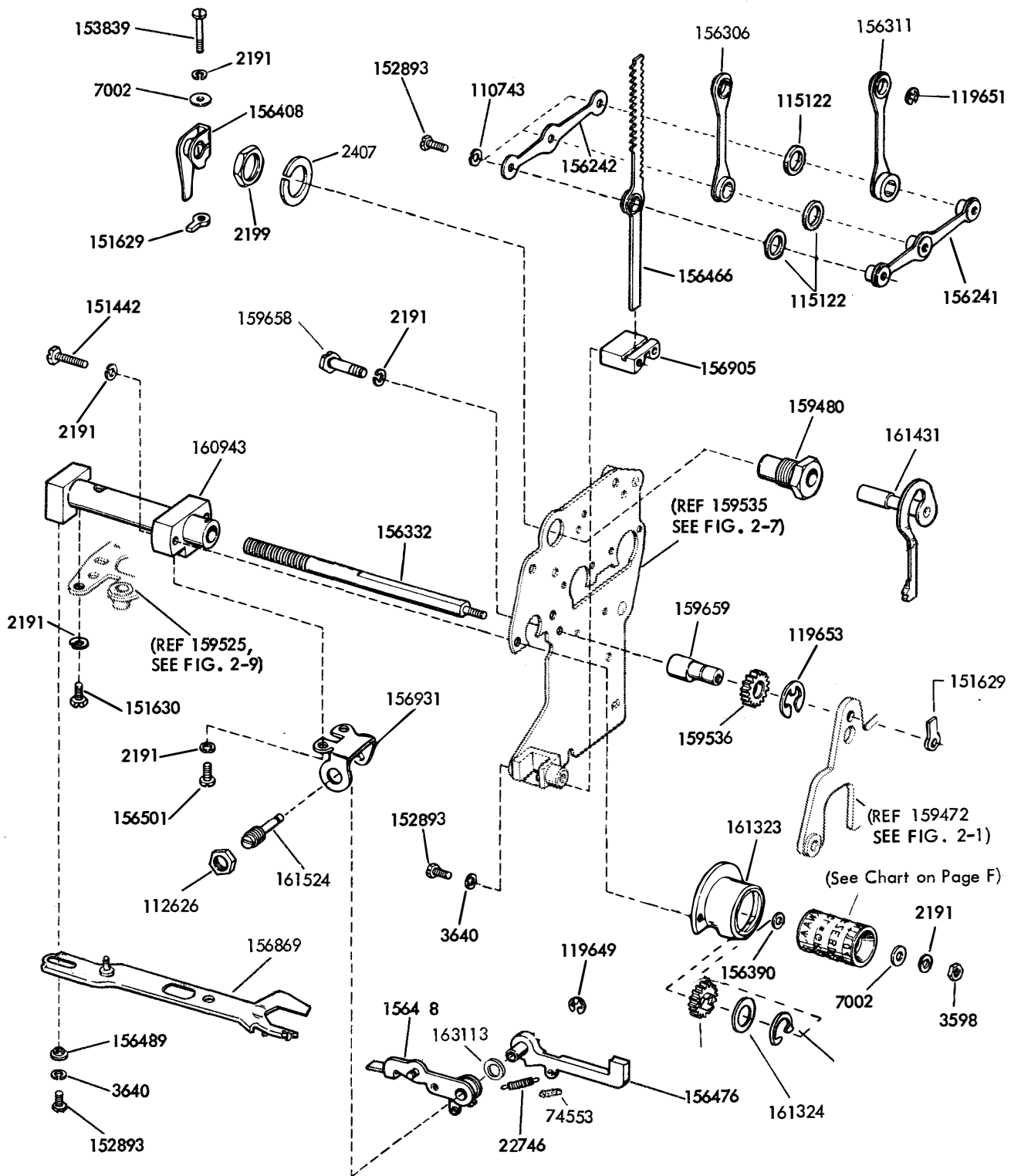


173770 Fully Perforated W/Retractable Slides



**Not part of 159656 or 170778

FIGURE 2-43. PUNCH BLOCK ASSEMBLIES



See Figure 2-8 For Latest Printing Hammer Mechanism Design

FIGURE 2-44. ROTARY POSITIONING MECHANISM

NOTES OF EXPLANATION

Page 2-3

The new style rocker bail, 162350, now includes the ribbon feed drive roller mounting post and the oscillating drive link mounting post. However, the 156899 eccentric screw, 2191 lock washer and 3606 nut for mounting the ribbon feed drive roller and the 159506 post for mounting the oscillating drive link to the old style 156368 rocker bail are available for maintenance.

Page 2-11

The 159525 bracket has been redesigned but retains its original number. The new style bracket includes the axial correcting plate mounting post. However, in order to maintain units equipped with the old style bracket, the 156397 post, 2191 lock washer and 154244 shoulder nut will be supplied for maintenance.

Page 2-17

(A) The ribbon drive arm (formerly 156431) has been redesigned and has been assigned part number 162347. When it is necessary to replace an old style drive arm a 154325 modification kit to provide an adjustable ribbon drive arm should be ordered instead.

(B) The 156414 mounting plate has been redesigned but retains its original number. The new style plate includes the drive arm spring mounting post. This post replaces the 159993 spring bracket which is no longer used but will be supplied for maintenance.

MODIFICATION KITS

Kit Number	Part Number	Description	Quantity
163415	Modification Kit to convert an LPR22ARC (28C) to LPR22ARD (28E) or an LPR23ARC (28D) to LPR23ARD (28F)		
	156357	Typewheel (Arrangement ARD)	1
	153008	Plate, Identification (Stamped 28E)	1
	153008	Plate, Identification (Stamped 28F)	1
163416	Modification Kit to convert an LPR22ARD (28E) to LPR22ARC (28C) or an LPR23ARD (28F) to LPR23ARC (28D)		
	156361	Typewheel (Arrangement ARC)	1
	153008	Plate, Identification (Stamped 28C)	1
	153008	Plate, Identification (Stamped 28D)	1
163417	Modification Kit to convert LPR22ARC (28C) to LPR4AWA (28A) or an LPR23ARC (28D) to LPR7AWA (28B)		
	156356	Typewheel (Arrangement AWA)	1
	153008	Plate, Identification (Stamped 28A)	1
	153008	Plate, Identification (Stamped 28B)	1

NUMERICAL INDEX

Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
224M	Coil, Magnet 2-28, 2-36	55090	Spring, Switch Lever 2-20	110879	Spring 2-8, 2-11, 2-18
252M	Coil, Feed-out Magnet 2-21	60669	Spring 2-38	111017	Screw (6-40 x 5/16 Fil) 2-18
254M	Coil, Selector Magnet 2-15	70873	Spring 2-27, 2-28	111410	Washer, Flat 2-2
1036	Nut (6-40) 2-6	71073	Washer, Flat 2-24	111767	Washer, Flat 2-20
1156	Screw (2-56 x 9/16 Fil) 2-24	71437	Washer, Flat 2-7	111777	Connector, Receptacle 2-23
1256	Screw (6-40 Set) 2-19	71681	Spool, Ribbon 2-17	112626	Nut (10-32 Hex) 2-9, 2-14, 2-41
2034	Washer, Flat 2-14, 2-28, 2-30, 2-38	73175	Washer, Lock 2-19, 2-32, 2-37	112634	Spring, Arm Assembly 2-12, 2-22
2191	Washer, Lock 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21, 2-22, 2-25, 2-26, 2-27, 2-28, 2-30, 2-32, 2-36, 2-37, 2-38, 2-40, 2-41	74059	Screw (6-40 x 7/32 Hex) 2-30	112636	Spring, Check Pawl Clock 2-20
2199	Nut (7/16-32 Hex) 2-9, 2-41	74283	Washer, Spring 2-13	112967	Washer, Spacer 2-26
2407	Washer, Lock 2-9, 2-41	74553	Wick, Oil 2-41	113039	Post, Spring 2-38
2438	Washer, Flat 2-15	74727	Terminal 2-22	115122	Washer, Felt 2-9, 2-41
2481	Washer, Flat 2-22, 2-29	74728	Terminal 2-21	115134	Washer, Felt 2-10
2539	Nut (3/8-32) 2-19 2-32, 2-37	76422	Spring 2-33, 2-38	115221	Washer, Felt 2-32, 2-37
2669	Washer, Lock 2-3, 2-13	76800	Spring, Release 2-2	117087	Screw, Shoulder (6-40) 2-10
3598	Nut (6-40) 2-2, 2-3, 2-5, 2-6, 2-7, 2-9, 2-10, 2-11, 2-13, 2-14, 2-17, 2-18, 2-20, 2-21, 2-25, 2-26, 2-28, 2-30, 2-31, 2-36, 2-38, 2-41	78533	Spring 2-14, 2-31, 2-36	119467	Insulator 2-21
3599	Nut (4-40 Hex) 2-2, 2-5, 2-8, 2-10, 2-11, 2-14, 2-15, 2-16, 2-18, 2-19, 2-28, 2-31, 2-36	80755	Bushing 2-21, 2-22, 2-30	119647	Ring, Retaining 2-6, 2-20
3603	Nut (1/4-32 Hex) 2-26	80833	Guard 2-24	119648	Ring, Retaining 2-5, 2-6, 2-13, 2-27, 2-28, 2-33, 2-38, 2-40
3606	Nut (6-40 Hex) 2-18	81726	Terminal 2-24, 2-30	119649	Ring, Retaining 2-6, 2-9, 2-10, 2-12, 2-17, 2-20, 2-21, 2-22, 2-28, 2-31, 2-32, 2-33, 2-36, 2-37, 2-38, 2-41
3624	Washer, Flat 2-21	81778	Screw (4-40 x 1/4 Fil) 2-15	119650	Ring, Retaining 2-7, 2-17, 2-18
3640	Washer, Lock 2-2, 2-3, 2-4, 2-8, 2-9, 2-10, 2-12, 2-18, 2-19, 2-20, 2-21, 2-22, 2-26, 2-28, 2-30, 2-31, 2-32, 2-33, 2-35, 2-36, 2-37, 2-38, 2-41	82392	Shim (.004") 2-3	119651	Ring, Retaining 2-2, 2-9, 2-11, 2-12, 2-18, 2-20, 2-21, 2-27, 2-28, 2-31, 2-41
3646	Washer, Lock 2-25	82463	Spring 2-19, 2-31, 2-36	119652	Ring, Retaining 2-2, 2-3, 2-6, 2-7, 2-13, 2-20, 2-31, 2-36, 2-38
3650	Washer, Flat 2-28	82474	Terminal 2-23, 2-28, 2-29	119653	Ring, Retaining 2-9, 2-17, 2-19, 2-20, 2-41
3870	Spring, Correcting Drive Link 2-18	82547	Insulator 2-21, 2-24, 2-30	119656	Ring, Retaining 2-19, 2-32, 2-37
4703	Spring 2-31, 2-36	82548	Insulator 2-21, 2-22, 2-24, 2-30	121100	Spring, Arm Extension and Function Blade 2-24
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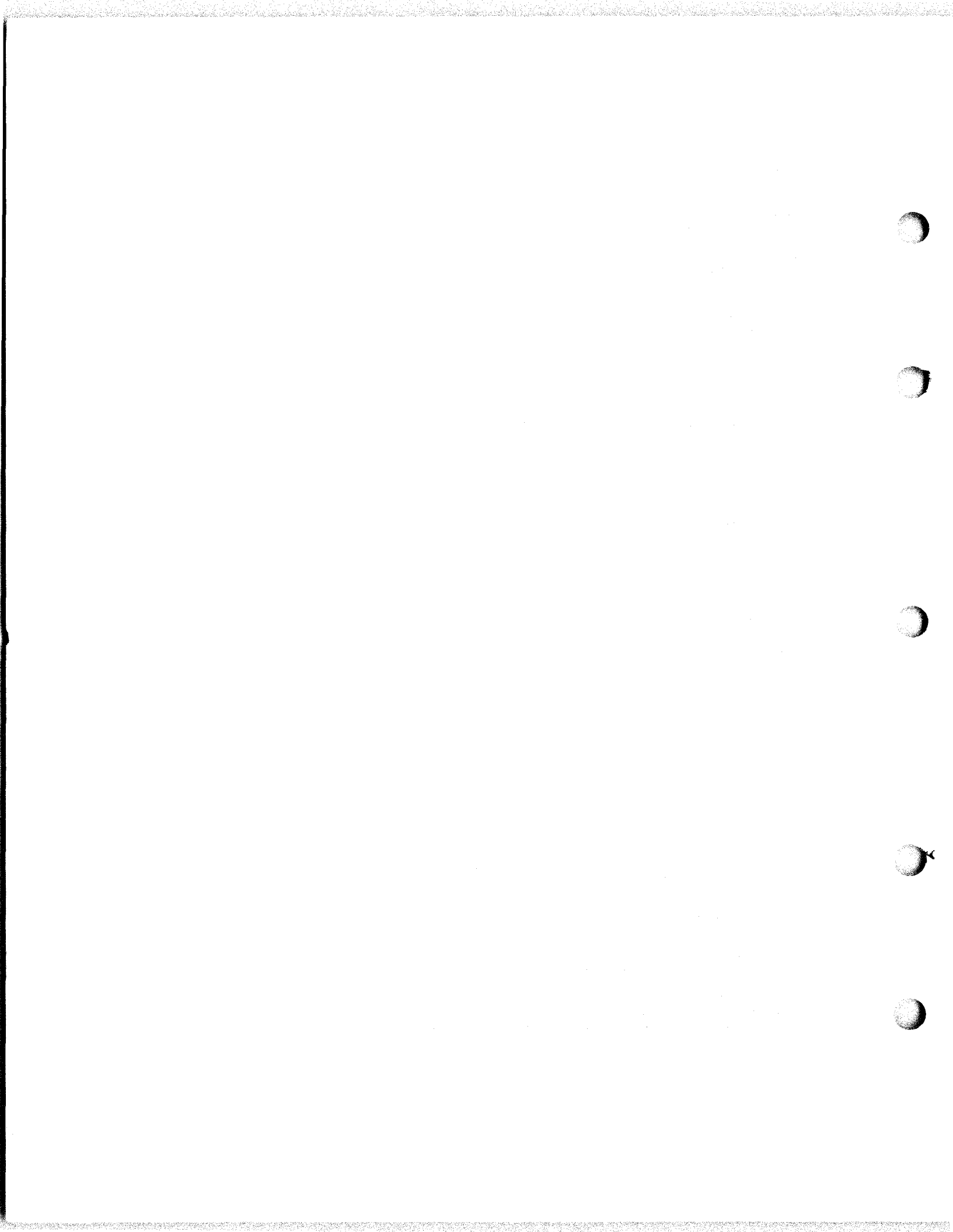
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159434	Plate, Lifter Mounting 2-18	159579	Bail, Contact Actuating (Rear) 2-22	159961	Arm, Eccentric 2-28
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159441	Guide, Bell Crank 2-2	159601	Bracket, Spring 2-22	159965	Arm, w/Post, Adjusting 2-28
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159448	Crank, Bell (No. 2) 2-12	159606	Pawl, Metering Check (Inner Ratchet) 2-20	159974	Screw, Eccentric 2-28
159450	Crank, Bell (No. 3 & 5) 2-12	159608	Plate, Check Pawl Mounting (w/Stud) 2-20	159975	Bail, Armature 2-28
159459	Spring, No. 5 Pulse Beam 2-16	159613	Arm, Non-Interfering Clamp 2-19	159976	Armature 2-28, 2-36
159460	Link, Toggle 2-12	159614	Arm, Kick-out (w/Shaft) 2-20	159977	Hinge 2-28, 2-36
159467	Holder, Wick 2-14	159615	Arm, Latch (w/Hub) 2-20	159978	Shaft 2-28, 2-36
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159470	Shaft, Lock Arm 2-12	159617	Roller 2-20	159980	Post, Spring 2-28
159471	Crank, Bell (Letters-Figures) 2-12	159621	Screw, Shoulder (6-40) 2-5	159981	Spacer, Tape Guide 2-5
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159480	Bushing 2-9, 2-41	159626	Extension, Correcting Drive Link 2-18	159995	Arm, Lifter (w/Stud) 2-18
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159490	Plate Assembly, Transfer 2-16	159642	Shim 2-8	160672	Stud, Mounting 2-24
159491	Plate Assembly, Transfer 2-16	159643	Shim 2-11	160673	Shaft, Feed Wheel 2-24
159492	Plate Assembly, Transfer 2-16	159653	Blade, Signal Bell Function 2-24	160674	Nut, (6-40 SP.) 2-24, 2-27
159493	Plate Assembly, Transfer 2-16	159654	Latch, Printing 2-18	160692	Armature 2-21
159494	Plate Assembly, Transfer 2-16	159655	Cable Assembly 2-23	160694	Latch Assembly, Feed-out 2-20
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159504	Spacer, Transfer 2-16	159880	Slide, Keyboard Selector 2-26	160998	Arm, Cam Follower 2-22
159508	Lever, Transfer (No. 1 and 2)	159885	Gear, Clutch Driven Helical (28T) 2-26	161100	Spring, Contact 2-22
159512	Link, Printing Trip 2-18	159886	Gear, Clutch Driven Helical (49T) 2-26	161102	Spring, Contact 2-22
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159516	Blade, Function (Letters) 2-12	159889	Gear, Driven Helical (49T) 2-26	161108	Stud 2-5
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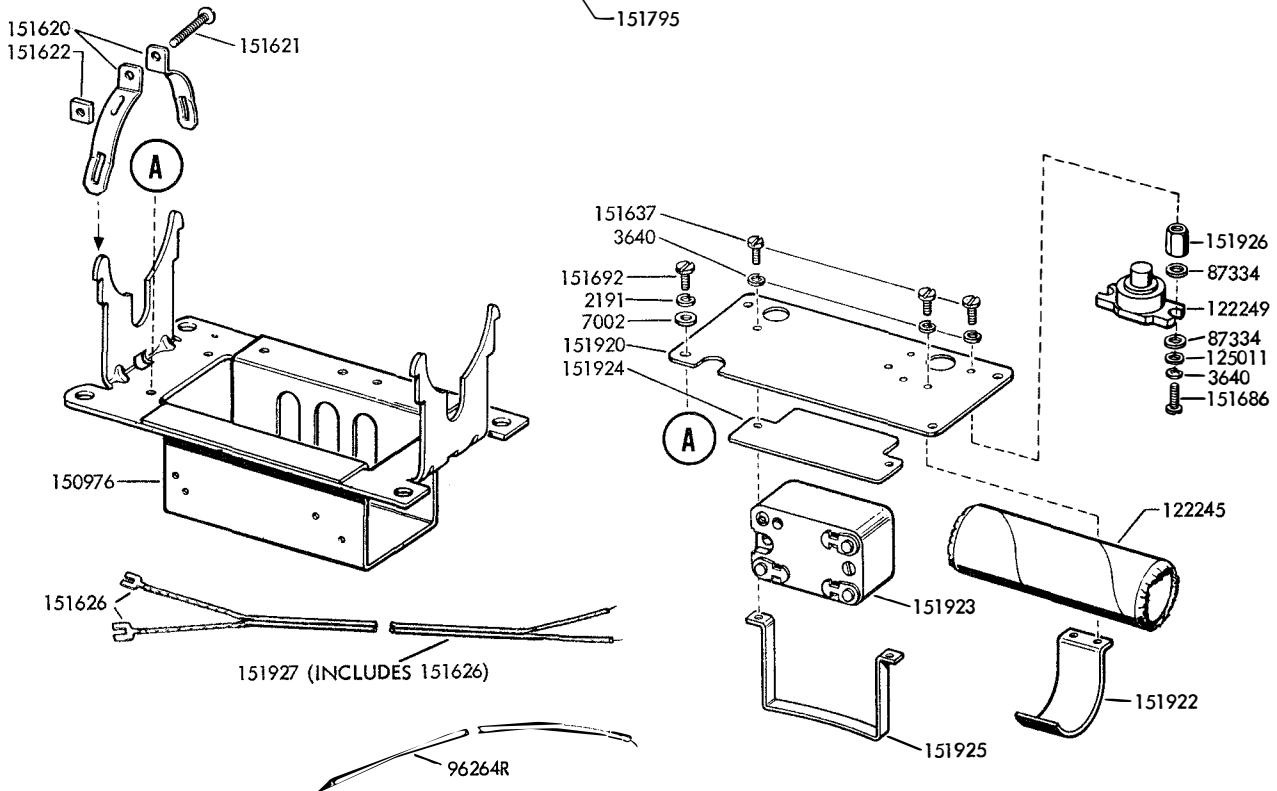
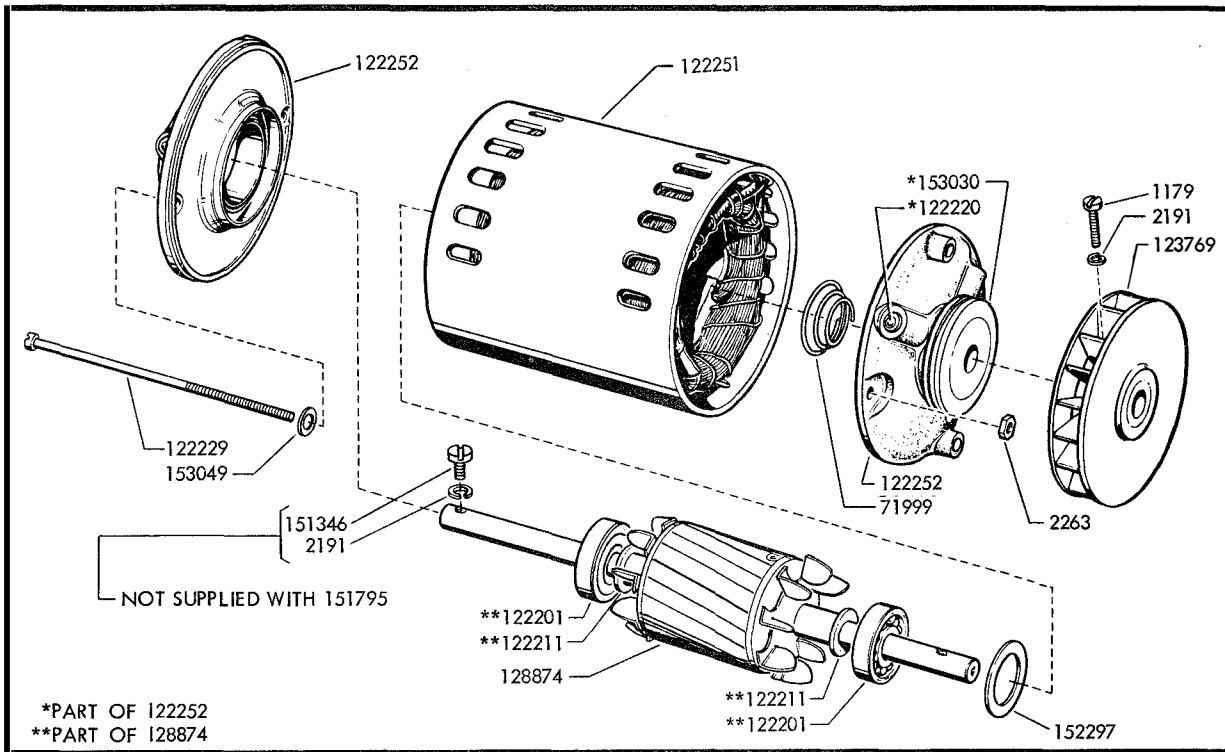
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161444	Detent, Rotary Shaft 2-8	162768	Latch w/Bushing 2-33, 2-38	163961	Cable Assembly 2-34
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162065	Cable Assembly 2-29	162778	Lever w/Hub 2-31, 2-36	164963	Modification Kit 2-5
162066	Cable Assembly, Feed-out 2-21	162780	Shaft 2-31, 2-36	170219	Stud, Die Wheel 2-6
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162305	Cable Assembly 2-22	162803	Shaft, Drive Link 2-31	172638	Screw (6-40 x 9/32 Hex) 2-5
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162750	Lever w/Hub 2-32, 2-37	163255	Nut, Shoulder (6-40) 2-31, 2-36	173756	Lever, Print Hammer 2-9
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1167B

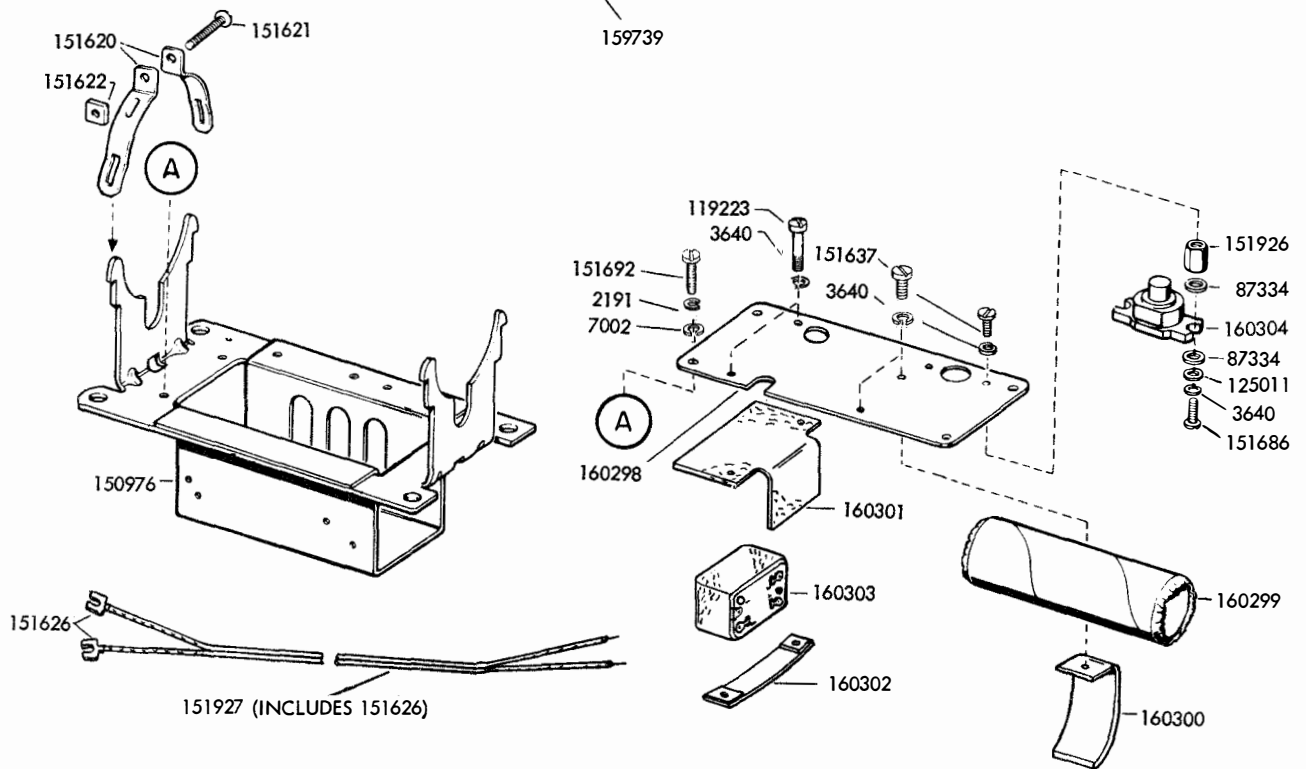
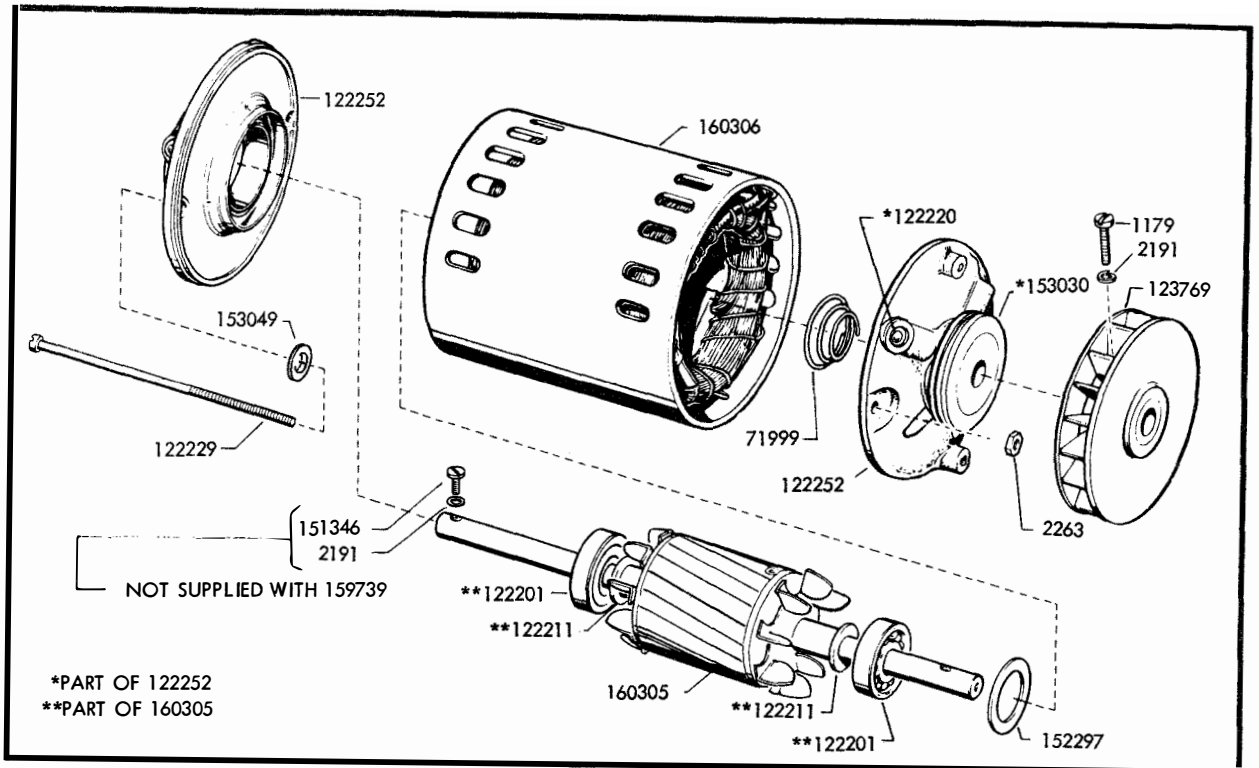
SECTION 3

MOTOR UNIT



151795 Motor, Synchronous (1/20 H.P., 115V/1/60 Cycle A.C. General Electric Model 55C19L63)

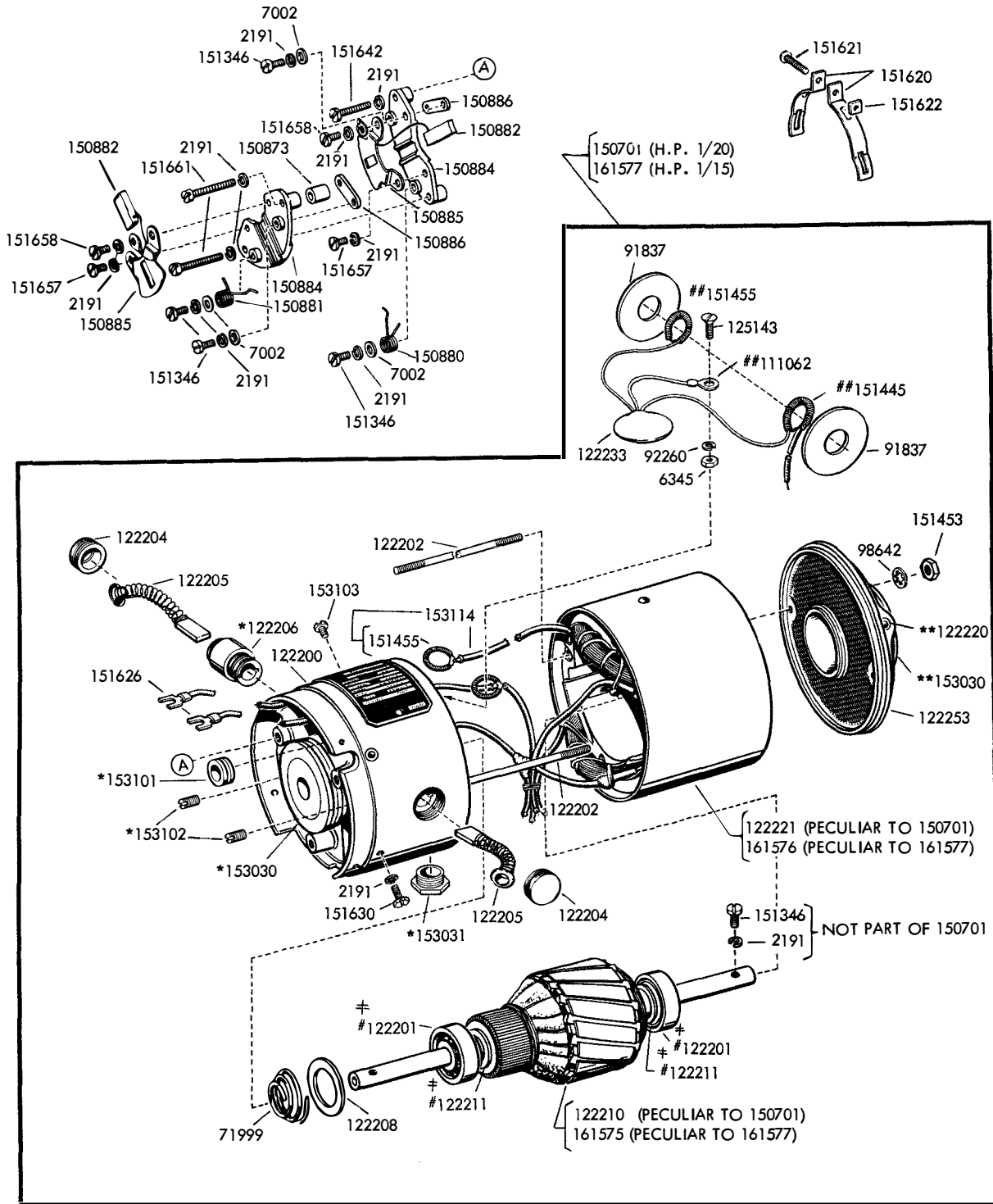
FIGURE 3-1. LMU3 SYNCHRONOUS MOTOR UNIT



159739 Motor, Synchronous (1/12 H.P., 115V/1/60 Cycle A.C. General Electric Model 55C19LG10)

FIGURE 3-2. LMU12 SYNCHRONOUS MOTOR UNIT (HEAVY DUTY)

150701 Motor, Series (1/20 H.P., 115V/1/60 Cycle A.C. General Electric Model 5PA664Y2)
 161577 Motor, Series (1/15 H.P., 115V/1/60 Cycle A.C. General Electric Model 5PA664Y3)



*PART OF 122200 #PART OF 122210 †PART OF 161575
 **PART OF 122253 ##PART OF 122233

FIGURE 3-3. SERIES MOTOR
 (Part of LMU4, 6 And 14)

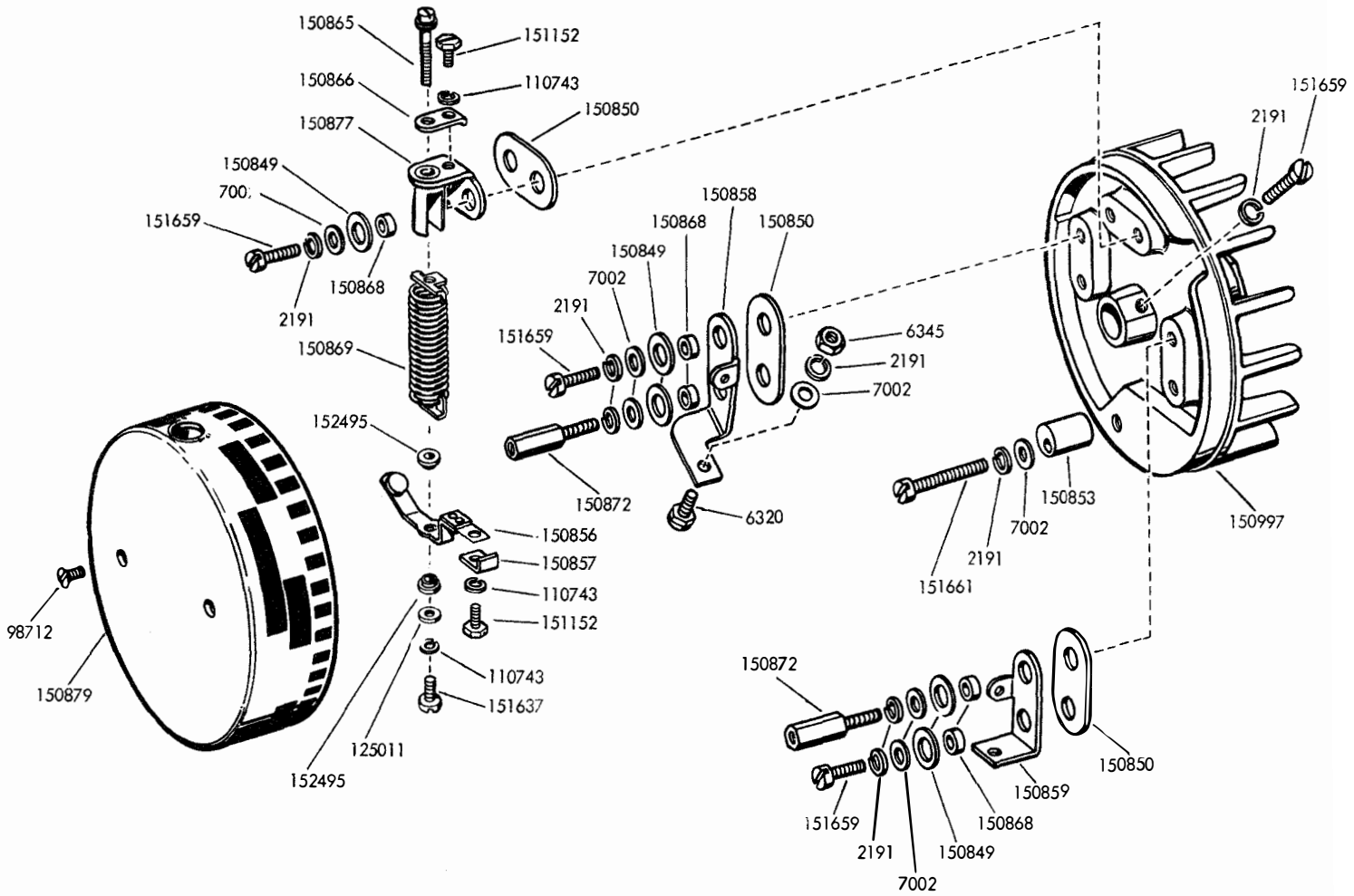


FIGURE 3-4. 150845 GOVERNOR ASSEMBLY

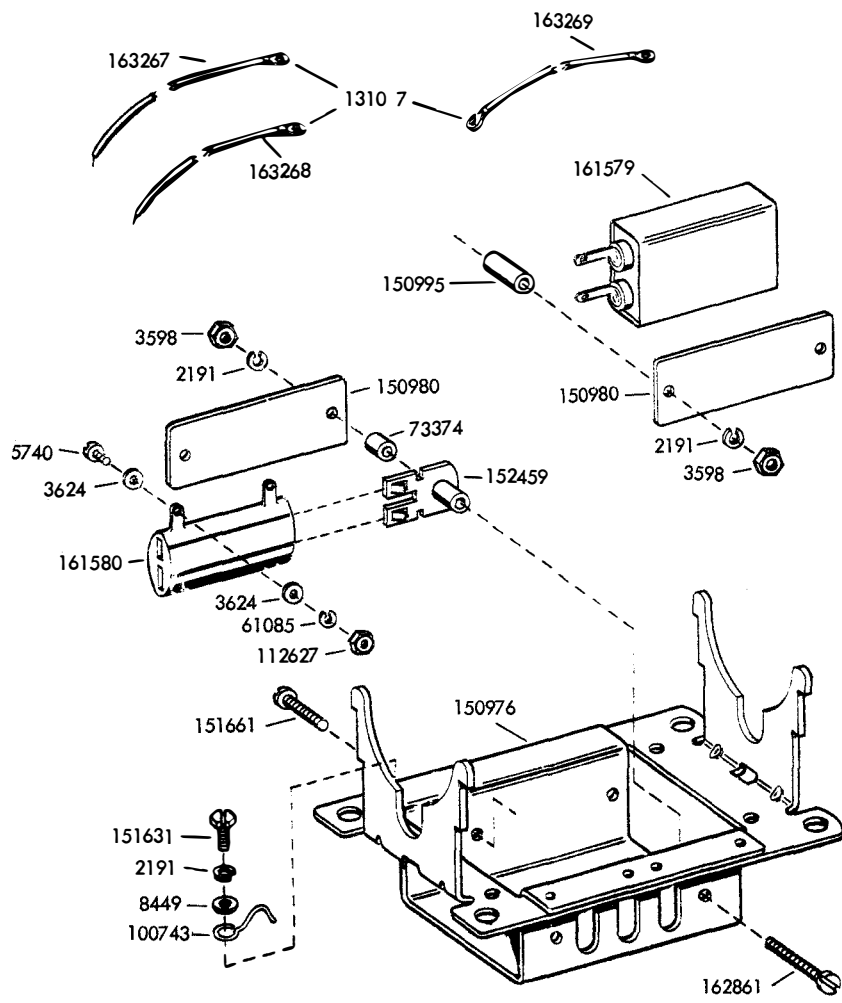
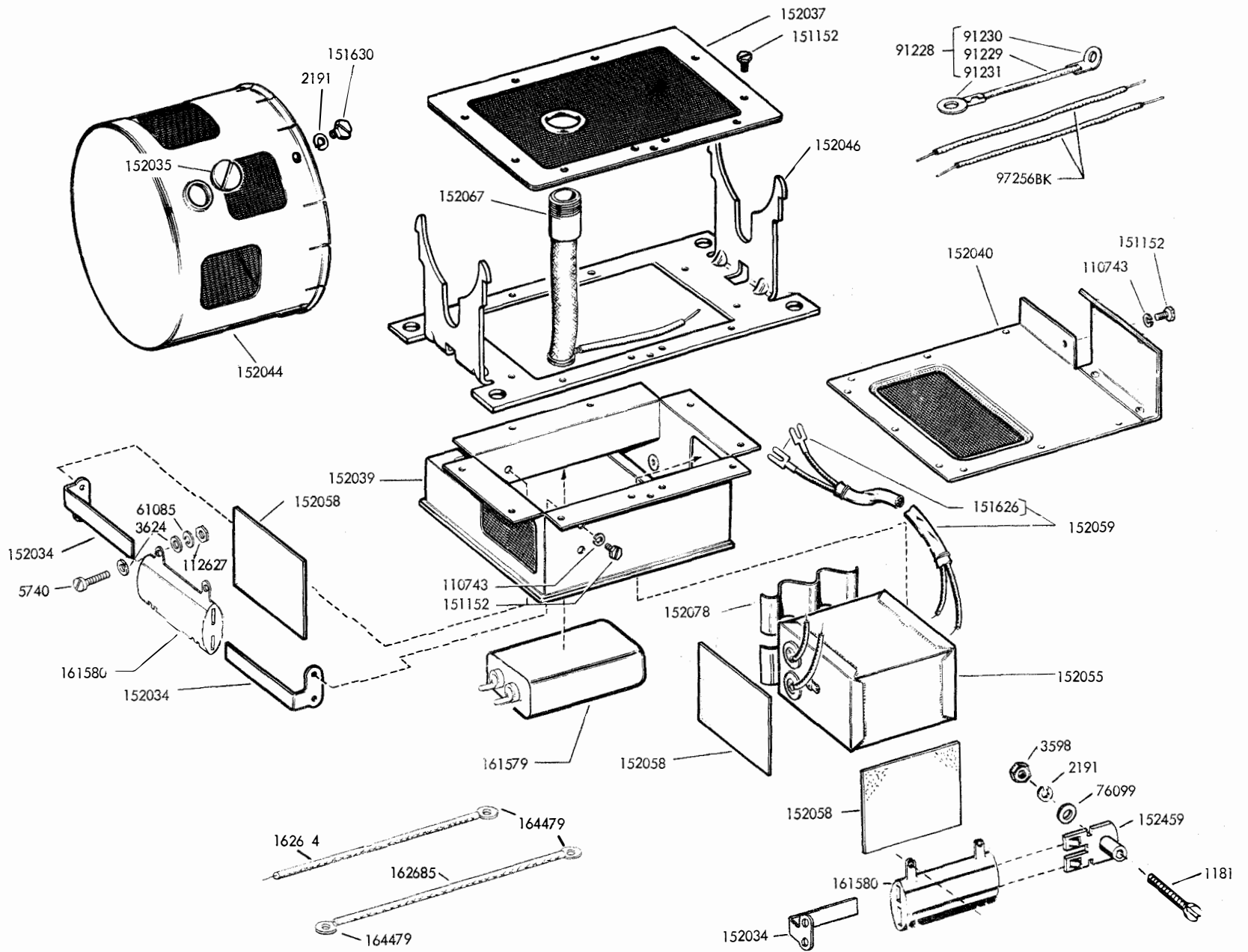


FIGURE 3-5. SERIES MOTOR MOUNTING PARTS

FIGURE 3-6. SERIES MOTOR MOUNTING PARTS WITH RF SUPPRESSION



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122208	Washer, Flat 3-4	151637	Screw (4-40 x 1/4 Fil) 3-2,3-3,3-5	161575	Armature, Motor 3-4
122210	Armature, Motor 3-4	151642	Screw (6-40 x 3/4 Fil) 3-4	161576	Stator 3-4
122211	Washer, Pull 3-2,3-3,3-4	151657	Screw (6-40 x 1/4 Fil) 3-4	161577	Motor, Series 3-4
122220	Oiler, Ball 3-2,3-3,3-4	151658	Screw (6-40 x 5/16 Fil) 3-4	161579	Capacitor (1/2 MFD) 3-6,3-7
122221	Stator 3-4	151658	Screw (6-40 x 5/16 Fil) 3-4	161580	Resistor (500 OHM) 3-6,3-7
122229	Bolt, Clamping (8-32) 3-2,3-3	151659	(6-40 x 1/2 Fil) 3-5	162684	Wire Assembly (2-3/4" Lg.) 3-7
122233	Capacitor Assembly 3-4	151661	Screw (6-40 x 1 Fil) 3-4,3-5,3-6	162685	Wire Assembly (4" Lg.) 3-7
122245	Capacitor 3-2	151686	Screw (4-40 x 3/8 Fil) 3-2,3-3	162861	Screw (6-40 x 1-5/16 Fil) 3-6
122249	Switch, Thermostatic 3-2	151692	Screw (6-40 x 3/16 Fil) 3-2,3-3	163267	Jumper W/Terminal (2-3/4" Lg.) 3-6
122251	Stator, Motor 3-2	151795	Motor, Synchronous 3-2	163268	Jumper W/Terminal (6-1/2" Lg.) 3-6
122252	Shield Assembly, End 3-2, 3-3			163269	Jumper W/Terminals (2" Lg.) 3-6
122253	Shield Assembly, End 3-4			164479	Terminal 3-7
123769	Fan, Motor 3-2,3-3				
125011	Washer, Flat 3-2,3-3,3-5				
125143	Screw (6-32 x 5/16 Flat) 3-4				

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SECTION 4

COVER, TABLE AND APPARATUS CABINET

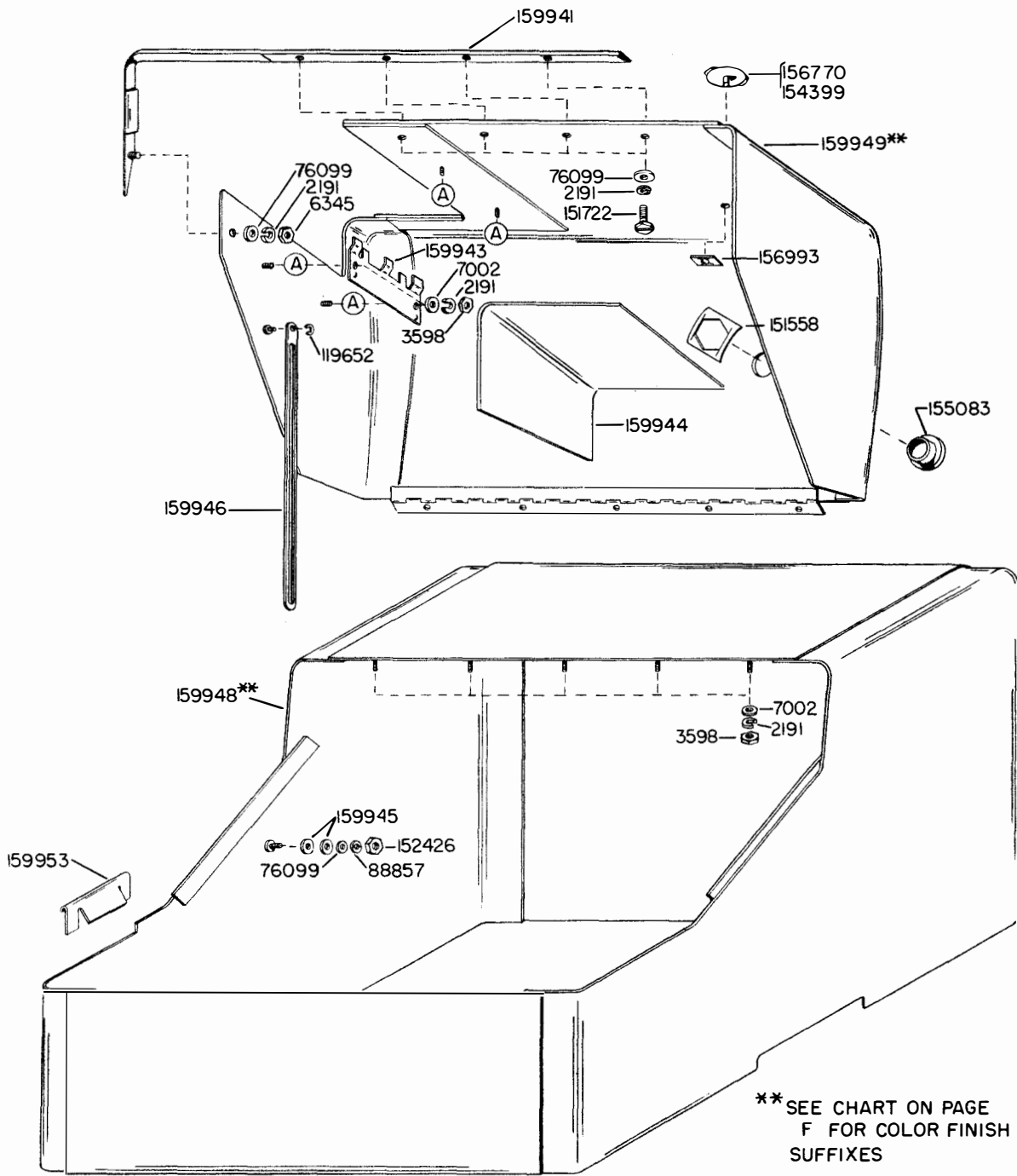
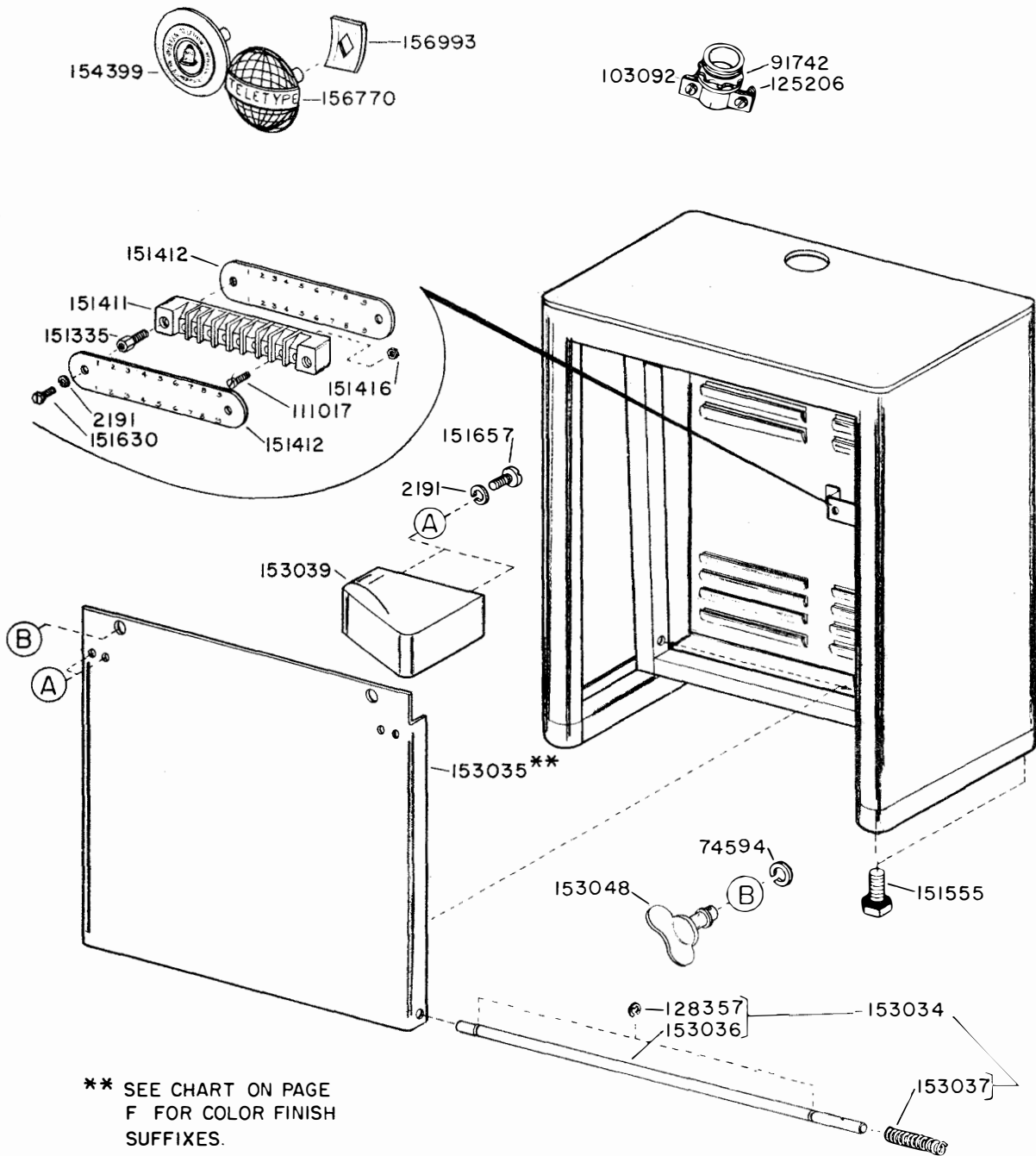
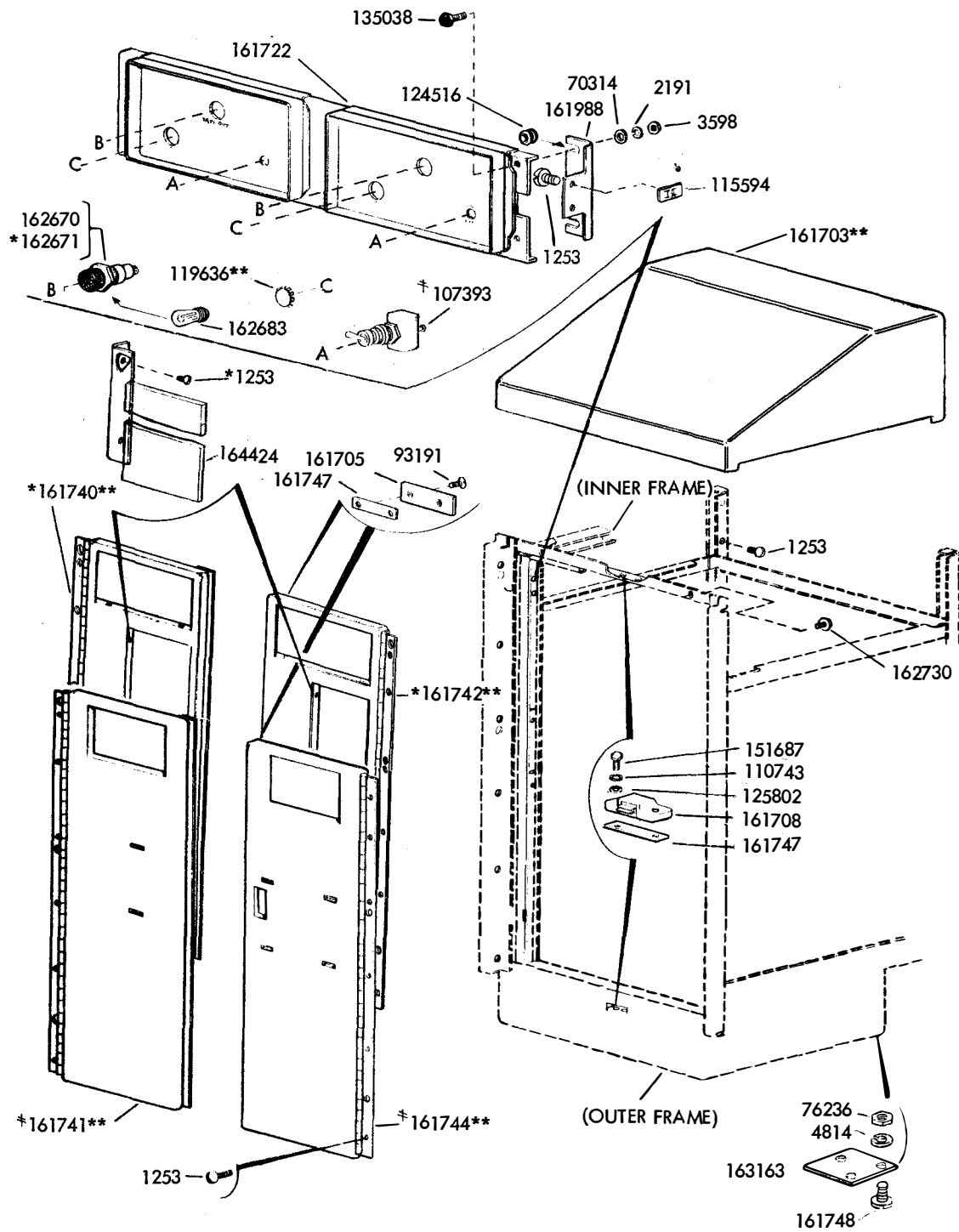


FIGURE 4-1 REPERFORATOR COVER (LRC)



** SEE CHART ON PAGE F FOR COLOR FINISH SUFFIXES.

FIGURE 4-2. REPERFORATOR TABLE (LT)



* PECULIAR TO MONITORING CABINET
 # PECULIAR TO RECEIVING CABINET

** SEE CHART ON PAGE F FOR
 COLOR FINISH SUFFIXES.

FIGURE 4-3. FRONT DOORS AND PANEL ASSEMBLY

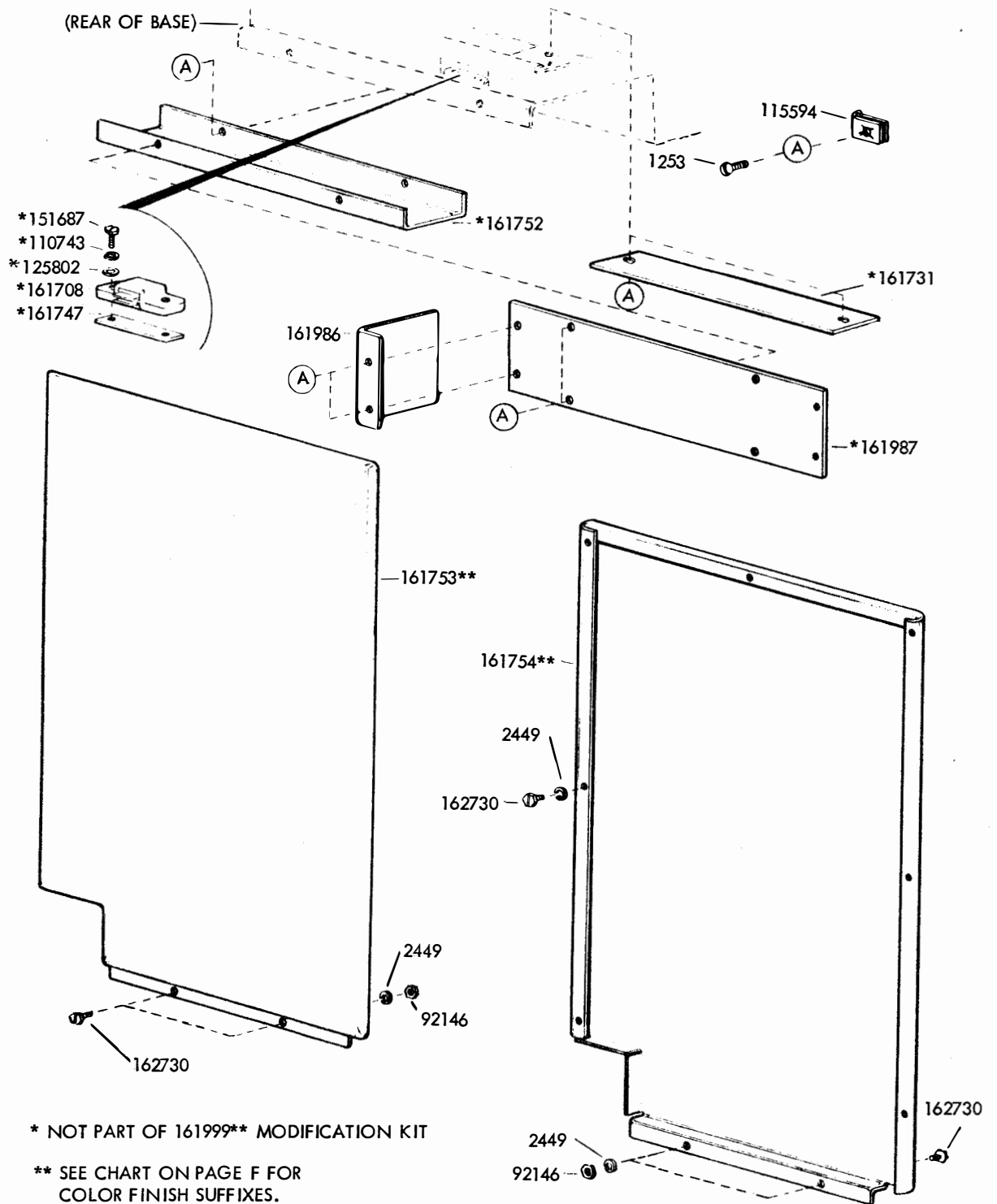
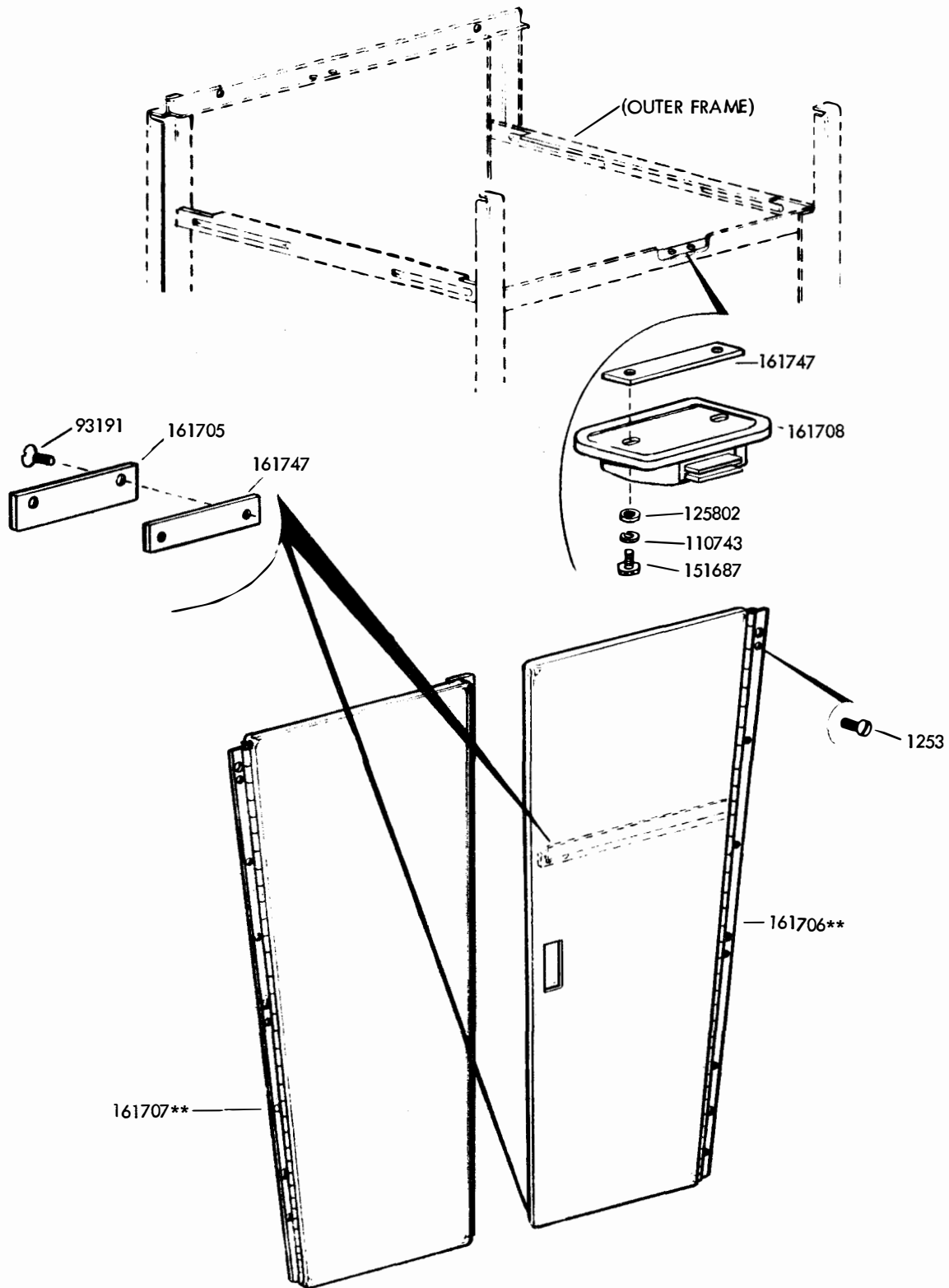


FIGURE 4-4. 161999** MODIFICATION KIT TO PROVIDE END ENCLOSURES



** SEE CHART ON PAGE F FOR
COLOR FINISH SUFFIXES.

FIGURE 4-5. REAR DOORS AND LATCH MECHANISM

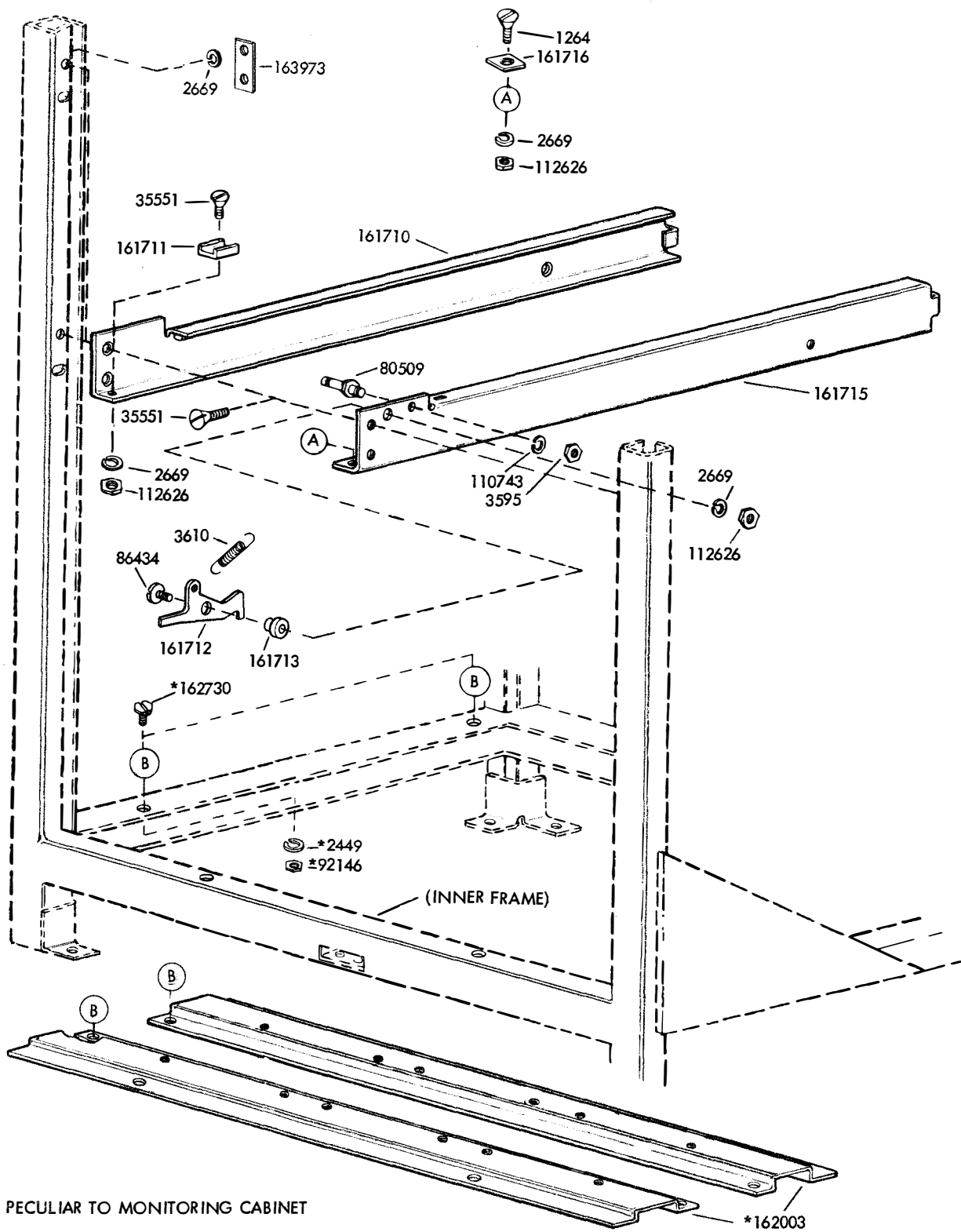


FIGURE 4-6. CHANNEL ASSEMBLIES

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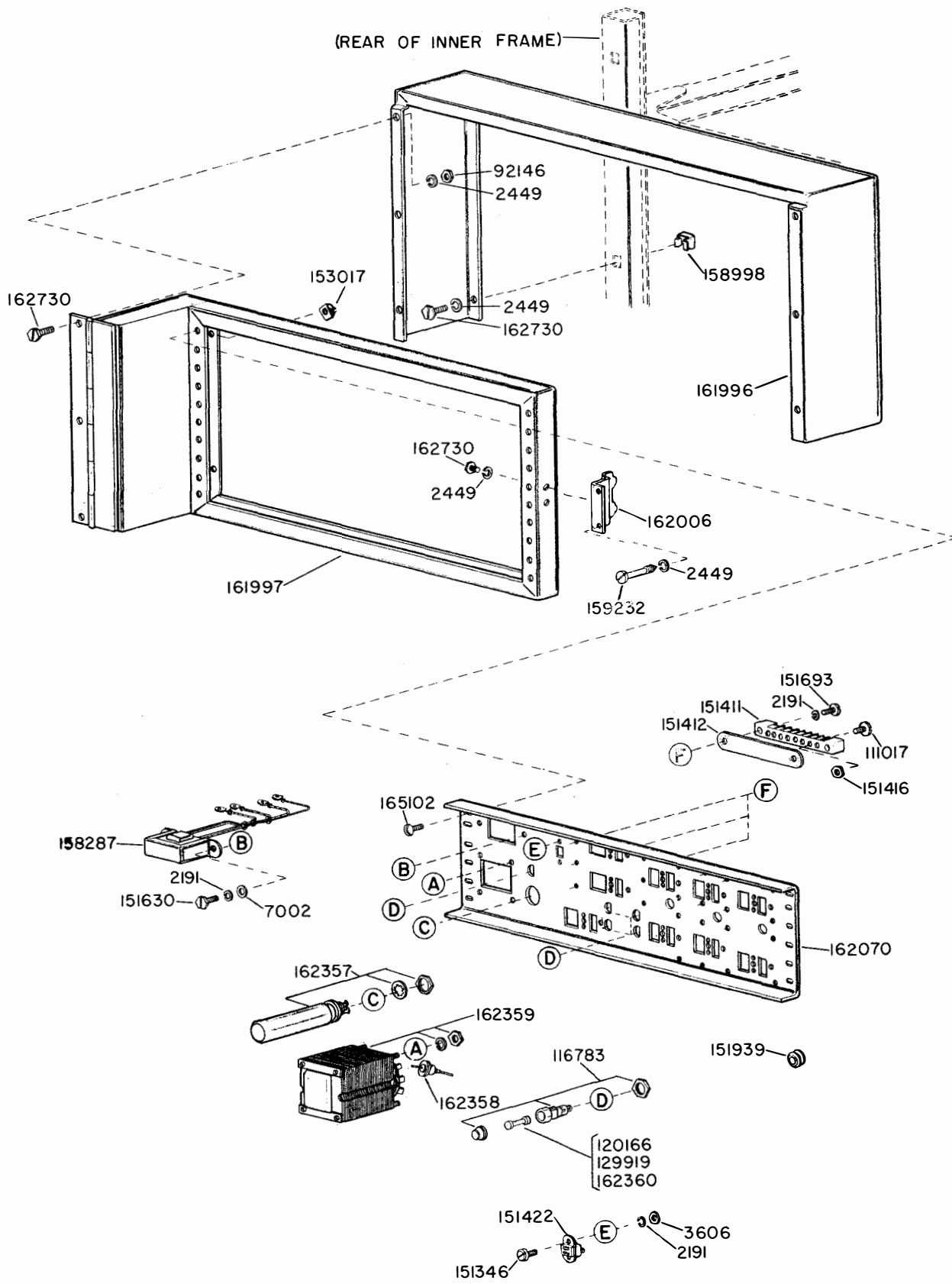
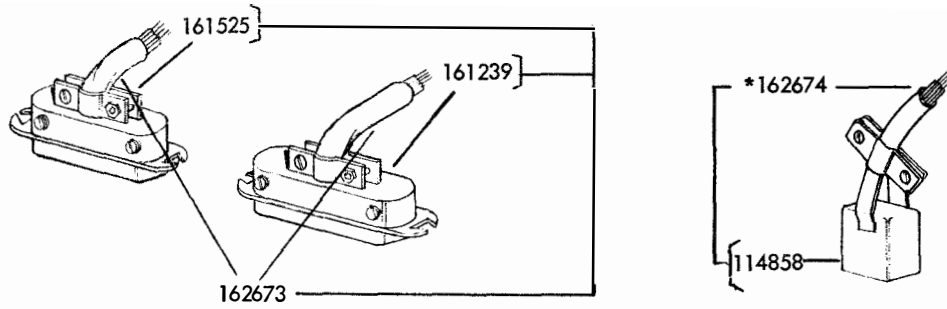


FIGURE 4-7. ELECTRICAL COMPONENTS



NOTE: 161525 (14 POINT CONNECTOR-MATES WITH 161526)
 161239 (36 POINT CONNECTOR-MATES WITH 161238)

*PECULIAR TO MONITORING CABINET

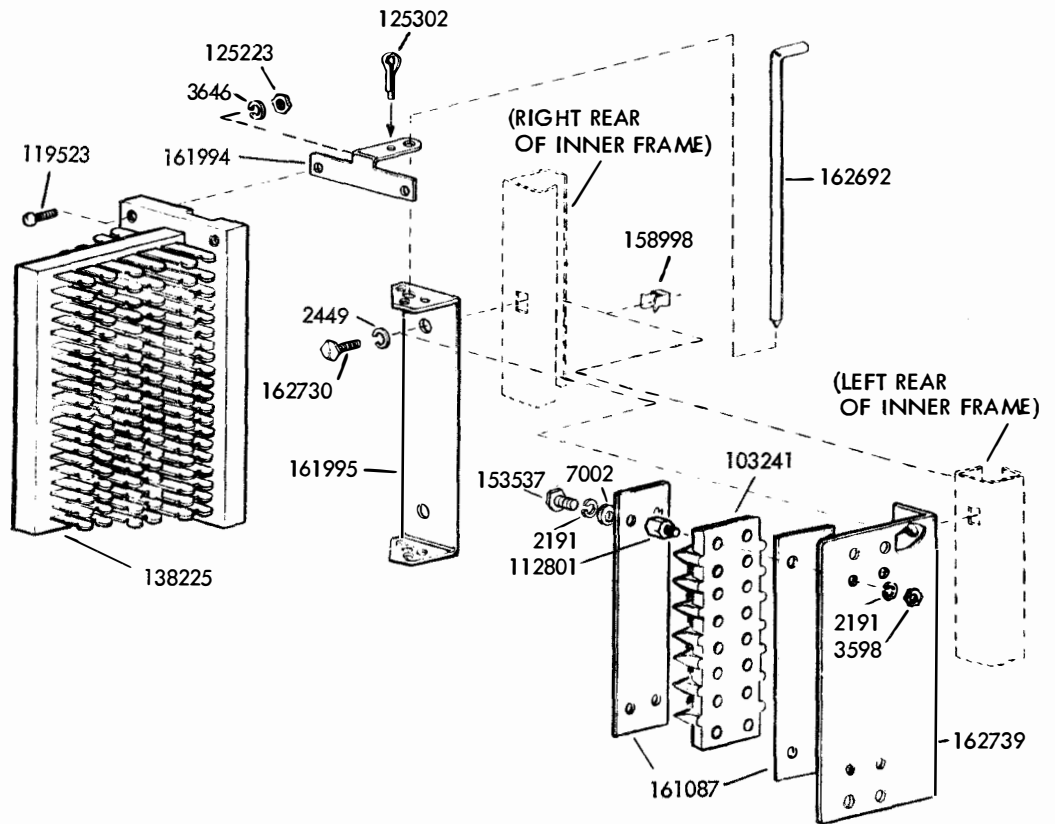


FIGURE 4-8. TERMINAL BLOCKS AND CABLE

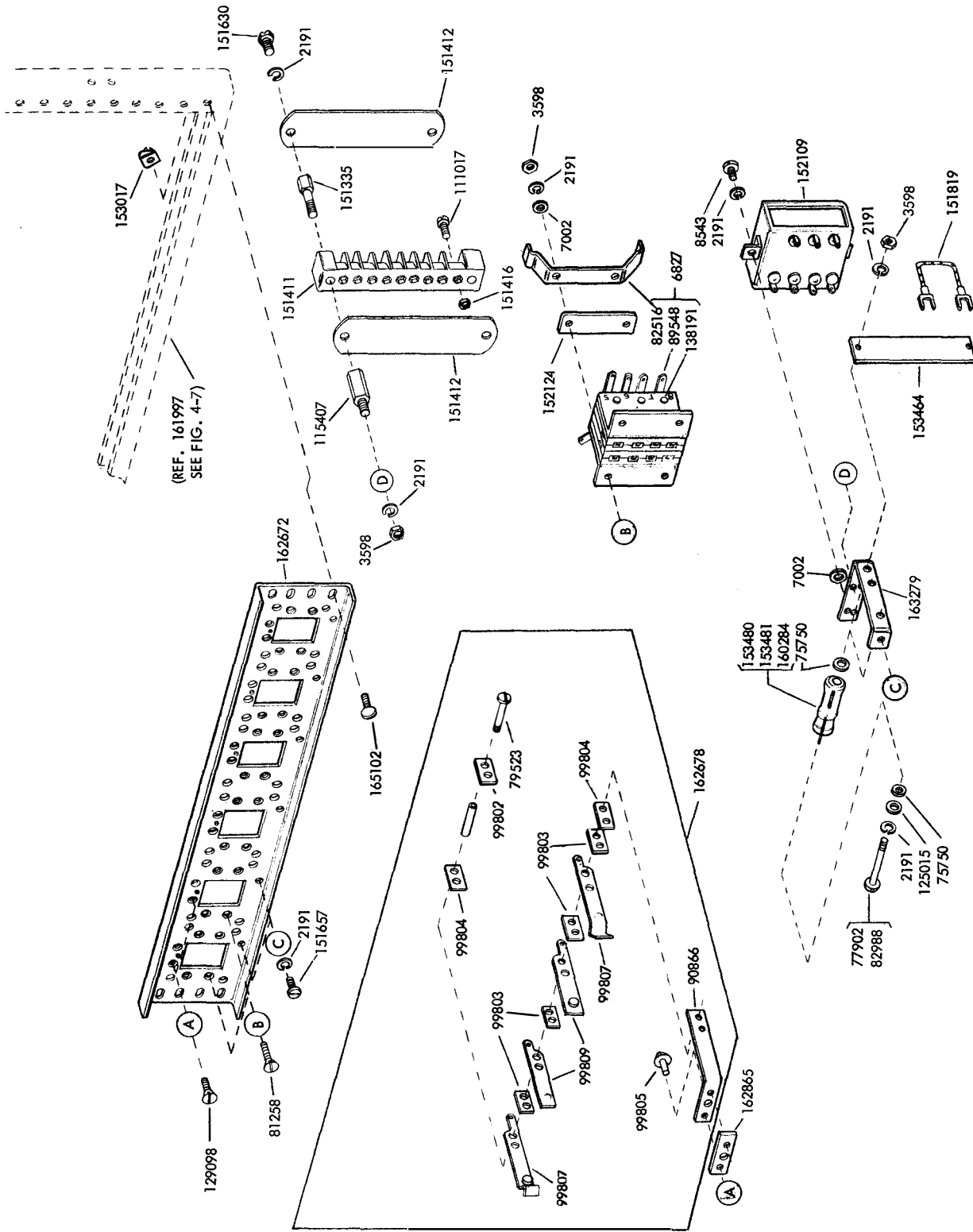
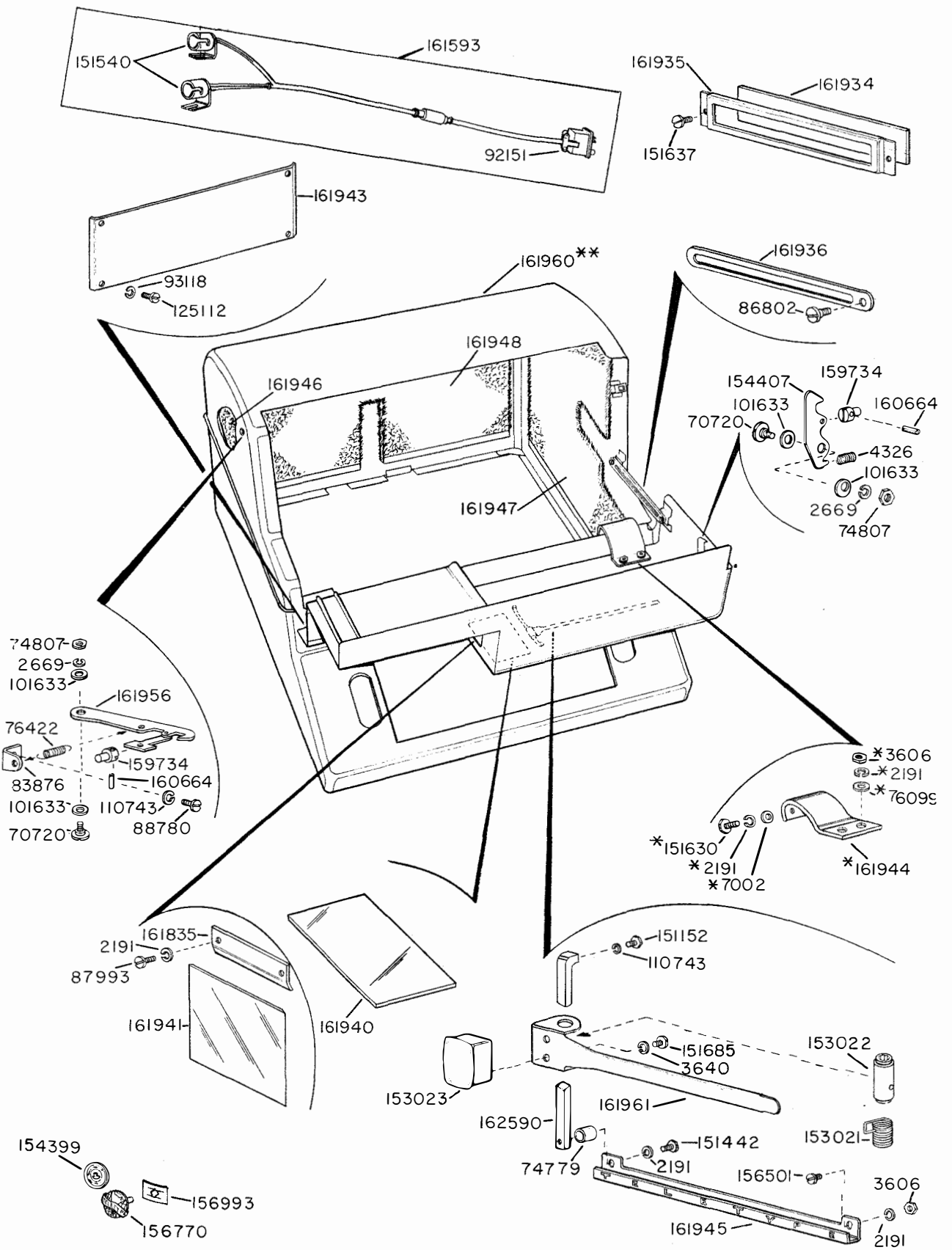
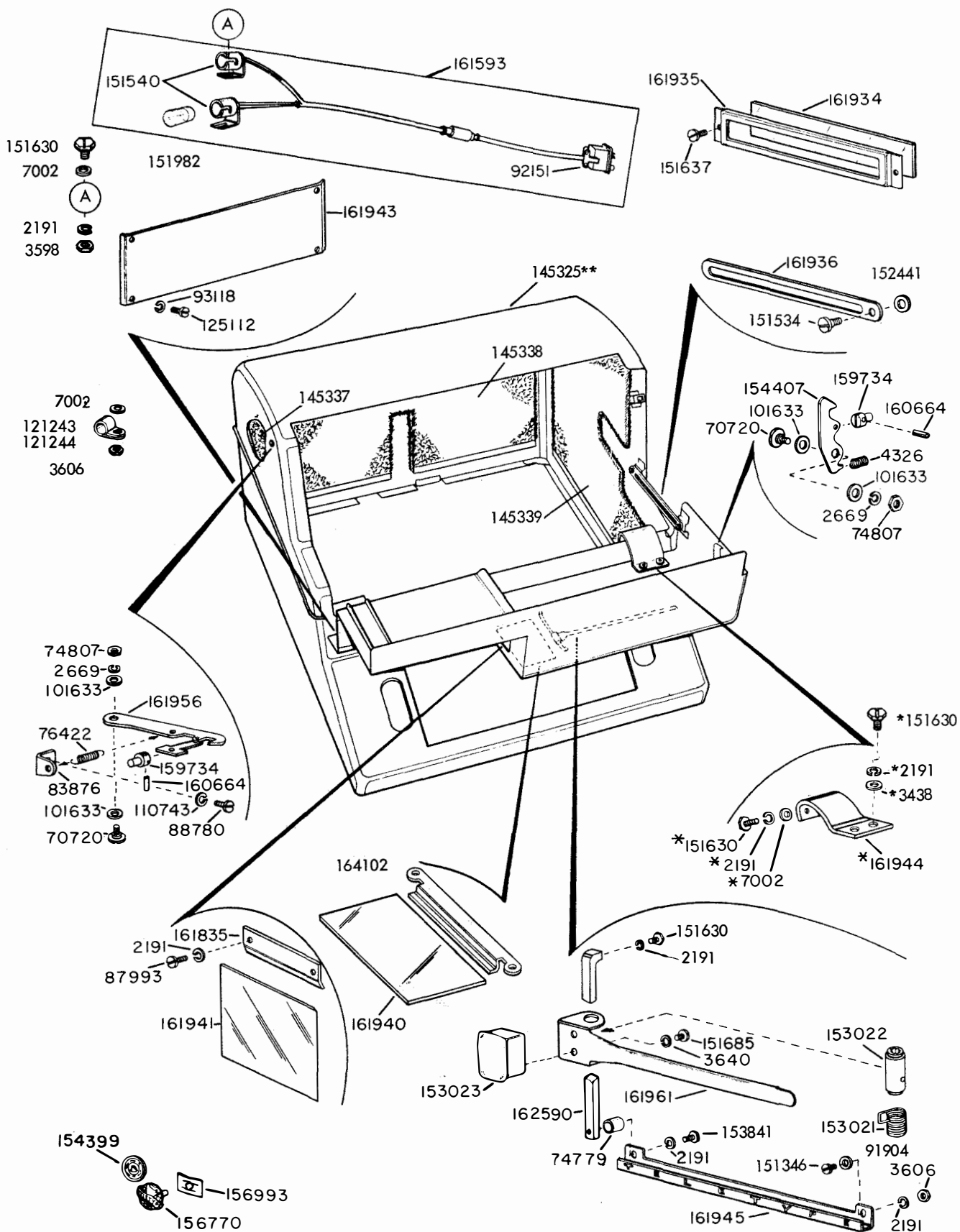


FIGURE 4-9. LINE RELAY MOUNTING ASSEMBLY



SEE COLOR CHART ON PAGE F
* PART OF 161960

FIGURE 4-10 TYPING REPERFORATOR COVER (LSRC)



**SEE CHART ON PAGE F FOR COLOR FINISH SUFFIX

*PART OF 145325

FIGURE 4-11. TAPE PRINTER COVER (LRSC)

NUMERICAL INDEX

Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
1253	Screw (8-32 x 3/8 Rd) 4-4, 4-5, 4-6	121243	Clamp, Cable 4-12	159953	Plate 4-2
1264	Screw (10-32 x 1/2 Fil) 4-7	121244	Clamp, Cable 4-12	160284	Resistor 4-10
2191	Washer, Lock 4-2, 4-3, 4-4, 4-8, 4-9, 4-10, 4-11, 4-12	124516	Grommet 4-4	160664	Pin, Roll 4-11, 4-12
2449	Washer, Lock 4-5, 4-7, 4-8, 4-9	125015	Washer, Flat 4-10	161087	Insulator 4-9
2669	Washer, Lock 4-7, 4-11, 4-12	125038	Screw (6-40 x 9/16 Hex) 4-4	161239	Connector 4-9
3438	Washer, Flat 4-12	125112	Screw (12-56 x 1/8 Fil) 4-11, 4-12	161525	Connector 4-9
3598	Nut (6-40 Hex) 4-2, 4-4, 4-7, 4-9, 4-10, 4-12	125206	Screw (6-32 x 5/8 Fil) 4-3	161593	Cable Assembly 4-11, 4-12
3606	Nut (6-40 Hex) 4-8, 4-11, 4-12	125223	Nut (8-32 Hex) 4-9	161703**	Cover 4-4, 4-6
3610	Spring 4-7	125302	Pin 4-9	161705	Strike 4-4, 4-6, 4-10
3640	Washer, Lock 4-11, 4-12	125802	Washer, Flat 4-4, 4-5, 4-6	161706**	Door 4-6, 4-10
3646	Washer, Lock 4-9	128357	Ring, Retaining 4-3	161707**	Door 4-10
4326	Spring 4-11, 4-12	129098	Screw (6-40 x 11/32 Flat) 4-10	161708	Latch 4-4, 4-5, 4-6
4814	Washer, Lock 4-4	138191	Screw (3-48 x 1 Rd) 4-10	161710	Channel 4-7
6345	Nut (6-32 Hex) 4-2	138225	Block 4-9	161711	Block 4-7
6827	Block 4-10	145325	Cover 4-12	161712	Latch 4-7
7002	Washer, Flat 4-2, 4-8, 4-9, 4-10, 4-11, 4-12	145337	Pad, Left Side 4-12	161713	Bushing 4-7
8543	Screw (6-40 x 1/4 Fil) 4-10	145338	Pad, Rear 4-12	161715	Channel 4-7
35551	Screw (10-32 x 3/4 Fil) 4-7	145339	Pad, Right Side 4-12	161716	Block 4-7
70314	Washer, Flat 4-4	151152	Screw (4-40 x 1/4 Hex) 4-11	161722	Panel 4-4
70720	Screw, Shoulder (10-32) 4-11, 4-12	151335	Stud 4-3, 4-9	161731	Plate 4-5
74594	Ring, Retaining 4-3	151346	Screw (6-40 x 3/8 Fil) 4-8, 4-12	161740	Door 4-4
74779	Spacer 4-11, 4-12	151411	Block 4-3, 4-8, 4-10	161741	Door 4-4
74807	Nut (10-32 Hex) 4-11, 4-12	151412	Insulator 4-3, 4-8, 4-10	161742	Door 4-4
75750	Washer, Fiber 4-10	151416	Nut (6-40 Hex) 4-3, 4-8, 4-10	161744	Door 4-4
76099	Washer, Lock 4-2, 4-11	151422	Connector 4-8	161747	Plate 4-4, 4-5, 4-6
76236	Nut (5/16-18 Hex) 4-4	151442	Screw (6-40 x 1/2 Hex) 4-11	161748	Screw (5/16-18 x 5/8 Fil) 4-4
76422	Spring 4-11, 4-12	151534	Screw, Shoulder 4-12	161752	Channel 4-5
77902	Screw (6-40 x 2-1/2 Rd) 4-10	151540	Lampholder 4-11, 4-12	161753	Panel 4-5
79523	Screw (2-56 x 25/32 Fil) 4-10	151555	Foot 4-3	161754	Panel 4-5
80509	Post 4-7	151558	Nut, Speed 4-2	161835	Plate, Clamp 4-11, 4-12
81258	Screw (6-40 x 5/8 Fil) 4-10	151630	Screw (6-40 x 1/4 Hex) 4-3, 4-8, 4-10, 4-11, 4-12	161934	Window 4-11, 4-12
82516	Spring 4-10	151685	Screw (4-40 x 5/16 Fil) 4-11	161935	Frame, Window 4-11, 4-12
82988	Screw (6-40 x 3/8 Rd.) 4-10	151637	Screw (4-40 x 1/4 Fil) 4-11, 4-12	161936	Link 4-11, 4-12
83876	Bracket, Spring 4-11, 4-12	151657	Screw (6-40 x 1/4 Fil) 4-3, 4-10	161940	Window, Front 4-11, 4-12
86434	Screw (1/4-32 x 3/4 Fil) 4-7	151687	Screw (4-40 x 7/16 Fil) 4-5, 4-6	161941	Window, Side 4-11, 4-12
86802	Screw, Shoulder 4-11	151693	Screw (6-40 x 9/16 Fil) 4-8	161943	Plate 4-11, 4-12
87993	Screw (6-40 x 5/32 Fil) 4-11, 4-12	151722	Screw (6-40 x 3/16 Hex) 4-2	161944	Bracket, Single 4-11, 4-12
88780	Screw (4-40 x 3/16 Fil) 4-11, 4-12	151819	Jumper 4-10	161945	Holder, Copy 4-11, 4-12
88857	Washer, Spring 4-2	151939	Grommet, Rubber 4-8	161946	Pad, Left Side 4-11
89548	Spring 4-10	151982	Lamp, 6V. 4-12	161947	Pad, Right Side 4-11
90866	Bracket 4-10	152109	Filter 1-10	161948	Pad, Rear 4-11
91742	Nut, Lock 4-3	152124	Spacer 4-10	161956	Latch Assembly 4-11, 4-12
91904	Washer, Flat 4-12	152426	Nut 4-2	161960**	Cover 4-11
92146	Nut (1/4-20 Hex) 4-5, 4-7, 4-8	152441	Washer, Flat 4-12	161961	Guide, Line 4-11, 4-12
92151	Plug 4-11, 4-12	153017	Nut, Speed (12-24) 4-8, 4-10	161986	Cover 4-5
93118	Washer, Lock 4-11, 4-12	153021	Spring 4-11, 4-12	161987	Plate 4-5
93191	Screw (4-40 x 5/16 Flat) 4-4, 4-6	153022	Bushing, Line Guide 4-11, 4-12	161988	Bracket 4-4
99802	Plate 4-10	153023	Handle, Copyholder 4-11, 4-12	161994	Bracket 4-9
99803	Insulator 4-10	153034	Shaft Assembly 4-3	161995	Bracket 4-9
99804	Insulator 4-10	153035	Panel 4-3, 4-10	161996	Frame 4-8
99805	Plunger 4-10	153036	Shaft 4-3	161997	Frame Mounting 4-8
99807	Spring 4-10	153037	Spring 4-3	161999**	Modification Kit 4-5
99809	Contact Spring Assembly 4-10	153039	Handle 4-3	162003	Channel 4-7
101633	Washer, Spring 4-11, 4-12	153048	Stud 4-3	162006	Bracket 4-8
103092	Connector 4-3	153464	Block 4-10	162070	Plate 4-8
103092	Connector 4-3	153480	Resistor 4-10	162357	Capacitor 4-8
103241	Block 4-9	153481	Resistor 4-10	162358	Diode 4-8
107393	Switch 4-4	153841	Screw (6-40 x 9/16 Hex) 4-12	162359	Transformer 4-8
110743	Washer, Lock 4-4, 4-5, 4-6, 4-7, 4-11, 4-12	154399	Plate, Identification (Bell) 4-2, 4-11, 4-12	162360	Fuse 4-8
111017	Screw (6-40 x 9/16 Fil) 4-3, 4-8, 4-10	154407	Latch 4-11, 4-12	162360	Shaft, Line Guide 4-11, 4-12
112626	Nut (10-32 Hex) 4-7	155083	Lens 4-2	162670	Light Assembly 4-4
114858	Connector 4-9	156501	Screw (6-40 x 7/32 Fil) 4-11	162671	Light Assembly 4-4
115407	Post 4-10	156770	Plate 4-2, 4-3, 4-11, 4-12	162672	Plate, Relay 4-10
115594	Nut, Speed 4-4, 4-5	156993	Nut, Speed 4-2, 4-3, 4-11, 4-12	162673	Cable Assembly 4-9
116783	Holder 4-8	158287	Transformer 4-8	162674	Cable Assembly 4-9
119523	Screw (8-32 x 3/4 Rd) 4-9	158998	Retainer 4-8, 4-9	162678	Contact Assembly 4-10
119636	Button 4-4	159232	Screw, Captive (1/4-20) 4-8	162683	Lamp 4-4
119652	Ring, Retaining 4-2	159734	Button 4-11, 4-12	162692	Pin 4-9
120166	Fuse 4-8	159941	Handle, Cover 4-2	162730	Screw (1/4-20 x 5/8 Hex) 4-4, 4-5, 4-7, 4-8, 4-9
		159943	Bracket 4-2	162739	Bracket 4-9
		159944	Window 4-2	162865	Spacer 4-10
		159945	Washer, Friction 4-2	163163	Pad 4-4
		159949	Lid 4-2	164102	Bracket 4-12
				164424	Panel 4-12



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SECTION 5

ELECTRICAL SERVICE UNIT

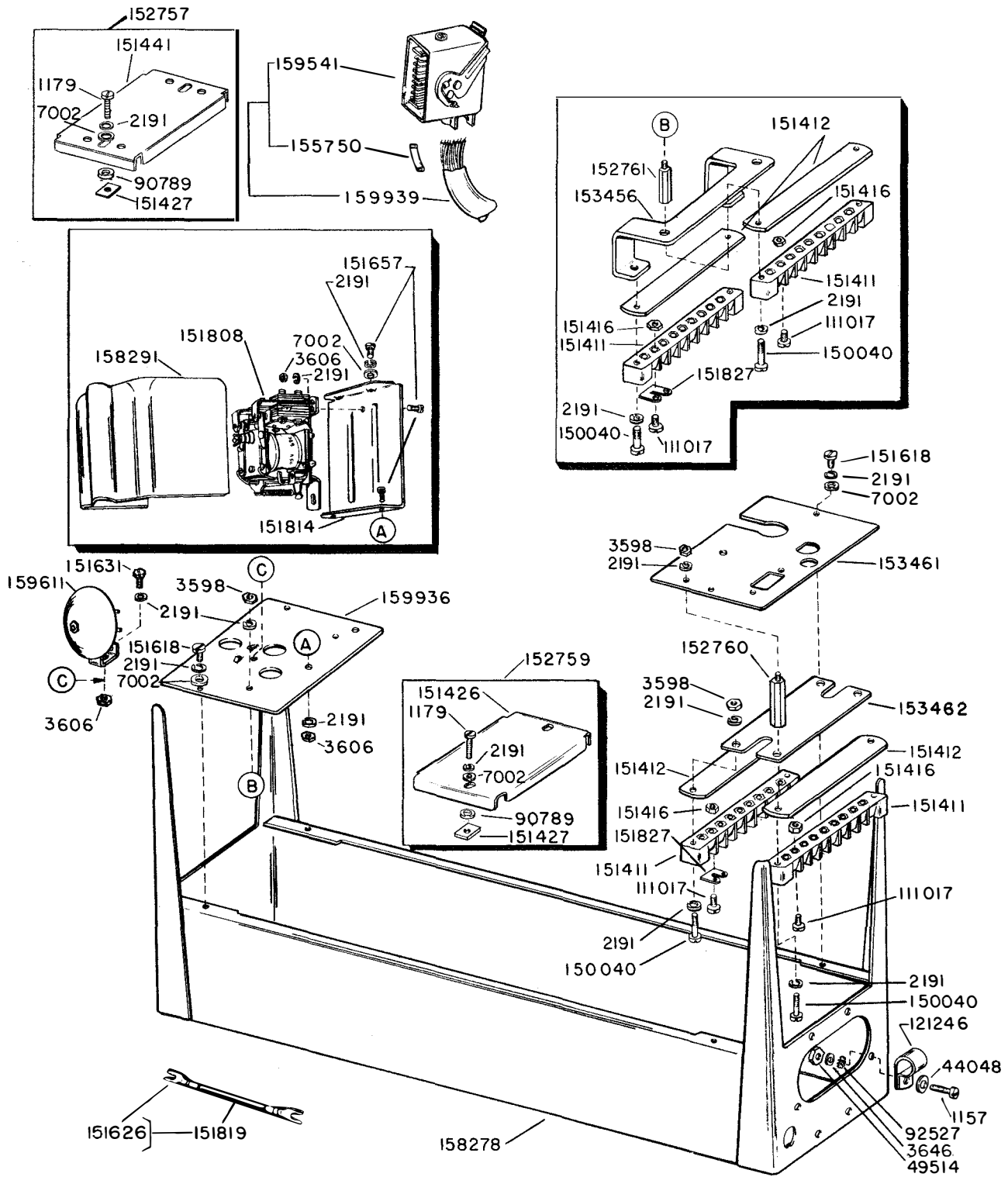


FIGURE 5-1. ELECTRICAL SERVICE UNIT (LESU)

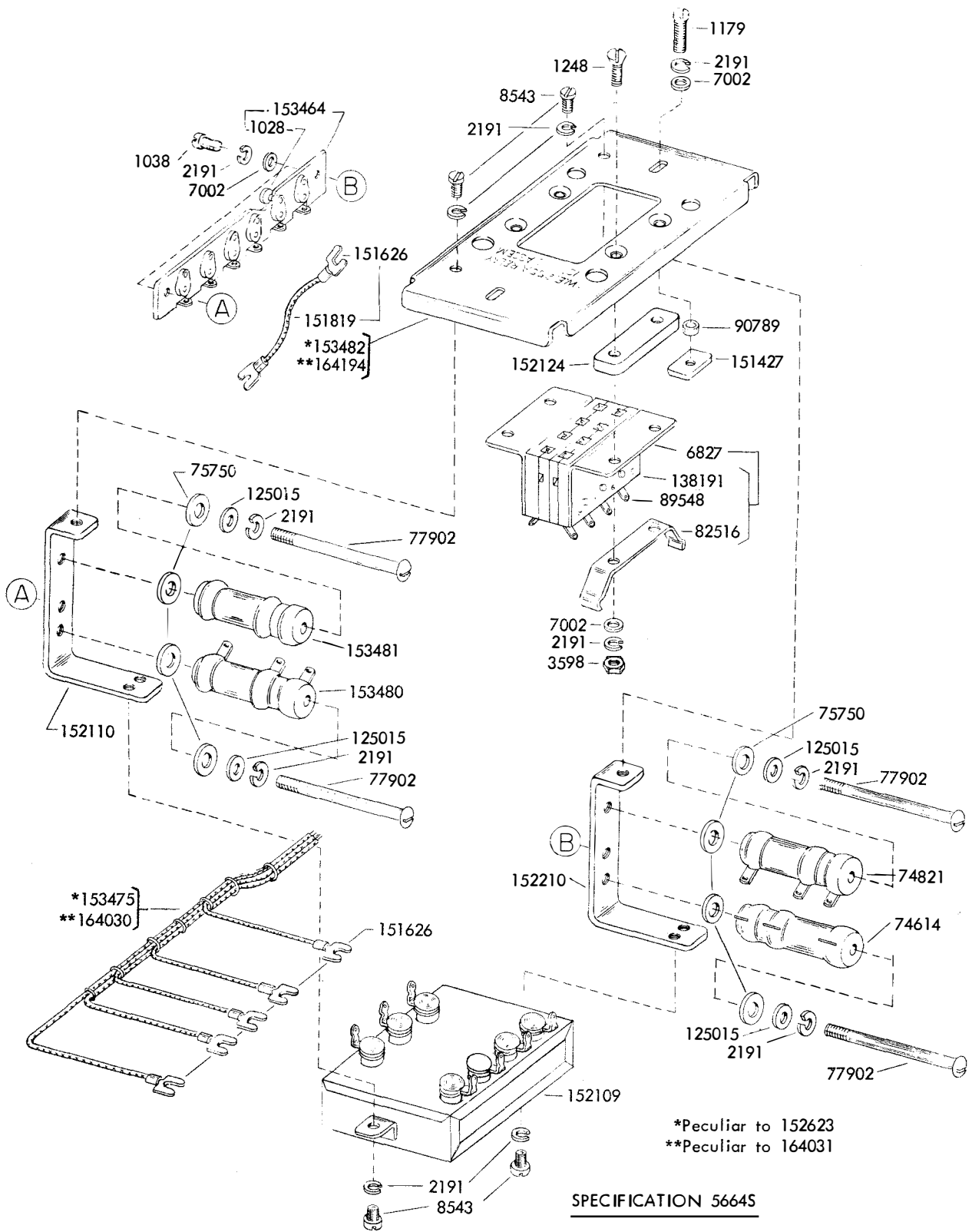


FIGURE 5-2. 152623 AND 164031 LINE RELAY MOUNTING ASSEMBLIES

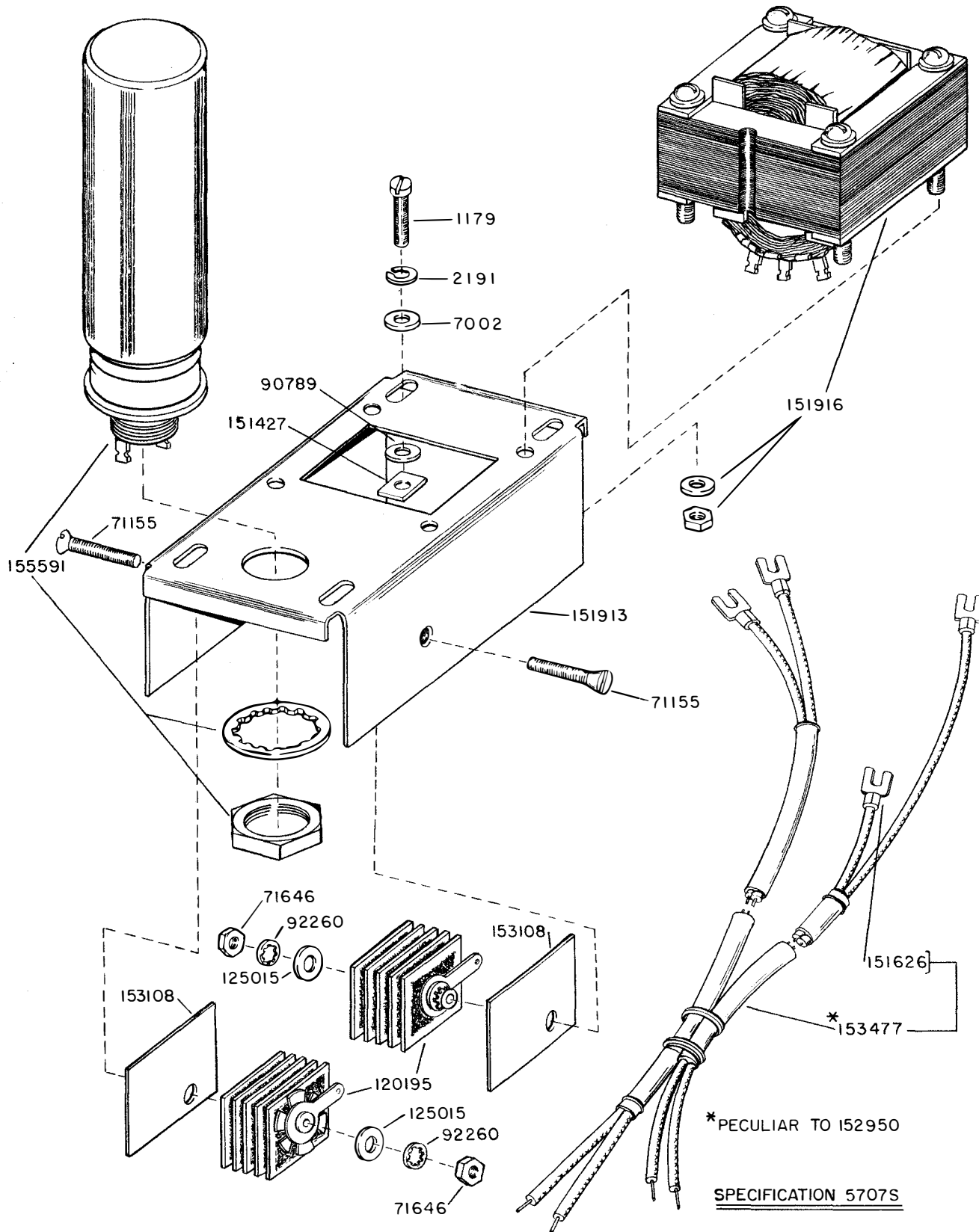


FIGURE 5-3. 151821 AND 152950 RECTIFIER ASSEMBLIES

NUMERICAL INDEX - SECTION 5

Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
1028	Screw (4-40 x 7/32 Fil) 5-3	121246	Clamp, Cable (3/8" I. D.) 5-2	152759	Plate Assembly 5-2
1038	Screw (6-40 x 9/32 Fil) 5-3	125015	Washer, Flat 5-3	152760	Stud, Mounting Plate 5-2
1157	Screw (8-32 x 1/2 Fil) 5-2	138191	Screw (3-48) 5-3	152761	Stud, Mounting Plate 5-2
1179	Screw (6-40 x 5/8 Fil) 5-2, 5-3	150040	Screw (6-40 x 5/8 Fil) 5-2	153456	Bracket, Terminal Block Mounting 5-2
1248	Screw (6-40 x 7/16 Flat) 5-3	151411	Block, Terminal 5-2	153461	Plate, Right Mounting 5-2
2191	Washer, Lock 5-2, 5-3	151412	Insulator, Terminal Block 5-2	153462	Plate, Terminal Block 5-2
3598	Nut (6-40 Hex) 5-2, 5-3	151416	Nut (6-40) 5-2	153464	Block, Terminal 5-3
3606	Nut (6-40 Hex) 5-2	151426	Plate, Blank 5-2	153475	Cable, Line Relay 5-3
3646	Washer, Lock 5-2	151427	Plate, Clamp 5-2, 5-3	153480	Resistor (6750 ohm) 5-3
6827	Block, Connecting 5-3	151441	Plate, Blank 5-2	153481	Resistor (5800 ohm) 5-3
7002	Washer, Flat 5-2, 5-3	151618	Screw (6-40 x 7/16 Fil) 5-2	153482	Plate, Relay 5-3
8543	Screw (6-40 x 1/4 Fil) 5-3	151626	Terminal 5-2, 5-3	155750	Sleeve, Insulating 5-2
44048	Washer, Flat 5-2	151631	Screw (6-40 x 5/16 Hex) 5-2	158278	Container, Electrical Service Unit 5-2
49514	Nut (8-32 Hex) 5-2	151657	Screw (6-40 x 1/4 Fil) 5-2	158291	Cover, Relay 5-2
74614	Resistor (2600 ohm) 5-3	151808	Relay, Line Shunt 5-2	159541	Connector, Plug (16 Pt.) 5-2
74821	Resistor (2810 ohm) 5-3	151814	Bracket, Relay Mounting 5-2	159611	Bell Assembly 5-2
75750	Washer, Fiber 5-3	151819	Jumper 5-2, 5-3	159936	Plate, Left Mounting 5-2
77902	Screw (6-40 x 2-1/2 Rd) 5-3	151827	Strap, Terminal 5-2	159939	Cable Assembly, Control 5-2
82516	Spring, Relay Retaining 5-4	152109	Filter, Noise Suppressor 5-3	164030	Cable, Line Relay 5-3
89548	Spring, Contact 5-3	152110	Bracket, Resistor Mounting 5-3	164031	Line Relay Mounting Assembly 5-3
90789	Washer, Flat 5-2, 5-3	152124	Spacer, Connecting Block 5-3	164194	Plate, Relay 5-3
92527	Washer, Lock 5-2	152623	Line Relay Mounting Assembly 5-3		
111017	Screw (6-40 x 5/16 Fil) 5-2	152757	Plate Assembly 5-2		



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SECTION 6

SEND-RECEIVE KEYBOARD BASE AND VARIABLE FEATURES

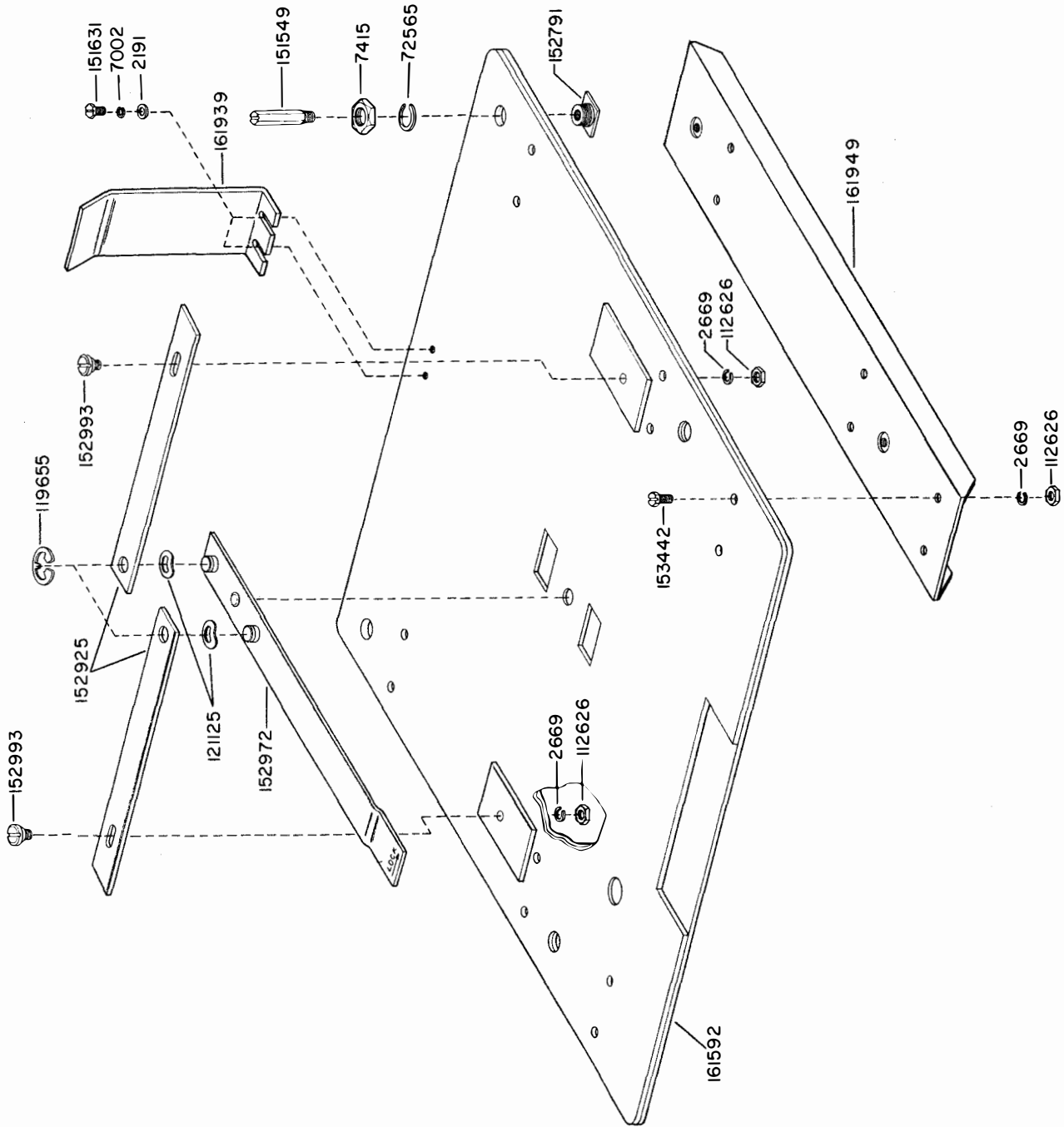


FIGURE 6-1. SUB-BASE

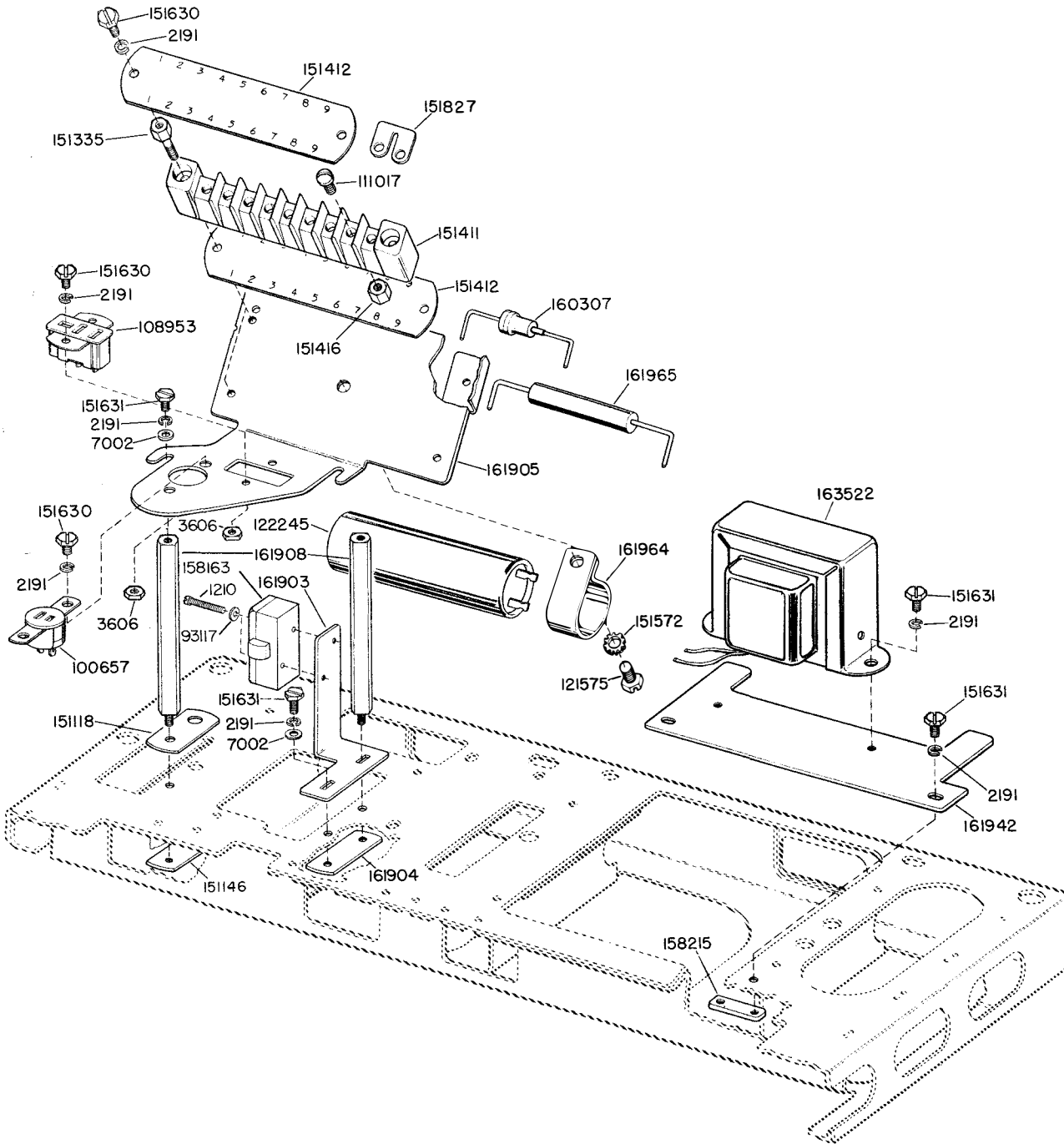
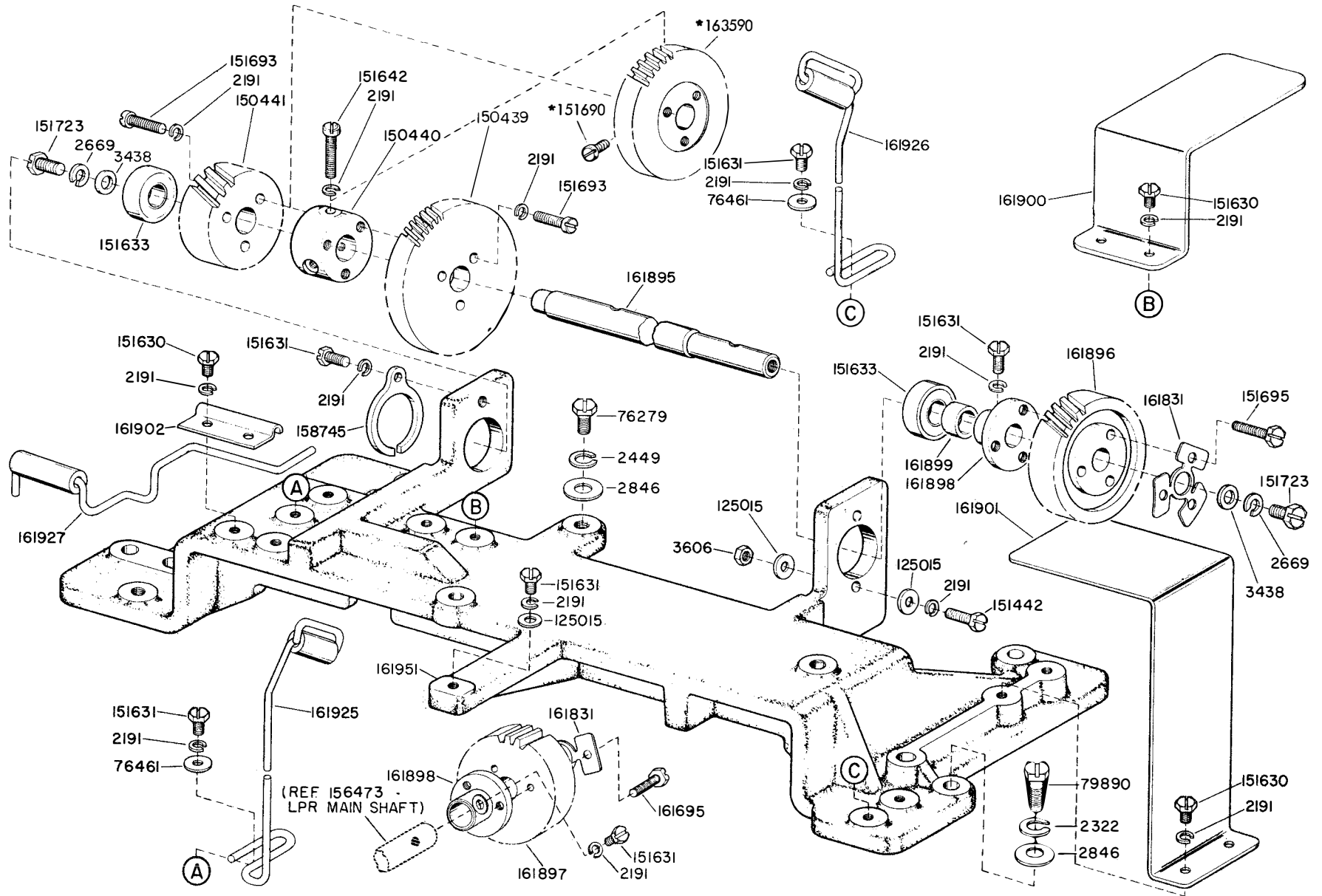


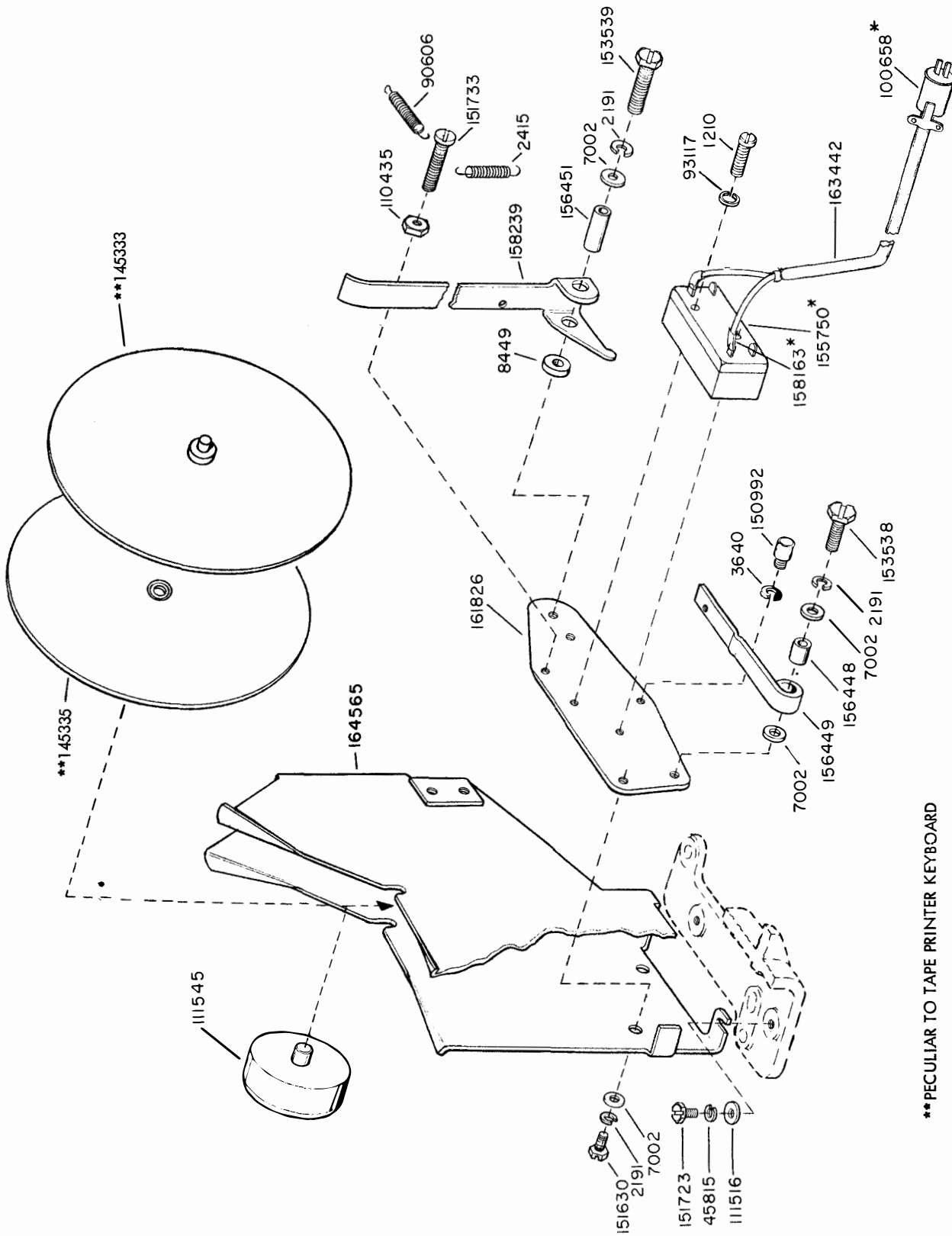
FIGURE 6-3 BRACKET ASSEMBLY

FIGURE 6-4. CASTING ASSEMBLY



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*Peculiar to Tape Printer Keyboard



* PART OF 163442

**PECULIAR TO TAPE PRINTER KEYBOARD

FIGURE 6-5. TAPE CONTAINER ASSEMBLY

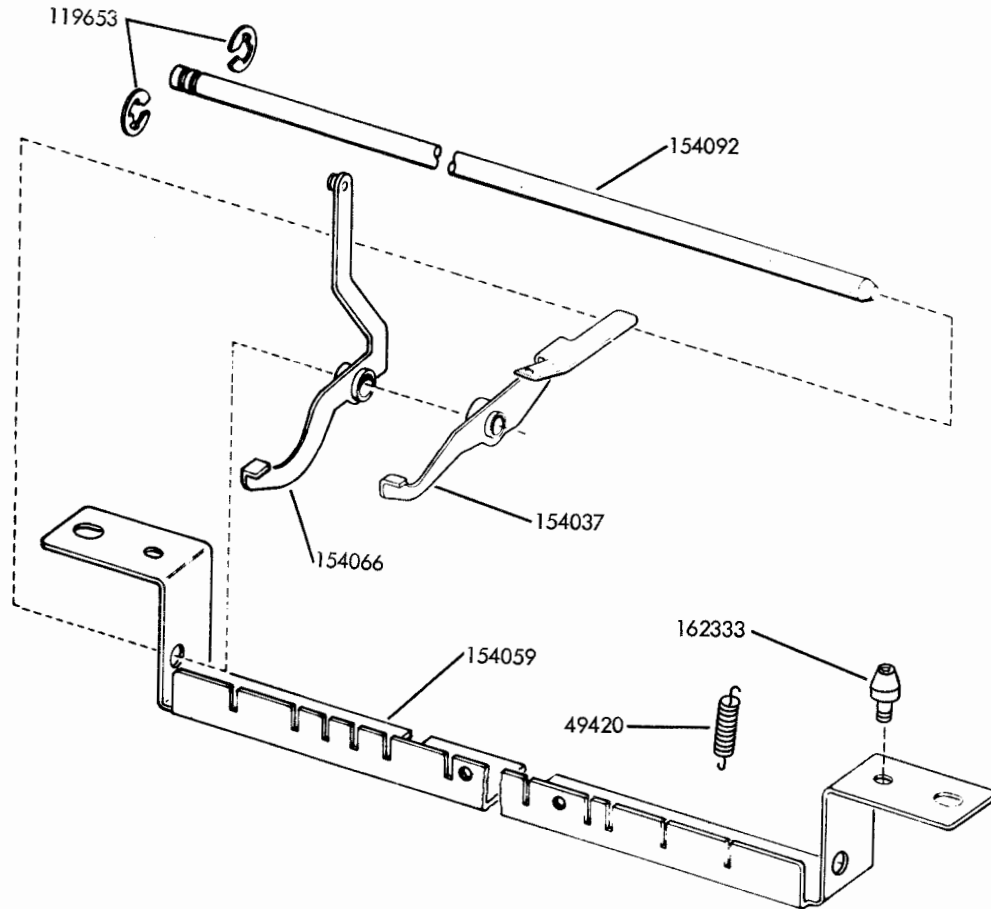


FIGURE 6-6. FUNCTION BAIL MECHANISM

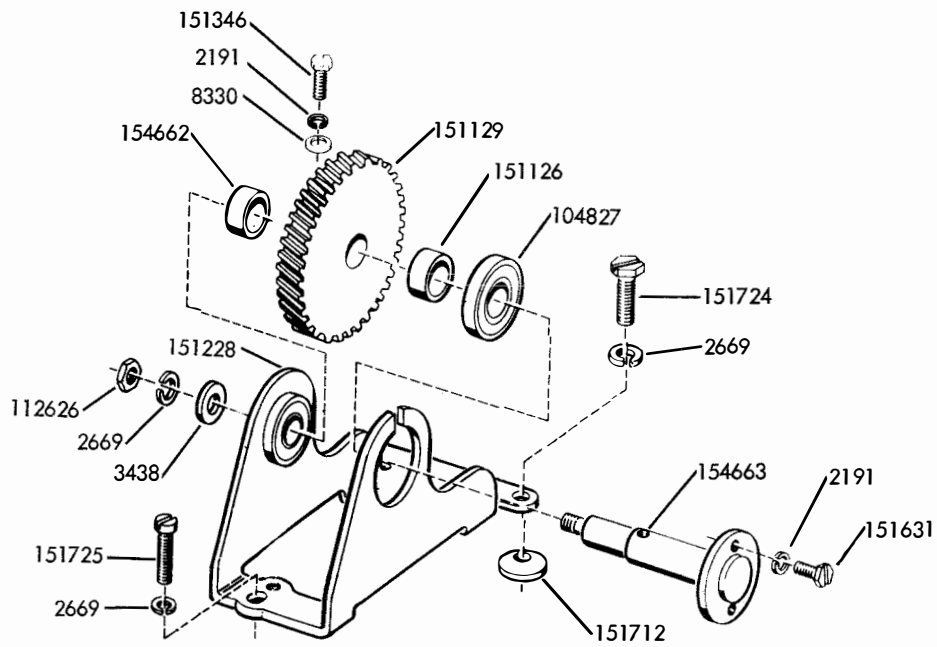


FIGURE 6-7. INTERMEDIATE GEAR MECHANISM

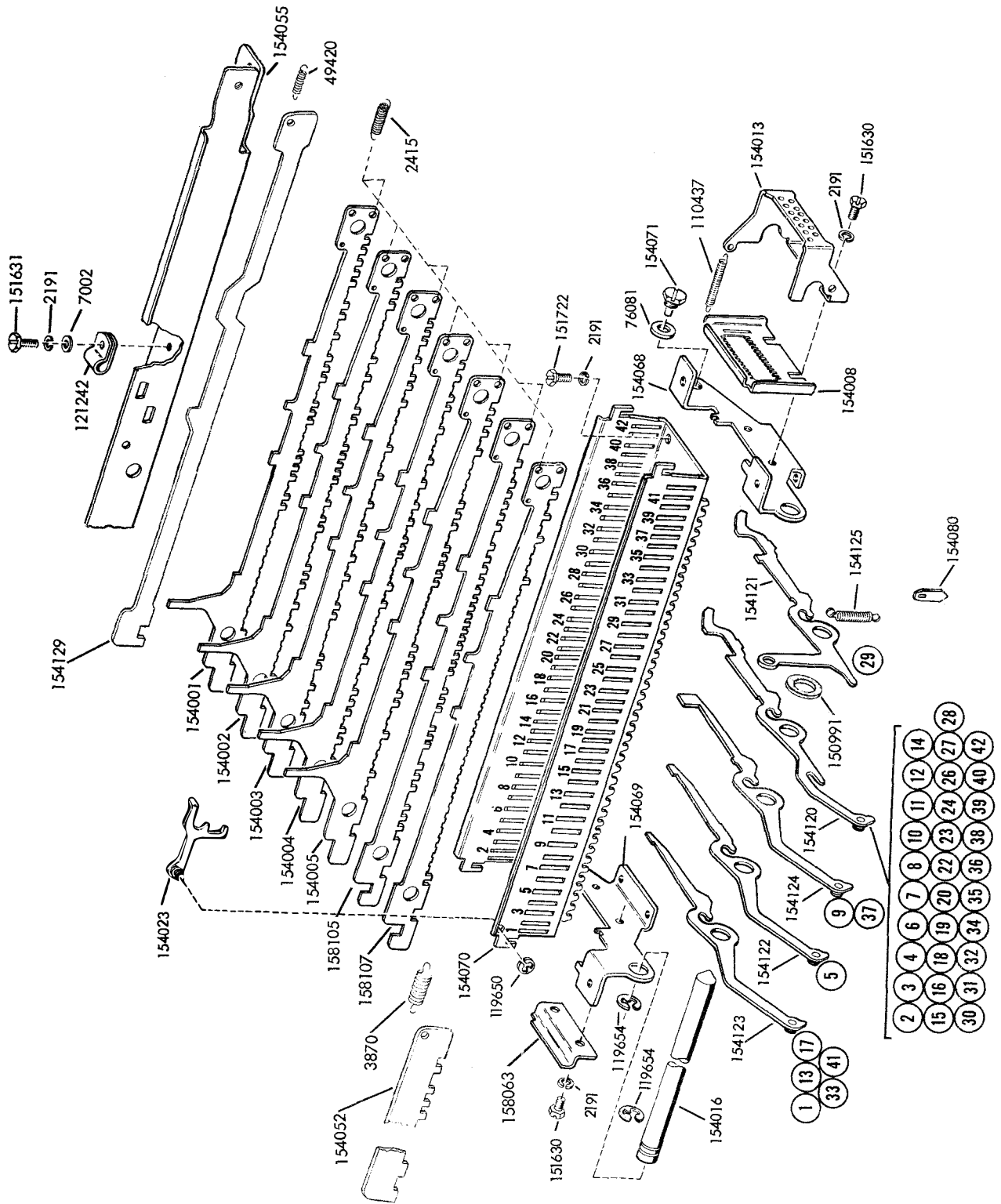


FIGURE 6-9. CODE BAR MECHANISM

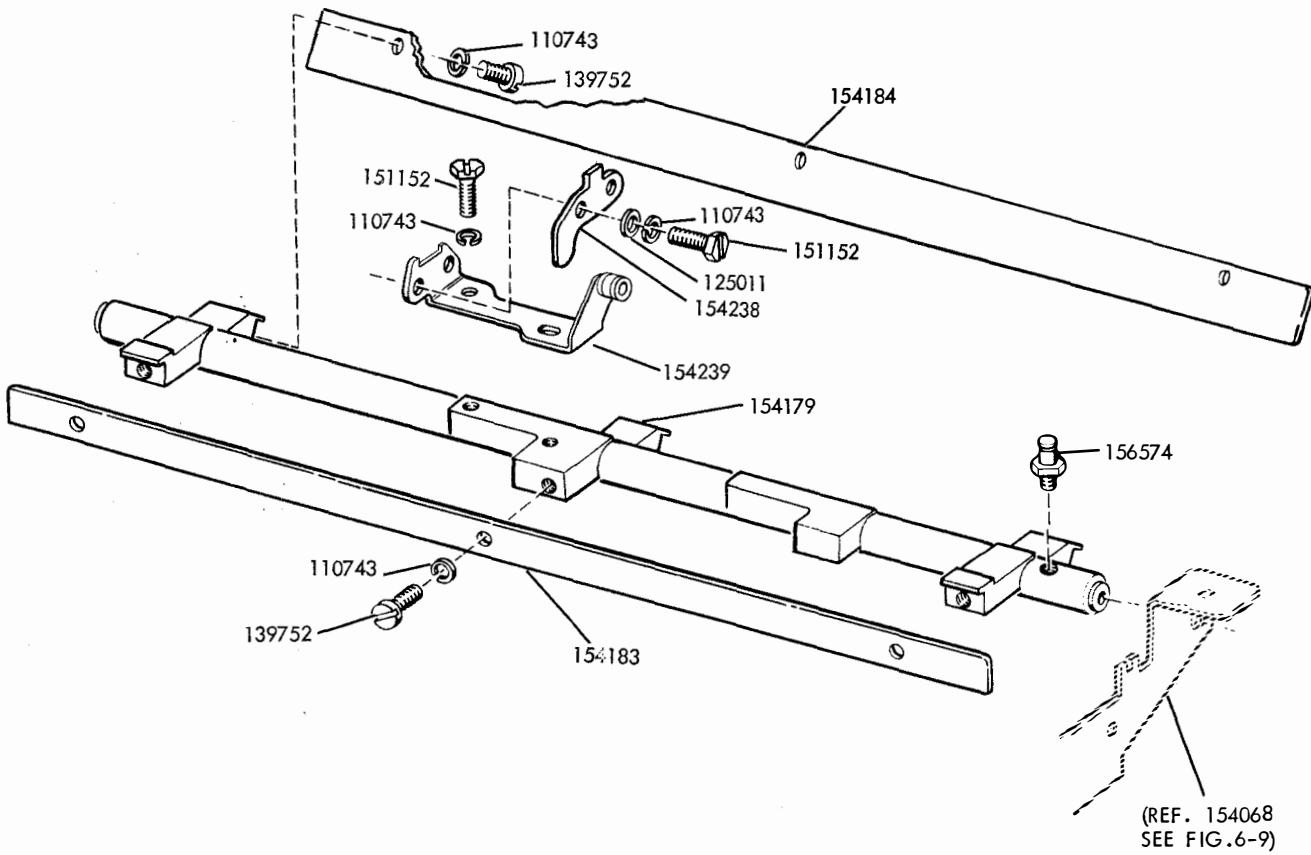


FIGURE 6-10. UNIVERSAL BAIL MECHANISM

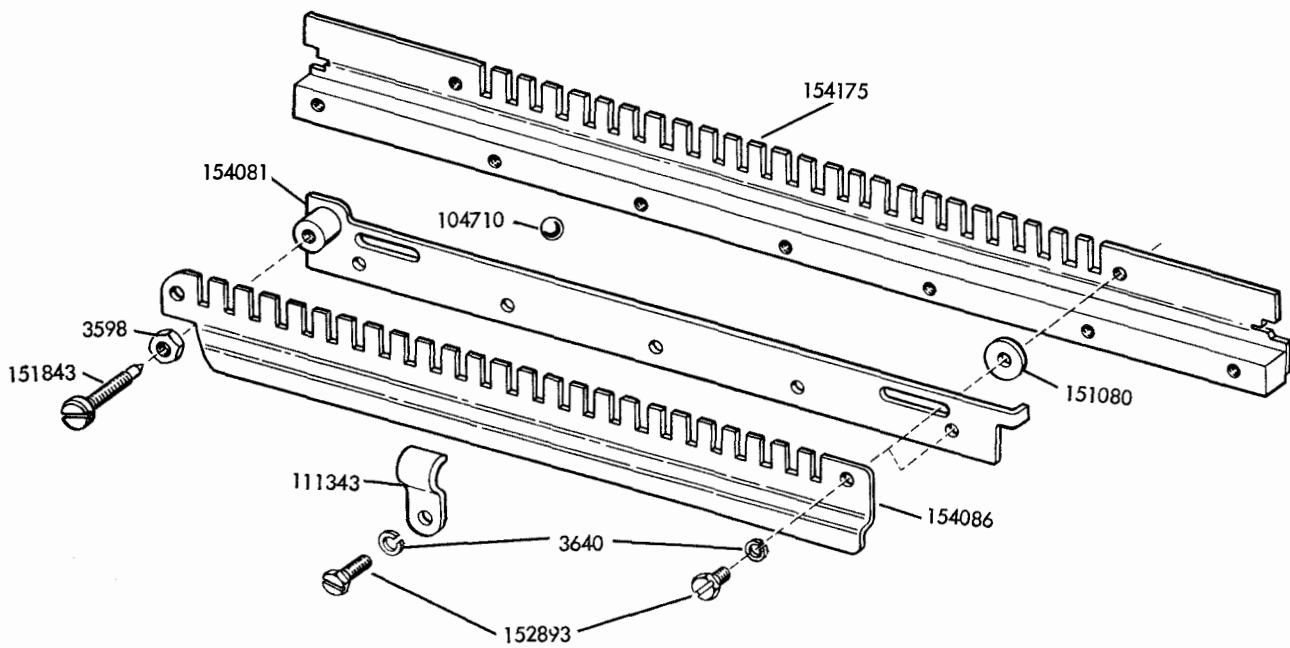


FIGURE 6-11. BALL LOCK MECHANISM

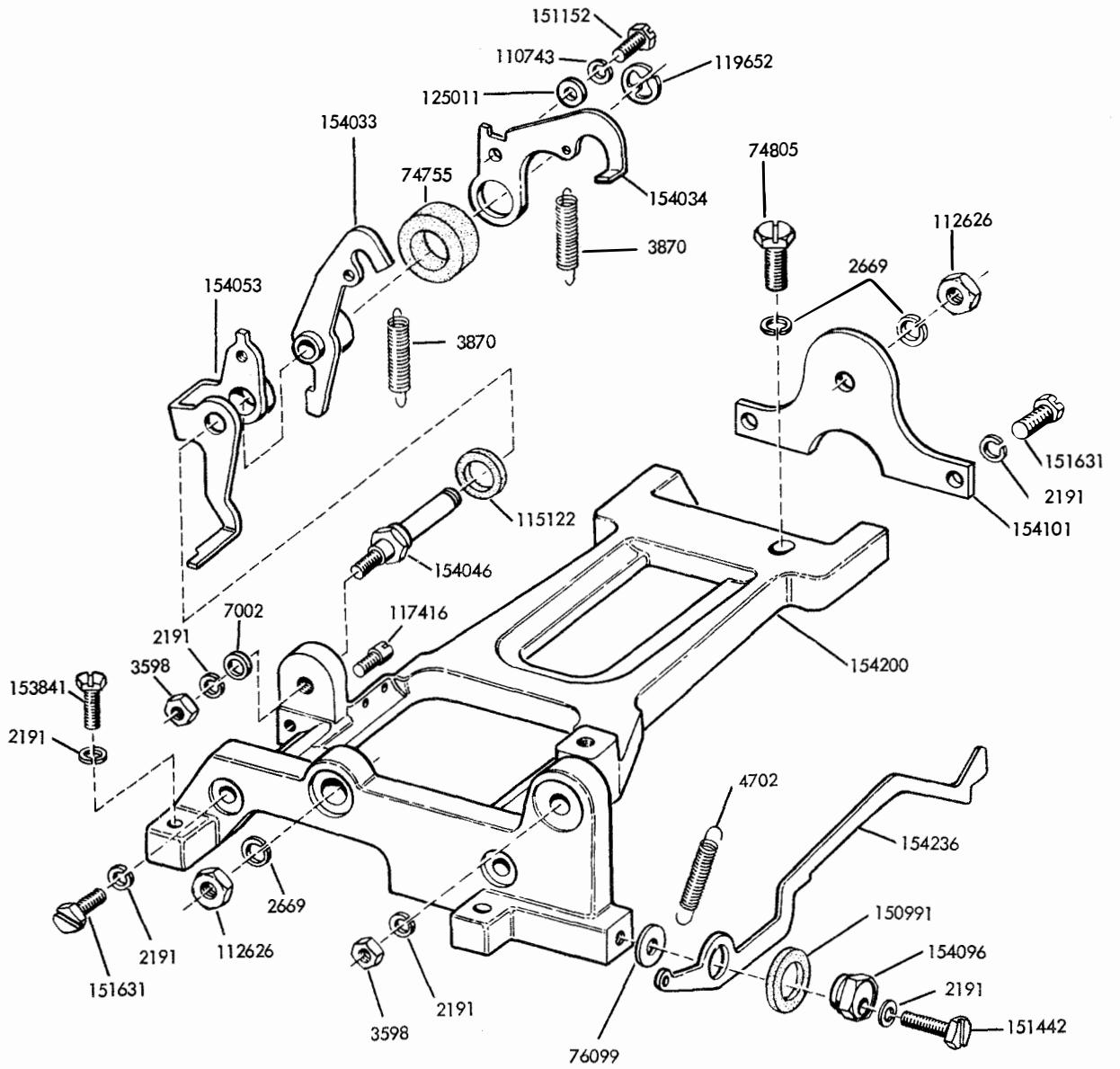


FIGURE 6-12. SIGNAL GENERATOR FRAME MECHANISM

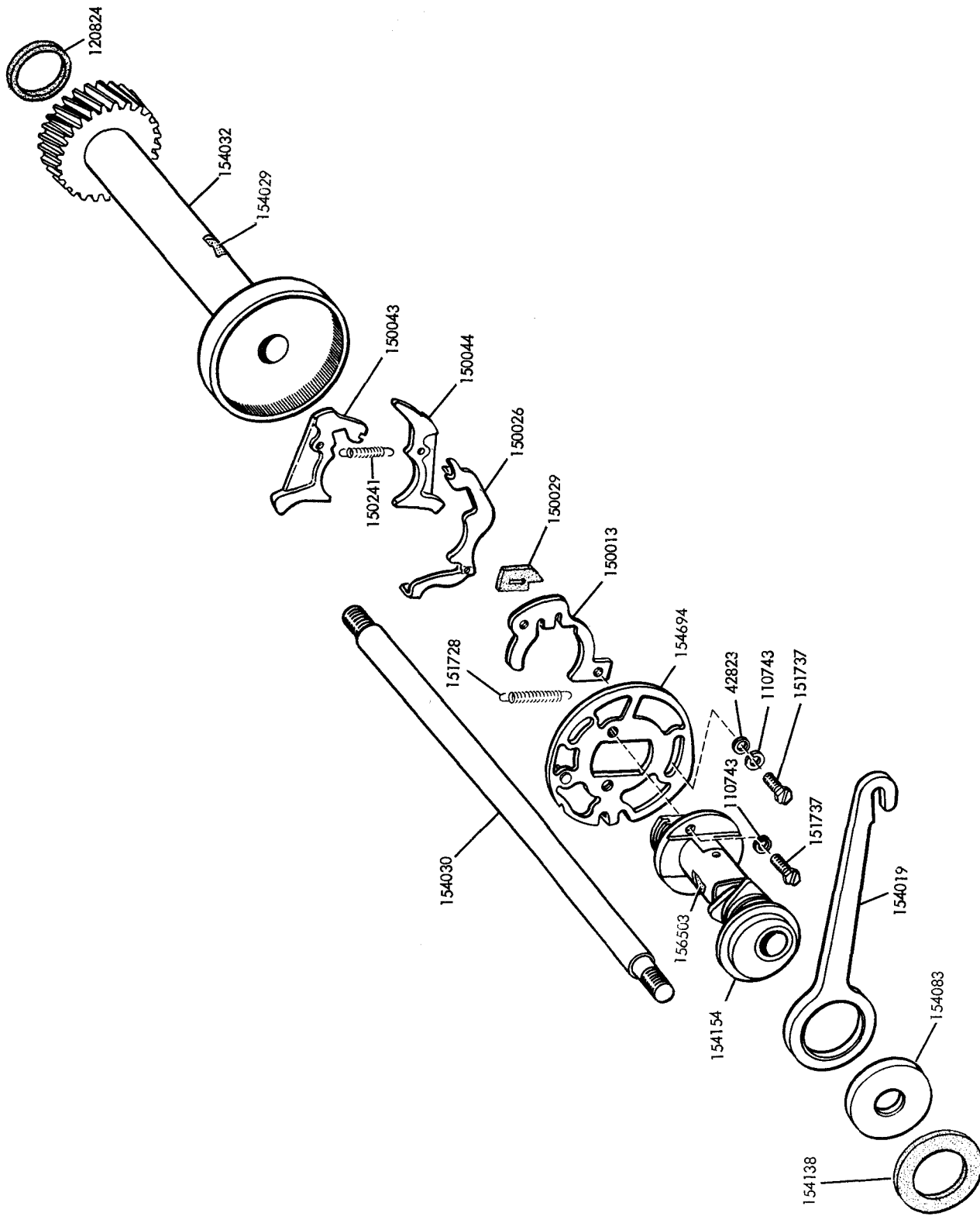


FIGURE 6-13. SIGNAL GENERATOR SHAFT MECHANISM

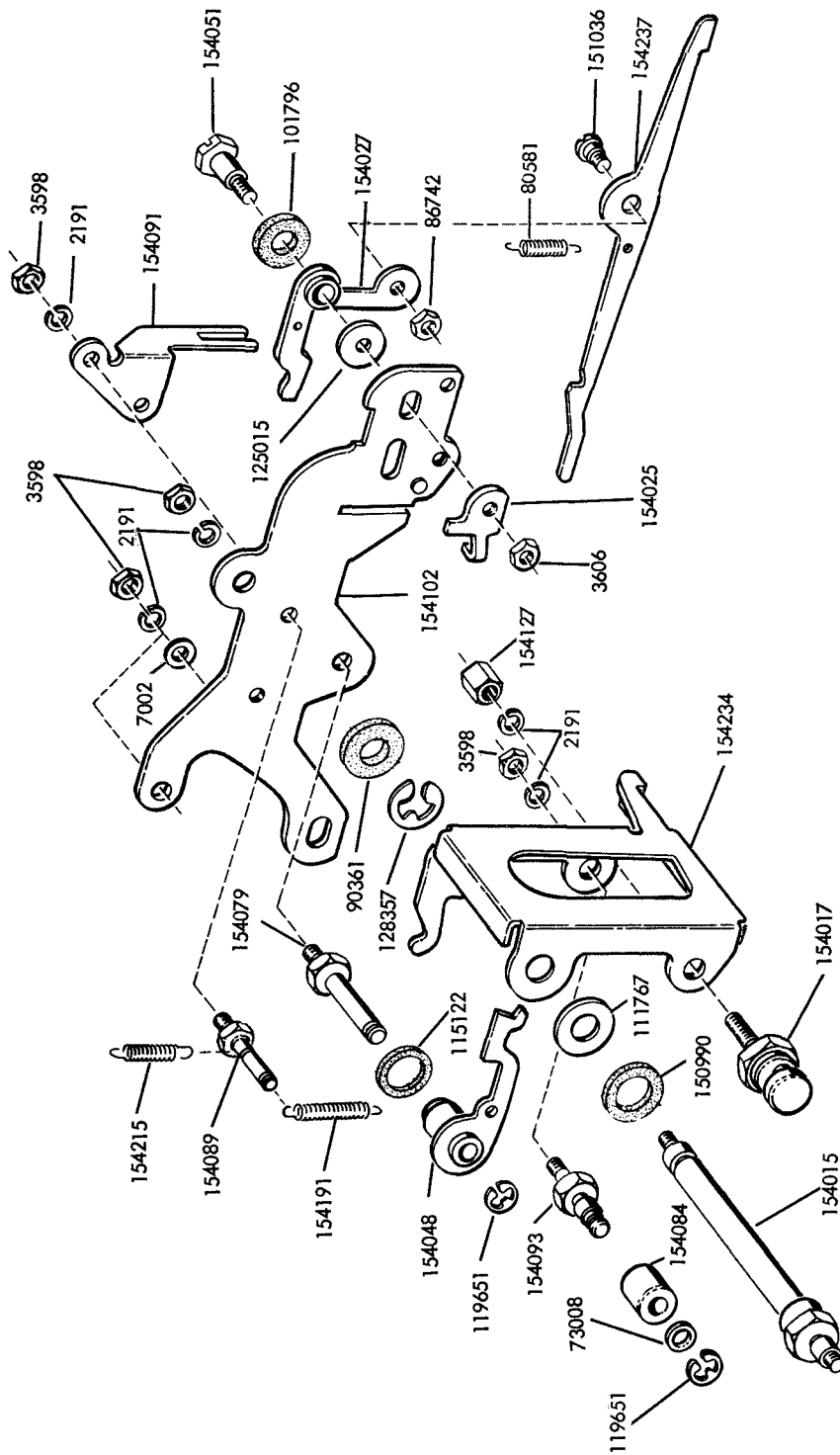
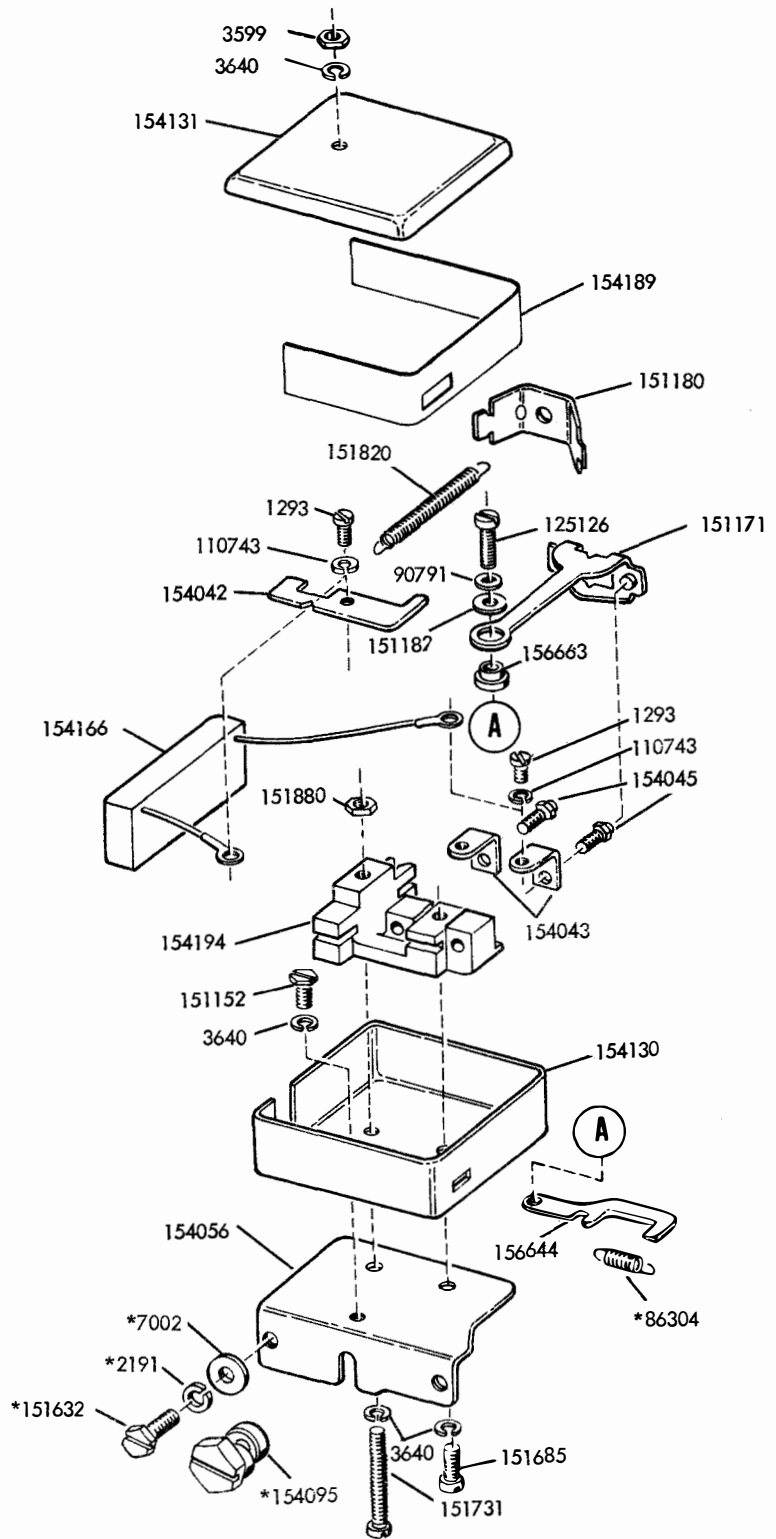


FIGURE 6-15. SIGNAL GENERATOR REAR PLATE MECHANISM



*NOT PART OF 154165

FIGURE 6-16. 154165 SIGNAL GENERATOR CONTACT BOX

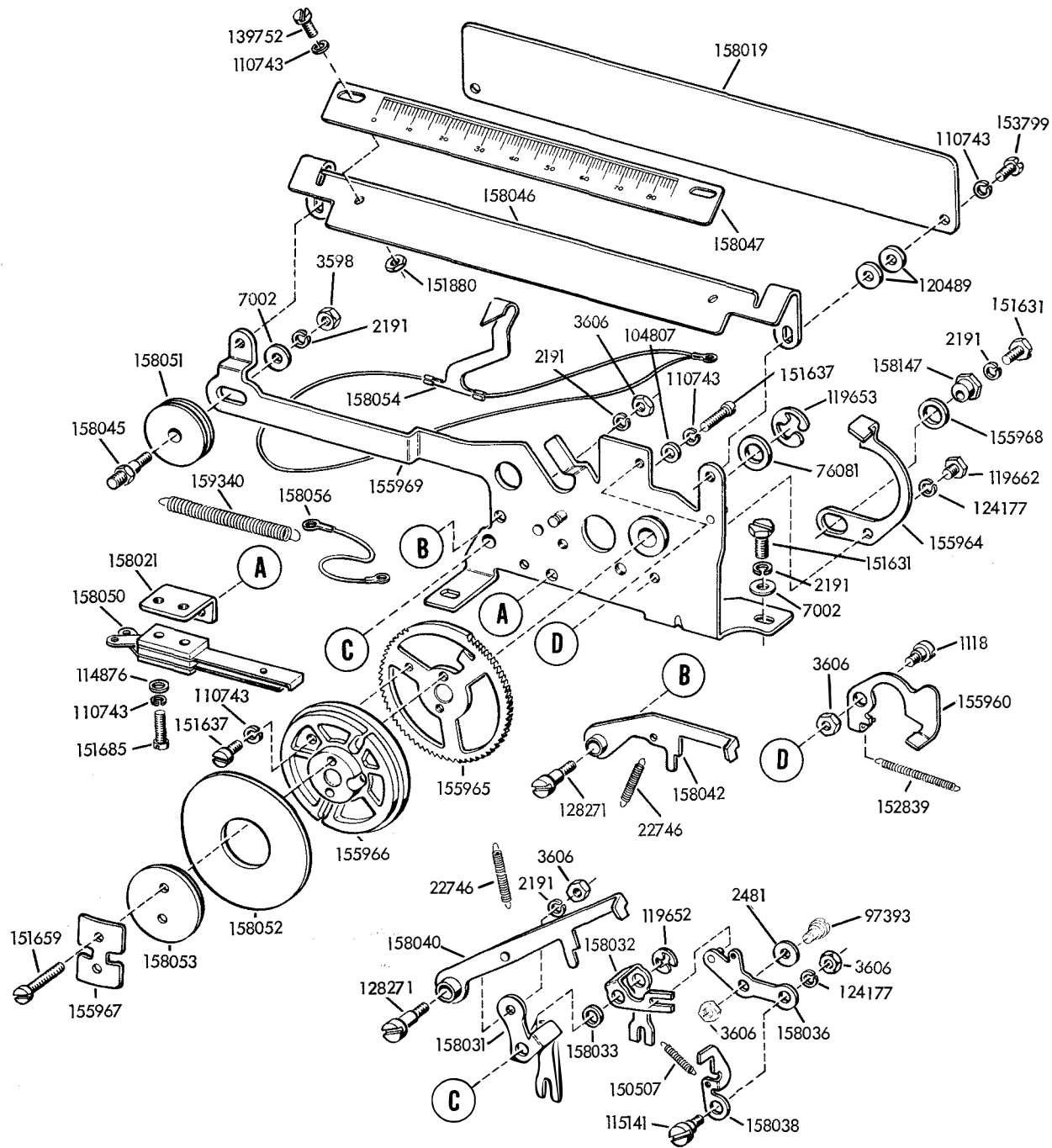


FIGURE 6-17. CHARACTER COUNTER MECHANISM.

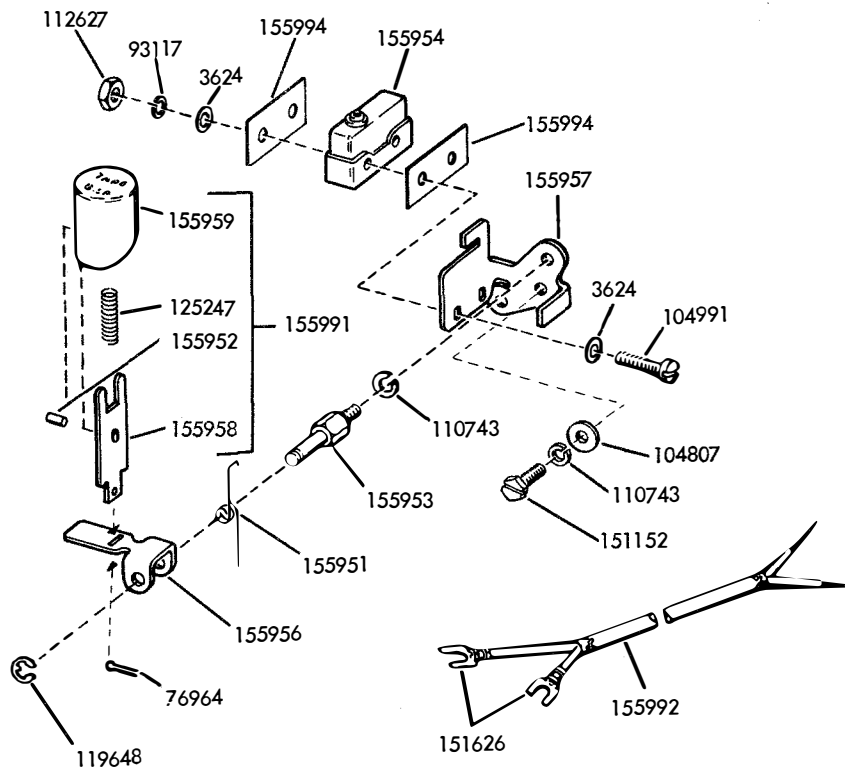


FIGURE 6-18. 155950 MODIFICATION KIT TO ADD TAPE BACKSPACE BUTTON

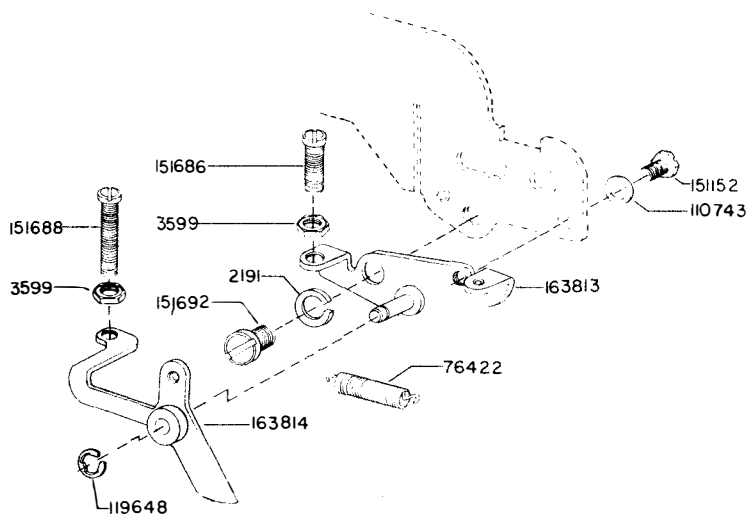
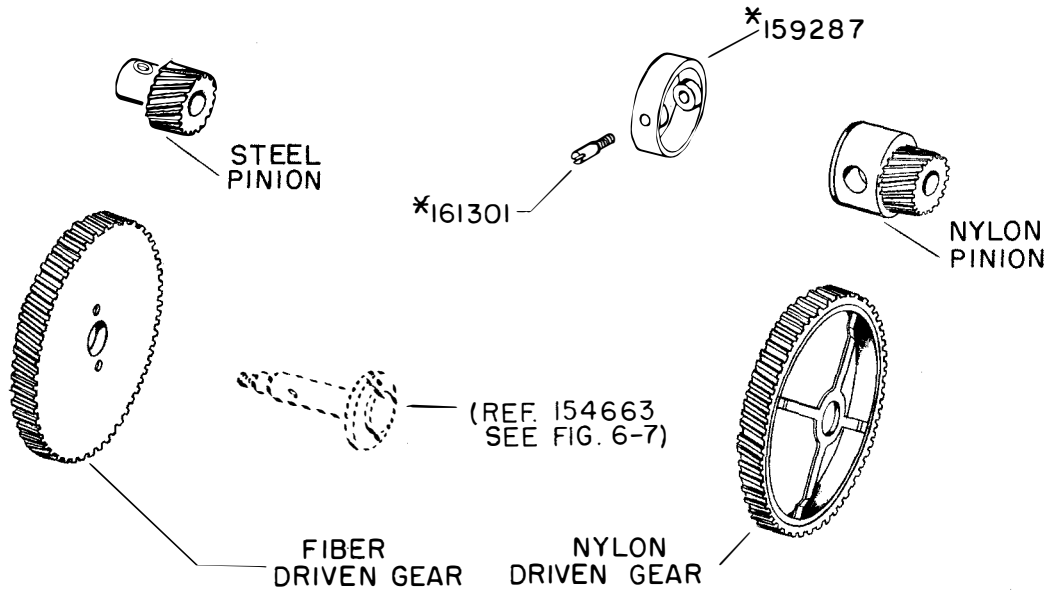


FIGURE 6-19. 163775 MODIFICATION KIT TO PROVIDE REPEAT ON SPACE MECHANISM



GEAR SETS										
SPEED	SET NUMBER		PINION				DRIVEN GEAR			
	FIBER	NYLON	STEEL	TEETH	NYLON	TEETH	FIBER	TEETH	NYLON	TEETH
60 WPM - 360 OPM	151060	161293	151130	14 T	159278	14 T	151131	96 T	159279	96 T
67 WPM - 404 OPM	152766	—	152765	13 T	—	—	152764	81 T	—	—
75 WPM - 460 OPM	151075	161294	151132	17 T	159281	17 T	151133	93 T	159282	93 T
100 WPM - 600 OPM	151100	161295	151134	20 T	159284	20 T	151135	84 T	159285	84 T

* PART OF 161293, 161294 AND 161295 GEAR SETS

FIGURE 6-20. GEAR SETS

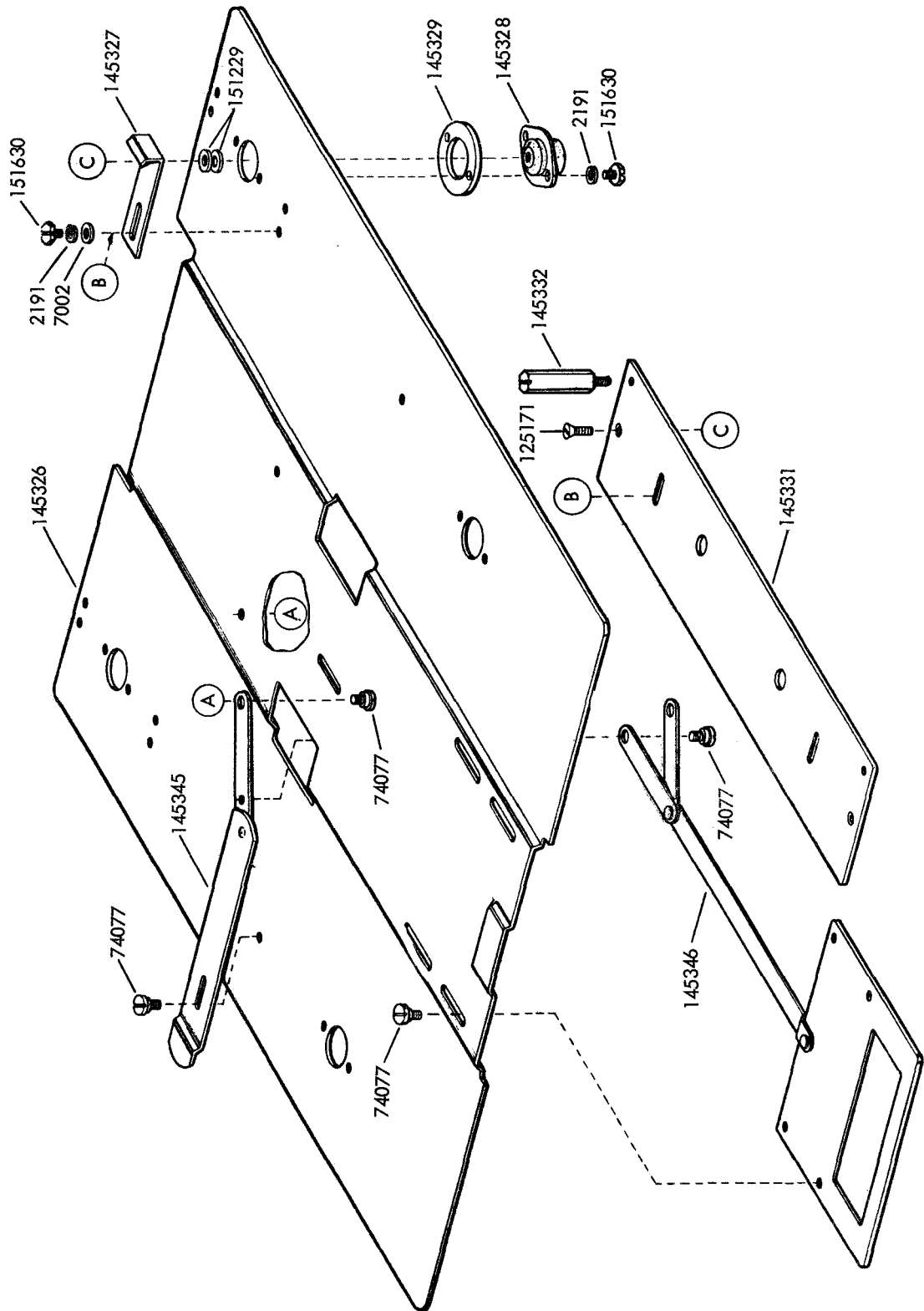


FIGURE 6-21. TAPE PRINTER SUB-BASE

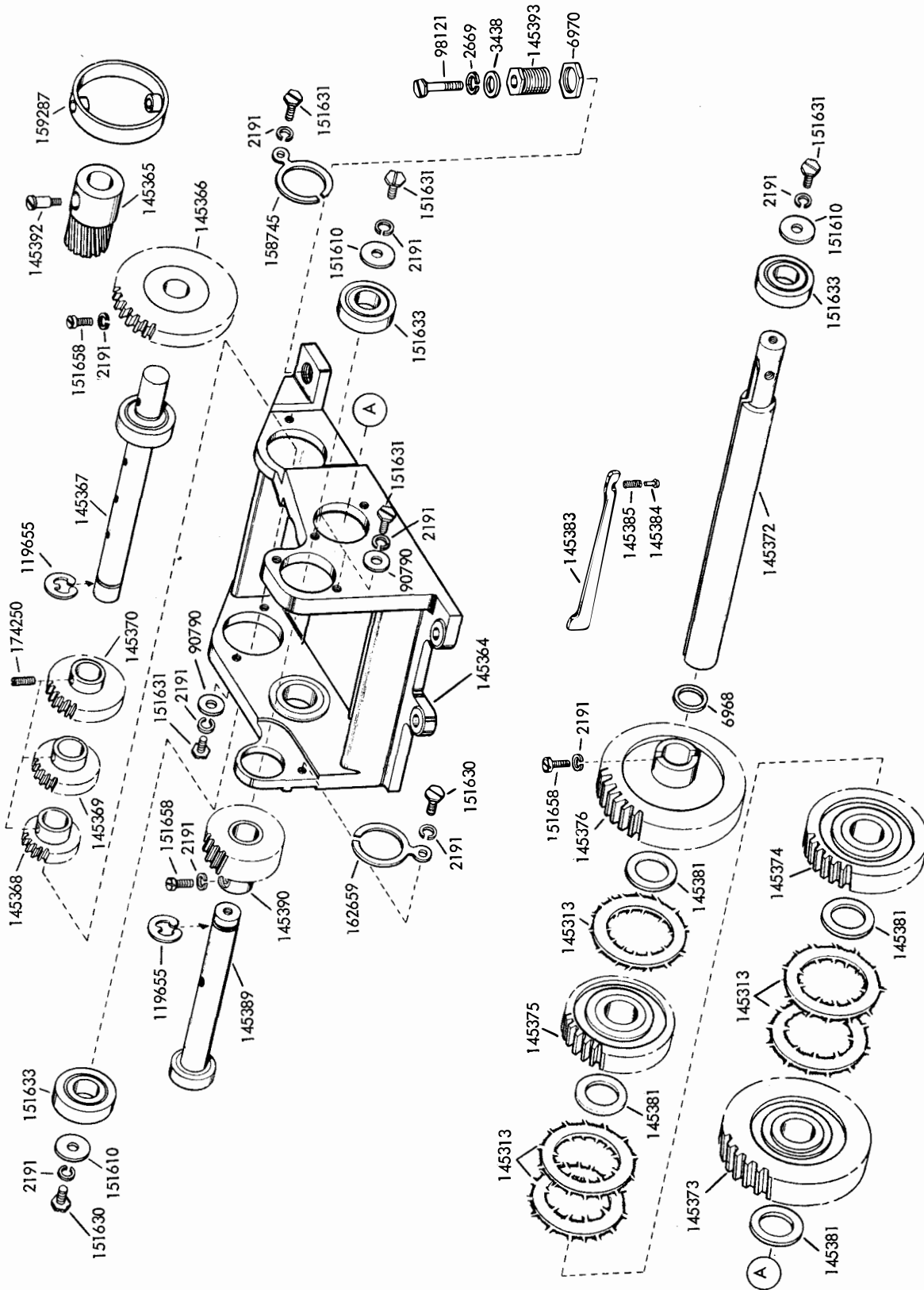


FIGURE 6-22. GEAR SHIFT MECHANISM FOR TAPE PRINTER KEYBOARD

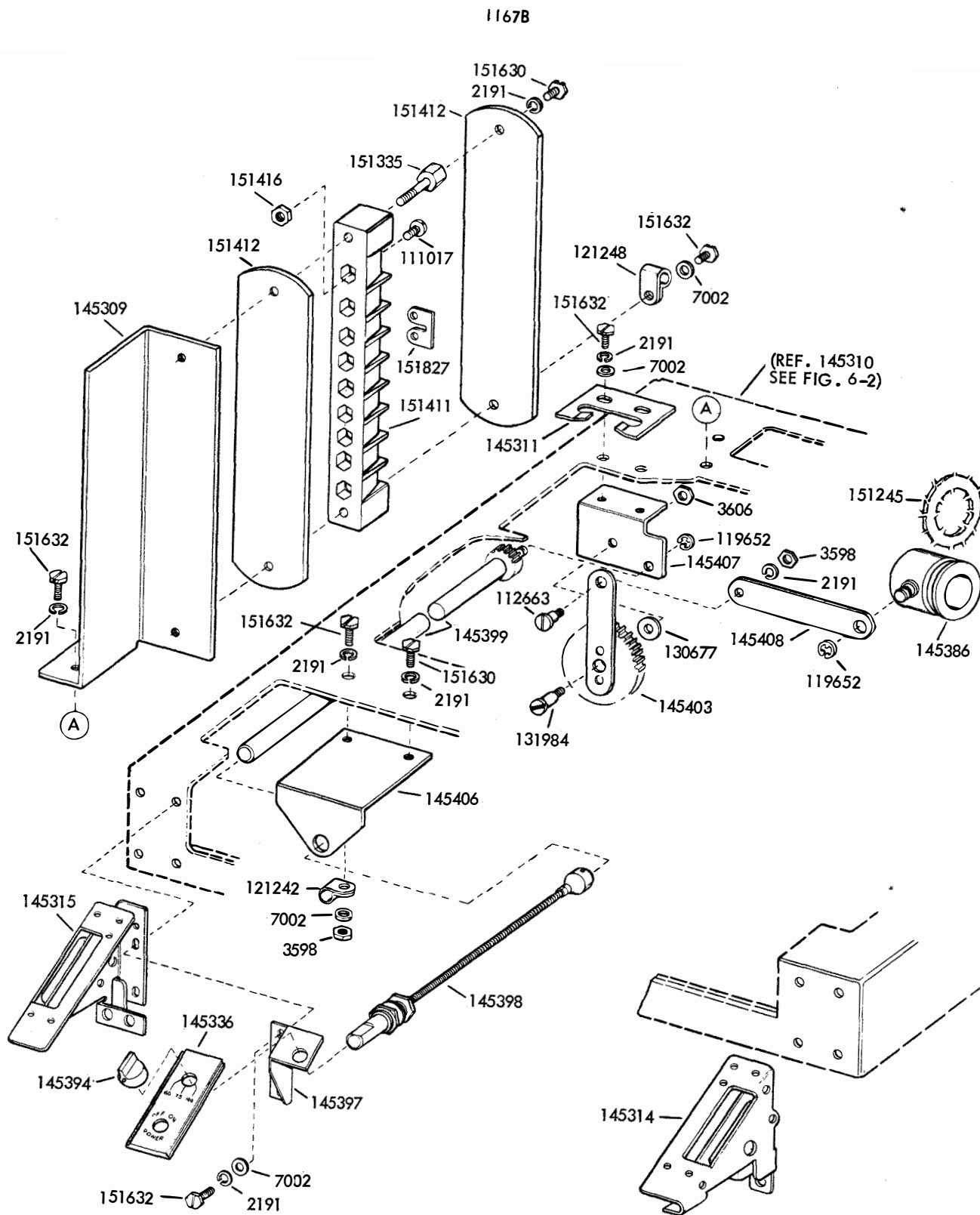


FIGURE 6-23. GEAR SHIFT MECHANISM FOR TAPE PRINTER KEYBOARD

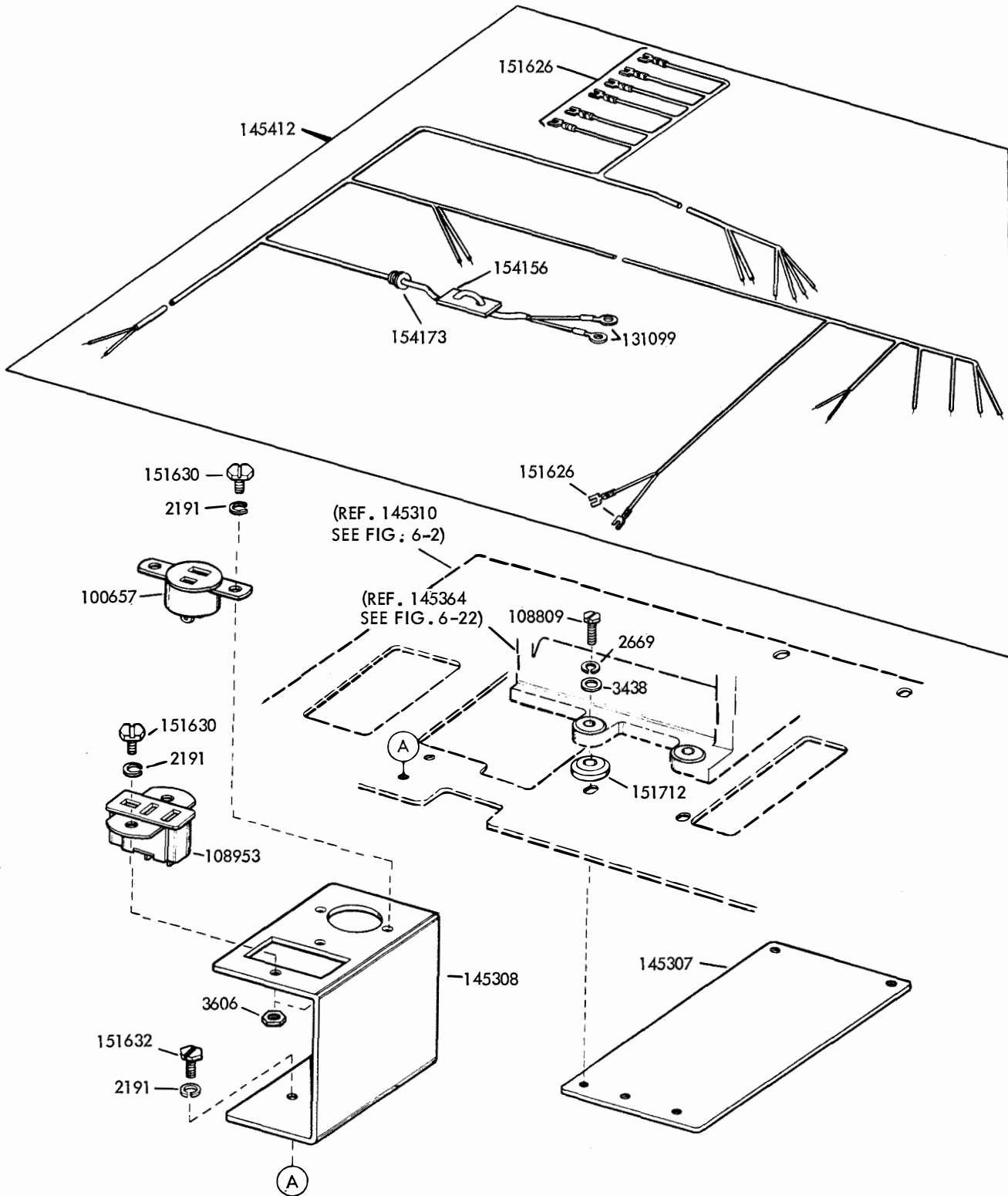


FIGURE 6-24. CONNECTORS AND CABLE

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Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
1020	Screw (6-40 x 1/4 Hex) 6-13	104827	Bearing, Ball 6-7	145331	Strap 6-19
1118	Screw, Shoulder (6-40) 6-16	104991	Screw (2-56 x 1/2 Fil) 6-17	145332	Post, Locating 6-19
1210	Screw (2-56 x 5/8 Fil) 6-4, 6-6	108370	Washer, Felt 6-13	145333	Disk W/Hub 6-6
1293	Screw (4-40 x 1/8 Fil) 6-15	108953	Connector, Receptacle 6-4, 6-22	145335	Disk W/Knob 6-6
2191	Washer, Lock 6-2, 6-3, 6-4, 6-5, 6-6, 6-7, 6-8, 6-9, 6-11, 6-13, 6-14, 6-15, 6-16, 6-17, 6-19, 6-20, 6-21, 6-22	110435	Nut (4-40 Hex) 6-6	145336	Plate 6-21
2322	Washer, Lock 6-5	110437	Spring, Universal Bail 6-9	145345	Bolt, Latch 6-19
2415	Spring 6-6, 6-9	110743	Washer, Lock 6-10, 6-11, 6-12, 6-15, 6-16, 6-17	145346	Lever, Reset Handle 6-19
2449	Washer, Lock 6-5	111017	Screw (6-40 x 5/16 Fil) 6-3, 6-4, 6-21	145364	Bracket, Machined W/Bearing 6-20
2481	Washer, Flat 6-16	111343	Clamp, Lock Ball Retaining 6-10	145365	Gear, Helical (20T) 6-20
2669	Washer, Lock 6-2, 6-3, 6-5, 6-7 6-11, 6-20, 6-22	111516	Washer, Flat 6-6	145366	Gear Helical (56T) 6-20
2846	Washer, Flat 6-5	111545	Core, Tape Reel 6-6	145367	Shaft W/Bearing, Drive 6-20
3438	Washer, Flat 6-5, 6-20, 6-22	111767	Washer, Flat 6-14	145368	Gear, Helical (27T) 6-20
3448	Washer, Flat 6-3, 6-7	112626	Nut (10-32 Hex) 6-2, 6-7, 6-11	145369	Gear, Helical (24T) 6-20
3598	Nut (6-40 Hex) 6-8, 6-10, 6-11, 6-13, 6-14, 6-16, 6-21	112627	Nut (2-56 Hex) 6-17	145370	Gear, Helical (24T) 6-20
3599	Nut (4-40 Hex) 6-3, 6-15, 6-17	112630	Spring 6-2	145372	Shaft, Driven 6-20
3606	Nut (6-40 Hex) 6-4, 6-5, 6-14, 6-16, 6-21, 6-22	112663	Screw, Shoulder 6-21	145373	Gear, Helical (66T) 6-20
3624	Washer, Flat 6-17	114876	Washer, Flat 6-16	145374	Gear, Helical (47T) 6-20
3640	Washer, Lock 6-3, 6-6, 6-10, 6-15	115122	Washer, Felt 6-11, 6-14	145375	Gear, Helical (63T) 6-20
3870	Spring 6-9, 6-19	115141	Screw, Shoulder (6-40) 6-16	145376	Gear, Helical (48T) 6-20
4702	Spring, Universal Bail Latch Lever 6-11	117416	Stud 6-11	145381	Washer, Thrust 6-20
6968	Washer, Cam Spacer 6-20	117608	Plate, Nut 6-8	145383	Key 6-20
6970	Nut, Sleeve 6-20	118384	Cap, Clear (Power) 6-8	145384	Pin, Guide 6-20
7002	Washer, Flat 6-2, 6-3, 6-4, 6-6, 6-8, 6-9, 6-11, 6-14, 6-15, 6-16, 6-21	119648	Ring, Retaining 6-13, 6-17	145385	Spring 6-20
7415	Nut (1/2-32 Hex) 6-2	119650	Ring, Retaining 6-9	145386	Sleeve Assembly 6-21
8330	Washer, Flat 6-7	119651	Ring, Retaining 6-3, 6-8, 6-13, 6-14	145389	Shaft W/Bearing, Idler 6-20
8449	Washer, Flat 6-6	119652	Ring, Retaining 6-11, 6-16, 6-21	145390	Gear, Helical (25T) 6-20
45815	Washer, Lock 6-6	119653	Ring, Retaining 6-7, 6-16	145392	Post 6-20
22746	Spring 6-16	119654	Ring, Retaining 6-9	145393	Bushing 6-20
42420	Spring 6-7	119655	Ring, Retaining 6-2, 6-20	145394	Knob 6-21
42823	Washer, Flat 6-12	119662	Screw (6-40 x 5/32 Hex) 6-16	145397	Bracket 6-21
49420	Spring, Clutch Trip Bar 6-9	120489	Spacer 6-16	145398	Shaft, Flexible 6-21
70388	Spring, Transfer Lever Locking Bail 6-13	120824	Washer, Felt 6-12	145399	Shaft W/Gear 6-21
72565	Washer, Lock 6-2	120870	Wick, Felt 6-13	145403	Gear, Spur W/Link (36T) 6-21
73008	Washer, Flat 6-14	121125	Washer, Spring 6-2	145406	Bracket 6-21
74077	Screw, Shoulder 6-19	121242	Clamp, Cable (1/8" I.D.) 6-3, 6-9, 6-21	145407	Bracket, Rear 6-21
74755	Washer, Felt 6-11	121244	Clamp, Cable (1/4" I.D.) 6-3	145408	Link 6-21
74805	Screw (10-32 x 3/4 Hex) 6-11	121245	Clamp, Cable (5/16" I.D.) 6-21	145412	Cable Assembly 6-22
76081	Washer, Flat 6-9, 6-16	121248	Clamp, Cable (1/2" I.D.) 6-21	150013	Disk, Adjusting 6-12
76099	Washer, Flat 6-11	121575	Screw (10-32 x 5/16 Hex) 6-4	150026	Lever w/Button, Clutch Shoe 6-12
76279	Screw (10-32 x 5/8 Hex) 6-4	122245	Capacitor (43-48 MFD) 6-4	150028	Disk, Clutch Cam 6-12
76422	Spring 6-17	124177	Washer, Lock 6-16	150043	Wick, Felt 6-12
76461	Washer, Flat 6-5	125011	Washer, Flat 6-10, 6-11	150044	Shoe, Secondary Clutch 6-12
76964	Pin, Cotter 6-17	125015	Washer, Flat 6-5, 6-8, 6-14	150046	Shoe, Primary Clutch 6-12
79890	Screw (1/4-32 x 7/8 Hex) 6-5	125126	Screw (2-56 x 9/32 Fil) 6-15	150241	Spring, Clutch Shoe 6-12
80581	Spring, Detent Latch 6-13, 6-14	125171	Screw (10-32 x 5/16 Hex) 6-19	150439	Gear, Helical (60T) 6-5
86304	Spring, Toggle Drive Link 6-15	125181	Screw (2-56 x 3/8 Fil) 6-3	150440	Hub 6-5
86742	Nut (4-40 Hex) 6-14	125247	Spring 6-17	150441	Gear, Helical (21T) 6-5
90361	Washer, Felt 6-14	128271	Screw, Shoulder (6-40) 6-16	150507	Spring 6-16
90606	Spring 6-6	128357	Ring, Retaining 6-14	150923	Washer, Felt 6-13
90790	Washer, Flat 6-20	130677	Washer, Flat 6-21	150966	Insulator 6-2
90791	Washer, Lock 6-15	131099	Terminal 6-22	150990	Washer, Felt 6-14
93117	Washer, Lock 6-4, 6-6, 6-17	131984	Screw, Shoulder 6-21	150991	Washer, Felt 6-9, 6-11
97393	Screw, Shoulder (6-40) 6-16	139752	Screw (4-40 x 3/16 Hex) 6-10, 6-16	150992	Stud 6-6
98121	Screw (10-32 x 1-1/8 Hex) 6-20	145307	Plate, Nut 6-22	151036	Screw, Shoulder (4-40) 6-14
100657	Connector, Receptacle 6-4, 6-22	145308	Bracket 6-22	151045	Bar w/Inserts, Space 6-8
100658	Connector, Plug 6-6	145309	Bracket 6-21	151060	Gear Set (60 W.P.M.) 6-18
101796	Washer, Felt 6-14	145310	Base 6-3	151075	Gear Set (75 W.P.M.) 6-18
104710	Ball, Lock 6-10	145311	Plate, Stop 6-21	151080	Washer, Spacing 6-10
104807	Washer, Flat 6-16, 6-17	145313	Washer, Felt 6-20	151100	Gear Set (100 W.P.M.) 6-18
108809	Screw (10-32 x 27/32 Hex) 6-22	145314	Bracket Assembly (Right) 6-21	151113	Plate, Mounting 6-3
		145315	Bracket Assembly (Left) 6-21	151118	Plate, Spacing 6-3, 6-4
		145326	Plate, Base 6-19	151126	Spacer 6-7
		145327	Guide 6-19	151129	Gear (48T) 6-7
		145328	Mount, Vibration 6-19	151130	Pinion, Motor (14T) 6-18
		145329	Spacer 6-19	151131	Gear, Intermediate Driven (96T) 6-18
				151132	Pinion, Motor (17T) 6-18
				151133	Gear, Intermediate Driven (93T) 6-18
				151134	Pinion, Motor (20T) 6-18

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151135	Gear, Intermediate Driven (84T) 6-18	153539	Screw (6-40 x 11/16 Hex) 6-6	154095	Eccentric, Contact Box 6-15
151146	Plate, Mounting 6-3, 6-4	153799	Screw (4-40 x 21/64 Hex) 6-16	154096	Bushing, Eccentric 6-11
151152	Screw (4-40 x 3/16 Hex) 6-10, 6-11 6-15, 6-17	153817	Screw (4-40 x 3/8 Hex) 6-3	154101	Plate, Clutch Shaft Rear Mounting 6-11
151171	Toggle, Contact 6-15	153841	Screw (6-40 x 9/16 Hex) 6-3, 6-11	154102	Plate, Signal Generator Rear 6-14
151180	Link, Toggle 6-15	154000	Base 6-3	154105	Post, Transfer Bail 6-13
151182	Washer, Insulating 6-15	154001	Bar, Code (#1) 6-9	154106	Bracket 6-3
151223	Screw, Shoulder (6-40) 6-8	154002	Bar, Code (#2) 6-9	154117	Bail, Space Bar 6-8
151224	Screw, Pivot (6-40) 6-8	154003	Bar, Code (#3) 6-9	154119	Bracket 6-8
151228	Bracket w/Bearing 6-7	154004	Bar, Code (#4) 6-9	154120	Lever, Code Bar 6-9
151229	Washer, Flat 6-19	154005	Bar, Code (#5) 6-9	154121	Lever, Code Bar 6-9
151329	Switch, Sensitive 6-3	154008	Guide, Code Bar 6-9	154122	Lever, Function 6-9
151335	Post, Hex 6-3, 6-4, 6-21	154009	Plate, Signal Generator Front 6-13	154123	Lever, Function 6-9
151411	Block, Terminal 6-4, 6-21	154010	Bail, Transfer 6-13	154124	Lever, Function 6-9
151412	Insulator 6-4, 6-21	154011	Guide, Transfer Lever 6-13	154125	Spring, Code Lever 6-9
151415	Block, Terminal 6-3	154012	Guide, Transfer Lever 6-13	154127	Nut (6-40 Hex) 6-14
151416	Nut (6-40 Hex) 6-3, 6-4, 6-21	154013	Bracket, Code Bar Spring 6-9	154129	Bar, Clutch Trip 6-9
151442	Screw (6-40 x 1/2 Hex) 6-5, 6-11	154014	Post, Guide 6-13	154130	Box, Signal Generator Contact 6-15
151549	Screw, Special (1/4-32) 6-2	154015	Post 6-14	154131	Cover, Contact Box 6-15
151572	Washer, Lock 6-4	154016	Shaft, Code Bar Lever 6-9	154138	Washer, Felt 6-12
151610	Washer, Flat 6-20	154017	Stud, Follower Eccentric 6-14	154140	Bail, Transfer Locking 6-13
151626	Terminal 6-17, 6-22	154018	Post, Locking Bail 6-13	154154	Cam, Signal Generator 6-12
151630	Screw (6-40 x 1/4 Hex) 6-2, 6-4, 6-5, 6-6, 6-8, 6-9, 6-19, 6-20, 6-21, 6-22	154019	Follower, Code Bar Bail Eccentric 6-12	154156	Grommet, Rubber 6-22
151631	Screw (6-40 x 5/16 Hex) 6-2, 6-3, 6-4, 6-5, 6-7, 6-8, 6-9, 6-11, 6-16, 6-20	154021	Link w/Studs, Space Code 6-8	154165	Signal Generator Contact Box Assembly 6-15
151632	Screw (6-40 x 3/8 Hex) 6-3, 6-7, 6-11, 6-15, 6-21, 6-22	154023	Latch, Lock Bar 6-9	154166	Suppressor w/Terminals, Arc 6-15
151633	Bearing, Ball 6-5, 6-20	154025	Plate, Non-Repeat Lever Crank Adjusting 6-14	154173	Plate 6-22
151637	Screw (4-40 x 1/4 Fil) 6-3, 6-16	154027	Crank, Non-Repeat Lever 6-14	154175	Channel, Lock Ball 6-10
151642	Screw (6-40 x 3/4 Fil) 6-5	154029	Wick, Felt 6-12	154178	Spring, Transfer Lever 6-13
151658	Screw (6-40 x 5/16 Fil) 6-20	154030	Shaft, Signal Generator 6-12	154179	Bail, Universal 6-10
151659	Screw (6-40 x 1/2 Fil) 6-8, 6-16	154032	Sleeve, Signal Generator Gear 6-12	154183	Blade, Front 6-10
151678	Screw (Motor Mounting) 6-3	154033	Lever, Clutch Latch 6-11	154184	Blade, Rear 6-10
151685	Screw (4-40 x 5/16 Fil) 6-15, 6-16	154034	Lever, Clutch Stop 6-11	154189	Insulator 6-15
151686	Screw (4-40 x 3/8 Fil) 6-17	154036	Plate, Transfer Bail Detent 6-13	154191	Spring 6-14
151688	Screw (4-40 x 5/8 Fil) 6-17	154037	Lever w/Hub 6-7	154194	Base, Signal Generator Contact 6-15
151690	Screw (10-32 x 29/64 Fil) 6-5	154039	Bracket 6-3	154197	Plug, Plastic 6-7
151692	Screw (6-40 x .188 Fil) 6-17	154040	Lever, Transfer 6-13	154199	Shim (.005") 6-3
151693	Screw (6-40 x 9/16 Fil) 6-5	154041	Post, Stop 6-13	154200	Frame w/Bushings, Signal Generator 6-11
151695	Screw (6-40 x 5/8 Hex) 6-5	154042	Terminal 6-15	154201	Shim (.014") 6-3
151712	Button, Pivot 6-22	154043	Terminal 6-15	154210	Bracket, Left 6-8
151722	Screw (6-40 x 3/16 Hex) 6-9, 6-13	154045	Screw, Contact 6-15	154211	Bracket, Right 6-8
151723	Screw (10-32 x 3/4 Hex) 6-3, 6-5, 6-6	154046	Stud 6-11	154212	Frame, Front 6-8
151724	Screw (10-32 x 5/8 Hex) 6-7	154047	Post, Spring 6-13	154215	Spring 6-14
151725	Screw (10-32 x 3/4 Fil) 6-7	154048	Latch, Code Bar Bail 6-14	154217	Wick, Leather (Transfer Bail) 6-13
151728	Spring, Clutch Lever 6-12	154051	Screw, Shoulder (6-40) 6-14	154234	Bail, Code Bar 6-14
151731	Screw (4-40 x 7/8 Fil) 6-15	154052	Bar, Locking 6-9	154236	Lever, Universal 6-11
151733	Screw (4-40 x 9/16 Fil) 6-6	154053	Bail, Clutch Trip 6-11	154237	Lever, Non-Repeat 6-14
151737	Screw (4-40 x 3/16 Hex) 6-12	154055	Bracket, Front 6-9	154238	Extension 6-10
151820	Spring, Contact 6-15	154056	Bracket, Contact Box 6-15	154239	Extension, Universal Bail 6-10
151827	Strap, Terminal 6-4, 6-21	154059	Bracket, Function Bail 6-7	154662	Spacer 6-7
151843	Screw, Adjusting (6-40) 6-10	154066	Lever w/Hub 6-7	154663	Shaft 6-7
151880	Nut (4-40 Hex) 6-15, 6-16	154068	Bracket, Code Lever Guide (R) 6-9	154694	Disk, Clutch Cam 6-12
152045	Guard 6-3	154069	Bracket, Code Lever Guide (L) 6-9	155750	Sleeve, Insulating 6-6
152764	Gear, Intermediate Driven (81T) 6-18	154070	Guide, Code Lever 6-9	155950	Modification Kit 6-17
152766	Gear Set (67 W.P.M.) 6-18	154071	Screw, Pilot 6-9	155951	Spring, Torsion 6-17
152791	Bushing 6-2	154076	Plate, Nut 6-3	155952	Pin 6-17
152839	Spring, Latch 6-16	154079	Stud 6-14	155953	Stud 6-17
152893	Screw (4-40 x 1/4 Hex) 6-10	154080	Lock, Wedge 6-9	155954	Switch 6-17
152925	Latch 6-2	154081	Retainer, Lock Ball 6-10	155956	Bail w/Bar 6-17
152993	Screw, Shoulder (10-32) 6-2	154083	Spacer, Cam 6-12	155957	Bracket 6-17
153252	Link 6-3	154084	Bearing, Code Bar Bail Latch 6-14	155958	Key Lever 6-17
153442	Screw (10-32 x 1/2 Hex) 6-2	154085	Plate 6-3	155959	Key Top 6-17
153538	Screw (6-40 x 7/16 Hex) 6-6	154086	Retainer, Wedge Lock 6-10	155960	Latch 6-16
		154087	Plate, Nut 6-3	155964	Lever 6-16
		154088	Plate, Nut 6-3	155965	Ratchet, Character Counter 6-16
		154089	Post, Locking Bail Spring 6-14	155966	Drum, Ratchet 6-16
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		154092	Shaft 6-7		
		154093	Stud 6-14		

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155969	Bracket, Character Counter 6-16	158147	Bushing, Eccentric 6-16	161902	Plate 6-5
155991	Key Top Assembly 6-17	158163	Switch 6-4, 6-6	161903	Bracket 6-4
155992	Cable w/Terminals 6-17	158215	Plate, Nut 6-3, 6-4	161904	Plate, Nut 6-4
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156448	Bushing 6-6	158745	Clamp, Bearing 6-5, 6-20	161906	Plate 6-8
156449	Lever, Switch 6-6	159278	Pinion, Motor (14T) 6-18	161907	Plate 6-8
156451	Bushing 6-6	159279	Gear, Intermediate Drivina (96T) 6-18	161908	Post, Supporting 6-4
156503	Wick, Felt 6-12	159281	Pinion, Motor (17T) 6-18	161909	Socket w/Resistor 6-8
156509	Washer, Flat 6-13	159282	Gear, Intermediate Drivina (93T) 6-18	161910	Cap, Amber (Low Tape) 6-8
156516	Latch 6-13	159284	Pinion, Motor (20T) 6-18	161911	Knob 6-8
156574	Post, Spring 6-10	159285	Gear, Intermediate Drivina (84T) 6-18	161912	Switch w/Nuts 6-8
156630	Washer, Flat 6-13	159287	Retainer, Pinion 6-18, 6-20	161925	Guide w/Roller Tape 6-5
156632	Screw (6-40 x 13/32 Hex) 6-8	159340	Spring, Return 6-16	161926	Guide w/Roller, Tape 6-5
156644	Link, Drive 6-15	159542	Connector, Receptacle (Mates with 159541) 6-3	161927	Guide w/Roller, Tape 6-3
156663	Insulator, Toggle and Link 6-15	160307	Diode, Silicon 6-4	161932	Cap, Red (End of Line) 6-8
158019	Baffle, Counter Indicator 6-16	161215	Lamp, Neon (110V) 6-8	161939	Bracket, Guide 6-2
158021	Bracket, Switch 6-16	161293	Gear Set (60 W.P.M.) 6-18	161942	Plate 6-3
158031	Bail, Drive Lever Feed 6-16	161294	Gear Set (75 W.P.M.) 6-18	161950	Bracket 6-3
158032	Bail, Reset 6-16	161295	Gear Set (100 W.P.M.) 6-18	161951	Bracket, Machined 6-5
158033	Spacer 6-16	161301	Post (6-40) 6-18	161954	Socket 6-8
158036	Lever, Reset 6-16	161346	Washer, Felt 6-13	161957	Lamp (6 Volt) 6-8
158038	Lever 6-16	161592	Plate Assembly 6-2	161964	Clamp, Tube 6-4
158040	Lever, Ratchet Drive 6-16	161826	Plate 6-6	161965	Resistor (1000 ohms) 6-4
158042	Lever, Ratchet Latch 6-16	161831	Washer, Spring 6-5	162333	Stud 6-7
158045	Stud 6-16	161891	Plate, Key Top Guide 6-8	162659	Retainer 6-20
158046	Bracket, Counter Scale 6-16	161895	Shaft 6-5	163375	Modification Kit 6-17
158047	Scale, Counter 6-16	161896	Gear, Helical (33T) 6-5	163442	Cable w/Switch & Connector 6-6
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