

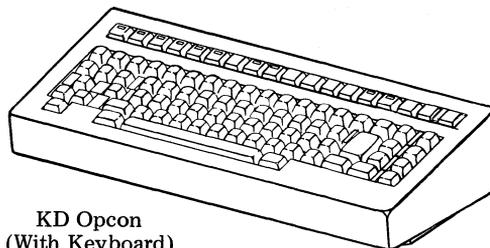
“DATASPEED*” 40 OPERATOR CONSOLES

KD AND RO

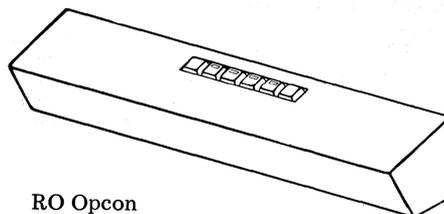
DISASSEMBLY/REASSEMBLY, ADJUSTMENT, AND PARTS

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where applicable, is also included. Because this is a general revision, marginal arrows have been omitted.



KD Opcon
(With Keyboard)



RO Opcon
(Without Keyboard)

Fig. 1—Opcons

1. GENERAL

1.01 This section provides disassembly/reassembly, adjustment, and parts information for the two basic types of DATASPEED 40 operator consoles (opcon) as shown in Fig. 1. DATASPEED 40 hereafter referred to as 40 type.

1.02 This section is reissued to incorporate 40K203, 40K003, 40K004, and the latest engineering changes available at this time. Teletype Change Notice (TCN) information,

1.03 The procedures for opcon removal and replacement and keytop conversions are included in this section.

1.04 The extent of the disassembly procedures is limited to that which is required for correction of troubles or replacement of parts in field locations.

1.05 Disassembly/reassembly procedures are organized according to the pictorial diagrams of major subassemblies and parts shown

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in Fig. 4 and 5. The locations of major subassemblies and parts are identified on the opcons with references to applicable disassembly procedures.

1.06 Refer to Maintenance Tools Section 570-005-800 for a complete listing of the various types of hand tools available for maintenance of TELETYPE® equipment. For a listing of the tools required to perform the disassembly and reassembly of the 40-type opcons, refer to 1.08.

1.07 When ordering replaceable components, unless otherwise specified, prefix each part number with the letters "TP" (ie, TP410057).

TOOLS REQUIRED

1.08 The following tools are recommended for use during the disassembly and reassembly procedures:

75765	Spring hook — pull
89954	1/4-inch nut driver
100982	Screwdriver (6-inch medium)
108285	Long-nose pliers
160396	Retaining ring pliers
346257	Keyswitch extractor
346260	Keytop extractor
346392	Static discharge strap
(TelCo Provided)	Soldering iron (low wattage)
402840	Desolderer
	Terminal extractor tool

2. DISASSEMBLY/REASSEMBLY

2.01 Precautions should be taken to assure that the opcon is disassembled and reassembled under clean conditions. No oil, grease, or other liquids should be allowed on loose parts, subassemblies, keyswitches, or the complete opcon.

2.02 Reference in the procedures to left or right, up or down, and top or bottom, etc, refer to the opcon in its normal operating position.

2.03 When removing a subassembly or part from the opcon, do not force or pry parts to provide the necessary clearance for removal. No forcing is required to accomplish a removal procedure. Follow the removal procedure and note how each part is removed and the sequence of its removal so that proper reassembly can be accomplished. For reassembly, reverse the removal procedure except where different instructions are given.

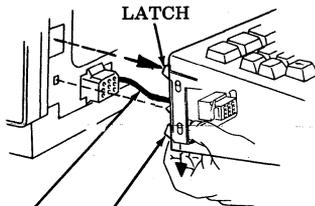
KD OPCON

A. Removal

2.04 To remove KD opcon:

③ Pull opcon forward to disengage from cabinet.

④ Unplug ground strap (ROP opcon only)



① Place thumb on left inward latch tab of opcon and press downward to unlatched position.

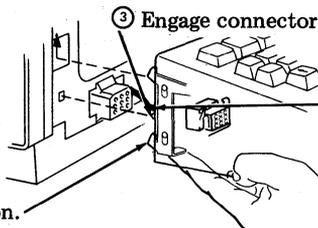
② Hold opcon firmly with left hand, and with right hand place thumb on right inward latch tab and press downward to unlatched position.

B. Replacement

2.05 To replace KD opcon:

① Slide left and right latches down.

④ Slide left and right latches upward into latched position.



③ Engage connector and left and right guides into slots.

② Plug ground strap (ROP opcon only)

Warning: Check that opcon is firmly attached on both sides before releasing hold.

C. Keytop Conversions — 40K101 Opcon Only

2.06 Keytop conversions can easily be performed by substituting certain designated keytops or blocking keytops without removing the opcon from the set.

2.07 The keytop groups that are affected in conversions are shown in Fig. 2. If conversions are made to directly substitute opcons with different arrangements, the necessary parts can be interchanged between units.

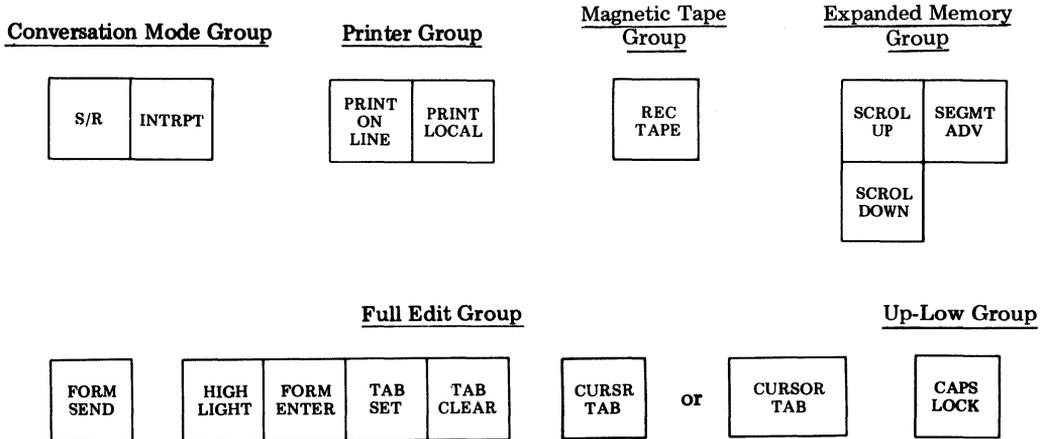
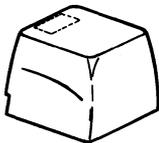


Fig. 2—Keytop Groups

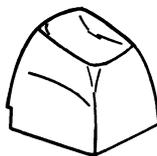
2.08 There are three types of keytops shown in Fig. 3 that are involved in conversions. Refer to Fig. 12 and 13 for part numbers required when keytops must be ordered and stocked to provide these conversions.

1. Control Keytop

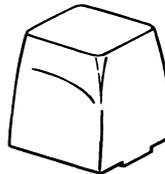


- (a) Indicator (Shown)
- (b) Nonindicator

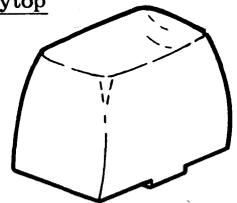
2. Data Keytop



3. Blocking Keytop



(a) Control



(b) Data

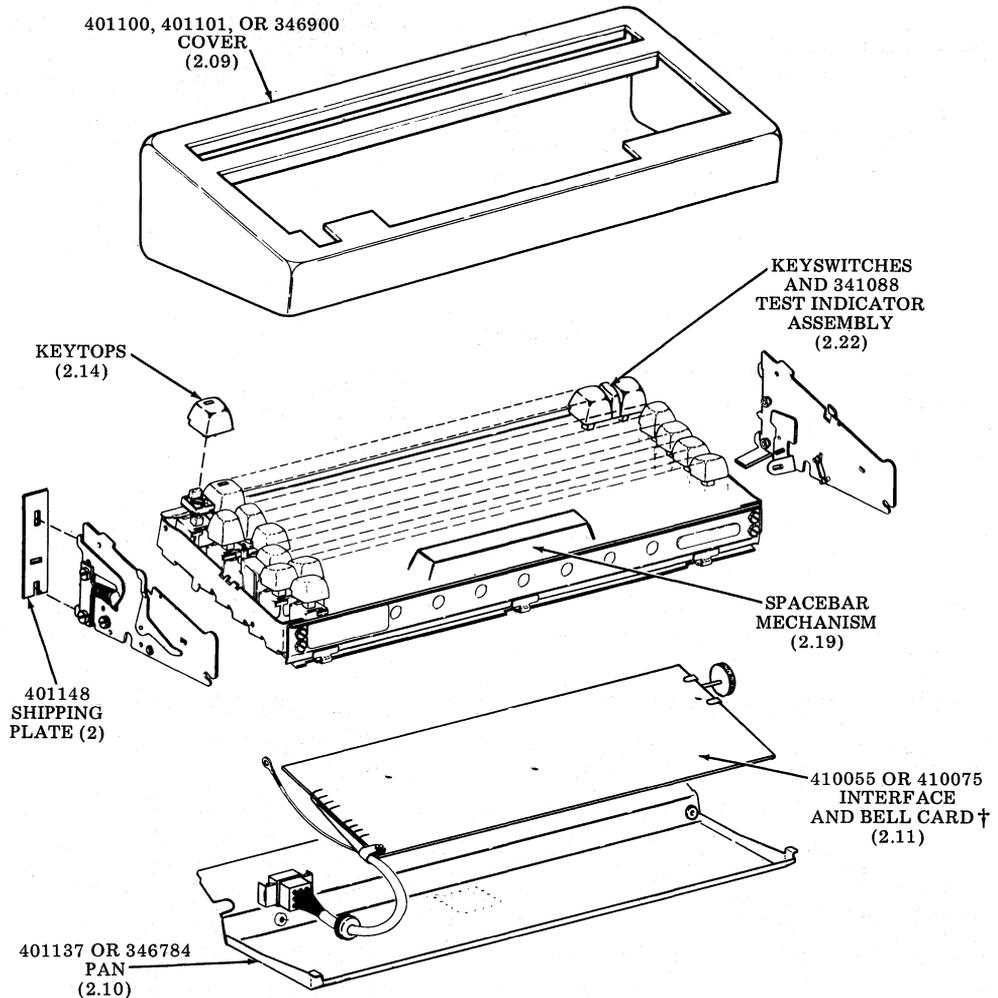
Note: For blocking TAB keys use 341023 blank keytop and insert 346409 spacer under the blank keytop.

Fig. 3—Keytops

D. Major Parts Identification

Note 1: To remove a subassembly or individual part, proceed to the paragraph number referenced in parentheses.

Note 2: The disassembly and reassembly procedures given are for all KD opcons unless otherwise specified.



†The interface and bell card is not present in late design 40K101, 40K104, 203 and 40K105 opcons.

Fig. 4—KD Opcon

E. Disassembly/Reassembly

Warning: To avoid possible internal damage to circuitry, wear a 346392 static discharge strap connected to ground to allow static discharge before handling opcon for disassembly and reassembly. Avoid touching circuit lands or components as much as possible. Soldering irons, test, and insertion equipment must be grounded.



Attach 346392 static discharge strap tightly to wrist as shown.

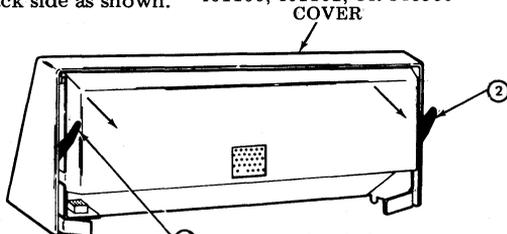


Attach clip end of static discharge strap to frame ground.

401100 or 401101 Cover

2.09 To remove 401100 or 401101 cover:

Stand opcon upright on back side as shown. 401100, 401101, OR 346900



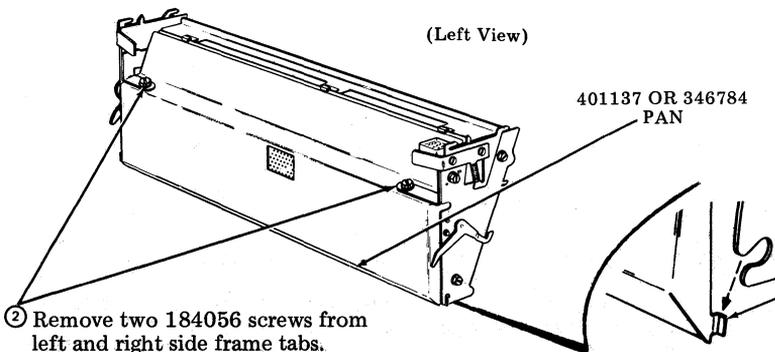
② Use a thin bladed screwdriver or orange stick and pry left and right levers down. Remove cover.

401137 Pan

2.10 To remove 401137 pan:

- Remove cover (2.09).

① Stand opcon upright on front side as shown.



② Remove two 184056 screws from left and right side frame tabs.

③ Disengage ears of pan from left and right side frames and remove pan.

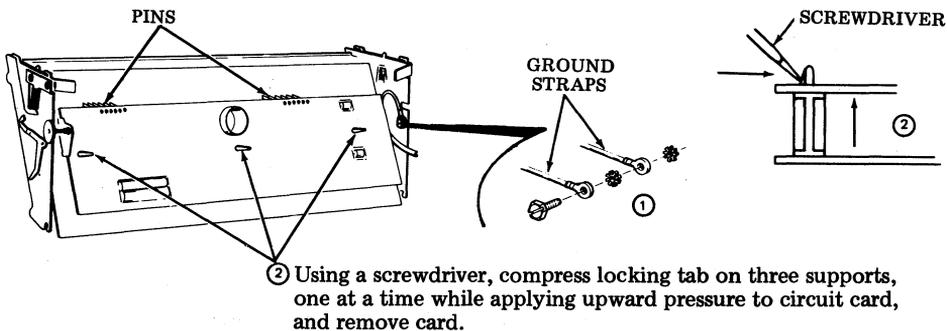
410055 or 410075 Interface and Bell Card

Note: The interface and bell card is not present in late design 40K101, 40K104, 203 and 40K105 opcons.

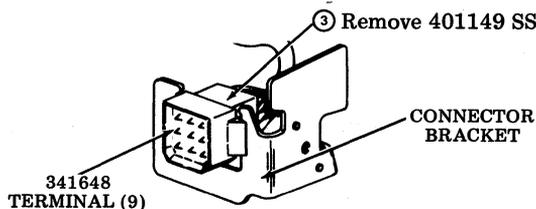
2.11 To remove 410055 or 410075 interface and bell card:

- Remove cover (2.09).
- Remove pan (2.10).

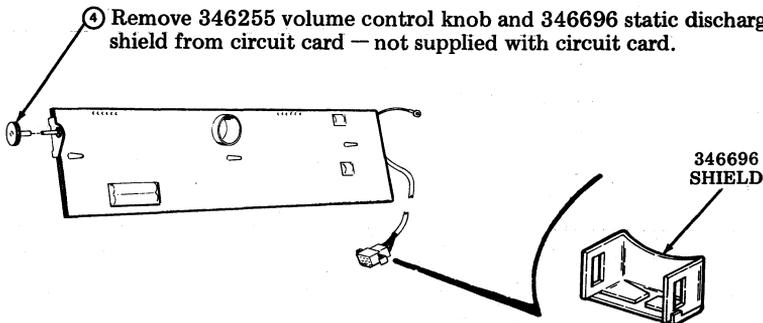
① Remove screw and lockwashers securing ground straps to left side frame.



③ Remove 401149 SSI connector from connector bracket.



④ Remove 346255 volume control knob and 346696 static discharge shield from circuit card — not supplied with circuit card.



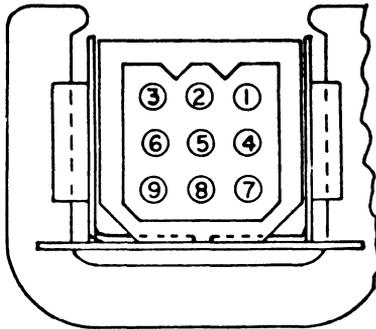
Warning: During reassembly, carefully seat circuit card pins into receptacles before applying pressure.

2.12 To reassemble volume control knob, support housing end of potentiometer before forcing knob over knurled shaft. The knob must be seated flush against surface of side frame.

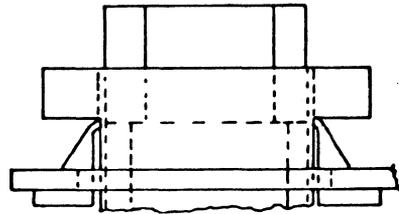
- 2.13 To reassemble SSI connector, install connector with shield into its mounting bracket so that the shield tabs go through the bracket.

Note: Shield ears may be bent during installation.

Interface Connector With Shield
(Installed on Mounting Bracket)



(Rear View)



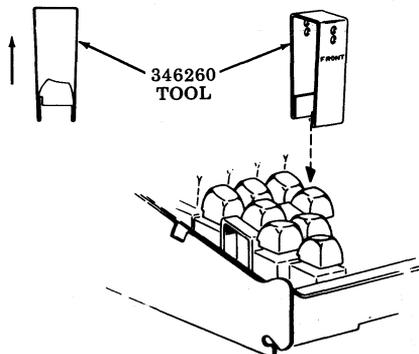
(Bottom View)

Keytops

- 2.14 To remove data keytops:

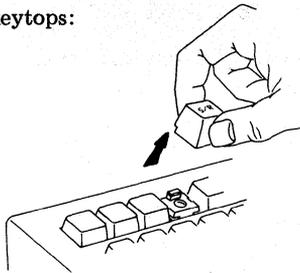
Place 346260 tool over the keytop and pull up to remove. This tool when used to remove the CAPS LOCK keytop will only engage the keytop in the unlatched position.

Warning: *The CAPS LOCK keytop must be in the fully extended, unlatched position before attempting to remove keytop. Failure to observe this precaution will result in a damaged keyswitch.*



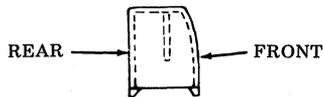
2.15 To remove control keytops and blocking keytops:

- ① Grasp keytop using thumb and index finger.
- ② Exert upward force until keytop releases.



2.16 To reassemble blocking keytop for the CAPS LOCK switch only, operate switch to latched (down) position. For all blocking keytops, position keytop over switch housing and snap down until ridges are retained by notches in switch body.

Caution: Control row blocking keytops are not the same on the front and rear side and must be assembled with the proper orientation. New style blocking keytop has finger-like extensions to the interior of the keytop to prevent reversal.

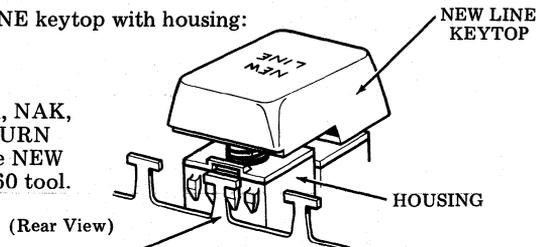


Profile of Control Row Blocking Keytop

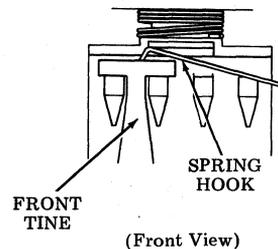
2.17 To remove the NEW LINE keytop with housing:

- Remove cover (2.09).

- ① Remove TAB, SYN, ACK, NAK, Quotes, SHIFT, and RETURN keytops that surround the NEW LINE keytop using 346260 tool.



- ② Disengage rear tine from housing with a small screwdriver while pulling NEW LINE keytop up and toward the front.



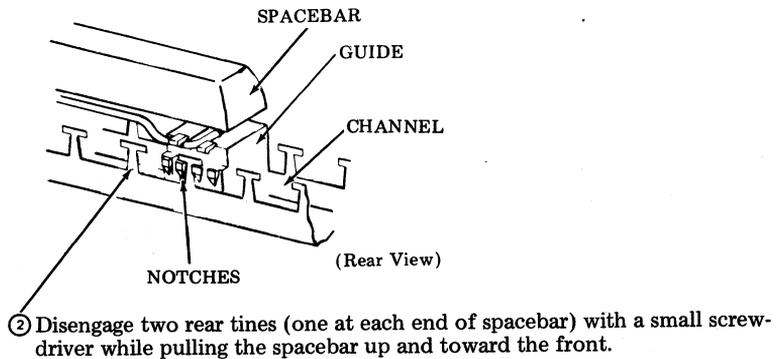
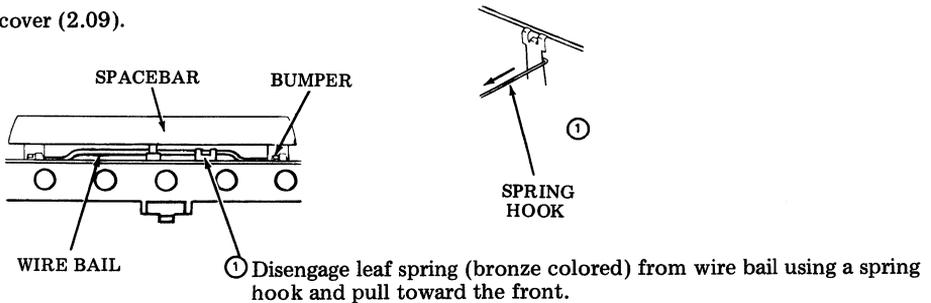
- ③ Continue applying upward pressure to the NEW LINE keytop and disengage the front tine from housing using a spring hook. Remove keytop with housing from channel.

2.18 To reassemble insert housing with keytop, observe position of locating lug on housing and press into channel. Housing must snap fully into front and rear channel tines.

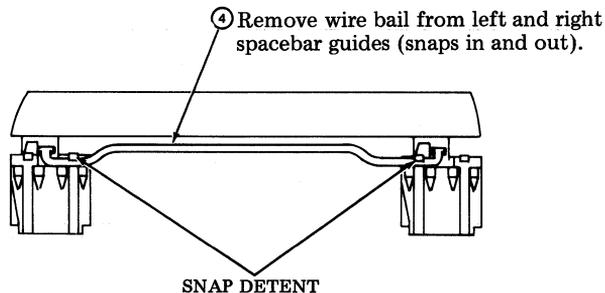
Spacebar Mechanism

2.19 To remove spacebar mechanism:

- Remove cover (2.09).



- ③ Continue applying upward pressure to spacebar and disengage two front tines.



- 2.20 To reassemble spacebar mechanism, make sure the four tines engage the notches in spacebar housing and leaf spring is engaged to wire bail.
- 2.21 Check mechanical operation of spacebar so that it returns to its unoperated position freely when depressed and released slowly.

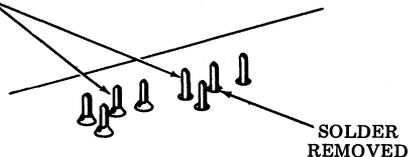
Keyswitches and 341088 Test Indicator Assembly

Note: Refer to Fig. 8 for keyswitch identification.

2.22 To remove keyswitches and 341088 test indicator assembly:

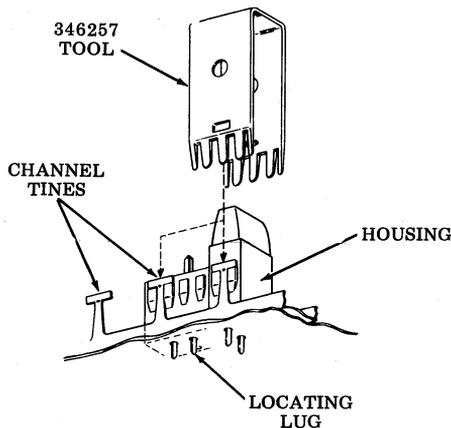
- Remove cover (2.09).
- Remove pan (2.10).
- Remove interface and bell card if present (2.11).
- Remove keytop if keyswitch is being removed (2.14), or unsnap test indicator cap.

- ① Remove solder from around terminal pins of keyswitch or test indicator to be removed.



Warning: Use a grounded, low wattage soldering iron (avoid prolonged contact with pins) along with a desoldering tool to prevent damage to keyswitch card circuits and components.

- ② Place 346257 tool over keyswitch or test indicator and press downward. When tool bottoms and embossed projections snap into notches on housing, squeeze and pull back on tool to lift keyswitch or test indicator out.



Note: The tines of the tool must pass between keyswitch or test indicator housing and inside of channel tines.

2.23 To reassemble, insert new keyswitch or test indicator, observe position of locating lug (on keyswitch only), and press into channel. Housing must snap fully into front and rear channel tines. Hold keyswitch or test indicator in place and resolder.

RO OPCON

A. Removal and Replacement

2.24 Removal and replacement of the RO opcon can be accomplished by following procedures for KD opcon (2.04 and 2.05).

Note: For 40K003/40K004 opcon removal, remove the opcon connector with a flat cable from the 410675 circuit card assembly in procedure 2.04. For 40K003/40K004 opcon replacement, reverse the procedure in the above.

B. Keytop Conversions

2.25 Keytop conversions can easily be performed by substituting certain designated keytops or blocking keytops without removing the opcon from the set.

2.26 The keytops that are affected in conversions are TRANS START or TEST and DATA ERROR. If conversions are made to directly substitute opcons with different arrangements, the necessary parts can be interchanged between units.

2.27 There are two types of keytops involved in conversions: control and blocking (see Fig. 3). Refer to Fig. 16 for part numbers required when keytops must be ordered and stocked to provide these conversions.

C. Major Parts Identification

Note: To remove a subassembly or individual part, proceed to the paragraph number referenced in parentheses.

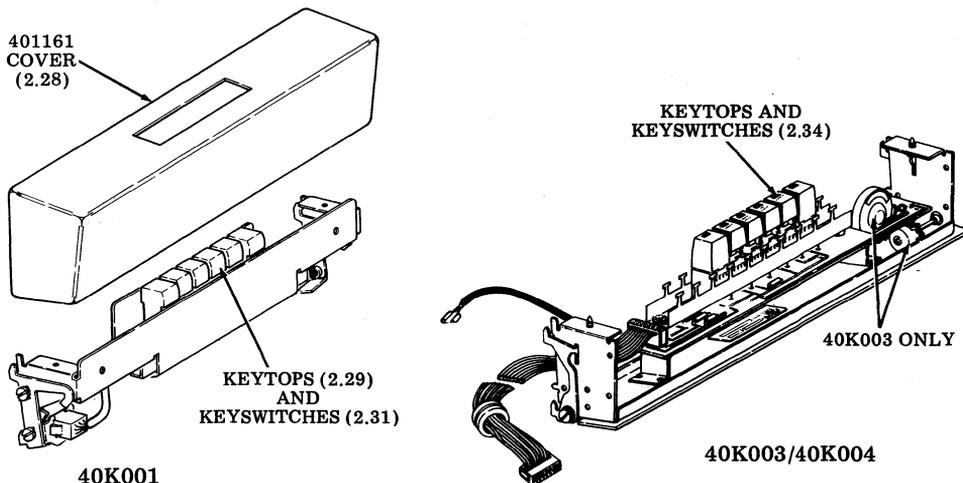
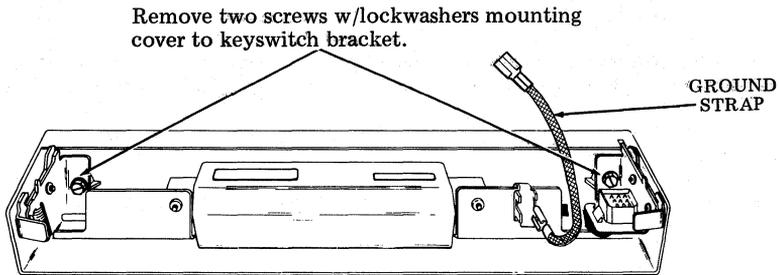


Fig. 5—RO Opcon

D. Disassembly/Reassembly

401161 Cover

2.28 To remove 401161 cover:



40K001 Opcon

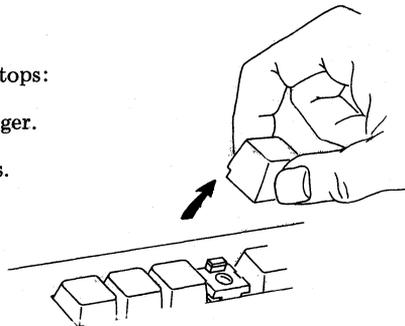
Note: Two cover mounting screws in the 40K004 and 40K003 opcons are located in the area as shown in the 40K001 opcon.

Keytops

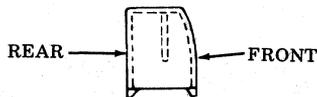
2.29 To remove control and blocking keytops:

Grasp keytop using thumb and index finger.

② Exert upward force until keytop releases.



Caution: Blocking keytops are not the same on the front and rear side and must be assembled with the proper orientation. New style blocking keytop has finger-like extensions to the interior of the keytop to prevent reversal.



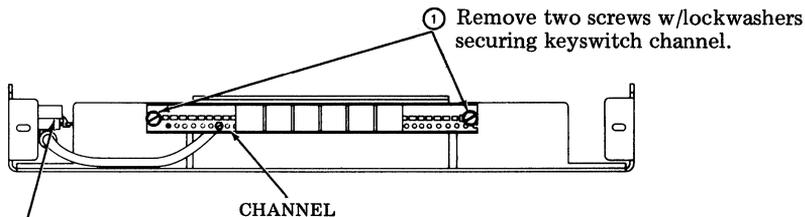
Profile of Blocking Keytop

2.30 To reassemble blocking keytops, position blocking keytop over switch housing until ridges are retained by notches in switch body.

Keystrokes

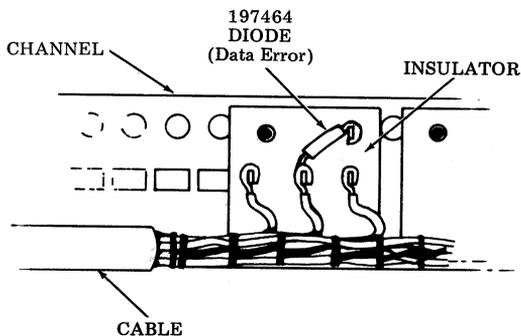
2.31 To remove keystrokes in 40K001 opcon:

- Remove cover (2.28).
- Remove keytops (2.29).



② Unsnap 9-pin connector from bracket.

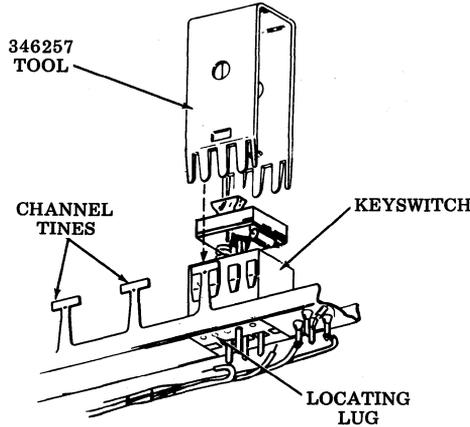
③ Remove solder from terminal pins securing cable leads and jumpers, and remove insulator.



Warning: Use a low wattage (avoid prolonged contact with pins) soldering iron along with a desoldering tool to prevent damage to cable leads.

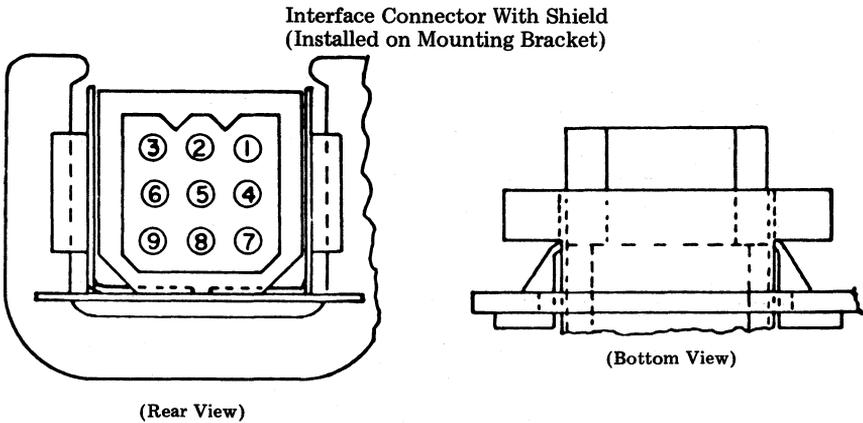
- ④ Place 346257 tool over keyswitch and press downward. When tool bottoms and embossed projections snap into notches on keyswitch, squeeze and pull back on tool to lift keyswitch out.

Note: The tines of the tool must pass between the keyswitch housing and the inside of channel tines.



- 2.32 To reassemble the keyswitches in 40K001 opcon, insert new keyswitch, observe position of locating lug, and press keyswitch into channel. Switch must snap fully into front and rear channel tines. Before resoldering, replace insulator, hold keyswitch in place and resolder.
- 2.33 To reassemble 9-pin connector in 40K001 or 40K004 opcon, install connector with shield into its mounting bracket so that shield tabs go through the bracket.

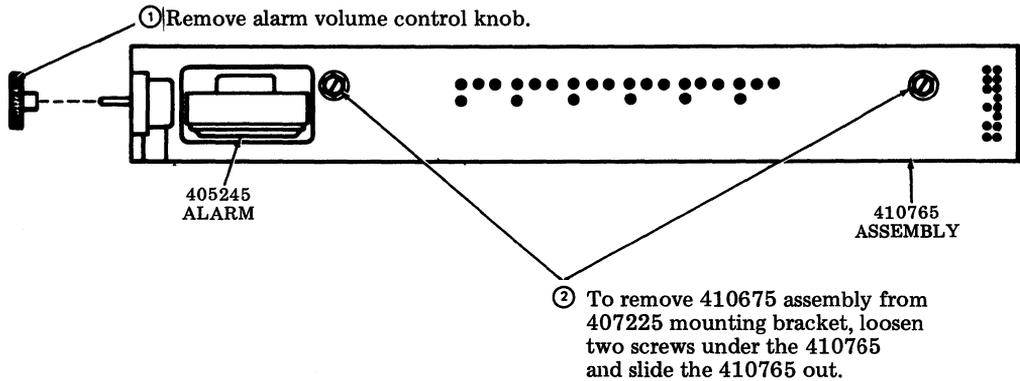
Note: Shield ears may be bent during installation.



2.34 To remove keyswitches in 40K003 and 40K004 opcons:

- Remove Cover (2.28)
- Remove keytops (2.29)

Note: Alarm and alarm volume control not present on 40K004 opcon.



③ Remove solder from the keyswitch terminals on the 410765 circuit card assembly.

④ Follow the instruction ④ in 2.31.

2.35 To reassemble the keyswitches in 40K003/40K004 opcon, observe position of locating lug, and press keyswitch into channel and 410765 circuit card holes. Switch must snap fully into front and rear channel times. Before resoldering, hold keyswitch in place and resolder.

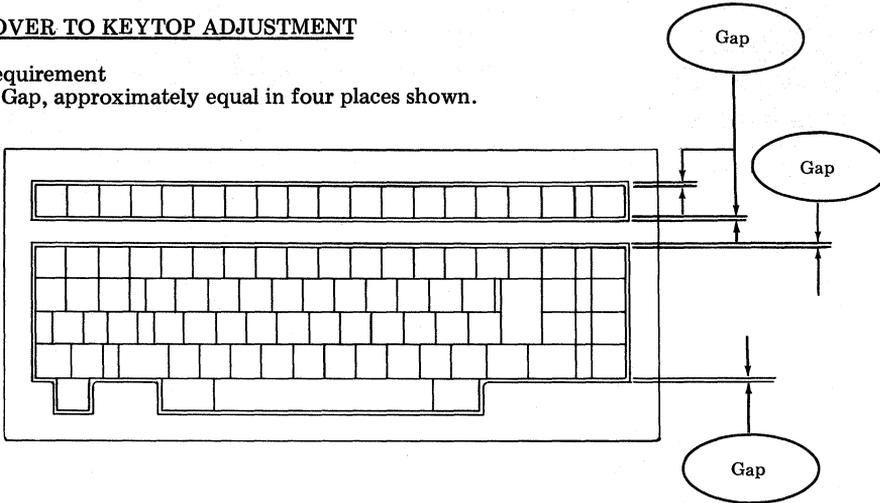
3. ADJUSTMENT

3.01 The clearance between the cover and keytop is the only adjustment provided on the KD. Normally, readjustment is not necessary unless the cover is replaced or if there is an interference between a keytop and the cover.

COVER TO KEYTOP ADJUSTMENT

Requirement

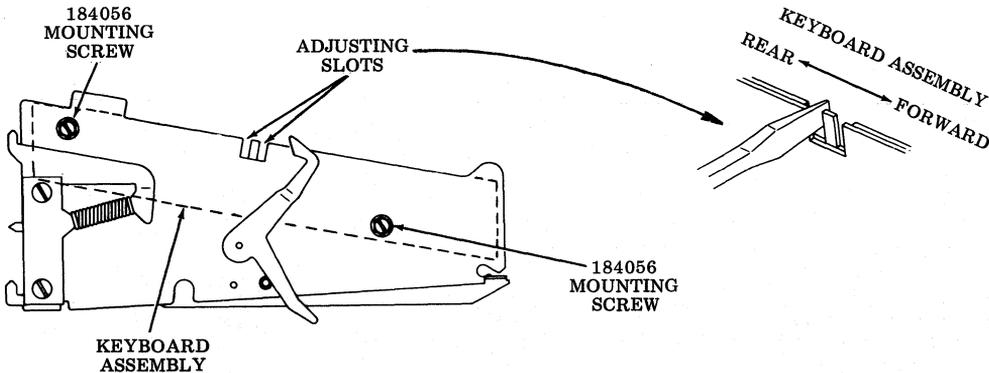
Gap, approximately equal in four places shown.



To Adjust

- Remove cover (2.09).

Loosen two 184056 mounting screws friction tight on both sides of opcon.



Insert screwdriver blade into adjusting slot and move keyboard assembly forward or to the rear to gain gap clearance.

Tighten screws, replace cover and check gaps.

Note: If gaps required are not approximately equal after reassembly, remove cover and repeat adjustment procedures.

4. PARTS

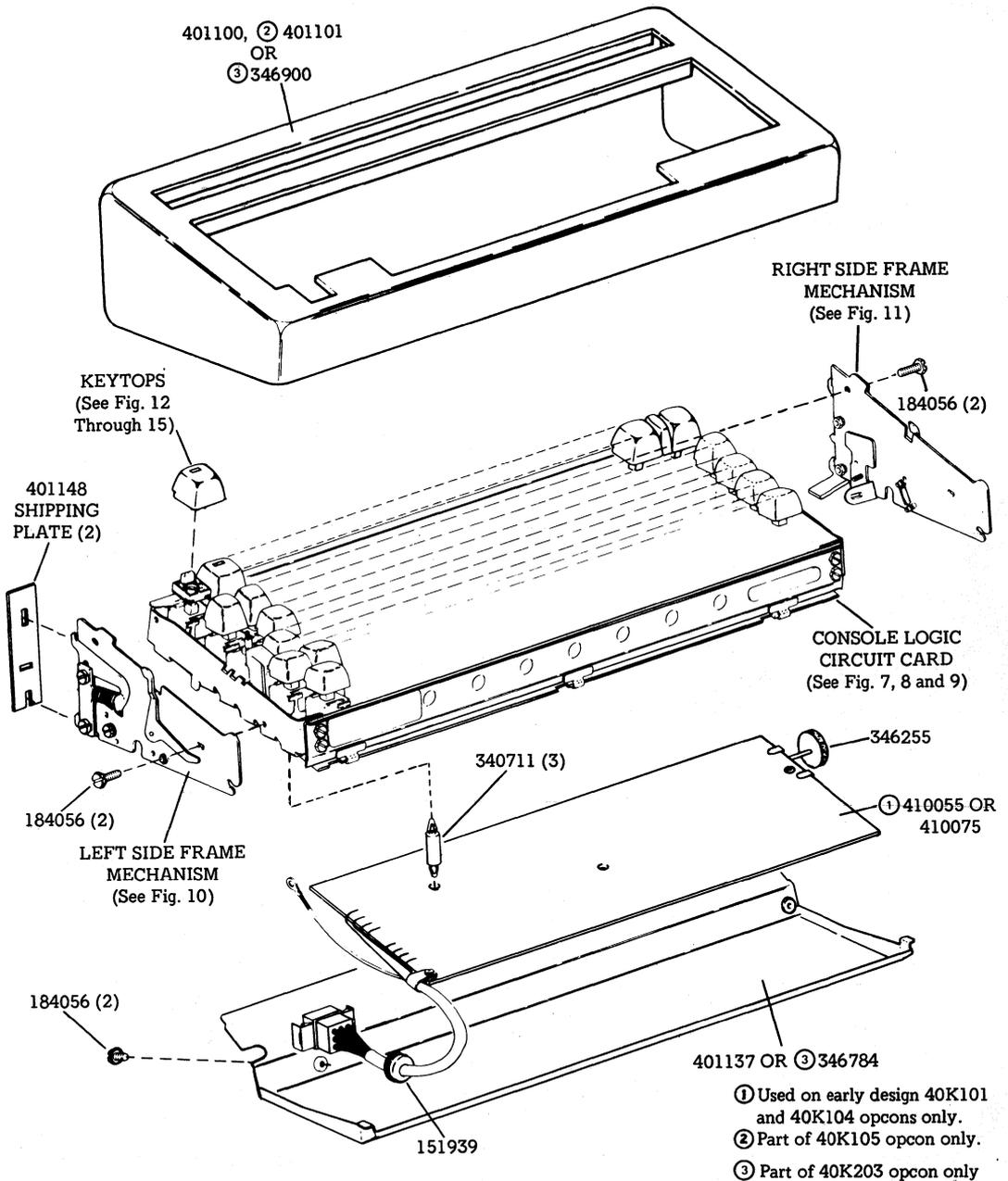


Fig. 6—KD Opcon (40K101, 40K104,203 and 40K105) Major Components

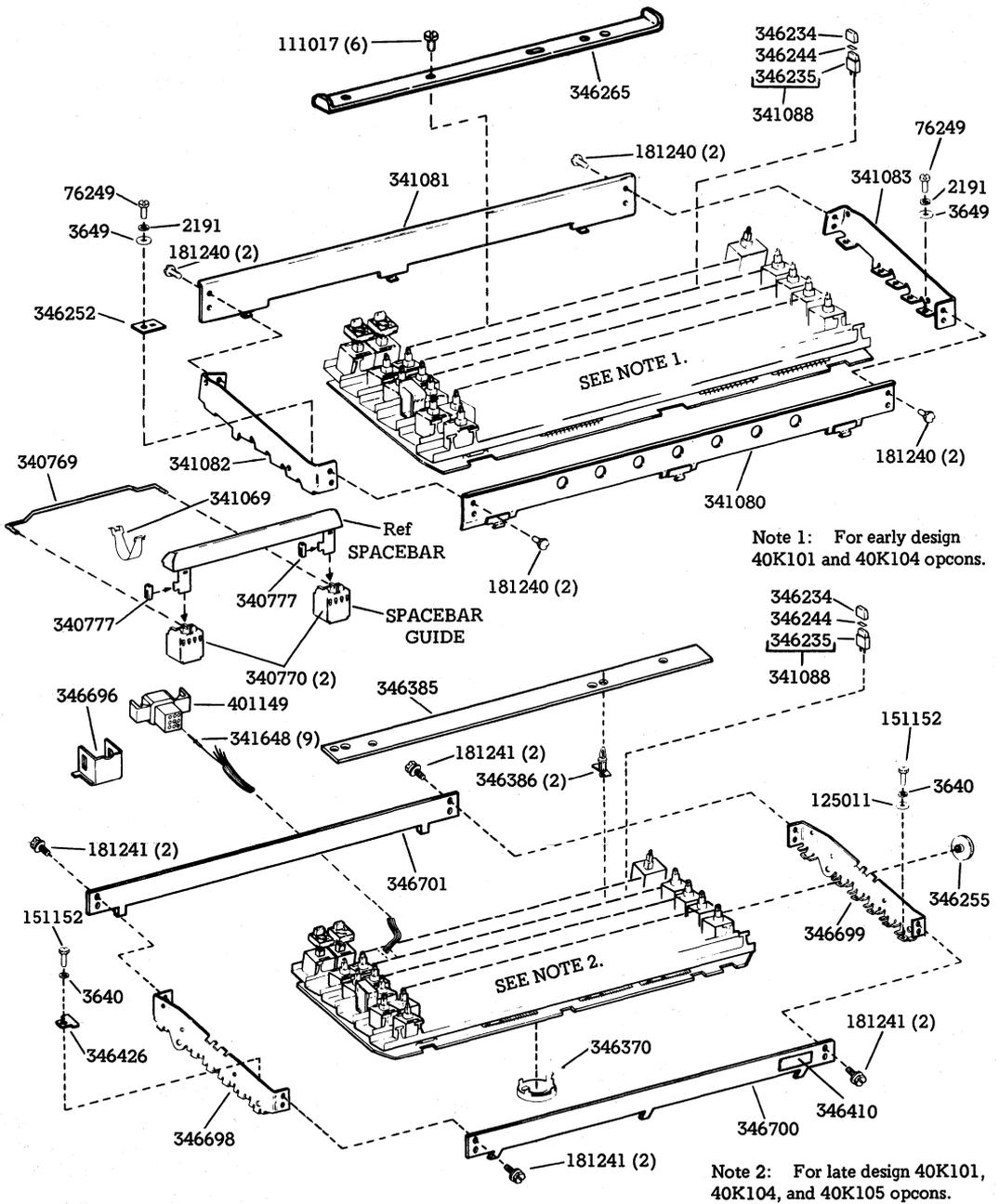


Fig. 7—Console Logic Circuit Card

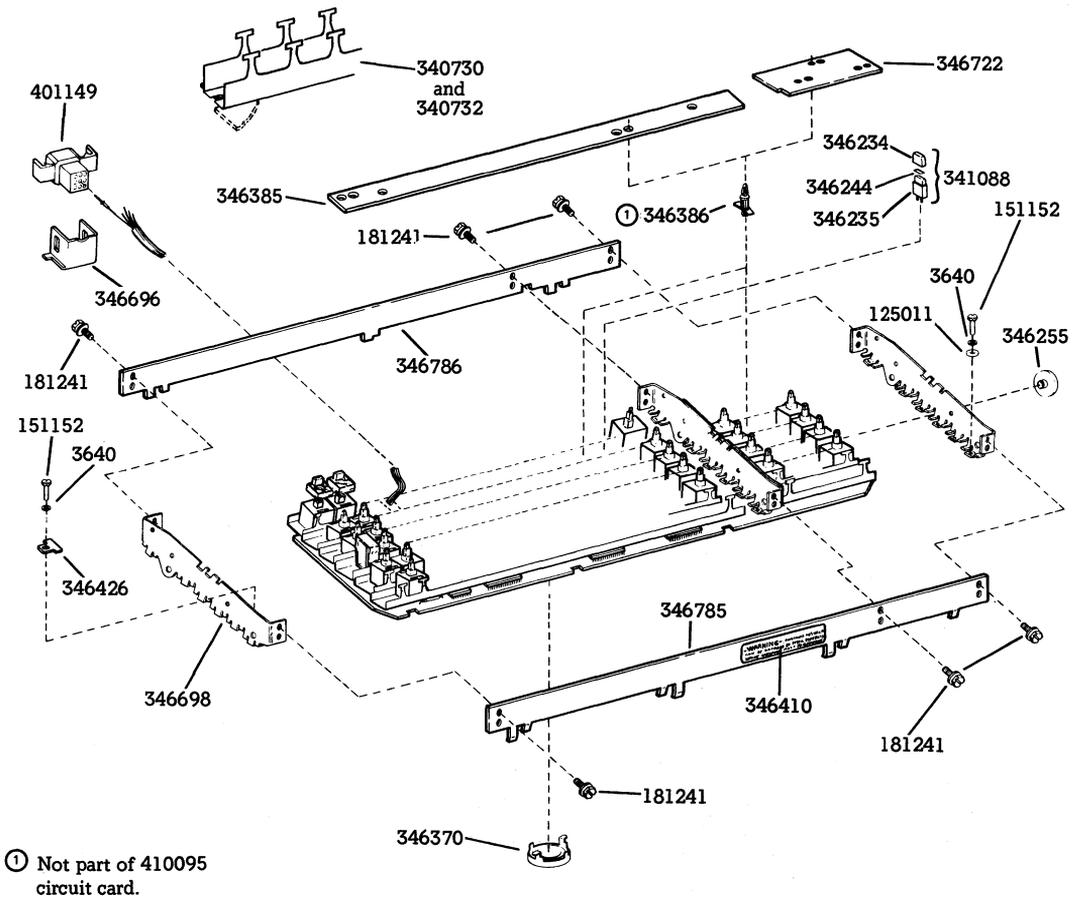
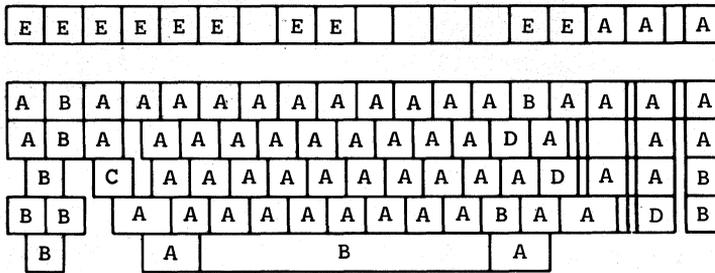
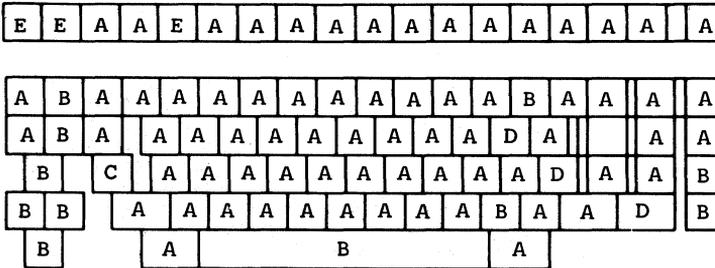


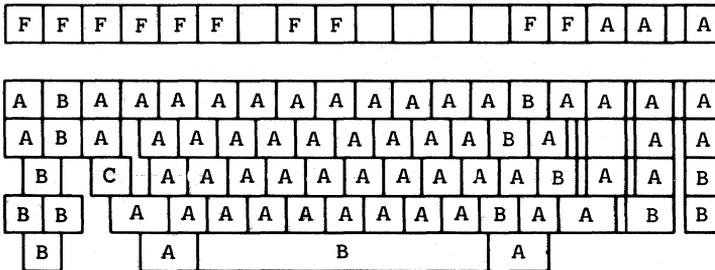
Fig. 8—410095 Console Logic Circuit Card Components for 40K203 Wide Opcon



Early Design 40K101 Opcon



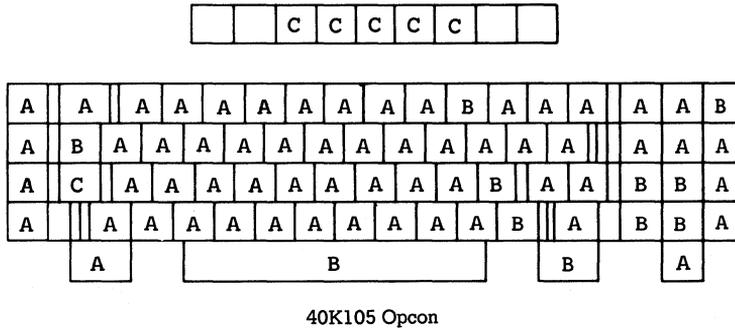
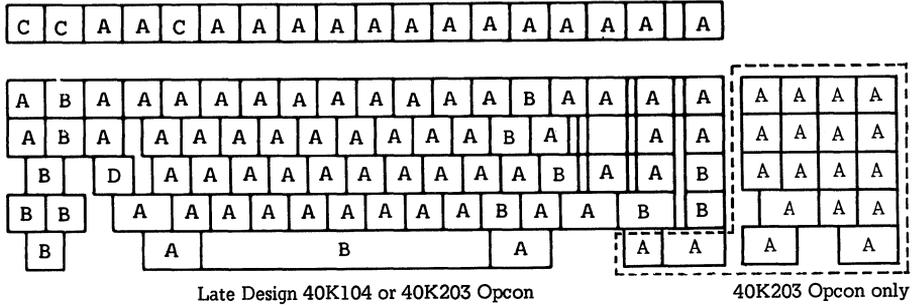
Early Design 40K104 Opcon



Late Design 40K101 Opcon

POS	KEYSWITCH NO.	TYPES	PUSH ROD COLOR
A	340720	Basic	White
B	340721	Repeat	Green
C	340722	Latching	Black
D	341097	Combination	Yellow
E	346211	Indicator W/Resistor	Orange
F	346359	Indicator	Orange

Fig. 9--Keyswitch Identification



POS	KEYSWITCH NO.	TYPES	PUSH ROD COLOR
A	340720	Basic	White
B	340721	Repeat	Green
C	346359	Indicator	Orange
D	340722	Latching	Black

Fig. 10—Keyswitch Identification

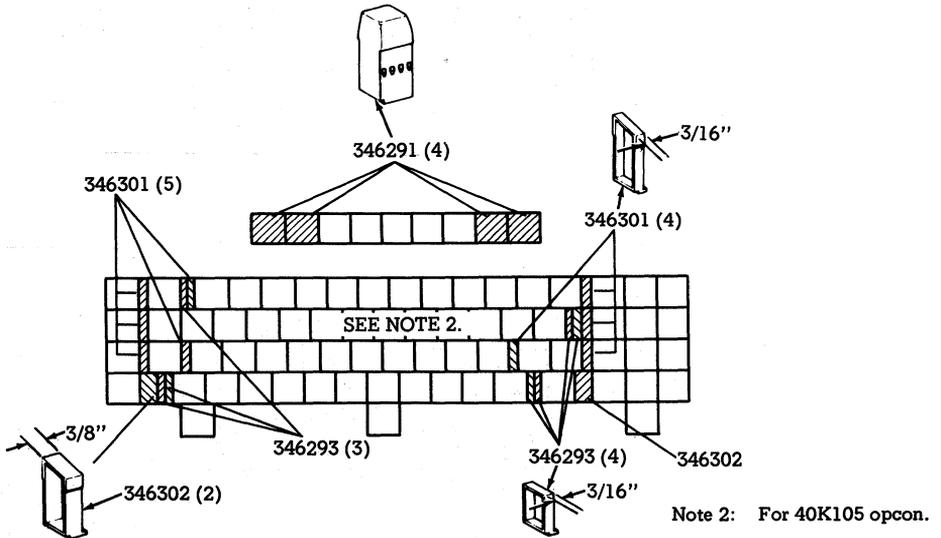
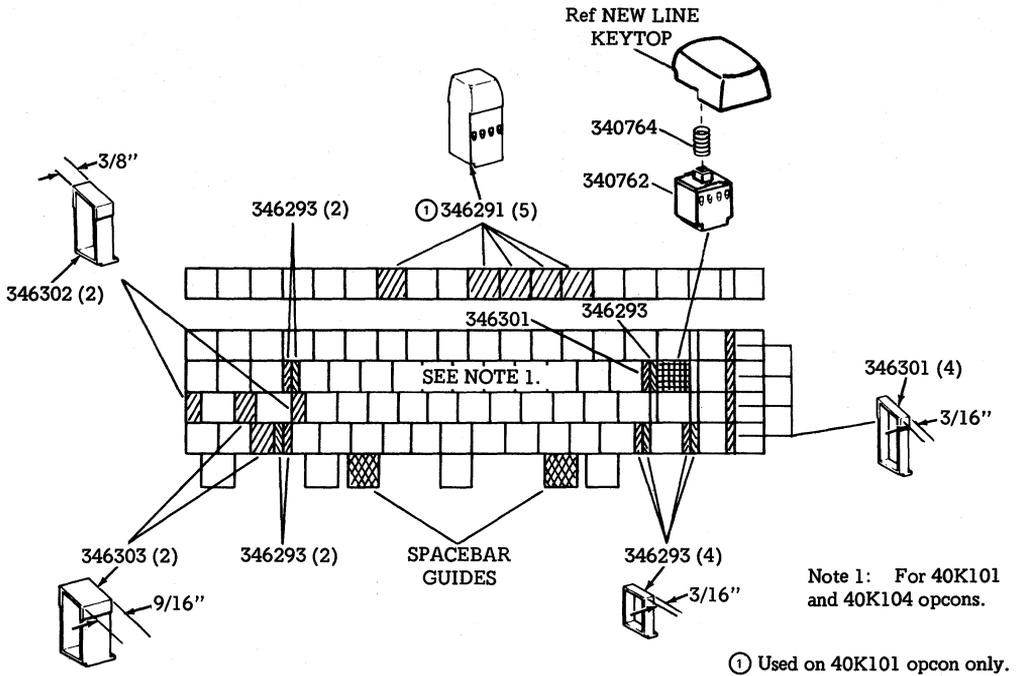


Fig. 11 - Keyswitch Channel Spacers

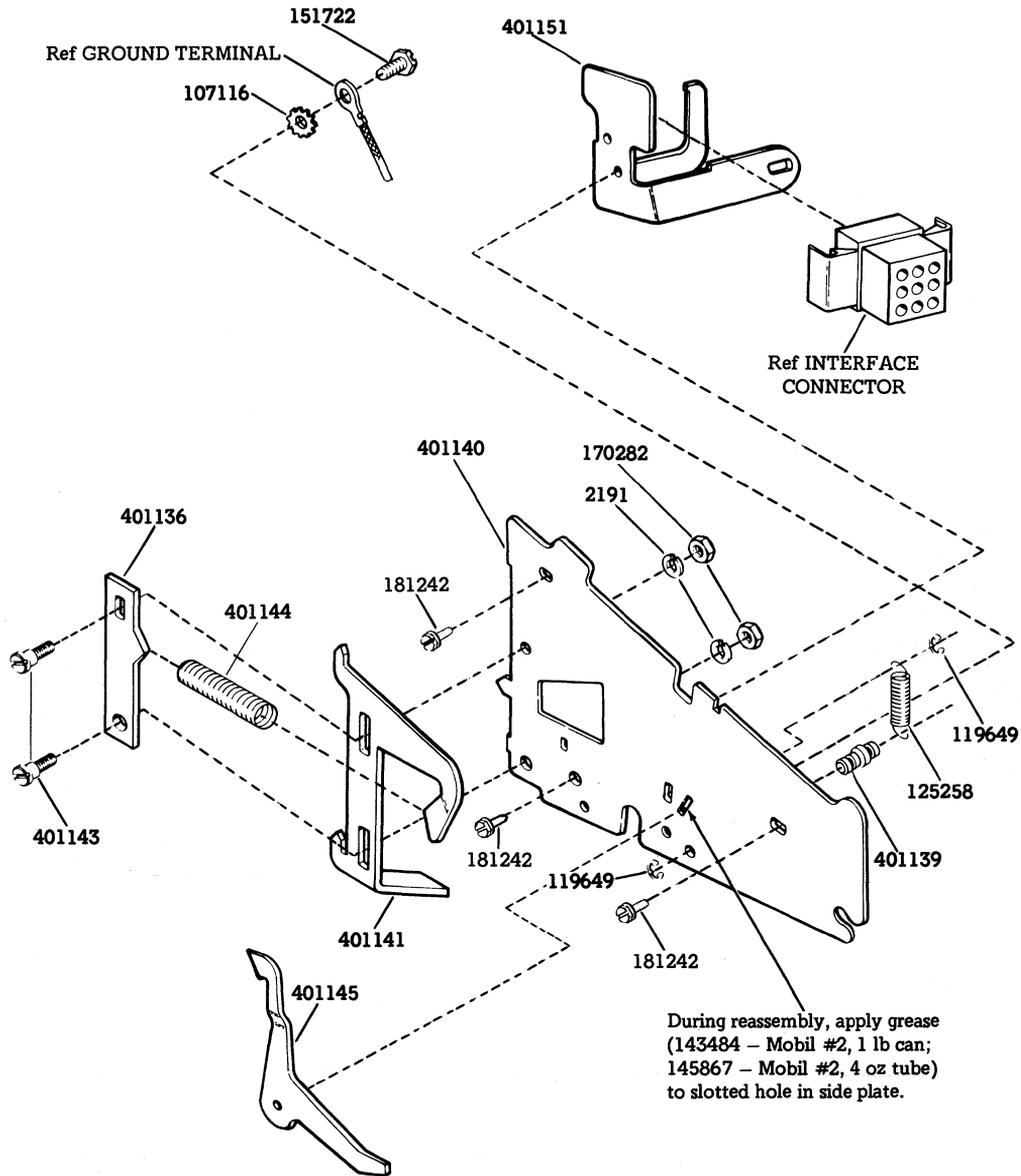


Fig. 12-Left Side Frame Mechanism

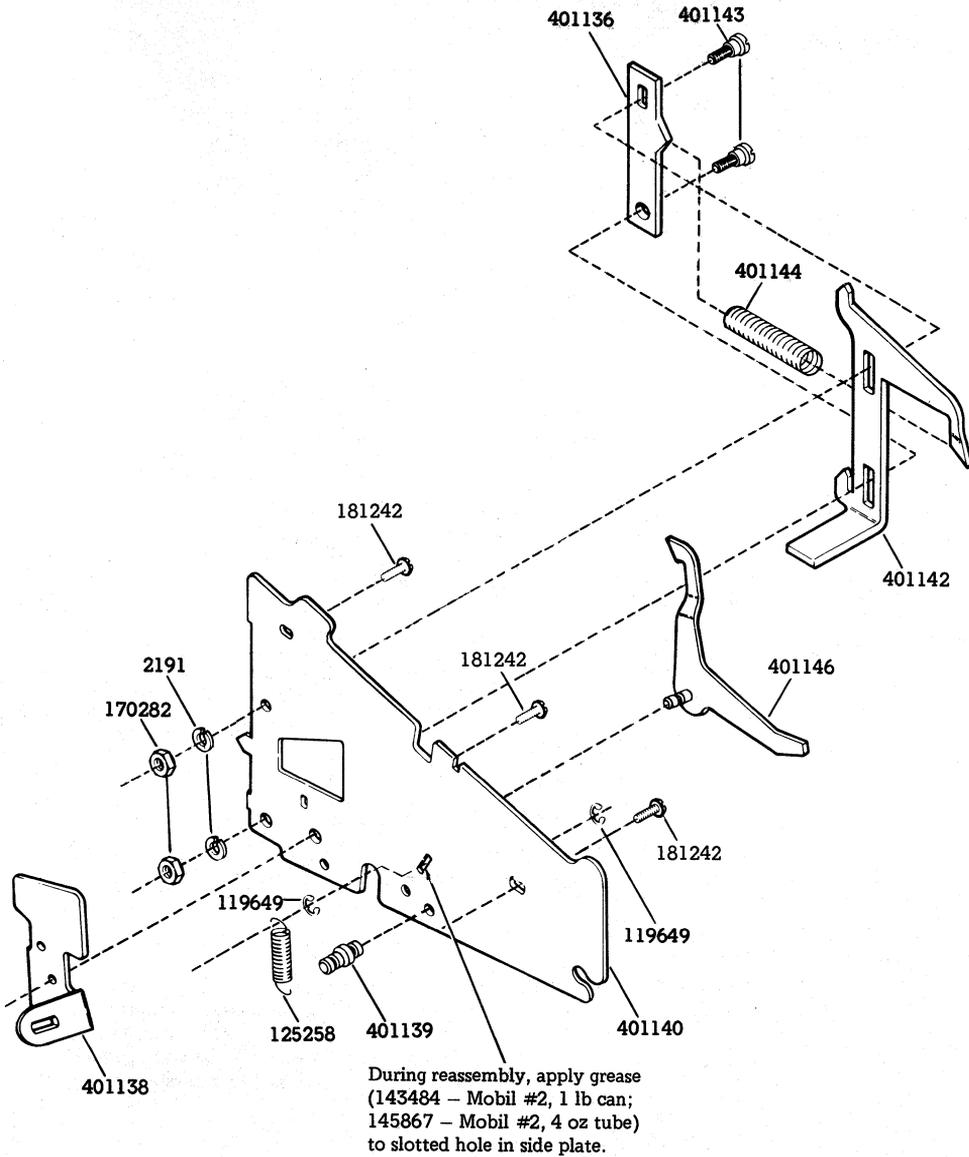
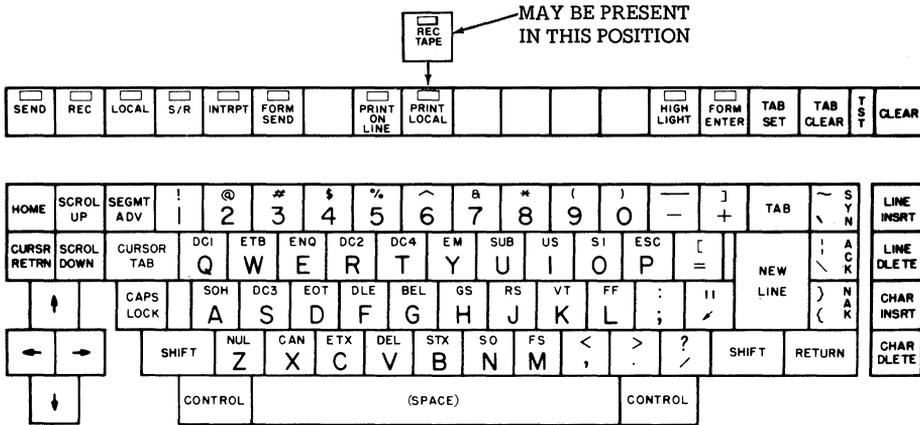


Fig. 13-Right Side Frame Mechanism

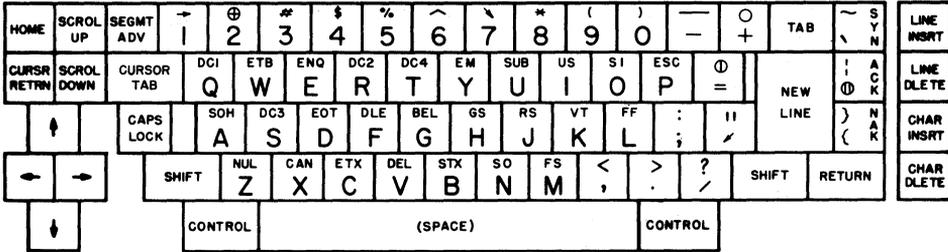


PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR
340701	BLOCKING (CONTROL)	340850	↑	340888	TAB
340714	BLOCKING (DATA)	340852	SOH A	340889] =
‡ 340767	NEW LINE	340853	DC3 S	340890	[=
340778	(SPACE)	340854	EOT D	340891	RETURN
340818	HOME	340856	BEL G	340892	} NAK {
340819	SCROL UP	340857	GS H	340893	| ACK \
340821	! 1	340858	RS J	340894	CAPS LOCK
340822	@ 2	340859	VT K	340895	SEGMT ADV
340823	# 3	340860	FF L	340896	~ SYN `
340824	\$ 4	340861	: ;	340897	DLE F
340825	% 5	340862	" /	340898	CURSOR TAB (WIDE)
340826	^ 6	340863	LINE DELETE	346100	SEND
340827	& 7	340865	←	346101	REC
340828	* 8	340866	→	346102	LOCAL
340829	(9	340867	SHIFT	346103	S/R
340830	) 0	340868	NUL Z	346104	PRINT ON LINE
340831	- -	340869	CAN X	346105	PRINT LOCAL
340835	CURSR RETRN	340870	ETX C	346106	INTRPT
340836	SCROL DOWN	340871	DEL V	346107	HIGH LIGHT
§ 340837	CURSR TAB	340872	STX B	346108	FORM ENTER
340838	DC1 Q	340873	SO N	346110	TAB SET
340839	ETB W	340874	FS M	346111	TAB CLEAR
340840	ENQ E	340875	< ,	346114	CLEAR
340841	DC2 R	340876	> .	346121	FORM SEND
340842	DC4 T	340877	? /	346122	REC TAPE
340843	EM Y	340879	↓	346259	BLOCKING (WIDE CURSOR TAB)
340845	US I	340880	CONTROL		
340846	SI O	340881	CHAR INSRT		
340847	ESC P	340882	CHAR DELETE		
340849	LINE INSRT	340887	SUB U		

‡ The 340764 compression spring between the 340767 keytop and the keyswitch housing must be ordered separately.

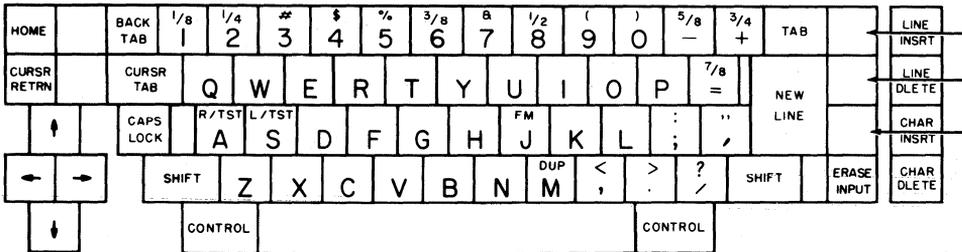
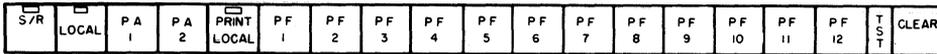
§ Early design

Fig. 14-40K101 Keytop Identification



PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR
340914	→ 1	340918	⊕ =
340915	⊕ 2	340919	/ "
340916	/ 7	340920	⊕ |
340917	⊕ +		ACK

Fig. 15-403596 Modification Kit to Provide 40K101 Opcon With Weather Symbol Keytops

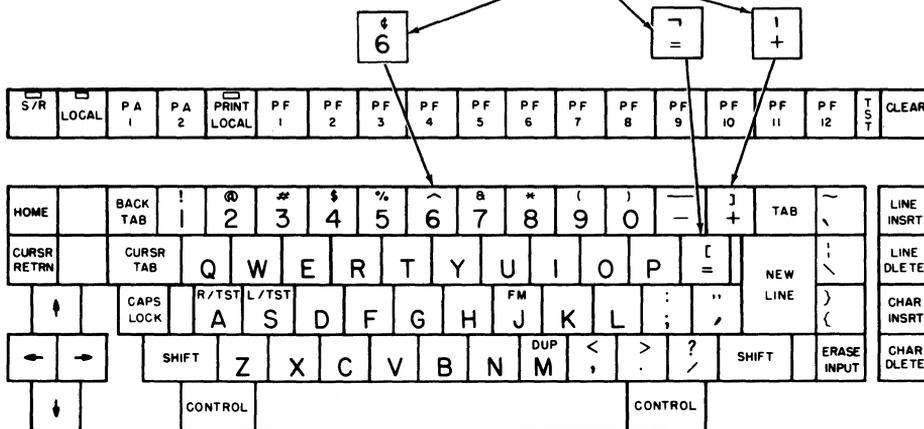


PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR
340900	1/8 1	340904	5/8 -
340901	1/4 2	340905	3/4 +
340902	3/8 6	340906	7/8 =
340903	1/2 8	340714(3)	Blocking Keytop

340714 (3)

Fig. 16-408868 Modification Kit to Provide 40K104 Opcon With Fraction Symbol Keytops

ON EBCDIC KEYBOARD ONLY

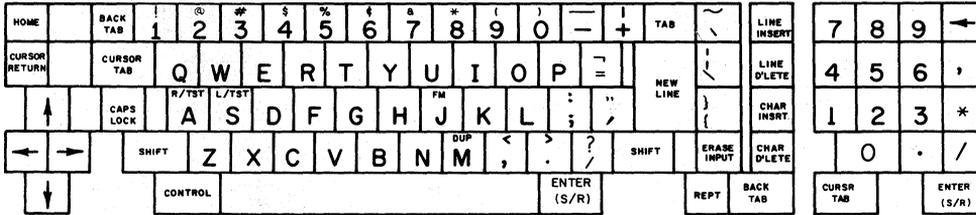


PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR
340701	BLOCKING (CONTROL)	340881	CHAR INSRT	341010	L
340714	BLOCKING (DATA)	340882	CHAR DLETE	341011) (
¶ 340767	NEW LINE	340888	TAB	341012	Z
340778	(SPACE)	340889	] +	341013	X
340818	HOME	340890	[=	341014	C
340821	! 1	340894	CAPS LOCK	341015	V
340822	@ 2	340898	CURSOR TAB	341016	B
340823	# 3	340907	BACK TAB	341017	N
340824	\$ 4	340908	ERASE INPUT	341027	6
340825	% 5	340910	R/TST A	341028	+
340826	^ 6	340911	L/TST S	341029	=
340827	& 7	340912	FM J	346102	LOCAL
340828	* 8	340913	DUP M	346103	S/R
340829	(9	340992	~ \	346105	PRINT LOCAL
340830	) 0	340993	Q	346114	CLEAR
340831	- -	340994	W	346143	PA1
340835	CURSR RETRN	340995	E	346144	PA2
340849	LINE INSRT	340996	R	346145	PF1
340850	↑	340997	T	346146	PF2
340861	: ;	340998	Y	346147	PF3
340862	" ' /	340999	U	346148	PF4
340863	LINE DLETE	341000	I	346149	PF5
340865	←	341001	O	346150	PF6
340866	→	341002	P	346151	PF7
340867	SHIFT	341004	| \	346152	PF8
340875	<	341005	D	346153	PF9
340876	>	341006	F	346154	PF10
340877	?	341007	G	346155	PF11
340879	↓	341008	H	346156	PF12
340880	CONTROL	341009	K		

¶ The 340764 compression spring between the 340767 keytop and the keyswitch housing must be ordered separately.

Fig. 17-40K104 Keytop Identification

S/R	LOCAL	PA 1	PA 2	PRINT LOCAL	PF 1	PF 2	PF 3	PF 4	PF 5	PF 6	PF 7	PF 8	PF 9	PF 10	PF 11	PF 12	T S T	CLEAR
-----	-------	------	------	-------------	------	------	------	------	------	------	------	------	------	-------	-------	-------	-------	-------

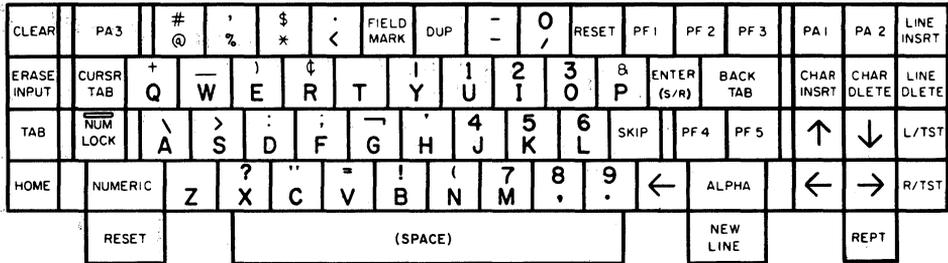
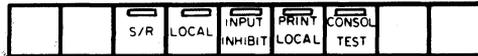


KEYTOP LAYOUT (EBCDIC)

PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR
340701	BLOCKING (CONTROL)	340881	CHAR INSRT	341010	L
340714	BLOCKING (DATA)	340882	CHAR DELETE	341011) (
¶ 340767	NEW LINE	340888	TAB	341012	Z
340778	(SPACE)	340889	] *	341013	X
340818	HOME	340890	[:	341014	C
340821	' 1	340894	CAPS LOCK	341015	V
340822	@ 2	340898	CURSOR TAB	341016	B
340823	# 3	340907	BACK TAB	341017	N
340824	\$ 4	340908	ERASE INPUT	341027	† 6
340825	% 5	340910	R/TST A	341028	! +
340826	^ 6	340911	L/TST S	341029	~ =
340827	& 7	340912	FM J	346102	LOCAL
340828	* 8	340913	DUP M	346103	S/R
340829	(9	340992	~	346105	PRINT LOCAL
340830	) 0	340993	Q	346114	CLEAR
340831	- -	340994	W	346143	PA1
340835	CURSR RETRN	340995	E	346144	PA2
340849	LINE INSRT	340996	R	346145	PF1
340850	↑	340997	T	346146	PF2
340861	: :	340998	Y	346147	PF3
340862	" "	340999	U	346148	PF4
340863	LINE DLETE	341000	I	346149	PF5
340865	←	341001	O	346150	PF6
340866	→	341002	P	346151	PF7
340867	SHIFT	341004	! \	346152	PF8
340875	< .	341005	D	346153	PF9
340876	> /	341006	F	346154	PF10
340877	? /	341007	G	346155	PF11
340879	↓	341008	H	346156	PF12
340880	CONTROL	341009	K		
The part numbers above this line are the same as 40K104.					
346560	Keytop 1	346566	Keytop 7	346574	
346561	Keytop 2	346567	Keytop 8	346583	
346562	Keytop 3	346568	Keytop 9	346584	CURSR TAB
346563	Keytop 4	346570	Keytop CURSR LEFT	346586	ENTER S/R
346564	Keytop 5	346572	*	346588	BACK TAB
346565	Keytop 6	346573	/	347122	KEYTOP 0
				340988	KEYTOP REPEAT

¶ The 340764 compression spring between the 340767 keytop and the keyswitch housing must be ordered separately.

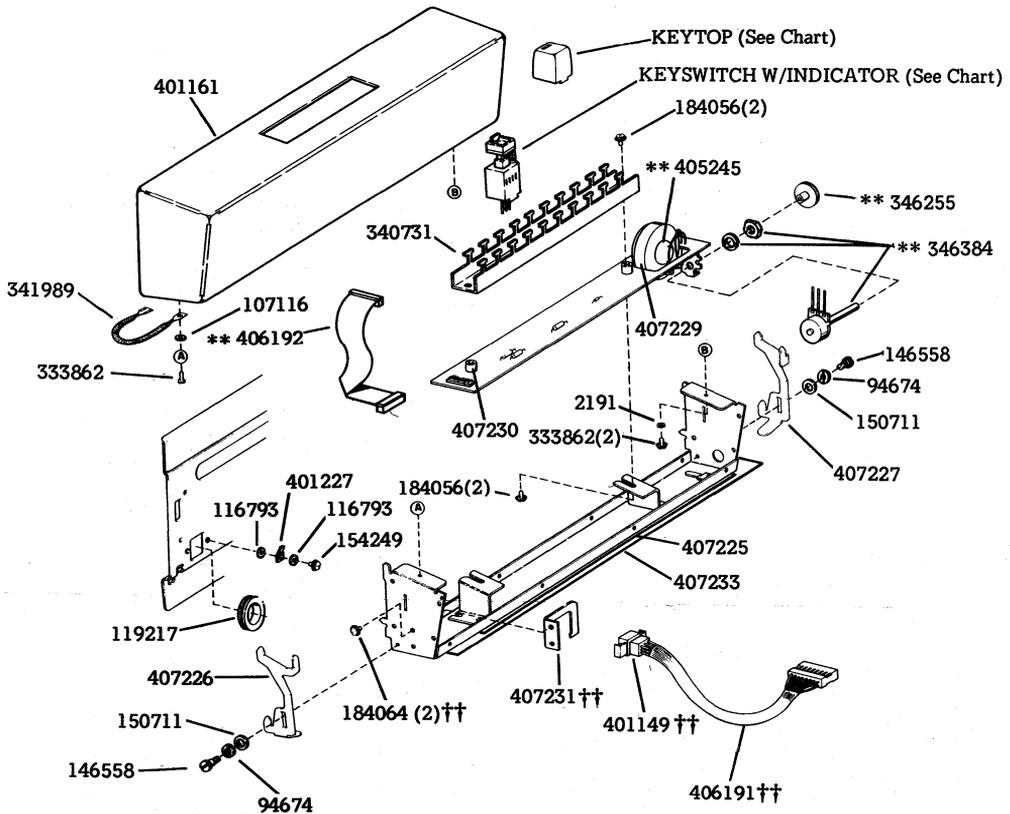
Fig. 18—40K203/GAB Keytop Identification



PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR	PART NO.	KEYTOP DESCR
340778	(SPACE)	346461	PF2	346487	PF5
340837	CURSR TAB	346462	PA1	346488	L/TST
340849	LINE INSRT	346463	PA2	346489	NUMERIC
340850	↑	346464	ERASE INPUT	346490	? X
340863	LINE DELETE	346465	+ Q	346491	" C
340865	←	346466	- W	346492	= V
340866	→	346467	) E	346493	! B
340988	REPT	346468	+ R	346494	(N
340997	T	346469	| Y	346495	7 M
341012	Z	346470	1 U	346496	8 ,
346102	LOCAL	346471	2 I	346497	9 .
346103	S/R	346472	3 O	346498	ALPHA
346105	PRINT LOCAL	346473	& P	346499	R/TST
346189	INPUT INHIBIT	346475	BACK TAB	346500	PF3
346190	CONSOL TEST	346476	\ A	346501	RESET
346451	CLEAR	346477	> S	346502	%
346452	PA3	346478	: D	346506	- -
346453	# @	346479	; F	346507	CHAR INSRT
346454	\$ *	346480	⌋ G	346508	CHAR DELETE
346455	' <	346481	⌋ H	346509	TAB
346456	FIELD MARK	346482	4 J	346510	↓
346457	DUP	346483	5 K	346511	NEW LINE
346458	0 /	346484	6 L	346512	HOME
346459	RESET	346485	SKIP	346518	ENTER (S/R)
346460	PF1	346486	PF4	346800	NUM LOCK

Fig. 19-40K105 Keypop Identification

KEYTOP NO.	KEYTOP DESCRIPTION	KEYSWITCH NO.	INDICATOR HOLDER COLOR
346106	INTRPT	346361	Light Gray
346125	TEST	346360	White
346113	IN SERVICE	346360	White
346119	DATA ERROR	346361	Light Gray
346163	ALARM	346361	Light Gray
346180	POL/SEL	346360	White
407232	BLOCKING		
346291	DUMMY		



** 40K003 only

†† 40K004 only

Fig. 20—RO Opcon (40K003 and 40K004) Components

KEYTOP NO.	KEYTOP DESCR	KEYSWITCH NO.	INDICATOR HOLDER COLOR
346106	INTRPT	346213	Light Gray
*346125	TEST	346212	White
346113	IN SERVICE	346212	White
346119	DATA ERROR	346213	Light Gray

*Replaces 346115
TRANS START keytop.

Note: Early keyswitches have the part number stamped on the keyswitch housing.

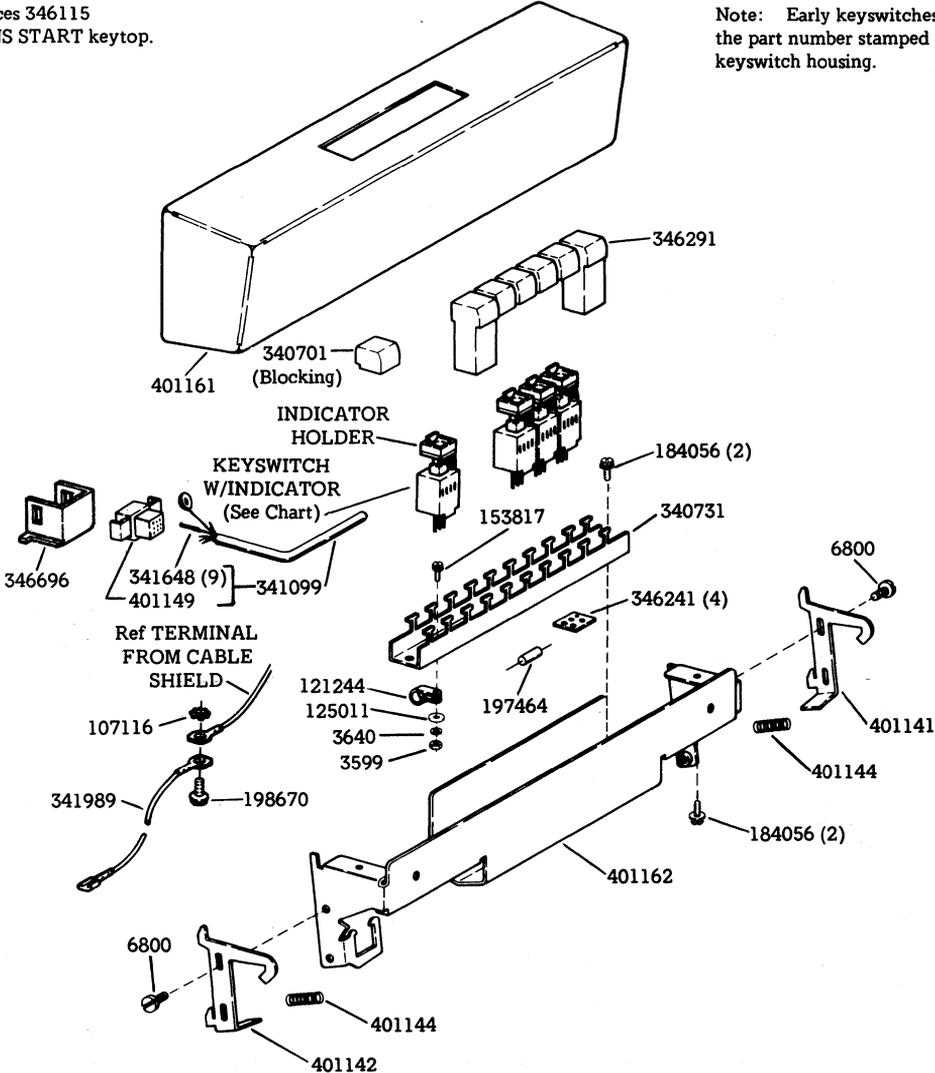


Fig. 21 - RO Opcon (40K001) Components

NUMERICAL INDEX

Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
2191	Lockwasher 18,23,24	340769	Bail, Wire 18	340910	
3599	Nut, 4-40 Hex 31	340770	Guide 18	thru	
3640	Lockwasher 18,19,31	340777	Bumper 18	340913	Keypad 27,28
3649	Washer, Flat 18	340778	Keypad 25,27,28,29	340914	
6800	Screw, 6-40 Shoulder 31	340818	Keypad 25,27,28	thru	
76249	Screw, 6-40 x 1/8 Fil 18	340819	Keypad 25	340920	Keypad 26
94674	Washer, Cup 30	340821	thru	340988	Keypad 28,29
107116	Lockwasher 23,30,31	thru		340992	
111017	Screw, 6-40 x 5/16 Fil 18	340831	Keypad 25,27,28	thru	
116793	Lockwasher 30	340835	Keypad 25,27,28	340996	Keypad 27,28
119217	Grommet, Rubber 30	340836	Keypad 25	340997	Keypad 27,28,29
119649	Ring, Retaining 23,24	340837	Keypad 25,29	340998	
121244	Clamp, 1/4 ID Cable 31	340838	thru	thru	
125011	Washer, Flat 18,19,31	thru		341002	Keypad 27,28
125258	Spring 23,24	340843	Keypad 25	341004	
143484	Grease, 1 Lb. 23,24	340845	thru	thru	
145867	Grease, 4 oz. Tube 23,24	340847	Keypad 25	341011	Keypad 27,28
146558	Screw, 6-40 Shoulder 30	340849	Keypad 25,27,28,29	341012	Keypad 27,28,29
150711	Washer, Flat 30	340850	Keypad 25,27,28,29	341013	
151152	Screw, 4-40 x 3/16 Hex 18,19	340852	thru	thru	
151722	Screw, 6-40 x 3/16 Hex 23	thru		341017	Keypad 27,28
151939	Grommet, Rubber 17	340854	Keypad 25	341027	
153817	Screw, 4-40 x 3/8 Hex 31	340856	thru	thru	
154249	Screw, #8B Self-Tapping 30	thru		341029	Keypad 27,28
170282	Nut, 6-40 Hex 23,24	340860	Keypad 25	341069	Spring, Leaf 18
181240	Screw w/Lockwasher, 6-40 x 3/16 Hex 18	340861	thru	341080	Frame, Front 18
181241	Screw w/Lockwasher, 6-40 x 1/4 Hex 18,19	340862	Keypad 25,27,28	341081	Frame, Rear 18
181242	Screw w/Lockwasher, 6-40 x 5/16 Hex 23,24	340863	Keypad 25,27,28,29	341082	Frame, Left 18
184056	Screw w/Lockwasher, 6-40 x 1/4 Hex 17,30,31	340865	Keypad 25,27,28,29	341083	Frame, Right 18
184064	Screw w/Lockwasher, 6-40 x 1 Hex 30	340866	Keypad 25,27,28,29	341088	Indicator Assembly, Test 18,19
197464	Diode 31	340867	Keypad 25,27,28	341097	Keypad 20
198670	Screw w/Lockwasher, 6-40 x 5/16 Hex 31	340875	thru	341099	Cable Assembly 31
333862	Screw, Special 30	340877	Keypad 25,27,28	341648	Terminal, Receptacle Type 18,31
340701	Keypad 25,27,28,31	340879	thru	341989	Strap 30,31
340711	Support 17	340882	Keypad 25,27,28	346100	Keypad 25
340714	Keypad 25,26,27,28	340887	Keypad 25,27	346101	Keypad 25
340720	Keypad 20,21	340888	thru	346102	Keypad 25,27,28,29
340721	Keypad 20,21	340890	Keypad 25,27,28	346103	Keypad 25,27,28,29
340722	Keypad 20,21	340891	thru	346105	Keypad 25,27,28,29
340730	Channel 19	340899	Keypad 25	346106	Keypad 25,30,31
340731	Channel 30,31	340893	Keypad 25	thru	
340732	Channel 19	340894	Keypad 25,27,28	346108	Keypad 25
340762	Housing 22	340898	Keypad 25,27,28	346110	Keypad 25
340764	Spring, Compression 22,25,27	340900	Keypad 25,27,28	346111	Keypad 25
340767	Keypad 25,27,28	thru		346113	Keypad 30,31
		340906	Keypad 26	346114	Keypad 25,27,28
		340907	thru	346115	Keypad 31
		340908	Keypad 27,28	346119	Keypad 30,31
				346121	Keypad 25
				346122	Keypad 25

NUMERICAL INDEX (Cont)

Part Number	Description and Page Number	Part Number	Description and Page Number	Part Number	Description and Page Number
346125	Keytop 30,31	346475		401138	Bracket 24
346143		thru		401139	Post, Spring 23,24
thru		346502	Keytop 29	401140	Plate 23,24
346156	Keytop 27,28	346506		401141	Latch, Left Plate 23,31
346163	Keytop 30	thru		401142	Latch, Right Plate 24,31
346180	Keytop 30	346512	Keytop 29	401143	Screw, 6-40 x 11/32
346189		346518	Keytop 29		Shoulder 23,24
thru		346560		401144	Spring 23,24,31
346190	Keytop 29	thru		401145	Latch, Left Cover 23
346211	Keyswitch Assembly 20	346568	Keytop 28	401146	Latch, Right Cover 24
346212	Keyswitch Assembly 31	346570	Keytop 28	401148	Plate 17
346213	Keyswitch Assembly 31	346572		401149	Connector, 9Pt Plug 18,
346234	Cap 18,19	thru			19,30,31
346235	Housing 18,19	346574	Keytop 28	401151	Bracket 23
346241	Insulator 31	346583		401161	Cover 30,31
346244	Label 18,19	thru		401162	Bracket 31
346252	Plate 18	346584	Keytop 28	401227	Tab, Terminal 30
346255	Knob 17,18,19,30	346586	Keytop 28	403596	Modification Kit 86
346259	Keytop 25	346588	Keytop 28	405245	Alarm 30
346265	Plate, Cover 18	346696	Shield 18,19,31	406191	Cable Assembly 30
346291	Spacer 22,30,31	346698	Frame, Left 18,19	406192	Cable Assembly 30
346293	Spacer 22	346699	Frame, Right 18	407225	Bracket 30
346301	Spacer 22	346700	Rail, Front 18	407226	Plate, Left Latch 30
346302	Spacer 22	346701	Rail, Rear 18	407227	Plate, Right Latch 30
346303	Spacer 22	346722	Cover 19	407229	Bracket 30
346359	Keyswitch 20,21	346784	Pan 17	407230	Post 30
346360	Keyswitch 30	346785	Rail, Front 19	407231	Bracket 30
346361	Keyswitch 30	346786	Rail, Rear 19	407232	Keytop 30
346370	Crystal Assembly 18,19	346800	Keytop 29	407233	Cover 30
346384	Resistor 30	346900	Cover 17	407288	Clamp 30
346385	Cover 18,19	347122	Keytop 28	408868	Modification Kit 26
346386	Support 18,19	401100	Cover 17	410055	Card, Circuit 17
346410	Label 18,19	401101	Cover 17	410075	Card, Circuit 17
346426	Plate, Locating 18,19	401136	Plate, Spring 23,24	410095	Card, Circuit 19
346451		401137	Pan 17		
thru					
346473	Keytop 29				