

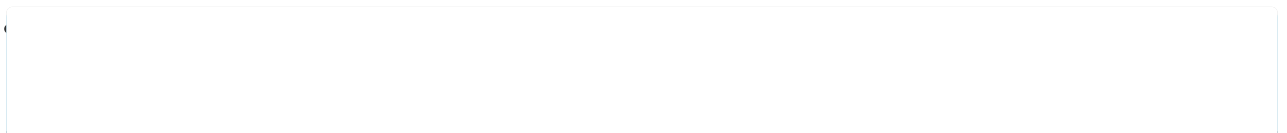


Toshiba 2060 Service Handbook

Plain paper copier

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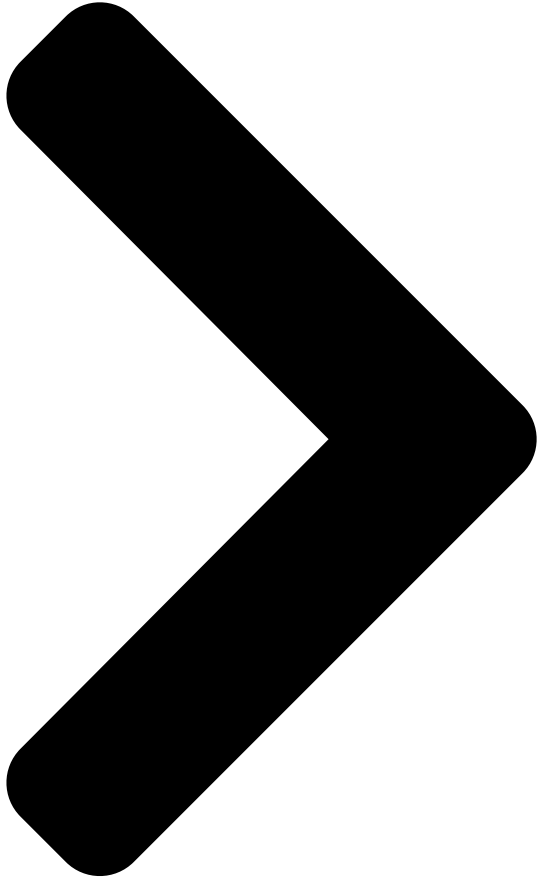
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SERVICE HANDBOOK

PLAIN PAPER COPIER

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2060/2860/70

AUTOMATIC DUPLEXING UNIT

MD-5002



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[Copier Toshiba 2060 Operator's Manual](#)

Plain paper copier (151 pages)

[Copier Toshiba 60TH Series Manual](#)

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[Copier Toshiba 60th Series Manual](#)

Analog copiers - detachable options (32 pages)

[Copier Toshiba E-studio 281c User Functions Manual](#)

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[Copier Toshiba E-STUDIO 210C Operator's Manual For Copying Functions](#)

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Summary of Contents for Toshiba 2060

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[Page 2](#) GENERAL PRECAUTIONS REGARDING THE INSTALLATION AND SERVICE FOR THE COPIER 2060, 2860/70 AND THE AU- TOMATIC DUPLEXING UNIT MD-5002 1. Transportation/Installation • When transporting/installing the copier, use two persons and be

sure to use the positions as indicated below.

[Page 3](#) 4. Main Service Parts for Safety • The breaker, door switch, fuse, thermostat, thermofuse, thermistor, etc. are particularly important for safety. Be sure to handle/install them properly. 5. Notice Labels • Be sure to check the rating plate and the cautionary labels such as “Unplug the power cord during service”, “Hot area”...

[Page 4: Error Codes](#)

Staple jam Service call by the drive system Abnormal operation of the copier main motor
Abnormal operation of the PFP main motor Abnormal operation of the ADU main motor Dec.
1996 © TOSHIBA CORP. 1 - 1 2060, 2860/70 ADJUSTMENT...

[Page 5](#) If there is a possibility of the heater malfunctioning as a consequence of the short-circuiting of the triac, the microcomputer will check for abnormal temperature and send out error code “C44” and turn off the main switch of the copier. 2060, 2860/70 ADJUSTMENT 1 - 2 Dec. 1996 © TOSHIBA CORP.

[Page 6](#) For this mode, refer to “1.2.4 Setting mode”. Notes: C/S: Press the CLEAR/STOP key
PWR: Turn on the power switch INT: Press the INTERRUPT key E/S: Press the ENERGY SAVER key
Dec. 1996 © TOSHIBA CORP. 1 - 3 2060, 2860/70 ADJUSTMENT...

[Page 7](#) While all the displays on the control panel are lit (“01” mode), copying is disabled.
When the copier enters the standby status by pressing the CLEAR/STOP key, copying is enabled.
2060, 2860/70 ADJUSTMENT 1 - 4 Dec. 1996 © TOSHIBA CORP.

[Page 8](#) Copy removal – – sensor sensor sensor sensor detect sensor detect sensor Sorter LED
lit in above condition (Signal level : H) ORIGINAL COPY A4/LD A3/LG B4/LT A5/ST
UNIVERSAL/OTHER Dec. 1996 © TOSHIBA CORP. 1 - 5 2060, 2860/70 ADJUSTMENT...

[Page 9](#) SIZE SW OFF SIZE SW OFF SIZE SW OFF SIZE SW OFF LED lit in above condition (Signal
level : H) ORIGINAL COPY A4/LD A3/LG B4/LT A5/ST UNIVERSAL/OTHER 2060, 2860/70
ADJUSTMENT 1 - 6 Dec. 1996 © TOSHIBA CORP.

[Page 10](#) <Procedure> AUTO-EXP Digital key PRINT LED ON (To clear) 03 → With initialization
before test mode is entered Note: 04 → Without initialization Dec. 1996 © TOSHIBA CORP. 1 - 7
2060, 2860/70 ADJUSTMENT...

[Page 11](#) PFP middle cassette feed roller clutch At 1st “P” key press, comes on and goes off at
2nd press. The exposure lamp stays on for 5 sec., then goes off automatically. 2060, 2860/70
ADJUSTMENT 1 - 8 Dec. 1996 © TOSHIBA CORP.

[Page 12](#) Code PRINT PRINT Warm-up (ON) code Group (2) Test mode standby 03/04
Operation Code PRINT (ON) Warm-up Group (3) Test mode standby 03/04 Operation Code PRINT
PRINT (ON) Warm-up Dec. 1996 © TOSHIBA CORP. 1 - 9 2060, 2860/70 ADJUSTMENT...

[Page 13](#) ADF EEPROM initialization PRINT ADF sensor automatic adjustment □ □ Finish 2 Exit □
□ sec. later Duplex copying is not available using E/S key in the adjustment mode. 2060,
2860/70 ADJUSTMENT 1 - 10 Dec. 1996 © TOSHIBA CORP.

[Page 14](#) 0.8 mm toward the paper lead edge. The adjustment sequence must be 53 → 54
Registration (50%, lower feeder) 0-15 → 55 → 56 → 58 Registration (100%, SFB) 0-15
Registration (100%, ADU feed) 0-15 Dec. 1996 © TOSHIBA CORP. 1 - 11 2060, 2860/70
ADJUSTMENT...

[Page 15](#) Aligning value (upper feeder short) 0-31 Aligning value (ADU feed short) 0-31 ADF
EEPROM Initialize and – – automatic adjustment for ADF sensor Initial value means memory
initialization value. Remove developer for adjustment. 2060, 2860/70 ADJUSTMENT 1 - 12 Dec.
1996 © TOSHIBA CORP.

[Page 16](#) 0 : auto, 1 : manual, 2 : photo A3/LD double count 0-1 0 : single count, 1 : double
count Manual-feed auto-start 0-1 0 : PRINT key starting, 1 : auto-start Dec. 1996 © TOSHIBA
CORP. 1 - 13 2060, 2860/70 ADJUSTMENT...

[Page 17](#) 0 : deactivated, 1 : activated (when ENABLE signal = Low, large size copy is prohibited), 2 : activated (when ENABLE signal = Low, large size copy or non 100% copy is prohibited) 2060, 2860/70 ADJUSTMENT 1 - 14 Dec. 1996 © TOSHIBA CORP.

[Page 18](#) Paper size (11 : LT-R) 140-297/210-432 216/280 Width/Length Paper size (12 : LG) 140-297/210-432 216/356 Width/Length Paper size (13 : COMP) 140-297/210-432 258/356 Width/Length Paper size (14 : LD) 140-297/210-432 280/432 Width/Length Dec. 1996 © TOSHIBA CORP. 1 - 15 2060, 2860/70 ADJUSTMENT...

[Page 19](#) *2 • Error history checking procedure (AD Code No.99). times Error code information Code HELP PRINT Eighth times (shown in order from Clear newest) *000 : there is no error 2060, 2860/70 ADJUSTMENT 1 - 16 Dec. 1996 © TOSHIBA CORP.

[Page 20](#) 0 : Non-select, 1 : book, 2 : left, 3 : right IL Not used JL Edge erasing and dual page copying 0 : Non-select, 1 : Edge erase, 2 : Dual page, 3 : Edge erase and dual page Dec. 1996 © TOSHIBA CORP. 1 - 17 2060, 2860/70 ADJUSTMENT...

[Page 21](#) “— — — ” Next ID Code displayed displayed (To cancel) All ID codes are cleared “0525 001960” (To clear) Memorize Key in 000000 HELP Next ID code displayed (To skip) 2060, 2860/70 ADJUSTMENT 1 - 18 Dec. 1996 © TOSHIBA CORP.

[Page 22](#) (The numerical values shown above for A and B are only typical values.) Note: The numerical value displayed in B may vary in the range of ± 4 or less. Dec. 1996 © TOSHIBA CORP. 1 - 19 2060, 2860/70 ADJUSTMENT...

[Page 23](#) (8) Press the INTERRUPT key. The drum, developer unit, etc., will stop operating and the following display will appear. TEST MODE 100% (9) Turn off the power switch. Install the toner cartridge. 2060, 2860/70 ADJUSTMENT 1 - 20 Dec. 1996 © TOSHIBA CORP.

[Page 24: Exposure Adjustment](#)

While pressing the keys “0” and “5” at the same time, turn on the power switch. The “TEST MODE 100% AJ” appears indicating that the adjustment mode has been entered. Dec. 1996 © TOSHIBA CORP. 1 - 21 2060, 2860/70 ADJUSTMENT...

[Page 25](#) (2) While pressing the keys “0” and “5” at the leading edge same, turn on the power switch. The following display appears indicating that the adjustment mode has been entered. TEST MODE 100% 2060, 2860/70 ADJUSTMENT 1 - 22 Dec. 1996 © TOSHIBA CORP.

[Page 26](#) Press the INTERRUPT key to store the value. Press the ENERGY SAVER key to make a test copy. If the image density of the test copy is not satisfactory, repeat the operations through Dec. 1996 © TOSHIBA CORP. 1 - 23 2060, 2860/70 ADJUSTMENT...

[Page 27](#) (3) If adjustment is needed, select 100% and A4 (or Letter) and follow this procedure: PRINT Adjust with digital keys * To increase the reproduction ratio, use a larger value and vice versa. 2060, 2860/70 ADJUSTMENT 1 - 24 Dec. 1996 © TOSHIBA CORP.

[Page 28](#) Therefore, be sure to check all other registrations after the cassette adjustment. However, each adjustment other than the cassette can be performed individually. Cassette (lower) Manual feed 100% 200% 100% 100% (53) (54) (55) (56) (59) Dec. 1996 © TOSHIBA CORP. 1 - 25 2060, 2860/70 ADJUSTMENT...

[Page 29](#) 100% TEST MODE 100% (6) To adjust for manual feeding and the ADU, follow steps (1) ~ (5). (7) Finally, press the keys to exit from the test mode. 2060, 2860/70 ADJUSTMENT 1 - 26 Dec. 1996 © TOSHIBA CORP.

[Page 30](#) For the transfer/separation charger: (+) terminal to pin “3” (rightmost terminal) of the measuring terminal. • For the developer bias: (+) terminal to the hole of the plate in front of the developer unit. Dec. 1996 © TOSHIBA CORP. 1 - 27 2060, 2860/70 ADJUSTMENT...

[Page 31](#) Current measuring terminal (Main charger output) Grid voltage measurement Transfer/separation charger output measurement Developer bias output measurement hole B (Main charge) Grid voltage measurement hole A Developer bias output measurement 2060,

[Page 32](#) If pockmarks occur on halftone copies, reduce the separation output. If poor separation of paper from the drum occurs or when the user normally uses thin paper, increase the separation output. But be careful not to increase or decrease the separation output excessively. Dec. 1996 © TOSHIBA CORP. 1 - 29 2060, 2860/70 ADJUSTMENT...

[Page 33](#) If backgrounding occurs over the entire copy with no under-exposure conditions, increase the bias output. However, increasing it excessively would result in poor image contrast, bias leakage or adherence of carrier powder to the drum surface. 2060, 2860/70 ADJUSTMENT 1 - 30 Dec. 1996 © TOSHIBA CORP.

[Page 34](#) (A & B), tighten the carriage-2 fixing screws. Also while pressing carriages 1 and 2 against the exit side frame (C & D), tighten the carriage-1 fixing screws. Carriage 2 Dec. 1996 © TOSHIBA CORP. 1 - 31 2060, 2860/70 ADJUSTMENT...

[Page 35](#) (61) (63) (62) Mirror position value Lens position value 50 % 50 % (65) (64) Note: In the dotted-line boxes are the items which normally do not require adjustment. 2060, 2860/70 ADJUSTMENT 1 - 32 Dec. 1996 © TOSHIBA CORP.

[Page 36](#) Make a 50% copy and check the focus and horizontal reproduction ratio. If the focus and horizontal reproduction are poor, re-enter the data of code 65 to adjust them. Adjustment of the code 64 is usually unnecessary. Dec. 1996 © TOSHIBA CORP. 1 - 33 2060, 2860/70 ADJUSTMENT...

[Page 37](#) This is value "B". (6) Set the setting to the value established in step (5) and turn off the main switch. Value "B" PRINT PWR OFF (7) Remove the feed cover. 2060, 2860/70 ADJUSTMENT 1 - 34 Dec. 1996 © TOSHIBA CORP.

[Page 38](#) In case of value "A" < value "B": rotate the screw in direction of the arrow B. Reinstall the feed cover. (10) Make a copy to check the focus. If necessary, repeat 1 to 8. Mirror unit Adjustment screw Dec. 1996 © TOSHIBA CORP. 1 - 35 2060, 2860/70 ADJUSTMENT...

[Page 39](#) Removing the original glass. (Adjustment order: step 1 → step 2) Step 1 In case of A: Loosen the screw (CCW). In case of B: Tighten the mirror 2 adjustment screw (CW). Mirror 2 2060, 2860/70 ADJUSTMENT 1 - 36 Dec. 1996 © TOSHIBA CORP.

[Page 40](#) Step 2 In case of C: Tighten the mirror 1 adjustment screw (CW). → Normal image In case of D: Loosen the screw (CCW). → Normal image Dec. 1996 © TOSHIBA CORP. 1 - 37 2060, 2860/70 ADJUSTMENT...

[Page 41](#) In case of A • Move the original scale in the direction indicated In case of B • Move the original scale in the direction indicated 2060, 2860/70 ADJUSTMENT 1 - 38 Dec. 1996 © TOSHIBA CORP.

[Page 42](#) The adjustment should be made making use of the 1 mm spaced marks impressed on the frame. [Rear] Direction of copy movement Center [Front] [Rear] Direction of copy movement Center [Front] Dec. 1996 © TOSHIBA CORP. 1 - 39 2060, 2860/70 ADJUSTMENT...

[Page 43](#) Front side 2. Adjustment plate → Left: Image → Dark Adjustment plate → Right: Image → Light Rear side Paper path direction Front side 2060, 2860/70 ADJUSTMENT 1 - 40 Dec. 1996 © TOSHIBA CORP.

[Page 44](#) When this adjustment is performed, the overall exposure may change. So, be sure to make a copy to check. If necessary, make exposure adjustment referring to "1.4 Exposure Adjustment" Dec. 1996 © TOSHIBA CORP. 1 - 41 2060, 2860/70 ADJUSTMENT...

[Page 45](#) (During the replacement of the magnetic roller, adjust the developer the developer polarity position.) 2060, 2860/70 ADJUSTMENT 1 - 42 Dec. 1996 © TOSHIBA CORP.

[Page 46](#) 3. After reassembling the upper cover, pay attention to avoid overlapping of the side seal (front and rear) and the rubber seal. Dec. 1996 © TOSHIBA CORP. 1

- 43 2060, 2860/70 ADJUSTMENT...

[Page 47](#) After moving the bracket, initialize the ADU. Check the gap between the side guide and the paper. 1.5 ± 1 mm Side guide Side guide ADU motor Stacked bracket sheets Side switch bracket 2060, 2860/70 ADJUSTMENT 1 - 44 Dec. 1996 © TOSHIBA CORP.

[Page 48](#) Front right side Right feed side 1.14 Adjusting Cassette Side Deviation The procedure for adjusting cassette side deviation for the copier and the PFP is the same as in 1.13.2. Dec. 1996 © TOSHIBA CORP. 1 - 45 2060, 2860/70 ADJUSTMENT...

[Page 49](#) (RC60) S: Silicone Oil Same thereafter Machine : Cleaning with soft pad, W: White grease (Molycoat) Replace in event of > cloth, or cleaner deformation or other Inspector (vacuum cleaner) damage Remarks Dec. 1996 © TOSHIBA CORP. 2 - 1 2060, 2860/70 MAINTENANCE...

[Page 50](#) 27. Slider sheet (front, rear) or A > 28. Air filter > Charger 29. Case 30. LED eraser array 31. Charger wire 80 > 32. Terminal contact 33. Grid 2060, 2860/70 MAINTENANCE 2 - 2 Dec. 1996 © TOSHIBA CORP.

[Page 51](#) 72. Feed roller (main) 73. Feed roller (sub) 74. Separation roller 75. Transport roller 76. Empty sensor 77. Jam sensor 78. Side guide sensor 79. End sensor Lubrication point: None Dec. 1996 © TOSHIBA CORP. 2 - 3 2060, 2860/70 MAINTENANCE...

[Page 52](#) Front sectional view 2060, 2860/70 MAINTENANCE 2 - 4 Dec. 1996 © TOSHIBA CORP.

[Page 53](#) Rear side view Dec. 1996 © TOSHIBA CORP. 2 - 5 2060, 2860/70 MAINTENANCE...

[Page 54](#) Therefore, if the tip of the claw is heavily coated with toner, replace the claw. *14 Heat roller cleaning blade Refer to section "3.6 Checking and Cleaning Heat Roller Cleaning Blade" of this Service Handbook. 2060, 2860/70 MAINTENANCE 2 - 6 Dec. 1996 © TOSHIBA CORP.

[Page 55](#) *16 Apply white grease to the main motor drive unit gears (shown arrow). *18 Clamshell lock section Apply white grease to the clamshell lock section. Dec. 1996 © TOSHIBA CORP. 2 - 7 2060, 2860/70 MAINTENANCE...

[Page 56](#) Grid - Developer material ZD-2060 Teflon roller (upper heat roller) HR-2060-U Rubber roller (lower heat roller) HR-2060-L Cleaning felt roller SR-2060-L Scraper (for heat roller) - * The number is the same as that in the Periodic Inspection Check List.

[Page 57](#) Parts List Name Page Item Door switch jig Developer nozzle jig Grid cleaning pad Wire holder jig Doctor sleeve jig Recovery blade jig Developer unit cap jig Test developer unit Dec. 1996 © TOSHIBA CORP. 2 - 9 2060, 2860/70 MAINTENANCE...

[Page 58: Precautions For Storing And Handling Supplies](#)

3. PRECAUTIONS FOR STORING AND HANDLING SUPPLIES 3.1 Precautions for Storing TOSHIBA Supplies Toner and Developer Toner and developer should be stored in a place where the ambient temperature is below 35°C (95°F) and should also be protected against direct sunlight during transportation.

[Page 59](#) Do not put solvents such as thinner, etc. on the edge. Do not deposit dirt such as paper fibers, etc, on the blade. Do not place the blade near a heat source. 2060, 2860/70 SUPPLIES 3 - 2 Dec. 1996 © TOSHIBA CORP.

[Page 60](#) Do not allow a hard object to hit on or rub against the blade edge. (2) Checking When the blade edge becomes dirty, clean it with a cloth soaked in alcohol. If the cleaning blade is damaged, replace it. Dec. 1996 © TOSHIBA CORP. 3 - 3 2060, 2860/70 SUPPLIES...

This manual is also suitable for:

28602870