SERVICE MANUAL FOR BARR TYPEWRITER

INDEX

PAPER NOT FEEDING
  Smooth cylinder .......................................................... 1
  Feed rolls not properly adjusted ...................................... 1
PAPER PAN NOT ADJUSTED CORRECTLY
  Ears on back of pan not bent to rest on feed roll shaft correctly 1
LINE SCALE TOO CLOSE TO CYLINDER
  Scale rubs on the paper ................................................ 1
TYPEBAR STICKING
  Not entering typeguide slot correctly ............................... 1
  Sublever rubs on side of typebar ..................................... 1
  Dirt in segment ................................................................ 1
TABULATOR NOT RELEASING
  Margin release key bent back too far .................................. 1
  Release wire not moving margin rack back far enough to release stop 1
  Face of stop rough ......................................................... 1
TABULATOR STOP NOT STOPPING CARRIAGE
  Stop on margin not striking stop on base correctly ............... 1
BELL NOT RINGING
  Bell hammer too close to bell .......................................... 1
  Bypass pawl not in right position ...................................... 1
  Tension spring too light .................................................. 1
PAPER BINDS AFTER FEED ROLLS ARE RELEASED
  Paper pan not properly formed .......................................... 2
  Feed rolls not releasing paper ......................................... 2
CYLINDER HOLDING LOCKS NOT HOLDING CYLINDER IN BEARINGS
  Spring tension too light .................................................. 2
CARRIAGE SKIPS ONE SPACE WHEN WRITING
  Escapement rock arm not properly adjusted .......................... 2
CARRIAGE WILL NOT MOVE WHEN KEY IS PRESSED
  Spring on escapement dog rock arm broken .......................... 2
LETTERS PILE OR CARRIAGE FAILS TO SPACE
  Escapement not adjusted properly ..................................... 2
  Carriage spring tension too light ...................................... 2
SPACE BAR WILL NOT TRIP ESCAPEMENT FROM BOTH ENDS
  Arms loose on hubs ....................................................... 2
COLORS MIX
  Actuating wire not properly adjusted .................................. 2
  Adjustment on vibrator bracket not correct ........................ 2
  Too much lost motion in connections ................................ 2
RIBBON CUTS OFF ON TOP OF LETTERS
  Ribbon not throwing high enough ....................................... 2
  Adjustment plate not set correctly .................................... 2
RIBBON CUTS OFF ON BOTTOM OF LETTERS
  Ribbon throwing too high ................................................ 2
  Actuating wire not adjusted correctly ................................. 2
LINE LOCK NOT LOCKING KEYS
  Right margin stop does not hold lock rod down .................... 2
  Lock dog too long ........................................................ 2
SHIFT KEY LOCK NOT HOLDING
  Lock slips off the shift lock key ..................................... 3
SHIFT LOCK WILL NOT RELEASE FROM LEFT SIDE OF MACHINE
  Lock wire not bent correctly .............................................. 3
SEGMENT DOES NOT LOCK UP IN WRITING POSITION
  Segment lock not adjusted correctly .................................. 3
  Not enough tension on springs ........................................... 3
KEY LEVER STICKING IN FRONT COMB
  Key bent ........................................................................... 3
  Dirt in slot ......................................................................... 3
LINE SPACING NOT EVEN
  Line space pawl ratchet stop not adjusted correctly ............ 3
  Not enough tension on pawl arm spring ............................... 3
  Pawl not dropping in the right tooth in ratchet wheel .......... 3
CARRIAGE BANKS OVER ON LEFT MARGIN
  Carriage stop not adjusted properly ................................... 3
  Escapement wheel banking spring not holding escapement wheel correctly .... 3
  Spring on margin rack too light ......................................... 3
RIBBON FEED WILL NOT REVERSE
  Reverse arms not adjusted ................................................ 3
  Angle arms not bent correctly ......................................... 3
RIBBON REVERSES WHEN WRITING BEFORE RIBBON IS ALL UNWOUND
  Spring tension on detent too light ..................................... 3
RIBBON WILL NOT FEED PROPERLY
  Ribbon spools not on correctly ......................................... 3
  Spring tension on detent too light ..................................... 3
  Arms holding detents not in proper position to allow gears to mesh correctly ... 3
RIBBON FEED WORKS HARD
  Shaft binds in bearings .................................................... 4
  Worm too close to worm gear ............................................. 4
RIBBON VIBRATOR STICKS UP WHEN WRITING
  Vibrator not free in guide ................................................ 4
  Line scale bent forward .................................................... 4
BACKSPACE WILL NOT MOVE CARRIAGE ONE SPACE
  Actuator not entering proper tooth in carriage rack ............ 4
  Stop arm not set correctly .............................................. 4
CARRIAGE BEARINGS LOOSE
  Not properly adjusted ..................................................... 4
FRACTIONAL SPACER WILL NOT LOCK OUT
  Cylinder knobs not properly adjusted ................................ 4
  Clutch adjustment not correct ......................................... 4
CARRIAGE RELEASE HANDLE WILL NOT RELEASE CARRIAGE
  Release bail stop not adjusted properly ............................. 4
  Escapement clutch arm not properly adjusted ....................... 4
TYPEBARS WILL NOT TRIP ESCAPEMENT EVENLY
  Universal bar bracket loose ............................................. 4
  Universal bar arm pin loose ............................................. 4
  Universal bar bent ......................................................... 4
TYPEBARS STRIKE PAPER TOO LIGHTLY
  Cylinder out of adjustment ............................................. 4
  Typebars strike ring too hard. Type not on correctly .......... 4
TYPE PRINT LIGHT ON TOP OR BOTTOM OF LETTERS
  Cylinder not adjusted correctly ...................................... 4
  Type off its feet ................................................................ 4
  Method of correcting this by peining type or type bar .......... 4
SERVICE MANUAL FOR BARR TYPEWRITER

PAPER NOT FEEDING

Plate 7

(1) Smooth Cylinder
The cylinder 60010 (Group 14) should be washed off with benzine, or rubbed with fine emery cloth.

Plate 2-5
Feed roll tension spring 51450 (Group 3) not adjusted correctly. The adjusting nut 57440 (Group 9) should be adjusted to give even tension on feed rolls. An uneven tension will cause paper to feed unevenly. Try the tension at different points along the cylinder with a long narrow strip of paper. The tension should be the same at both ends as at the center of the cylinder.

PAPER PAN NOT ADJUSTED CORRECTLY

Plate 17-5

(2) The paper pan 52010 (Group 37) should not bind the paper when the paper release lever 50900-A (Group 2) is locked back. The two ears a (Group 37-9) on paper pan at the back should rest on the rubber feed roll shaft 51270 (Group 11) and hold the paper pan so it will not bind the paper at the front.

LINE SCALE TOO CLOSE TO CYLINDER

Plate 16 (Up to machine 2000)

(3) The line scale 20400 (Group 34) should not rub on the paper. This should be curved at the top to clear the cylinder when shifting.

TYPEBAR STICKING

Plate 7
Not going into typeguide, 20300 (Group 34) correctly. This is due to the typebar 20020 (Group 15) being bent. The typebar can be bent with pliers to strike correctly. The alignment should be checked after bending.

Plate 7
Sublever 20101-A (Group 15) rubbing on the side of typebar will cause this trouble. To correct this, bend the sublever away from the typebar.

Plates 7-16
Dirt in segment 20030 (Group 34) slots will make the typebar stick. This can be washed out with benzine, working the typebar while the benzine is being applied. If this does not free up the bar, use the follow wire to remove the typebar then rub the sides of typebar on very smooth emery cloth.

TABULATOR NOT RELEASING

Plates 9-5
Margin release key 110010-A (Group 19) bent back. If this is bent back too far, the finger will not push key on correct angle for easy operation. Release wire 110061 (Group 19) not moving margin rack 110100-A (Group 9) back far enough to release the stop. This can be corrected by bending the curve on wire 110061 (Group 19) back to where it clears the stops on margin rack when carriage is being returned. Face of stops rough. Sometimes the face of stop 110400-110450 (Group 9) will be rough from hardening. This should be smoothed off with an oil stone.

TABULATOR STOP NOT STOPPING CARRIAGE

Plate 5
This is caused by the stop 110300-A (Group 9) on margin rack not striking the stop 110450 (Group 9) correctly. To correct this, the tabulator handle 50120 (Group 2) should be bent so that when it strikes the carriage frame the stop 110300-A (Group 9) will strike the center of the stop 110450 (Group 9).

BELL NOT RINGING

Plates 14-5
Bell hammer 110530-A (Group 31) too close to bell. This should normally stand about one-eighth inch away from the bell. The wire can be bent to correct this. Bypass pawl 110580 (Group 31) not in right position to be tripped by the pin on margin stop 110270-A (Group 9). Spring tension 110550 (Group 31) too light to move hammer to bell.
PAPER BINDING AFTER FEED ROLLS ARE RELEASED

If the paper pan 52010 (Group 37) is not properly formed the paper will rub between the cylinder and paper pan. The paper pan should be reshaped for clearance of paper. Feed rolls 51150-A (Group 11) not releasing paper. This condition can be caused by the paper feed roll release handle 50900-A (Group 2) not locking back properly, or the arms 51400-51410 (Group 11) not being bent correctly.

CYLINDER HOLDING LOCKS NOT HOLDING CYLINDER IN BEARINGS

This may be caused by the spring tension 50300 (Group 4-3) being too light. To correct this cut a few coils off the springs.

CARRIAGE SKIPS ONE SPACE WHEN WRITING

The escapement rock arm 40350-A (Group 12) is not properly adjusted. The correct adjustment of bevel dog on escapement rock dog 40351-A (Group 13) should be just enough to allow the escapement wheel to pass through when escapement is tripped. The arm 40351-A (Group 13) should be adjusted so that the wheel rests on two-thirds of the face of loose dog 40360 (Group 12).

CARRIAGE WILL NOT MOVE WHEN KEY IS PRESSED

If the carriage stops and escapement doesn’t trip, the spring 40420-40540 (Group 12) is off or broken.

LETTERS PILE OR CARRIAGE FAILS TO SPACE

Escapement trip 40610-A (Group 20) not adjusted properly, The escapement trip arm 40610-A (Group 20) should be adjusted so the escapement will trip when the typebar is 3/4" from the cylinder and the carriage should drop one space when the typebar is one inch from the cylinder on the return. Sometimes this is caused by the carriage spring tension being too light. The tension should be at least 2 lbs. when the carriage is at 40 on the scale.

SPACE BAR WILL NOT TRIP ESCAPEMENT FROM BOTH ENDS

If the arms 309020 (Group 20) on space bar are loose on hubs it would cause this trouble. If the stop 30960 (Group 38) was set too high it would restrict the motion and the escapement would not trip.

COLORS MIX

Ribbon actuating wire 70500 (Group 16) not properly adjusted. Adjustment on vibrator bracket 70150 (Group 17) not properly adjusted. This control stop 70150 (Group 17) must be set so that the toggle links 70230 (Group 16) are straight when the key lever is depressed and the ribbon is at the correct position to print. Too much lost motion in the connections would allow the ribbon to throw too high.

RIBBON CUTS OFF ON TOP OF LETTERS

This is due to the ribbon not going high enough. By adjusting the wire 70500 (Group 16) this trouble can be eliminated unless the adjustment plate 70150 (Group 17) is out of adjustment.

LINE LOCK NOT LOCKING KEYS

This is caused by the right margin stop 110270-A (Group 9) not being long enough to hold the lock arm 90050 (Group 26) down, or the lock dog 90030 (Group 26) may be too long to lock under the arm 90020 (Group 26).

RIBBON CUTS OFF ON BOTTOM OF LETTERS

The ribbon is throwing too high. If the plate 70150 (Group 17) is properly adjusted the wire 70500 (Group 16) should be adjusted for less throw.
SHIFT KEY LOCK NOT HOLDING
The lock 30750 (Group 21) slips off the end of shift lock key 30700-A (Group 21). See if the lock 30750 (Group 21) is bent out far enough to hold shift lock key securely.

SHIFT LOCK WILL NOT RELEASE FROM LEFT SIDE OF MACHINE
Shift key lock wire 30750-A (Group 21) is not bent correctly. Twist this wire so the left shift key will strike the wire and release the lock.

SEGEMENT DOES NOT LOCK UP IN WRITING POSITION
Shift lock arm 21001-A (Group 24) not adjusted to hold segment correctly. The shift lock arm 21001-A (Group 24) is adjustable on the bail by an eccentric screw 50310 (Group 21). This arm should be set so that when the shift key is depressed it will move the segment lock arm 21001-A (Group 24) out of the path of the arm 20701-A (Group 24), and when in normal position, the lock 21120 (Group 21) should be wedged between the motion block 20791-A (Group 24) and motion arm 20701-A (Group 24). The springs 21200 (Group 41) should be adjusted for more tension to lift the segment, if the segment does not return to normal position, which should be fairly hard against the motion block 20790-A (Group 21).

KEY LEVER STICKING IN FRONT COMB
If the key 30030-A-L (Group 15) sticks in the front comb, a little oil applied to the slot should stop the trouble, if not, the key has been bent and should be straightened.

LINE SPACING NOT EVEN
Line space pawl ratchet stop 50500 (Group 1) not properly adjusted. Spring on line space ratchet roll arm 51330 (Group 1) too light and will not hold the roll in bottom of tooth in ratchet wheel. Ratchet pawl 50570-A (Group 1) not dropping in the right tooth on ratchet wheel.

CARRIAGE BANKS OVER ON LEFT MARGIN
Carriage stop 110400 (Group 9) not adjusted correctly. This trouble can be corrected by adjusting stop 110400 (Group 9). Escapement wheel spring 40320 (Group 12) not holding wheel 40241-A (Group 13) correctly.
Spring 51060 (Group 6) on margin rack too light. Shorten the spring by cutting off a few coils.

RIBBON FEED WILL NOT REVERSE
Reverse arms 71290-A (Group 36), 71480-A (Group 36) not properly adjusted. The angle bend on shift arms 71290-A-71480-A (Group 36) not bent correctly. These should be bent so there is a slight angle to the bend, the end should be the farthest out from the hub.

RIBBON REVERSES WHEN WRITING BEFORE RIBBON IS ALL UNWOUND
The detent 71020 (Group 36) on the ribbon bracket is not strong enough to hold the worm 70770, 70780 (Group 36) in mesh with the worm gear 71150-A (Group 36). Cut one or two coils off the springs 71050 (Group 36). This should hold the shaft in position.

RIBBON WILL NOT FEED PROPERLY
Ribbon spools not on correctly. The pin 40660 (Group 36) in the ribbon spool seat should be in the hole in ribbon spool. Detents 71020 (Group 36) not holding shaft in detent position. This allows the shaft to reverse before the reverse arms 71250-A (Group 36) are moved by clip on the ribbon.
Arms holding 71020 not in proper position to allow gears to mesh properly. To correct this, bend the arms to required position.

**RIBBON FEED WORKS HARD**

Plate 17
The shaft 70760-A (Group 36) may bind due to being bent, or the shaft arm 70800 (Group 36) not lining up with the shaft. If the worm 70770 (Group 36) which is out of mesh is set too close to worm gear it will drag on the gear 71150-A. (Group 36). This can be corrected by bending the arms which hold the detent 71020 (Group 36).

**RIBBON VIBRATOR STICKS UP WHEN WRITING**

Plate 16
If the vibrator 70010-A (Group 35) is bent it will stick in the guide 70030 (Group 35) or it may strike the fine scale 20400 (Group 34). This can be straightened with pliers.
If the line scale 20400 (Group 34) is bent forward too far at the top, it will hold the vibrator from returning to normal position.

**BACK SPACE WILL NOT MOVE CARRIAGE ONE SPACE**

Plates 9-2
The actuator wire 80180 (Group 18) should enter the proper tooth in carriage rack 50180 (Group 3). This is adjusted by bending the lug on bracket 80190 (Group 18).

**CARRIAGE LOOSE ON BEARINGS**

Plate 1
The carriage rails 51790-A (Group 2) are adjustable by turning the screws 51871 (Group 1) in the required direction.

**FRACTIONAL SPACER WILL NOT LOCK OUT**

Plates 7-2
The cylinder knobs 60280-A (Group 14) are adjustable on the shaft. Adjusting these knobs will sometimes allow the lock to hold in released position. If the fractional spacer slips, this can be corrected by adjusting the friction nuts 60210 (Group 4) with special wrenches 43.

**CARRIAGE RELEASE HANDLE WILL NOT RELEASE CARRIAGE**

Plates 3-6
If the release bail 50050-A (Group 12) is restricted in its motion, it will not disengage the escapement clutch 40280 (Group 12). By adjusting the release lever bail stop 50150 (Group 6) the motion can be changed to correct this condition. If it does not release after adjusting the stop, take the escapement out of the machine and bend the arm on part 40330 (Group 13).

**TYPEBARS WILL NOT TRIP ESCAPEMENT EVENLY**

Plate 12
Universal bar bracket 40160-40150 (Group 25) may be loose. If any of the pins in the universal bar arms 40030-A-40050-A (Group 25) are loose it would cause this condition. If the universal bar 40010 (Group 25) should be bent it would also cause this condition.

**TYPEBARS STRIKE PAPER TOO LIGHTLY**

Plates 2-1
If this trouble is noticeable over all the keyboard, the cylinder should be adjusted forward until the type strikes the ribbon hard enough to make a good impression on the paper. To make this adjustment, loosen the nut 20170 (Group 4) and turn screw 50310 (Group 4-1), which moves the cylinder forward or back. If this happens only on one or a few typebars, the type are not soldered on correctly.

**TYPE PRINT LIGHT ON TOP OR BOTTOM OF LETTERS**

Plate 2
This is corrected by adjusting the cylinder up or down as required. To make this adjustment, loosen the upper nut 20170 (Group 4) then turn eccentric screw 50310 (Group 4) which raises or lowers the cylinder. If this trouble is noticeable only in
certain type, then the type is off its feet and should be peined as shown on plate 20 (Group 42).

To print heavy at top of letter pein at X.B—tool 63.
To print heavy at bottom of letter, pein at X.A—tool 63.
To raise the type, pein at C. and D.—tool 62.
If both type print light on top, pein at C—tool 62
If both type print light on bottom, pein at D—tool 62.
To lower the type, bend the bar with three prongs, 120, this will shorten the typebar.
To move the type to left see Group 43—tool 64.
To move the type to right see Group 44—tool 64.
CARRIAGE

50000 SECTION

PARTS USED ON MACHINE NO. 2001-ONWARD
OTHERWISE SAME AS GROUP-1 PLATE-1

SEE GROUP-1 PLATE 4

GROUP 5
LEFT END INSIDE

CARRIAGE RELEASE

50000 SECTION

PARTS USED ON MACHINE NO. 2001-ONWARD
OTHERWISE SAME AS GROUP-2 PLATE-1

GROUP 6
CARRIAGE DETAILS

TO MACHINE NO. 2001
ONWARD SEE GROUP-10

GROUP 10
MACHINE 2001-ONWARD

FEED ROLLS

GROUP 11
GROUP 12

Parts used on Machine No. 2001 and onward otherwise same as Group 12

GROUP 13
RIBBON COLOR SHIFT & ACTUATOR 70000 SECTION

GROUP 16

PARTS USED ON MACHINE 70001 - ONWARD OTHERWISE SAME AS GROUP - 16

GROUP 17
PLATE-12

UNIVERSAL BAR

40030A
40150 BRACKET
40130 SCREW
40050A
40020 SPRING
40010 BRACKET
40120 SCREW
40120 BAR

See Group-24 - Plate-11

GROUP 25

LINE LOCK

90000 SECTION

See Group-28 - Plate-13

40140 SCREW
40130 SCREW
90020 ARM
10950A
8020 SCREW
90060 RETAINER
90050 WIRE
8020 SCREW
90010A
10940 GEAR
10960
90030 SCREW
70350 SCREW
90030 DOG
70350 SPRING

See Group-27 - Plate-13

GROUP 26
LINE LOCK
PARTS USED ON MACHINE 2001-ONWARD
OTHERWISE SAME AS GROUP-26-PLATE-12

GROUP 27

RIBBON CROSS FEED
PARTS USED ON MACHINE 2001-ONWARD
OTHERWISE SAME AS GROUP-26-PLATE-12

GROUP 28

SUBLEVER SEGMENT ASSEM.
PARTS USED ON MACHINE 2001-ONWARD
OTHERWISE SAME AS GROUP-26-PLATE-16

GROUP 29