

Model 1051-A Console

A-C Superheterodyne

Radio Receiver



SPECIFICATIONS

Frequency Range:

- Five: (1) Broadcast .535 to 1.5 mc.
(2) Shortwave 49 M. 5.85 to 6.3 mc.
(3) Shortwave 31 M. 9.2 to 9.75 mc.
(4) Shortwave 25 M. 11.4 to 12.05 mc.
(5) Shortwave 19 M. 14.8 to 15.6 mc.

I.F.

Tubes:

(Type)	(Position)
6SK7	R-F Amplifier
6SA7	Converter
6SK7	I-F Amplifier
6SQ7	2nd Detector, AVC & 1st A-F Amplifier
6J5	2nd Audio & Bass Boost
6J5	Phase Inverter
6F6G (2)	Push-Pull Output
5X4G	Rectifier
6U5	Tuning Eye

Power Supply: 110-125 volts, A-C, 25-60 cycles

Power Output: 8 watts.

A.V.C.: Applied to 6SK7 R-F Amplifier, 6SA7 Converter and 6SK7 I-F Amplifier.

Audio System:

Resistance-capacity coupled 1st Audio and 2nd Audio Stages. 2nd Audio Stage gives emphasis to bass notes. Phase inverter feeding push-pull output stage.

Antenna:

Rotatable loop located in loudspeaker chamber. Special antenna mounted above chassis for shortwave. Provision is also made for use of external antenna.

Controls: Five (left to right)

- (1) Tone and On-Off Switch
- (2) Volume Control
- (3) Tuning Control
- (4) Transfer Switch
- (5) Wave Band Switch

Power Outlet:

Receptacle in rear of chassis provides 110 volts A-C power supply for phono unit or floor lamp, etc.

Loudspeaker:

10" E.D. enclosed in "Mirrophonic" Tone Chamber.

Automatic Tuning:

Eight mechanically-operated pushbuttons for selection of stations.

Phono-Radio Plug:

Provision is made for use of receiver as an electric phonograph.

Dimensions: Chassis: 20 $\frac{3}{4}$ " long, 8 $\frac{5}{8}$ " wide and 3 $\frac{1}{8}$ " high.

Cabinet: 38 $\frac{1}{2}$ " high, 28 $\frac{1}{2}$ " wide and 13 $\frac{3}{4}$ " deep.

REALIGNING DETAILS

I.F. ALIGNMENT:

Connect the high generator lead to the 6SA7 grid through a 0.1 mf. capacitor. Connect the low side to ground. Set the generator to 470 kilocycles and adjust items 35A, 35B, 36A, and 36B (on I-F Cans) for maximum output.

R.F. ALIGNMENT:

See diagram on schematic for coil and trimmer locations.

The transfer switch to be set in "Manual" position.

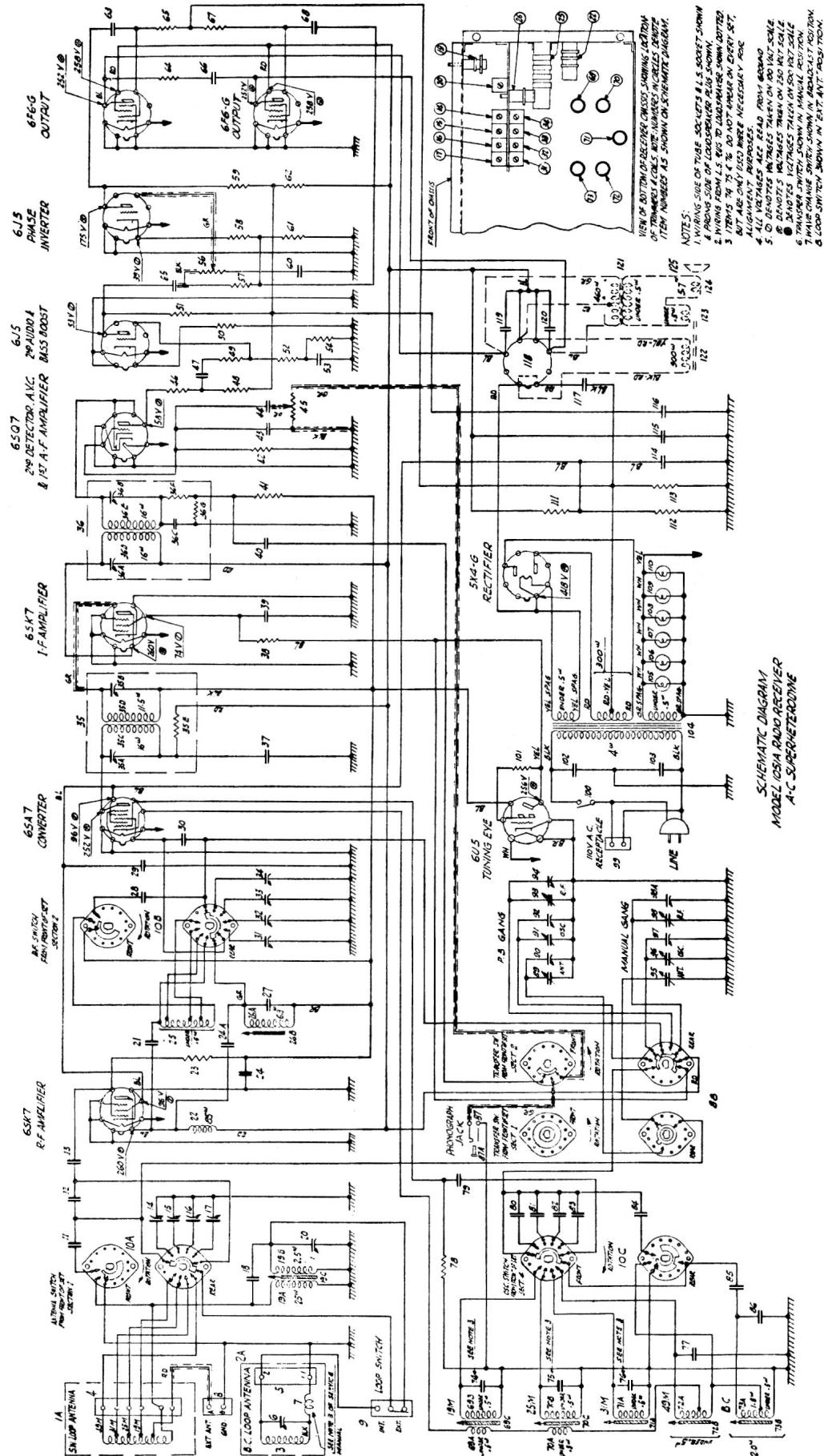
While making the adjustments below, keep the generator input as low as possible and turn down the volume control enough to reduce the noise output.

B.C. BAND WITH EXTERNAL ANTENNA:

Set antenna switch to "External Antenna" and connect signal generator lead through a 100-mm.f.

(Continued on Back Page)

MODEL 1051-A RADIO RECEIVER



SCHEMATIC DIAGRAM
 MODEL 1051-A RADIO RECEIVER
 A-C SUPERHETERODYNE

REPLACEMENT PARTS LIST

Item	Description	Part No.	Item	Description	Part No.
1A	Shortwave Loop Assembly.....	K-5921	70A	25 M. Osc. Coil Primary	Complete Assy..... K-5882
2A	Broadcast Loop Assembly.....	K-5943	70B	25 M. Osc. Coil Secondary	
3	Broadcast Loop.....	K-5572-10	70C	25 M. Osc. Coil Iron Core	Complete Assy..... K-5781-2
4	Terminal Strip (S.W. Loop).....	K-5691-7	71A	31 M. Osc. Coil	
5	Terminal Strip (B.C. Loop).....	K-3749-3	71B	31 M. Osc. Coil Iron Core	Complete Assy..... K-5881
6	Trimmer 1.5-10 mmf.....	K-1458-5	72A	49 M. Osc. Coil	
7	Loop Coil.....	K-5990-4	72B	49 M. Osc. Coil Iron Core	Complete Assy..... K-5779
8	Terminal Strip (Ant. & Gnd.).....	K-3749-1	73A	B.C. Osc. Coil	
9	Loop Switch.....	K-4029-3	73B	B.C. Osc. Coil Iron Core	Capacitor, mica: 5 mmf..... K-1611-54
10A	Antenna Switch	Complete Band Switch Assy..... K-5899	74	Capacitor, mica: 5 mmf.....	
10B	R.F. Switch		75	Capacitor, mica: 5 mmf.....	K-1611-54
10C	Oscillator Switch	K-1611-52	76	Capacitor, mica: 5 mmf.....	K-1611-54
11	Capacitor, mica: 85 mmf.....		77	Capacitor, mica: 5 mmf.....	K-1611-54
12	Capacitor, mica: 50 mmf.....	K-1611-50	78	Resistor: 20,000 ohms, 1/2 watt.....	K-2226-8
13	Capacitor, mica: 1000 mmf.....	K-1611-23	79	Capacitor, mica: 45 mmf.....	K-1611-49
14	Trimmer, 1.5-10 mmf.....	K-4793-2	80	Capacitor, mica: 60 mmf.....	K-1611-46
15	Trimmer, 10-55 mmf.....	K-4793-1	81	Capacitor, mica: 55 mmf.....	K-1611-51
16	Trimmer, 10-55 mmf.....	K-4793-1	82	Capacitor, mica: 50 mmf.....	K-1611-50
17	Trimmer, 3.25 mmf.....	K-4793-3	83	Capacitor, mica: 50 mmf.....	K-1611-50
18	Capacitor, mica: 5 mmf.....	K-1611-54	84	Capacitor, mica: 150 mmf.....	K-1611-53
19A	B.C. Ant. Coil Primary	Complete Assy..... K-5910	85	Capacitor, mica: 550 mmf.....	K-1611-43
19B	B.C. Ant. Coil Secondary		86	Capacitor, mica: 35 mmf.....	K-1611-12
19C	B.C. Ant. Coil Iron Core	K-4793-3	87	Socket	Phonograph Connection..... K-5893-1
20	Trimmer: 3.25 mmf.....		87A	Plug	
21	Capacitor, mica: 1000 mmf.....	K-1611-23	88	Transfer Switch (complete assy.).....	K-5896
22	R.F. Coil Primary.....	K-5886	89	Tuning Gang (ANT.) 553 mmf	Push- button Gang Part Of K-5753
23	Resistor, 1 meg. 1/2 watt.....	K-2226-2	90	Trimmer on Gang (ANT.)	
24	Capacitor: .05 mf. 200 volts.....	K-2227-8	91	Tuning Gang (OSC.) 553 mmf.	Manual Gang Part Of K-5853
24A	Capacitor, mica: 5 mmf.....	K-1611-54	92	Trimmer on Gang (OSC.)	
25	R.F. Coil, Shortwave.....	K-5884	93	Tuning Gang (R.F.) 553 mmf.	K-5894
26A	R.F. Coil, Broadcast	Complete Assy..... K-5885	94	Trimmer on Gang (R.F.)	
26B	R.F. Coil, (Broadcast) Iron Core		95	Tuning Gang (ANT.) 530 mmf.	K-5894
27	Capacitor, mica: 10 mmf.....	K-4235-3	96	Tuning Gang (OSC.) 530 mmf.	
28	Capacitor, mica: 85 mmf.....	K-1611-52	97	Trimmer on Gang (OSC.)	Part Of K-5813-2
29	Capacitor: .1 mf. 400 volts.....	K-2228-9	98	Tuning Gang (R.F.) 530 mmf.	
30	Capacitor, mica: 50 mmf.....	K-1611-50	98A	Trimmer on Gang (R.F.)	K-5894
31	Trimmer: 10-55 mmf.....	K-4793-1	99	Outlet 110 Volt.....	
32	Trimmer: 3.25 mmf.....	K-4793-3	100	On-Off Switch.....	Part Of K-5813-2
33	Trimmer: 3.25 mmf.....	K-4793-3	101	Resistor, 1 meg. 1/2 watt, Part of 6U5 Tuning Eye Socket.	
34	Trimmer: 3.25 mmf.....	K-4793-3	102	Buffer Capacitor, Double Unit	Complete Assy..... K-5073
35	1st I.F. Trans. Assembly Complete.....	K-4609-2	103	(Line Filters) .025 mf.	
35A	1st I.F. Trimmers Only.....	K-2134-6	104	Power Trans. assy. (25-50 cycle).....	K-3242-6
35B			105	Dial Lamps (6.3 volts).....	K-2589-3
36C	1st I.F. Coils Only.....	K-4610	106		
35D	Resistor: 1000 ohms, 1/2 watt.....	K-2226-16	107	Resistor: 6000 ohms, 1 watt.....	K-4300-15
35E			108		
36	2nd I.F. Trans. Assembly Complete.....	K-4545-2	109	Resistor: 7000 ohms, 2 watts.....	K-3352-13
36A	2nd I.F. Trimmers Only.....	K-2932-1	110	Resistor: 150 ohms, 2 watts.....	K-4990-9
36B			111	Capacitor, dry elec. 40 mmf. 150 volts	Part Of K-5922
36C	2nd I.F. Coils Only.....	K-4585	112	Capacitor, dry elec. 40 mmf. 450 volts	
36D			113	Capacitor, dry elec. 20 mmf. 350 volts	K-5308
36E	Resistor: 50,000 ohms, 1/2 watt.....	K-2226-6	114	Capacitor, wet elec. 16 mmf. 450 volts.....	
36F			115	Speaker Socket.....	K-1924-1
36G	Resistor, 1/2 meg. 1/2 watt.....	K-2226-3	116	Speaker Plug.....	K-2678
37	Capacitor: .1 mf. 400 volts.....	K-2228-9	117	Capacitor: .001 mf. 600 volts.....	K-5660-1
38	Resistor: 65,000 ohms, 1/2 watt.....	K-2226-52	118	Capacitor: .001 mf. 600 volts.....	K-5660-1
39	Capacitor: .1 mf. 400 volts.....	K-2228-9	119	Output Transformer Assembly.....	K-2718-16
40	Capacitor: .02 mf. 200 volts.....	K-2227-7	120	Loudspeaker Field (900 ohms) Part of.....	K-5839
41	Resistor: 2 meg. 1/2 watt.....	K-2226-1	121	Hum Coil (not replaceable) Part of.....	K-5839
42	Resistor: 10 meg. 1/2 watt.....	K-2226-74	122	Voice Coil & Diaphragm Assy.....	K-5859
43	Capacitor, mica: 100 mmf.....	K-1611-2	123	Loudspeaker Assembly.....	K-5839
44	Capacitor: .02 mf. 200 volts.....	K-2227-7	124	MISCELLANEOUS	
45	Volume Control: 2 meg.....	K-3858-9	125		
46	Resistor: 100,000 ohms, 1/2 watt.....	K-2226-5	Tube Socket.....	K-1924-1	
47	Capacitor: .1 mf. 400 volts.....	K-2228-9	Tuning Eye Socket.....	K-5803	
48	Resistor: 150,000 ohms, 1/2 watt.....	K-2226-36	Dial Scale.....	K-5849	
49	Resistor: 150,000 ohms, 1/2 watt.....	K-2226-36	Dial Indicator Assembly.....	K-5905	
50	Resistor: 270 ohms, 1/2 watt.....	K-2226-83	Pushbutton Rod.....	K-5995-3	
51	Resistor: 50,000 ohms, 1/2 watt.....	K-2226-6	Dial Cord (60" long) Order by feet.....	K-4636	
52	Resistor: 30,000 ohms, 1/2 watt.....	K-2226-44	Spring (Dial Pulley).....	K-3923	
53	Capacitor: .05 mf. 200 volts.....	K-2227-8	Pulley (Wood).....	K-5717	
54	Resistor: 100,000 ohms, 1/2 watt.....	K-2226-5	Knob (Loop and Tuning).....	K-4168	
55	Capacitor: .02 mf. 400 volts.....	K-2228-7	Knob (Tone, Band, Volume & Transfer).....	K-5176-3	
56	Tone Control, 1/4 meg (with switch).....	K-5813-2	Knob (Pushbutton).....	K-5707	
57	Resistor, 1 meg. 1/2 watt.....	K-2226-2	Dial Lamp Socket (19" leads).....	K-5723-1	
58	Resistor: 2,500 ohms, 1/2 watt.....	K-2226-13	Dial Lamp Socket (15" leads).....	K-5723-3	
59	Resistor: 15,000 ohms, 1/2 watt.....	K-2226-9	Dial Lamp Socket (11" leads).....	K-5723-2	
60	Capacitor: .003 mf. 600 volts.....	K-5660-3	Station Names Sheet.....	K-5731	
61	Resistor: 15,000 ohms, 1/2 watt.....	K-2226-9	Standoff (Single Terminal).....	K-2594-1	
62	Resistor: 5,000 ohms, 1/2 watt.....	K-2226-12	Standoff (Two Terminals).....	K-1683-1	
63	Capacitor: .1 mf. 400 volts.....	K-2228-9	Standoff (Three Terminals).....	K-2348	
64	Resistor: 20,000 ohms, 1 watt.....	K-1870-16	Spring (Retaining Bar).....	K-5762	
65	Resistor: 100,000 ohms, 1/2 watt.....	K-2226-5	Rubber Grommet (Gang Mounting).....	K-2498-2	
66	Capacitor: .003 mf. 600 volts.....	K-5660-3			
67	Resistor: 100,000 ohms 1/2 watt.....	K-2226-5			
68	Capacitor: .1 mf. 200 volts.....	K-2227-9			
69A	19 M. Osc. Coil Primary	Complete Assy..... K-5883			
69B	19 M. Osc. Coil Secondary				
69C	19 M. Osc. Coil Iron Core				

REALIGNING DETAILS — (Continued)

capacitor to terminal "A" at rear of chassis. Connect low side to ground terminal "G". Since the dial is attached to cabinet, it is necessary to use alignment scale on dial frame. With the gang capacitor closed, check that the pointer is at $13/16''$ on the scale. Set the generator to 1400 kc. and receiver to $5\ 15/16''$. Adjust oscillator trimmer, item 97 (on rear section of manual gang condenser) for maximum signal. Adjust antenna trimmer, item 20, and R. F. trimmer, item 98A (on centre section of manual gang condenser) for maximum output while rocking the gang. Set the signal generator to 600 kc. and receiver to $17/8''$. Adjust oscillator iron core, item 73B, for maximum output. Adjust antenna and R.F. iron cores, items 19C and 26B for maximum output. Recheck at 1400 kc.

B.C. BAND WITH LOOP:

Set antenna switch to "Internal Ant." and locate generator leads near receiver but do not attach. Set generator at 1000 kc, and tune in signal, and adjust B.C. loop trimmer, item 6, for maximum output.

Note 1: It is important to align the S.W. bands in the order shown below. If this order is changed, some of the short-wave bands will be completely out of alignment. If it is necessary to realign one of the bands, all of the bands of a higher frequency than the first one realigned, must be realigned also.

S.W. 49 M. BAND:

Connect generator lead through a 400-ohm resistor to antenna and ground terminals (A & G) on rear of receiver chassis. Set antenna switch to "External Antenna". Set generator at 6.0 megacycles and receiver at $3\ 3/8''$. Adjust iron core, item 72B, of 49-meter oscillator coil for maximum signal. (See note 2 below). Adjust antenna trimmer, item 14, and R.F. trimmer, item 34, for maximum signal, rocking the gang while doing so.

S.W. 31 M. BAND:

Set generator at 9.5 megacycles and receiver at $3\ 3/4''$ and adjust iron core, item 71B, of 31-meter oscillator coil for maximum signal. (See note 2 below). Adjust antenna trimmer, item 15, and R.F. trimmer, item 33, for maximum signal, rocking gang while doing so.

S.W. 25 M. BAND

Set generator at 11.7 megacycles and receiver at $3\ 1/2''$ and adjust iron core, item 70C, of 25-meter oscillator coil for maximum signal. (See note 2 below). Adjust antenna trimmer, item 16, and R.F. trimmer, item 32, for maximum signal, rocking the gang while doing so.

S.W. 19 M. BAND

Set generator at 15.2 megacycles and receiver at $3\ 11/16''$ and adjust iron core, item 69C, of 19-meter oscillator coil, for maximum signal. (See note 2 below). Set generator at 15.4 megacycles and tune in the signal. Adjust antenna trimmer, item 17, and R.F. trimmer, item 31, for maximum signal, rocking the gang while doing so.

Note 2: Check carefully for the correct peak. To do this adjust to aligned frequency for each band as described above, then turn generator to the approximate frequency as shown in table below and increase input. At this point a

signal will be heard if the oscillator setting is correct. If no signal is heard, return to aligned frequency and turn the iron core adjusting screw counter-clockwise until a second peak is reached. Recheck for image at proper frequency per table below.

Band	Image Frequency
49 M.	6.94 mc.
31 M.	10.44 mc.
25 M.	12.64 mc.
19 M.	16.14 mc.

ALIGNMENT FOR PUSHBUTTON TUNING:

Set transfer switch to "P.B." tuning and set wave-change switch in "Broadcast Band" position. Connect signal generator lead through a 100-mmf. capacitor to antenna and ground terminals on rear of chassis. Set antenna switch to "External Antenna". Set pulley on pushbutton gang to zero, i.e. gang condenser is wide open and signal generator to 1550 kc. and adjust oscillator trimmer, item 92, (centre trimmer on pushbutton gang) for maximum signal. Set generator to 1400 kc. and tune in signal on pushbutton gang. Adjust trimmers, items 90 and 94, (left and right of oscillator trimmer on pushbutton gang), for maximum signal, rocking the gang while doing so.

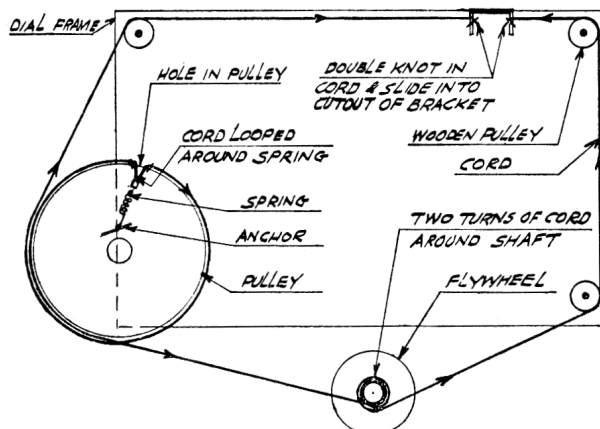
Note 3: On early production sets it is necessary to install a small coil, item 7, to ensure proper B.C. loop performance. If the coil is not present in the set, it may be obtained "No Charge" from the Northern Electric Company Limited.

IMPORTANT:

Receivers having a **yellow painted stripe** on the shelf on which the chassis is mounted do **not** require this coil.

To install this coil proceed as follows:—

Remove the black loop lead from terminal No. 1 on side of chassis and connect it to the coil bracket with the screw. Slide the other coil bracket under the No. 1 terminal from which the black lead was removed and tighten the screw. Realign the B.C. loop per alignment instructions.

STRINGING DIAGRAM

PULLEY STRINGING DIAGRAM
LOOKING FROM REAR OF CHASSIS (GANG CLOSED)