
TOSHIBA
1560

Toshiba 1550 Service Manual

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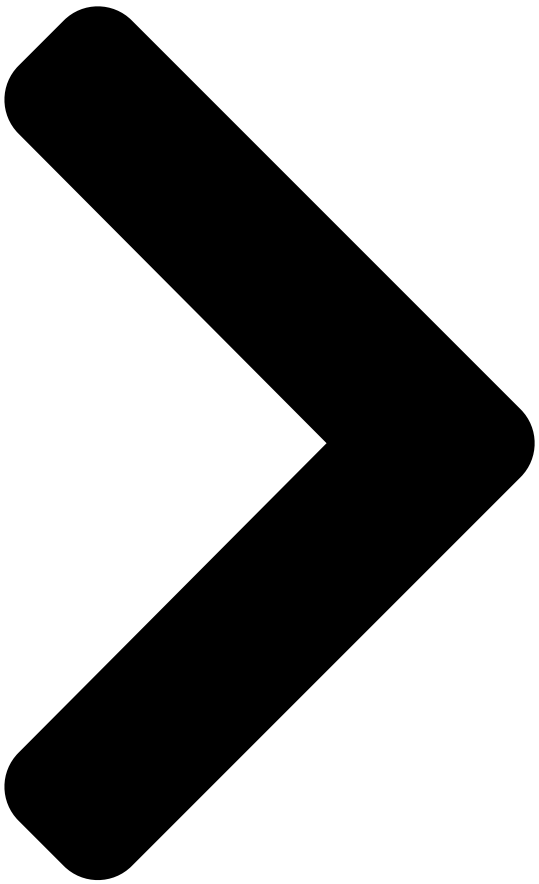

SERVICE MANUAL

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1550,1560

PAPER FEEDING UNIT

MY-1004

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Summary of Contents for Toshiba 1550

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Page 2 GENERAL PRECAUTIONS REGARDING THE INSTALLATION AND THE SERVICE OF THE 1550/1560/MY-1004 1. Transportation/Installation • When transporting/installing the copier, using two persons, be sure to use the positions as indi- cated below. The copier is fairly heavy and weighs approximately 35 kg (76.8 lb), therefore pay full attention when handling it.

Page 3 4. Main Service Parts for Safety • The thermofuse, thermistor, fuse, breaker and door switch, 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 notice labels such as “Unplug the power cord during service”, “Hot area”...

Page 4 A3~A5-R 64~130g/m Sheet bypass Ledger~Statement-R 16lb.~34lb. feeding only Special paper: Label paper (type recommended by Toshiba) and OHP film (80 µm or more in thickness, type recommended by Toshiba) – bypass feeding only Copy speed (sheets/minute) Actual size Reduction/Enlargement Paper size...

Page 5 Power consumption ... 1.5 kW or less Total counter ....Mechanical total counter (6 digits) Machine size ..... See the next page. 1.1.2 1560 The differences from the 1550 are shown below. Bypass Copying speed ..8 copies/minute (all sizes) Size .....A3~A5-R LD~ST-R Paper stacking capacity .....

Page 6 : 60 copies stacking 80~130g/m : single-sheet feeding 22~34lbs : single-sheet feeding Weight of machine ..38kg Size of a machine ..W571 x D541 x H340mm 548 mm 541 mm 340 mm Mar. 1998 © TOSHIBA 1 - 3 1550/1560 SPECIFICATIONS...

Page 7: Options And Supplies

KN-1550S 660 84839 (for MG-1003) Supplies Drum PS-OD1550 66084854 Developer material PS-ZD1550 66084853 Toner PS-ZT1550 66084851 Toner (for Europe) PS-ZT1550E 66084852 Toner bag PS-TB1550 66084859 Toner bag (for Europe) PS-TB1550E 66084860 1550/1560 SPECIFICATIONS 1 - 4 Mar. 1998 © TOSHIBA...

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OUTLINE OF THE MACHINE 2.1 Sectional Views and Electrical Parts Location Diagram 2.1.1 Front and rear sectional views for the 1550 5 23 4 ^∞ !¶ !§ %£ %º @º @ª !ª !∞ !¢ $º !£ #ª !™ #¡ #™...

Page 9 Feed roller clutch Pick-up roller clutch &§ (PFU) cassette (MY-1004) &£ (PFU) feed roller clutch (MY-1004) (PFU) pick-up roller clutch (MY-1004) (PFU) drive motor (MY-1004) &∞ *º &ª &• *¡ ^¶ ^• &º 1550/1560 GENERAL 2 - 2 Mar. 1998 © TOSHIBA...

Page 10: Front And Rear Sectional Views For The

2.1.2 Front and Rear sectional views for the 1560 (The differences from the 1550) Bypass paper guide Bypass paper-feed roller Bypass pick-up roller Bypass separation pad Mar. 1998 © TOSHIBA 2 - 3 1550/1560 GENERAL...

Page 11 1550/1560 GENERAL 2 - 4 Mar. 1998 © TOSHIBA...

Page 12: Mirror

Auto-toner sensor (SNR-ATC) Eraser lamp PC board (ASM-F-ERS) !¢ LED discharge array PC board (ASM-DCH) Mirror switch (MRR-SW) !¡ !£ Auto-exposure PC board (PWA-F-AES) !∞ Lens switch (LNS-SW) Home switch (HOME-SW) !™ Mar. 1998 © TOSHIBA 2 - 5 1550/1560 GENERAL...

Page 13 [B] Electrical parts such as motors Symbol Name Main motor (MAIN-MTR) Scanning motor (SCN-MTR) Mirror motor (MRR-MTR) Lens motor (LNS-MTR) Front optics fan (OPT-FAN-F) Rear optics fan (OPT-FAN-R) Exit fan (EXIT-FAN) Toner motor (TNR-MTR) 1550/1560 GENERAL 2 - 6 Mar. 1998 © TOSHIBA...

Page 14: Exposure Lamp

AC power cable Fuse PC board (PWA-F-FUS) Damp heater U1 (D-HTR-U1) !¡ Exposure lamp (EXPO-LAMP) Thermofuse (FU-EXPO) !™ Lamp regulator PC board (PS-LRG) Heater thermostat (K-THMO) Heater lamp (HTR-LAMP) Damp heater U2 (D-HTR-U2) Mar. 1998 © TOSHIBA 2 - 7 1550/1560 GENERAL...

Page 15 Go to 1550 DC Harness Go to 1560 DC Harness 2.2 Symbol and Function of Electrical Parts Connection Diagram Connection Diagram (1) Motors * Refer to SERVICE PARTS LIST ED-1550 Symbol Code name Function Remarks *Page/item No. MAIN-MTR (Main motor)

Page 16 Go to 1550 DC Harness Go to 1560 DC Harness Connection Diagram Connection Diagram (4) Switches Symbol Code name Function Remarks *Page/item No. MAIN-SW (Main switch) Power supply Tumbler type P4, I2 DOOR-SW (Door switch) For safety, cancels Push switch...

Page 17 Go to 1550 DC Harness Go to 1560 DC Harness Connection Diagram Connection Diagram (6) PC boards Symbol Code name Function Remarks *Page/item No. PWA-F-LGC (Logic PC board) Controls the entire copier P5, I14 PS-ACC Supplies electrical power to P5, I19...

Page 18 2.3 Wire-Harness Location Diagram A. Location Diagram for Upper Unit J508 1550/1560 GENERAL 2 - 11 Mar. 1998 © TOSHIBA...

Page 19 B. Location Diagram for Lower Unit J511 J506 J521 J526 J531 J527 PWA-F FUS CLT1 CLT3 CLT2 SIZE-SW Mar. 1998 © TOSHIBA 2 - 12 1550/1560 GENERAL...

Page 20 (2) Remove the screws fastening the hinge (4 pcs.). Hinge [B] Inner cover (upper) Inner cover (upper) (1) Open the front cover. (2) Remove the toner cartridge. (3) Remove three screws. 1550/1560 GENERAL 2 - 13 Mar. 1998 © TOSHIBA...

Page 21 Open the front cover. • Raise the upper unit. • Remove two screws. Right-side cover (lower) Right-side cover (upper) Right-side cover (upper) • Remove two screws. • Remove the glass holder (see 2.4.1). Mar. 1998 © TOSHIBA 2 - 14 1550/1560 GENERAL...

Page 22 • Open the original cover. • Remove two screws. Top cover • Remove the original cover. • Remove three screws. Glass holder [F] Rear cover • Remove two screws. Rear cover 1550/1560 GENERAL 2 - 15 Mar. 1998 © TOSHIBA...

Page 23 • Remove the original scale. (Two screws) • Remove two screws. Left-side cover (lower) • Remove two screws. Left-side cover (lower) Left-side cover (upper) • Remove one screw. Left-side cover (upper) Mar. 1998 © TOSHIBA 2 - 16 1550/1560 GENERAL...

Page 24 [H] Control panel cover (1) Raise the upper unit and remove the inner cover (upper). (2) Disconnect two connectors and remove four screws. Connectors 1550/1560 GENERAL 2 - 17 Mar. 1998 © TOSHIBA...

Page 25 (3) When you remove nine (9) screws, the control-panel PC board can be taken out along with the harness. They can be separated if you disconnect two connectors. Connector Note: Be careful not to allow the ground wire of the shield to be cut. Mar. 1998 © TOSHIBA 2 - 18 1550/1560 GENERAL...

Page 26 * About bottom 4 connectors, black harness must be connected “L” terminal that is de- scribed on PC board and white must be “N”. PS-ACC Harness White Black color Black White 1550/1560 GENERAL 2 - 19 Mar. 1998 © TOSHIBA...

Page 27 (5) Remove the rear support bracket (1 screw). (6) Remove the bypass paper guides (upper/2 [E-2] (5) Bypass tray 5. 1 (5) pieces) (1 screw each). Bypass tray Bypass paper guide Bypass paper guide Mar. 1998 © TOSHIBA 2 - 20 1550/1560 GENERAL...

Page 28 [E-2] (14) 5. 1 (14) < For removing the lens motor, details are given later. > 5. 1 (13) [E-2] (13) Connector cover Connector cover [E-2] (14) 5. 1 (14) 1550/1560 GENERAL 2 - 21 Mar. 1998 © TOSHIBA...

Page 29 Connector: yellow Terminal No. Harness: red Harness: gray Door switch connector connecting diagram. Harness: white Harness: black Connector: blue Connector: blue Harness: white Harness: black Connector: white Connector: white Terminal No. Mar. 1998 © TOSHIBA 2 - 22 1550/1560 GENERAL...

Page 30 (1) Remove the left-side cover (upper) (1 screw). Exit fan (2) Disconnect three connectors (front). (3) Remove the duct cover (1 screw). (4) Separate the exit fan from the cover (1 con- nector). 1550/1560 GENERAL 2 - 23 Mar. 1998 © TOSHIBA...

Page 31 (1) Remove the rear cover. (2) Replace the fuse. Fuse [K] Fuse PC board (PWA-F-FUS-140) (1) Disconnect one connector. (2) Remove one screw. (3) Remove the fuse PC board

with the bracket. PWA-F-FUS-140 Mar. 1998 © TOSHIBA 2 - 24 1550/1560 GENERAL...

Page 32 (1) Disconnect two connectors. (2) Remove two screws. [M] Lamp regulator PC board (PS-LRG) (1) Remove the top cover. (2) Disconnect two connectors and remove the PC board from three lock supports. PS-LRG 1550/1560 GENERAL 2 - 25 Mar. 1998 © TOSHIBA...

Page 33 [N] Optics fan (rear) (1) Remove the top cover. Optics fan (rear) Remove the connector from the sorter (two screws). (2) Disconnect one connector. (3) Remove two screws. Mar. 1998 © TOSHIBA 2 - 26 1550/1560 GENERAL...

Page 34 4 Transfer bias : Raises transfer efficiency. remaining on the photoconduc- 5 Transfer : Transfers the visible toner im- tive surface of the drum. age from the surface of the drum to the copy paper. Mar. 1998 © TOSHIBA 3 - 1 1550/1560 PROCESS...

Page 35 3.2 ED-1550/1560 Copying Process Process 1550/1560 1. Drum OD-1550 (OPC ø60) (1) Sensitivity Highly sensitized drum (2) Surface potential DC–700V Scolotron system 2. Charging Variable output 3. Exposure (1) Light control Automatic exposure/manual step setting (2) Light source 300W halogen lamp stabilized with...

Page 36 • Pressure roller: PFA tube silicon roller (ø28) • Lamp rating • 900W (infrared heat) (2) Cleaning Cleaning with silicon impregnated roller (3) Heater temperature ON/OFF control by thermistor control 10. Control Microcomputer Mar. 1998 © TOSHIBA 3 - 3 1550/1560 PROCESS...

Page 37 The feed roller clutch (CLT2) and the pick-up roller clutch (CLT3) come ON. ~ The pick-up roller and paper feed roller rotate. After a pre-difined period the pick-up roller clutch (CLT3) goes OFF. Mar. 1998 © TOSHIBA 4 - 1 1550/1560 OPERATION...

Page 38: Carriage 2

LED erase array are turned OFF. Optical fans (M6/M7) stop and exit fan (M8) starts rotating at low speed. Print key: "Green" lamp is turned ON. 1550/1560 OPERATION 4 - 2 Mar. 1998 © TOSHIBA...

Page 39 8.28 MAIN-MTR 7.72 MAIN-MTR-CW/CCW 1.03 3.45 4.53 4.98 SCN-MTR 0.71 3.53 EXPO-LAMP 0.84 3.37 HVT-M 4.31 HVT-TR 6.33 HVT-SP EXIT-SW 1.16 3.68 PSTP-SW 1.58 3.88 RGT-CLT 0.06 1.29 FED-CLT 0.06 0.36 PICUP-CLT...

Page 40 12.23 MAIN-MTR 11.67 12.23 MAIN-MTR-CW/CCW 1.03 3.45 4.53 4.81 7.23 8.47 8.92 SCN-MTR 0.71 3.53 4.71 7.47 EXPO-LAMP 0.84 3.37 4.89 7.48 HVT-M 4.31 5.89 8.26 HVT-TR 10.27 HVT-SP 7.54 9.64 EXIT-SW 1.16 3.68 4.85 7.37 PSTP-SW 1.58 3.88 5.27 7.57 RGT-CLT 0.06...

Page 41 The copier temporarily interrupts the copying operation, and carriage 1 and carriage 2 return to their fixed position. Automatic exposure goes into the reproduction ratio 100% copy mode. The copy quantity indicator remains unchanged. (2) Select desired copying conditions (single-sheet copying only is possible). Mar. 1998 © TOSHIBA 4 - 5 1550/1560 OPERATION...

Page 42 "Add Paper" display will flash. * Print key will be inoperable. Bypass-feed copying is possible if there is paper on the manual feed guide, even when there is no paper in the cassette. 1550/1560 OPERATION 4 - 6 Mar. 1998 © TOSHIBA...

Page 43 If the key-copy counter (option) has been inserted in the machine and is withdrawn, "Insert Key Counter" is displayed. Copying can not be started. • If the key counter is withdrawn during copying, the machine will stop after the paper being copied has exited. Mar. 1998 © TOSHIBA 4 - 7 1550/1560 OPERATION...

Page 44 "Add Toner" symbol appears: Copying is not possible. Clearing method: Replace toner cartridge and close front cover. Toner supply operation (toner density is resumed at the proper level): Copying is possible. 1550/1560 OPERATION 4 - 8 Mar. 1998 © TOSHIBA...

Page 45 When the "CLEAR/STOP" key and the "8" key are pressed simultaneously while the "Service Call" sym- bol is flashing, an error code will be indicated in the copy quantity indicator. For the contents of the error codes, refer to the “SERVICE HANDBOOK”. Mar. 1998 © TOSHIBA 4

- 9 1550/1560 OPERATION...

Page 46 Main switch S1 ON DC power ON Restart Covers open? Heater lamp HTR ON Start initialization • SCN-MTR M2 • LNS-MTR M3 • MRR-MTR M4 RGT-SW S5 EXIT-SW S6 Paper jammed "E03" 1550/1560 OPERATION 4 - 10 Mar. 1998 © TOSHIBA...

Page 47 Service call Has heater lamp Is heat roller "C21" reached specified temperature high enough temperature 20 seconds for fixing? after being turned ON? Service call READY "C41" Mar. 1998 © TOSHIBA 4 - 11 1550/1560 OPERATION...

Page 48 • Transfer charger OFF Remaining copying • Separation charger OFF quantity=0? EXP OFF CLT1 OFF Discharge lamp OFF Carriage moves toward copiable size display position. Completed S6 check 1 Complete "E01" Paper jammed 1550/1560 OPERATION 4 - 12 Mar. 1998 © TOSHIBA...

Page 49 S6 Check 2 Paper jammed "E02" Final copy? Drum reverses Standby Mar. 1998 © TOSHIBA 4 - 13 1550/1560 OPERATION...

Page 50 LT-R ST-R ST-R COMP LT-R GROUP SORT SORTER INTERRUPT CASSETTE 200% ST-R ST-R LD LIGHT AUTO DARK IMAGE MODE CLEAR/STOP PRINT @ @ @ @ @ For the U.S.A. and Canada Mar. 1998 © TOSHIBA 5 - 1 15501560 DISPLAY...

Page 51 The symbol is displayed when a malfunction requiring service has occurred. “ ” flashes The symbol is displayed at the periodic maintenance cycle. (When the PM counter has exceeded the PM set value.) (Capable of copying.) 1550/1560 DISPLAY 5 - 2 Mar. 1998 © TOSHIBA...

Page 52 5.3 Relationship between Machine Condition and Operator’s Action Mar. 1998 © TOSHIBA 5 - 3 15501560 DISPLAY...

Page 53: Led Display Circuit

IC SIN (pin 5) terminal via the DSPDAT signal (serial data). LED “00” • LED ON/OFF signal is outputted in parallel to D1-D16 output terminal, after being in- LED “01" putted to IC in series. 1550/1560 DISPLAY 5 - 4 Mar. 1998 © TOSHIBA...

Page 54 MAG1-e DAT22 MAG2-d MAG1-d DAT23 MAG2-c MAG1-c DAT24 ZM50 MAG3-g DAT25 ZM71 MAG3-b DAT26 ZM82 MAG3-a DAT27 ZM100 MAG3-f DAT28 ZM122 MAG3-e DAT29 ZM144 MAG3-d DAT30 ZM200 MAG3-c DAT31 DAT32 WAIT Mar. 1998 © TOSHIBA 5 - 5 15501560 DISPLAY...

Page 55: Aligning Roller (Lower

Aligning roller (lower) roller P51/14 P39/G14 Transport roller for PFU (PFU) Drive motor All parts except the main motor are located inside the frames. Dirve mechanism (as seen from the rear) Mar. 1998 © TOSHIBA 6 - 1 1550/1560 DRIVE...

Page 56 No. of gear No. of pulley Mixer No. of gear Paper feed teeth: 33 teeth: 28 FUSER UNIT teeth: 20 CLT ø20 Mg roller ø20 No. of gear teeth: 18 To PFU CLT 1550/1560 DRIVE 6 - 2 Mar. 1998 © TOSHIBA...

Page 57 Exit roller drive ....Drives the exit roller gear through gears. • Copier’s aligning roller ..Drives the copier’s aligning roller through gears. • PFU transport roller .... Drivers the transport roller through the copier’s paper feed unit. Mar. 1998 © TOSHIBA 6 - 3 1550/1560 DRIVE...

Page 58 (2) Disconnect two connectors. (3) Remove two screws. 6.3.2 Drum drive gear and developer drive gear (1) Remove the process unit (2 screws). (2) Remove the cover mirror 6 (1 screw). Cover mirror 6 1550/1560 DRIVE 6 - 4 Mar. 1998 © TOSHIBA...

Page 59 9.3.6). Knob Hook Remove the transport guide (1 screw and 1 blue connector at the rear). Transport guide Remove the inner cover (lower left). Remove the fuser unit (1 screw). Mar. 1998 © TOSHIBA 6 - 5 1550/1560 DRIVE...

Page 60 (7) Remove the lamp regulator (two connectors). Connectors Lamp regulator (8)

Remove the exposure lamp and power sup- ply connector. Connector (9) Disconnect the connector for the auto expo- Connector sure, lens switch and mirror motor. 1550/1560 DRIVE 6 - 6 Mar. 1998 © TOSHIBA...

Page 61 (10) Pull out the three connectors for the main charger and the bias wire from the high-volt- age transformer. (11) Disconnect the connector for the process unit. Mar. 1998 © TOSHIBA 6 - 7 1550/1560 DRIVE...

Page 62 • Close the clamshell and remove 2 screws from each of the 2 screw holes on the rear frame. (13) Removing two screws, take out the bracket and the gear can be replaced. 1550/1560 DRIVE 6 - 8 Mar. 1998 © TOSHIBA...

Page 63 Remove the feeder unit (1 screw and connec- tor). Paper feed unit Remove the lower drive unit bracket (1 screw) and separate the drive unit from the bracket (2 screws). Lower drive unit Screws fastening the bracket Mar. 1998 © TOSHIBA 6 - 9 1550/1560 DRIVE...

Page 64: Main Motor

(9) When MTR-BRK from LGC goes to “L” level, the brake is applied to rotation of the main motor, and when the MAIN MTR-ON signal becomes “L” level, the main motor stops. 1550/1560 DRIVE 6 - 10 Mar. 1998 © TOSHIBA...

Page 65 Control deficiency Normal MOT-FG Rotation pulse signal MTR-BRK Brake OFF Brake ON MAINMTR-ON Motor ON Motro OFF The signals are respectively the level on the input/output pins of IC1 and 3. Mar. 1998 © TOSHIBA 6 - 11 1550/1560 DRIVE...

Page 66 (5) Remove the hexagonal screw and the stop-ring of the clutch and take out the clutch. 6.5.3 (4) 1550/1560 DRIVE 6 - 12 Mar. 1998 © TOSHIBA...

Page 67 Put the projection into the into the bracket hole Note 1: he projection into the Put the projection into the ket hole bracket hole Align with the groove <Illust Align with the groove Mar. 1998 © TOSHIBA 6 - 13 1550/1560 DRIVE...

Page 68: Mirror Unit

2 Carriage 1 Exposure lamp, Reflector, Mirror 1 3 Carriage 2 Mirror 2, Mirror 3 4 Lens unit 5 Mirror unit Mirror 4, Mirror 5 6 Mirror 6 7 Slit glass Mar. 1998 © TOSHIBA 7 - 1 1550/1560 OPTICAL...

Page 69 8-1 , Carriage drive wire 9 Mirror motor !º Lens motor 10-1 Lens drive belt (1 pc.) [Feed side] 10-1 [Front side] [Rear side] !¡ [Exit side] !¡ Auto exposure PC board 1550/1560 OPTICAL 7 - 2 Mar. 1998 © TOSHIBA...

Page 70 [Feed side] [Exit side] Scanning motor Fixed to CRG 1 Wire fixing 1 2M-112 CRG 2 Wire fixing 7 8.5 turns P: Pulley Shaft 2M-77 P66/P18 View as seen from the rear Mar. 1998 © TOSHIBA 7 - 3 1550/1560 OPTICAL...

Page 71 Mirror motor and lens motor Mirror motor 2 G70/G10 Lens motor 1 Rack View with the process unit and the stay removed and View as seen from the front the upper unit raised 1550/1560 OPTICAL 7 - 4 Mar. 1998 © TOSHIBA...

Page 72 (100%) position. When a reproduction ratio is selected: When a copy reproduction ratio is set, the lens unit and the mirror unit move to their respective positions for the specified reproduction ratio. Mar. 1998 © TOSHIBA 7 - 5 1550/1560 OPTICAL...

Page 73: Auto Exposure Pc Board

Remove three screws, three clamps and dis- connect one connector. Connector Clamp Auto exposure PC board: Auto exposure PC board • Remove one screw, disconnect one connector and the PC board can be replaced. 1550/1560 OPTICAL 7 - 6 Mar. 1998 © TOSHIBA...

Page 74 Remove the optics cover (1 screw). After removing two screws, take out the bracket. Remove two screws and disconnect one con- nector from the bracket and the mirror motor is removed. Bracket Mar. 1998 © TOSHIBA 7 - 7 1550/1560 OPTICAL...

Page 75 Lens motor screw 5. 5 (17) 7.3.5 Home switch, mirror switch and lens switch Home switch: (1) Remove the top cover. (2) Remove the switch by disengaging its claws. Home switch 1550/1560 OPTICAL 7 - 8 Mar. 1998 © TOSHIBA...

Page 76: Original Glass

Exposure lamp and thermofuse Remove the original glass. Cutout section Align carriage 1 with the cutout section of the frame. Cutout section Carriage 1 View as seen from the exit side Mar. 1998 © TOSHIBA 7 - 9 1550/1560 OPTICAL...

Page 77 Teflon tube Thermofuse 7.3.7 Carriage 1 Harness clamp Carriage 1 (1) Remove the supply cable’s harness clamp and disconnect one connector. Supply cable View as seen from the exit side 1550/1560 OPTICAL 7 - 10 Mar. 1998 © TOSHIBA...

Page 78 Remove carriage 1 and the wire fixture ..(each screw for the front and rear). Note: Be careful not to get hitched by the wire. Carriage 1 Mar. 1998 © TOSHIBA 7 - 11 1550/1560 OPTICAL...

Page 79 (4) After having loosened the wire tension adjust- ment screw, disengage the hook on the feed Carriage drive wire side ..for both front and rear. Hook (5) Remove carriage 2. Carriage 2 1550/1560 OPTICAL 7 - 12 Mar. 1998 © TOSHIBA...

Page 80 Remove the pulley on the rear side (1 screw). Pulley (8) Loosen the screw for the wire take-up pulley located inside the frame Wire take-up pulley ..for both front and rear. Mar. 1998 © TOSHIBA 7 - 13 1550/1560 OPTICAL...

Page 81 (2) Remove the mirror 6's cover (1 screw). (3) Remove the mirror 6's bracket (1 screw). (4) Move the mirror 6's bracket in the directions of arrows 1 and 2 and take out the bracket. 1550/1560 OPTICAL 7 - 14 Mar. 1998 © TOSHIBA...

Page 82 The circuit composition in the IC consists of each phase excitation switching section (IC2), a driver (F1, F2), a comparator (IC1) and an electric current detection resistance (R11). The circuit operation in the case of excitation of phase A is described below: Mar. 1998 © TOSHIBA 7 - 15 1550/1560 OPTICAL...

Page 83 (refer to the diagram below). 0 (A) Form of electric wave that flows into the motor When exciting phase A, phase øA becomes “L” level, while F2 becomes ON, and a similar operation is conducted. 1550/1560 OPTICAL 7 - 16 Mar. 1998 © TOSHIBA...

Page 84 Shown below is the waveform timing chart of each section: øIN CI discharge voltage Ec Equivalent circuit of STK6712B Vcc1 øA øA Vref Vref øB øB Drive voltage regulator Mar. 1998 © TOSHIBA 7 - 17 1550/1560 OPTICAL...

Page 85 QA, QB, QA, and QB bases in two-phase exci- tation. The ON/OFF combination of the transistor is switched. The combination of phases to which the current flows is switched. Motor rotates 1550/1560 OPTICAL 7 - 18 Mar. 1998 © TOSHIBA...

Page 86 EXP-PWM signal Lamp regulator Automatic exposure sensor circuit PWA-AES-140 AES signal Arithmetic and control unit K-RTN PWA-LGC IC12 UP/DOWN key IC10: TMP96C141AFZ Switching power supply PS-ACC EEPROM included Zero-cross signal IC9:10C68-P45V Mar. 1998 © TOSHIBA 7 - 19 1550/1560 OPTICAL...

Page 87 184, 92 V approx. 92, 46 V approx. Range of actual use 40 V% 90 V% PWM pulse duty ratio 100 V series 200 V series [Characteristics of the curve of the lamp regulator] 1550/1560 OPTICAL 7 - 20 Mar. 1998 © TOSHIBA...

Page 88 2 CPU (IC10) .....Incorporates software which computes the voltage to be impressed on the lamp in accordance with such copying modes as photographic magnification, automatic exposure, and manual exposure, as well as adjustment data inside the SRAM. Mar. 1998 © TOSHIBA 7 - 21 1550/1560 OPTICAL...

Page 89 Controls the conduction angle of the triac. The voltage applied across the lamp is kept consistent. Reference pulse signal setting circuit Trigger pulse (PWM) generation Pulse signal circuit Pulse Waveform Operational waveform shaping circuit amplifier shaping circuit

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Page 90: Aligning Roller (Upper

Aligning roller (lower) [Rear side] Aligning roller clutch Upper paper feeder unit G: Gear Feed roller clutch Paper feed roller Pick-up roller clutch Pick-up roller Lower paper feeder unit turned upside down Mar. 1998 © TOSHIBA 8 - 1 1550/1560 FEEDER...

Page 91 6 Separation roller 7 Paper empty switch !™ !£ !¡ !¢ View as seen from the rear !¡ Aligning roller clutch !™ Pick-up roller clutch !£ Feed roller clutch !¢ Main motor 1550/1560 FEEDER 8 - 2 Mar. 1998 © TOSHIBA...

Page 92 The separation roller shaft, equipped with a torque limiter based on a spring joint, is designed to rotate in the direction of the arrow ( ) and transmits its rotation to the separation roller through the spring joint. Mar. 1998 © TOSHIBA 8 - 3 1550/1560 FEEDER...

Page 93 Separation roller feed roller in the direction of the arrow (1550/1560 FEEDER 8 - 4 Mar. 1998 © TOSHIBA...

Page 94 Upper paper feed unit Aligning switch: (1) Place the upper paper feed unit upside down. Aligning switch (2) Remove the paper dust brush. Connector (3) Disengage three claws and disconnect one connector. Mar. 1998 © TOSHIBA 8 - 5 1550/1560 FEEDER...

Page 95 (3) While pushing down the claw, pull out the bush- ing toward the front. Bushing Claw (4) Disconnect one connector. (5) While pushing down the rear claw, pull out the Connector bushing toward the rear. Claw Clutch 1550/1560 FEEDER 8 - 6 Mar. 1998 © TOSHIBA...

Page 96 Clutch Aligning roller (upper) Aligning roller (lower) Notes: 1. During disassembly, be careful not to damage the mylar. 2. Pay attention to the orientation of the Mylar clutch projection. Clutch projection Mar. 1998 © TOSHIBA 8 - 7 1550/1560 FEEDER...

Page 97 Note that the feed roller can be removed with- out taking out the whole unit. Just remove the grip and pull out the roller from its shaft. Grip Feed roller Lower paper feed unit 1550/1560 FEEDER 8 - 8 Mar. 1998 © TOSHIBA...

Page 98 • Remove the rear cover and disconnect one connector from the logic PC board. Take the connector out through the window in the rear frame to the front side. Mar. 1998 © TOSHIBA 8 - 9 1550/1560 FEEDER...

Page 99 Empty switch Note: When reassembling the rail unit, make sure that the holder bottle is placed on the rail. Rail Holder bottle 1550/1560 FEEDER 8 - 10 Mar. 1998 © TOSHIBA...

Page 100 • Removing one setscrew allows the clutch and the shaft to be separated. • The pick-up roller clutch and the feed roller clutch are the same parts. Setscrews Shaft holder Connector Mar. 1998 © TOSHIBA 8 - 11 1550/1560 FEEDER...

Page 101: Discharge Lamp

Pre-transfer bias guide Separation charger Transfer charger • Process unit LED erasing array Discharge lamp Charging unit Main charger Drum High-voltage transformer • Lower unit Transfer/separation charger Pre-transfer bias guide Transfer guide Mar. 1998 © TOSHIBA 9 - 1 1550/1560 DRUM...

Page 102: Led Erasing Array

(through a DC high-voltage transformer). • Separation charger Strips the copy paper along with the toner im- age from the drum (through an AC high-volt- age transformer). Separation Transfer charger charger 1550/1560 DRUM 9 - 2 Mar. 1998 © TOSHIBA...

Page 103 (3) Move the entire unit toward the upper to have it Main charger unit disengaged for the rear lock and take it out. Note: Be careful not to damage the drum. Front side Mar. 1998 © TOSHIBA 9 - 3 1550/1560 DRUM...

Page 104 Remove the front and rear terminal covers. • Pinching the hook of the rear

terminal cover with cross pliers etc. will facilitate the removal. Charge wire Spring hanger Charge wire [Front side] [Rear side] 1550/1560 DRUM 9 - 4 Mar. 1998 © TOSHIBA...

Page 105 2. When moved to the rear, the pads (2 pcs.) should be obviously away from the wires. Pad holder [Rear side] Mar. 1998 © TOSHIBA 9 - 5 1550/1560 DRUM...

Page 106 Remove the front and rear terminal covers. For the separation charger, remove the sup- Terminal cover porter in addition. Note: For replacing the cleaning pad, the same procedure as for the main charger applies. Supporter Terminal cover 1550/1560 DRUM 9 - 6 Mar. 1998 © TOSHIBA...

Page 107 (3) Remove one screw securing the damp heater. (4) Remove the inner cover (lower left) and left- side cover (lower). (5) Remove the rear cover. (6) Remove a connector. Damp heater unit Mar. 1998 © TOSHIBA 9 - 7 1550/1560 DRUM...

Page 108 Note: Be careful not lose the charger push-up spring. Springs (5) Remove the two hooks and then take out the transfer/separation terminal from the front side. Transfer/ separation terminal 1550/1560 DRUM 9 - 8 Mar. 1998 © TOSHIBA...

Page 109 (2) Remove the gear unit (2 screws). Gear unit Claw [Front side] (3) After removing the two claws on the front side, Claw slide out the main charger terminal to the right. Main charger terminal Claw Mar. 1998 © TOSHIBA 9 - 9 1550/1560 DRUM...

Page 110 Transfer/separation transformer generates output current which is proportional to control voltage * Adjustment of control voltage Vc (alteration of adjustment data) must be made in AJ mode. J1-B8 IC10 HV-TR-Vref IC12 J1-B9 HV-SP-Vref nV-RAM Transfer/separation control circuit diagram 1550/1560 DRUM 9 - 10 Mar. 1998 © TOSHIBA...

Page 111 After setting is completed, it is transferred to latch. • According to the driver, turn ON LED on both ends in accordance with data. A timing chart for the above is shown below. Mar. 1998 © TOSHIBA 9 - 11 1550/1560 DRUM...

Page 112 (16) OUT1 Timing chart 1550/1560 DRUM 9 - 12 Mar. 1998 © TOSHIBA...

Page 113 Output 2 Grid –692 V TR-VREF Output 3 Transfer –400 µA HVT-GB-ON Output 4 Separation AC 3.6 kV HVT-SP-ON Output 5 Developer bias –200 V SP-VREF Output 6 Guide bias –1200 V Mar. 1998 © TOSHIBA 9 - 13 1550/1560 DRUM...

Page 114: Developer Unit

10. DEVELOPER UNIT 10.1 Construction Top cover Guide roller Magnetic roller Guide roller Drum Leveler Mixer 1 Mixer 2 Magnetic roller Auto-toner sensor Front sectional view Mar. 1998 © TOSHIBA 10 - 1 1550/1560 DEVELOPER...

Page 115: Drive System

[Developer-unit front side] Toner cartridge drive motor Drive gear (teeth: 26) Toner cartridge (adding toner) Toner is mixed by mixers 1 and 2. Toner cartridge drive gear G26 Toner cartridge drive motor 1550/1560 DEVELOPER 10 - 2 Mar. 1998 © TOSHIBA...

Page 116 “A” and moving the cover in the direction “B”). Note: While doing the above, be careful not to dam- age the seal affixed to the back side of the top cover. Mar. 1998 © TOSHIBA 10 - 3 1550/1560 DEVELOPER...

Page 117 (4) Reinstall the top cover; after inserting the hooks (4 places) firmly, fix the plate spring hooks by rotating in the direction of arrow A securely. Plate spring hooks 1550/1560 DEVELOPER 10 - 4 Mar. 1998 © TOSHIBA...

Page 118 While tilting the developer unit, let the developer material drain out from the position shown with an arrow. Be careful not to allow gears and connec- tors nearby to get stained with developer material. Mar. 1998 © TOSHIBA 10 - 5 1550/1560 DEVELOPER...

Page 119 (3) Remove the front plate (2 screws). Front plate (4) Replace the guide roller. Note: When reinstalling the front plate, be careful not to allow the harness to be pinched. Guide

roller 1550/1560 DEVELOPER 10 - 6 Mar. 1998 © TOSHIBA...

Page 120 (4) Replace the guide roller. Notes: 1. The guide roller is common for the front and rear sides. 2. After reassembly, the doctor-to-sleeve gap and the pole position should be adjusted. Guide roller Mar. 1998 © TOSHIBA 10 - 7 1550/1560 DEVELOPER...

Page 121 (1) Pour out the developer material from the de- Connector veloper unit. (2) Place the developer unit upside down and re- move the auto-toner sensor (1 screw and con- nector). Auto-toner sensor 1550/1560 DEVELOPER 10 - 8 Mar. 1998 © TOSHIBA...

Page 122 Note: After reassembly, the doctor-to-sleeve gap and the pole position should be adjusted. Magnetic roller bearing Seal Mar. 1998 © TOSHIBA 10 - 9 1550/1560 DEVELOPER...

Page 123 When pin 1 of Q20 becomes "H", pin 2 of Q19 also becomes "H", causing the current flowing through the motor winding to flow to the +24V supply through D13.fThe current decreases with a time constant determined by the inductance and resistance of the windingfcausing the motor to stop. 1550/1560 DEVELOPER 10 - 10 Mar. 1998 © TOSHIBA...

Page 124 R114 Toner MAIN Toner motor IC10: DA converter 96C141 Control voltage signal IC2:M62 353FP R113 (A01) IC12 Toner density R127 R115 signal Toner sensor R126 Developer Developer material unit nV-RAM PWA-F-LGC Mar. 1998 © TOSHIBA 10 - 11 1550/1560 DEVELOPER...

Page 125 Converts the high-frequency output emitted from the detection winding to a DC signal. Auto-toner output VATS Magnetic Auto-toner resistance output Drive Detection To microprocessor conversion winding circuit (Developer material) Magnetic circuit 1550/1560 DEVELOPER 10 - 12 Mar. 1998 © TOSHIBA...

Page 126 The toner amount in the developer material is more than the required level in comparison with the iron powder (carrier). Magnetic reluctance: Large detection output: Small auto-toner output V: Small • DC voltage corresponding to toner density in the developer material = auto-toner output VATS. Mar. 1998 © TOSHIBA 10 - 13 1550/1560 DEVELOPER...

Page 127: Recovery Blade

Toner recovery auger [Rear side] [Front side] Recovery blade View with the drum, main charger unit and developer unit removed (Rear side) (Front side) G: Gear View with the drum removed Mar. 1998 © TOSHIBA 11 - 1 1550/1560 CLEANER...

Page 128: Toner Recovery Auger

When the toner bag becomes full of recovered toner, the toner recovery auger is forced to the front, causing the toner full switch (S10) to be turned on. Toner full switch 1550/1560 CLEANER 11 - 2 Mar. 1998 © TOSHIBA...

Page 129: Drum

[Front side] Drum shaft • When removing the drum, place your hands Drum on the sides of the drum, as shown in the figure on the right and take it out carefully. Mar. 1998 © TOSHIBA 11 - 3 1550/1560 CLEANER...

Page 130 Drum The figure on the right shows the cleaner unit after the developer unit, main charger unit and drum are Cleaner unit removed from the process unit. 1550/1560 CLEANER 11 - 4 Mar. 1998 © TOSHIBA...

Page 131 (1) Remove the developer unit, main charger unit and drum. Main blade (2) Remove the spring. Spring (3) Remove the holder on the rear (1 screw). (4) Remove the blade. Holder Mar. 1998 © TOSHIBA 11 - 5 1550/1560 CLEANER...

Page 132 2. After installing the drum, apply patting power to the drum and rotate it. Refer to Sec. 11.3.1. Collar 11.3.3 Toner full switch (1) Disconnect a connector. (2) Remove the switch. Connector Toner full switch 1550/1560 CLEANER 11 - 6 Mar. 1998 © TOSHIBA...

Page 133 [Rear side] Heater lamp Separation claw unit G60/G40 Paper exit roller unit View with the fuser guard removed Thermistor Thermostat Cleaning blade Lower heat roller View

with the upper heat roller removed Mar. 1998 © TOSHIBA 12 - 1 1550/1560 FUSER...

Page 134 The paper exit switch functions to detect whether or not the copy paper is properly exited onto the copy tray. 1550/1560 FUSER 12 - 2 Mar. 1998 © TOSHIBA...

Page 135 Fuser guard [Front side] Heater lamp (3) Remove the screw fastening the terminal on Lamp holder bracket R the rear. (4) Remove the lamp holder bracket (R) (1 screw). Terminal fixing screw Mar. 1998 © TOSHIBA 12 - 3 1550/1560 FUSER...

Page 136 (F). Notes: 1. When replacing the lamp, don't touch it Lamp holder (F) with a bare hand. 2. Be careful so that the Toshiba mark is on the front side. 12.3.3 Thermostat, thermistor and brush Thermostat (1) Remove the fuser unit.

Page 137 12.3.6 Lower heat roller (1) Remove the upper heat roller. Separation claw unit (2) Remove the separation-claw unit (1 screw). Mar. 1998 © TOSHIBA 12 - 5 1550/1560 FUSER...

Page 138 Lower exit roller and paper exit switch (1) Take out the fuser unit. (2) Slide the exit roller unit to the front and then take it out toward you (1f2). Exit roller unit 1550/1560 FUSER 12 - 6 Mar. 1998 © TOSHIBA...

Page 139 The projection for preventing removal of each lever cap should face front side. 12.3.9 Separation claws (6) (1) Remove the inner cover (lower left) (1 screw). (2) Remove the separation claw unit (1 screw). Mar. 1998 © TOSHIBA 12 - 7 1550/1560 FUSER...

Page 140 (4) Remove the bracket from the separation claw unit (4 screws). Bracket (5) Remove the lower cover (4 screws). (1 unit : screws 2x2) Take off the six claws from the claw holder. Lower cover 1550/1560 FUSER 12 - 8 Mar. 1998 © TOSHIBA...

Page 141 Less than 180°C More than 7.4 KΩ 180°C 7.4KΩ Maintains previous state More than 180°C Less than 7.4 KΩ Warming up Ready (180°C) During copying (180°C) °C Heat roller temperature distribution Heater lamp Mar. 1998 © TOSHIBA 12 - 9 1550/1560 FUSER...

Page 142 Input voltage can be obtained by dividing the pressure of R170, thermistor, R27 and R29. • The main CPU detects the changes and judges whether the thermistor is normal or not. Thermistor R170 IC10 P35/BSAK DA converter IC2: M62353FP (A06) IC12 1550/1560 FUSER 12 - 10 Mar. 1998 © TOSHIBA...

Page 143 Supplied from the copier Factory-Set Size A3 for Europe (User adjustable) Ledger for USA/Canada (Serviceman adjustable) Note: Specifications are subject to change without notice. 130 mm 506 mm 548 mm MY-1004 Mar. 1998 © TOSHIBA 13 - 1 1550/1560 OPTIONAL...

Page 144: General Description

Drive PC board Interface harness (PFU) drive motor Positioning pin [Rear side] View with the rear cover and cassette removed Paper guide Transport roller (right) Transport roller clutch Jam access cover 1550/1560 OPTIONAL 13 - 2 Mar. 1998 © TOSHIBA...

Page 145 DOOR2-SW (Door switch) Detects whether or not the P3, I13 cover is open. SIZE2-SW Detects the cassette size or P2, I30 (Cassette size switch) whether the cassette is install- ed or removed. Mar. 1998 © TOSHIBA 13 - 3 1550/1560 OPTIONAL...

Page 146 9 Aligning roller (lower) !£ G24 G14 P39 !™ !¡ TB76 View as seen from the rear !º Drive motor !¡ Pick-up roller clutch !™ Feed roller clutch !£ Transport roller clutch 1550/1560 OPTIONAL 13 - 4 Mar. 1998 © TOSHIBA...

Page 147 (1) Within 1.238 sec. after a sheet of paper is fed, if its leading edge does not arrive at the paper stop switch 6, the jam detection device of the paper feeding unit (PFU) activates to turn off the drive motor !º, pick-up roller clutch !¡ and feed roller clutch !™. Mar. 1998 © TOSHIBA 13 - 5 1550/1560 OPTIONAL...

Page 148 (3) During multicopying from the paper feeding unit (PFU), if a paper jam occurs inside the PFU, all the sheets of paper fed before the jammed sheet will be processed normally. 1550/1560 OPTIONAL 13 - 6 Mar. 1998 © TOSHIBA...

Page 149 Jam access cover [B] Rear cover (1) Remove two screws to take out the cover. Rear cover [C] Paper guide (1) Remove the jam access cover. (2) Remove four screws. Paper guide Mar. 1998 © TOSHIBA 13 - 7 1550/1560 OPTIONAL...

Page 150 (1) Remove the cassettes of both the copier and Front cover the paper feeding unit. (2) Unhook the right and left claws of the front cover. Claw View with copier taken off 1550/1560 OPTIONAL 13 - 8 Mar. 1998 © TOSHIBA...

Page 151 Harness Door switch Transport rollers (right)/(left) and paper stop switch: Transport roller (1) Remove the transport roller clutch. Transport paper (right) guide (2) Remove the transport paper guide (3 screws). Mar. 1998 © TOSHIBA 13 - 9 1550/1560 OPTIONAL...

Page 152: Transport Guide

Transport roller (left) 3. When reinstalling the transport paper guide, make sure that the plate spring Plate spring is in contact with the shaft of the trans- port roller (right) securely. 1550/1560 OPTIONAL 13 - 10 Mar. 1998 © TOSHIBA...

Page 153 Clip Note: The separation, pick-up and feed rollers are the same parts as used in the copier. Caution: During disassembly or reassembly, be careful not to lose the spring. Mar. 1998 © TOSHIBA 13 - 11 1550/1560 OPTIONAL...

Page 154 Note: Since the disassembly and replacement pro- cedures for the pick-up roller clutch, feed roller clutch and pick-up roller are the same as for those of the copier, refer to para. 8.3.2. 1550/1560 OPTIONAL 13 - 12 Mar. 1998 © TOSHIBA...

Page 155 Tighten respective screws so that the front Rear frame edge of the damper should be down by 5~6 mm from the frame surface. (Overtightening can damage the damper.) Damper Screw Motor assembly Mar. 1998 © TOSHIBA 13 - 13 1550/1560 OPTIONAL...

Page 156 (1) Pull out the cassettes from both the copier and Switch cover the paper feeding unit. (2) Remove one screw and take out the switch along with the cover. (3) Detach the switch from the cover. Empty switch 1550/1560 OPTIONAL 13 - 14 Mar. 1998 © TOSHIBA...

Page 157 Is the cover open? keys been pressed simultaneously? Motor and all clutches OFF Is the cover closed? Paper stop switch ON? Paper jam Papers in the cassette? "ADD PAPER" symbol flashing Mar. 1998 © TOSHIBA 13 - 15 1550/1560 OPTIONAL...

Page 158 Pick-up roller clutch OFF 0.025 sec. delay Transport roller clutch ON Paper stop switch ON? Have 1.238 sec. passed after the feed roller clutch became 0.15 sec. delay Feed roller clutch OFF Paper jam 1550/1560 OPTIONAL 13 - 16 Mar. 1998 © TOSHIBA...

Page 159 Delay corresponding to the copier's aligning time Transport roller clutch ON Transport roller clutch OFF. Has the copier sent a paper feed request to PFU? Paper feeding operation complete. Mar. 1998 © TOSHIBA 13 - 17 1550/1560 OPTIONAL...

Page 160 Paper jam Motor and all clutches OFF CLEAR PAPER symbol flashing Is the cover open? Is the cover closed? Paper stop switch ON? CLEAR PAPER symbol OFF 1550/1560 OPTIONAL 13 - 18 Mar. 1998 © TOSHIBA...

Page 161 5.35 9.28 RGT-SW (copier) 3.29 7.22 9.52 RGT1-CLT (copier) 0.84 3.56 4.34 7.48 PSTP2-SW 0.32 2.74 3.31 6.24 7.23 7.86 RGT2-CLT 0.99 4.49 FED2-CLT 0.29 3.5 3.75 PKUP2-CLT 0.99 4.49 PFU-MOT Mar. 1998 © TOSHIBA 13 - 19 1550/1560 OPTIONAL...

Page 162 "L". (5) SIZ13 - 10 (Paper size switches) Indicate the size of the cassette. When the size mark plate pushes the switches, the corresponding paper size signal becomes "L". 1550/1560 OPTIONAL 13 - 20 Mar. 1998 © TOSHIBA...

Page 163 Current route while the motor is turned off *1: The MOT-ON2 signal is to cause the motor (PFU-MOT) M10 to rotate and is supplied by the copier. When this signal becomes "L", the motor starts rotating. Mar. 1998 © TOSHIBA 13 - 21 1550/1560 OPTIONAL...

Page 164 13.7 Electric Circuit Diagram and PC Board Assembly 13.7.1 PFU drive circuit

diagram Mar. 1998 © TOSHIBA 13 - 22 1550/1560 OPTIONAL...

Page 165 FED2-CLT PKUP2-CLT EMP2-SW SIZE2-SW CLT5 CLT6 DOOR2-SW PSTP2-SW RGT2-CLT J102 J101 CLT4 PFU-MOT J108 PWA-F-PFU To copier...

Page 166 13.7.3 Harness connection diagram PWA-F-PFU Copier 1550/1560 OPTIONAL 13 - 24 Mar. 1998 © TOSHIBA...

Page 167 13.7.4 PC board assembly (PWA-F-PFU) Mar. 1998 © TOSHIBA 13 - 25 1550/1560 OPTIONAL...

Page 168 HINT How to search for where a signal in a 14. ELECTRIC CIRCUIT DIAGRAM circuit diagram has jumped to. 14.1 Logic Circuit 14.1.1 1550 Logic Circuit (PWA-F-LGC) 1/8 1/10W4700 R105 RTP 2 R148 1/10W4700 1/10W4700 1/10W4700 R179 RTP 2 RTP 2...

Page 169 HINT How to search for where a signal in a Logic Circuit (PWA-F-LGC) 2/8 circuit diagram has jumped to. CC0.1/25 1550/1560 CIRCUIT DIAGRAMS 14 - 2 Mar. 1998 © TOSHIBA...

Page 170 [FEDCLT] [FED-CLT] [HVT-SP] [HVT-SP-ON] RGTCLT RGT-CLT [RGTCLT] [RGT-CLT] STORE [STORE] VDD1 COM1 WRRAM [STORE] VDD0 COM0 CC0.1/25 62305F CSSRAM [CSSRAM] CC0.1/25 GND3 GND2 GND1 GND0 GND1FIN GND0FIN CC0.1/25 10C68-P45V 62308F Mar. 1998 © TOSHIBA 14 - 3 1550/1560 CIRCUIT DIAGRAMS...

Page 171 OPT-FAN-F RTP 2 [OPT-FAN-F] 1SS193 +24V +24V +5VSW 358M ATSVREF [ATSVREF] ATS-VREF R113 [ATS-VREF] 4700 1SS193 RTP 2 OPTON OPT-F-ON 1/10W10K [OPTON] [OPT-F-ON] R100 4700 1/10W1000 2SC2873Y RN2401 R101 1/10W4700 1550/1560 CIRCUIT DIAGRAMS 14 - 4 Mar. 1998 © TOSHIBA...

Page 172 RTP 2 [SCN-L] SCN-D SCN-MOT-D [SCN-D] [SCN-MOT-D] SCN-B SCN-MOT-B [SCN-B] [SCN-MOT-B] SCN-C SCN-MOT-C [SCN-C] [SCN-MOT-C] SCN-A SCN-MOT-A [SCN-A] [SCN-MOT-A] VREF1 1/10W2700 +5VSW VREF0 +24V CC0.1/25 CC0.1/25 1/10W180 CE22/35 6712MK3 6712G [6712G] Mar. 1998 © TOSHIBA 14 - 5 1550/1560 CIRCUIT DIAGRAMS...

Page 173 RTP 2 RTP 2 IC19 IC19 1/10W4700 7407M DSP-RST 1SS181 IC18 MC74 MC74 HC14F HC14F 1/10W22K ACOFF RTP 2 MC74 IC19 IC19 HC14F GARST CE4.7/16 IC19 0.1/25 1/10W4700 5VCHK CC2200P/50 1550/1560 CIRCUIT DIAGRAMS 14 - 6 Mar. 1998 © TOSHIBA...

Page 174 [RGT-CLT] [ZC] K-CTR [K-CTR] RGT-SW [RGT-SW] CTR-SIG [CTR-SIG] SSR- [SSR-] ACOFF [ACOFF] CRG-HOM [CRG-HOM] OPT-FAN-R [OPT-FAN-R] FED-CLT [FED-CLT] PKUP-CLT [PKUP-CLT] 175487-7V EMP-SW [EMP-SW] EXT-SW [EXT-SW] SSR+ [SSR+] [TH+] [TH-] SSR+1 Mar. 1998 © TOSHIBA 14 - 7 1550/1560 CIRCUIT DIAGRAMS...

Page 175 [MOT-ON2] CST2 [CST2] SIZ10 [SIZ10] SIZ11 [SIZ11] CC0.1/25 CE47/16 SIZ12 [SIZ12] SIZ13 [SIZ13] CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 FED-CLT2 [FED-CLT2] PKUP-CLT2 [PKUP-CLT2] RGT-CLT2 [RGT-CLT2] 7407M IC18 7407M IC18 1550/1560 CIRCUIT DIAGRAMS 14 - 8 Mar. 1998 © TOSHIBA...

Page 176 1/10W22K [TH-] P50/AN0 P05/AD5 VREF P04/AD4 AGND P03/AD3 P02/AD2 P01/AD1 P00/AD0 WDTOUT RESET IC10 D[0:15] TMP96C141AFZ [D[0:15]] RTP 2 1/10W100 [WDT] [ALE] 1/10W1M 1/10W4700 [RST] CC2200P/50 4402906020 PWA-F-LGC-141 4402906120 PWB-F-LGC-141 Mar. 1998 © TOSHIBA 14 - 9 1550/1560 CIRCUIT DIAGRAMS...

Page 177 HINT How to search for where a signal in a 1560 Logic Circuit (PWA-F-LGC) 2/8 circuit diagram has jumped to. 1550/1560 CIRCUIT DIAGRAMS 14 - 10 Mar. 1998 © TOSHIBA...

Page 178 [FEDCLT] [FED-CLT] [HVT-SP] [HVT-SP-ON] RGTCLT RGT-CLT [RGTCLT] [RGT-CLT] STORE [STORE] VDD1 COM1 WRRAM [WRRAM] CC0.1/25 VDD0 COM0 62305F CSSRAM [CSSRAM] CC0.1/25 GND3 GND2 GND1 GND0 GND1FIN GND0FIN CC0.1/25 10C68-P45V 62308F Mar. 1998 © TOSHIBA 14 - 11 1550/1560 CIRCUIT DIAGRAMS...

Page 179 4700 RTP 2 2SC2873Y RN2401 358M ATSVREF 1/10W1000 [ATSVREF] ATS-VREF R101 R113 [ATS-VREF] 1/10W4700 1/10W10K +24V +5VSW 1SS193 4700 SFB-ON1 SFB-CLT [SFB-ON1] [SFB-CLT] R187 4700 2SC2873Y RN2401 1/10W1000 R186 1/10W4700 1550/1560

CIRCUIT DIAGRAMS 14 - 12 Mar. 1998 © TOSHIBA...

Page 180 1/10W4700 [SCN-L] SCN-D SCN-MOT-D [SCN-D] [SCN-MOT-D] SCN-B SCN-MOT-B [SCN-B] [SCN-MOT-B] SCN-C SCN-MOT-C [SCN-C] [SCN-MOT-C] SCN-A SCN-MOT-A [SCN-A] [SCN-MOT-A] VREF1 1/10W2700 +5VSW VREF0 +24V CC0.1/25 CC0.1/25 1/10W180 CE22/35 6712MK3 6712G [6712G] Mar. 1998 © TOSHIBA 14 - 13 1550/1560 CIRCUIT DIAGRAMS...

Page 181 RTP 2 RTP 2 RTP 2 [RST] IC19 IC19 1/10W4700 7407M DSP-RST [DSP-RST] 1SS181 IC18 MC74 MC74 HC14F HC14F ACOFF 1/10W22K [ACOFF] IC19 IC19 GARST [GARST] CE4.7/16 1/10W4700 5VCHK [5VCHK CC2200P/50 1550/1560 CIRCUIT DIAGRAMS 14 - 14 Mar. 1998 © TOSHIBA...

Page 182 K-CTR [K-CTR] RGT-SW [RGT-SW] CTR-SIG [CTR-SIG] SSR- [SSR-] ACOFF [ACOFF] JMP5 CRG-HOM [CRG-HOM] OPT-FAN-R [OPT-FAN-R] CC0.1/25 FED-CLT [FED-CLT] PKUP-CLT [PKUP-CLT] 175487-7V EMP-SW [EMP-SW] EXT-SW [EXT-SW] SSR+ [SSR+] [TH+] [TH-] SSR+1 Mar. 1998 © TOSHIBA 14 - 15 1550/1560 CIRCUIT DIAGRAMS...

Page 183 [SIZ12] SIZ13 [SIZ13] CC0.1/25 CE47/16 FED-CLT2 [FED-CLT2] PKUP-CLT2 [PKUP-CLT2] RGT-CLT2 [RGT-CLT2] CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 CC0.1/25 +24V 53324-7 +24V SFB-SET [SFB-SET] 53052-2V SFB-CLT MAINOFF [SFB-CLT] [MAINOFF] SFB-PSW [SFB-PSW] 1550/1560 CIRCUIT DIAGRAMS 14 - 16 Mar. 1998 © TOSHIBA...

Page 184 HINT How to search for where a signal in a 14.2 Power Supply Circuit (PWA-F-PWR) circuit diagram has jumped to. Mar. 1998 © TOSHIBA 14 - 17 1550/1560 CIRCUIT DIAGRAMS...

Page 185 HINT How to search for where a signal in a 14.3 Control Panel Circuit (PWA-F-PNL) 1/4 circuit diagram has jumped to. 1550/1560 CIRCUIT DIAGRAMS 14 - 18 Mar. 1998 © TOSHIBA...

Page 186 HINT How to search for where a signal in a Control Panel Circuit (PWA-F-PNL) 2/4 circuit diagram has jumped to. Mar. 1998 © TOSHIBA 14 - 19 1550/1560 CIRCUIT DIAGRAMS...

Page 187 HINT How to search for where a signal in a Control Panel Circuit (PWA-F-PNL) 3/4 circuit diagram has jumped to. 1550/1560 CIRCUIT DIAGRAMS 14 - 20 Mar. 1998 © TOSHIBA...

Page 188 Control Panel Circuit (PWA-F-PNL) 4/4 Mar. 1998 © TOSHIBA 14 - 21 1550/1560 CIRCUIT DIAGRAMS...

Page 189 14.4 Fuser Circuit (PWA-F-FUS) 1550/1560 CIRCUIT DIAGRAMS 14 - 22 Mar. 1998 © TOSHIBA...

Page 190 2 AC outputs: • For driving the heater lamp • For driving the lamp regulator 3 Other control signals: • Zero-cross output : Zero-cross interrupting signals • AC OFF signal : Reset signals Mar. 1998 © TOSHIBA 15 - 1 1550/1560 POWER...

Page 191 The following shows the output sequence of the power supply. AC inputs 500ms or less 4.75V or 4.75V or more more 10ms or more 21.6V or more 21.6V or more 20ms or +24V 0~5ms or less more ACOFF Zero cross 1550/1560 POWER 15 - 2 Mar. 1998 © TOSHIBA...

Page 192 16. PC BOARD ASSEMBLY 16.1 PWA-F-LGC 16.2 PWA-F-FUS 200V series 100V series Mar. 1998 © TOSHIBA 16 - 1 1550/1560 PC BOARD...

Page 193 16.3 PWA-F-PNL 16.4 PWA-F-AES 16.5 PWA-F-LRG 100V series 200V series 1550/1560 PC BOARD 16 - 2 Mar. 1998 © TOSHIBA...

Page 194 17.1 AC Harness Connection Diagram Power Plug PWA-F-FUS Thermostat FUSE Damp Heater-L MAIN Switch Damp Heater-U1 Door Switch Damp Heater-U2 Switching Regulator Lamp Regulator EXPO-lamp Thermo-Fuse HTR-lamp THERMOSTAT AC Control Circuit Mar. 1998 © TOSHIBA 17 - 1 1550/1560 WIRE...

Page 195 Transformers ATS-VREF SCN3 +24V SCN4 SNR-ATS ATS-VIN SCN5 K-RTN0 DRM-THMS K-RTN1 K-RTN2 DRM-THMS K-RTN3 Others K-RTN4 K-RTN5 LED-CN-ON K-RTN6 +24V K-RTN7 GNDE +5VE LED-SCK LED-DAT LED-LTH +24V ERS-ON PWA-F-PFU PFU-MOT MY-1004

1550/1560 WIRE 17 - 2 Mar. 1998 © TOSHIBA...

Page 196 SCN2 ATS-VREF SCN3 +24V SCN4 SNR-ATS ATS-VIN SCN5 K-RTN0 DRM-THMS K-RTN1 K-RTN2 DRM-THMS K-RTN3 Others K-RTN4 K-RTN5 LED-CN-ON K-RTN6 +24V GNDE K-RTN7 +5VE LED-SCK LED-DAT LED-LTH +24V ERS-ON PWA-F-PFU PFU-MOT MY-1004 Mar. 1998 © TOSHIBA 17 - 3 1550/1560 WIRE...

Page 197 18. UNPACKING PROCEDURE 18.1 Unpacking and Set-up Procedure for the 1550 A. Unpacking Procedure Lifting bands 1. Open the carton and take out the accessory package and other packing materials. The ac- cessory package includes the following parts: • Copy receiving tray...

Page 198 Copy receiving tray B. Set-up Procedure 1. Installing the copy receiving tray • Install the copy receiving tray by fitting it into the holes in the left-side cover. 1550/1560 UNPACKING PROCEDURE 18 - 2 Mar. 1998 © TOSHIBA...

Page 199 Connector long time, it may suffer from light- caused fatigue. So, be sure to cover the process unit with, for example, a suitable cloth. Mar. 1998 © TOSHIBA 18 - 3 1550/1560 UNPACKING PROCEDURE...

Page 200 90° to fix the developer unit. Be sure to insert the connector securely. (12) Reinstall the proccess unit into the machine (1 screw). Note: Be sure not to install the toner car-tridge at this time. 1550/1560 UNPACKING PROCEDURE 18 - 4 Mar. 1998 © TOSHIBA...

Page 201 CALL SERVICE . Then, for the subsequent ad- Flashing Flashing justment of the auto-toner sensor, fol- low the procedure described in the Service Manual. Warm-up start Mar. 1998 © TOSHIBA 18 - 5 1550/1560 UNPACKING PROCEDURE...

Page 202 @ @ @ @ @ switch to manual exposure. (Check that the Auto Exposure lamp has gone off.) (3) Using the exposure keys, set the exposure level at the center point. 1550/1560 UNPACKING PROCEDURE 18 - 6 Mar. 1998 © TOSHIBA...

Page 203 (2) If the image density is not appropriate for certain reproduction ratios, perform manual exposure adjustments (a), (b) or (c) in Sec. 2.4 for the inappropriate ratios. Mar. 1998 © TOSHIBA 18 - 7 1550/1560 UNPACKING PROCEDURE...

Page 204 (6) If the image density of test copies is not appropriate for any reproduction ratio, make adjustments in Sec. 2.4 Automatic exposure adjustment (d), (e), (f) or (g) for the inap-propriate reproduction ratio. 1550/1560 UNPACKING PROCEDURE 18 - 8 Mar. 1998 © TOSHIBA...

Page 205 (5) Key in adjustment code E and press the PRINT key. Then, using the procedure of (7) – (11) in Sec. 2.1, make adjustments. (6) Finally, press keys simultaneously to clear the test mode. Mar. 1998 © TOSHIBA 18 - 9 1550/1560 UNPACKING PROCEDURE...

Page 206 (3) Place the paper on the cassette and check the gaps between the paper and the side guides. (4) Insert the cassette gently. 1550/1560 UNPACKING PROCEDURE 18 - 10 Mar. 1998 © TOSHIBA...

Page 207 (The toner may spill). (4) Install the new toner cartridge in the machine. • Push the toner cartridge fully in until it is locked securely. (5) Close the front cover. Mar. 1998 © TOSHIBA 18 - 11 1550/1560 UNPACKING PROCEDURE...

Page 208 Screws (M4 x 6, 5 pcs.) .....9 Separation roller pressure spring (1 pc.) ..... !¡ !¡ Fixing plates (4 pcs.) .....!™ [Reference] !™ The applicable model is the ED-1550. 1550/1560 UNPACKING PROCEDURE 18 - 12 Mar. 1998 © TOSHIBA...

Page 209 (1) Remove the rear cover of the MY-1004 (2 screws). (2) Remove the rear cover of the copier (2 screws). (3) Remove the lower feed side cover of the copier (2 screws). Mar. 1998 © TOSHIBA 18 - 13 1550/1560 UNPACKING PROCEDURE...

Page 210 (1) Fit the wire harness on the rear of the MY- 1004 into the respective edge saddles of the copier and the MY-1004 and connect the harness to the J6 connector of the copi-

er’s PC board. 1550/1560 UNPACKING PROCEDURE 18 - 14 Mar. 1998 © TOSHIBA...

Page 211 MY- 1004. (3) Plug the connector of the paper guide !º into the connector J36 from the feed side of the MY-1004. Mar. 1998 © TOSHIBA 18 - 15 1550/1560 UNPACKING PROCEDURE...

Page 212 (2) Set sheets of paper in the MY-1004’s cas- sette. (3) Selecting the MY-1004’s cassette, make a few copies and check that the MY-1004 operates normally. 1550/1560 UNPACKING PROCEDURE 18 - 16 Mar. 1998 © TOSHIBA...

This manual is also suitable for:

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