

**TOP HIGH IMAGE CORP.**No. 20, Jui-Kuan 2nd St., Ta-Fa Ind. Dist., Kaohsiung, Taiwan

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Info. No. 112-1

TROUBLESHOOTING OF PS PLATES

| PROBLEM | CAUSES | SUGGESTIONS & SOLUTIONS |
|---|--|--|
| Scumming: Non image areas become ink smuaged | <ul style="list-style-type: none">(1) Glass of exposure machine or film are not clean.(2) Glue marks for films montage not removed.(3) Too much anti-forming liquid in the developer.(4) Foam of developer stayed on the plate and it affected the development.(5) Plates are touched by unclean fingers (finger prints).(6) The developer became weaker.(7) Insufficient density remained in gum solution.(8) Part of gum on plates are detached.(plates are stacked one by one).(9) Plates are stored in a high-temperature and/or humidity after development. | <ul style="list-style-type: none">(1) Cleaning the glass or film thoroughly with glass/film cleaner.(2) Choosing better tapes for composed images / films.(3) Make sure maximum 2 cc anti-forming liquid to be applied per 10 liters developer. Pay attention to the composition of developer used and be sure to mix them well.(4) Some spray heads of developing machine can be stocked. Stop the processor and clean the spray head.(5) Holding the clamping part of plate only.(6) Standard applying capacity of developer is 26 sqm/l.(7) Dilute the gum solution according to the dilution ratio.(8) After gumming, dry the plate and place the plate in an upright way.(9) Put plates in a place without high temperature and humidity. |
| Spots after printing: | <ul style="list-style-type: none">(1) Plate become oxidized. | <ul style="list-style-type: none">(1) After printing, plates need to be gummed immediately. Use fountain solution containing "wetting agent". Please make sure arabic gum contained in the fountain solution is sufficient. |

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Info. No. 112-2

TROUBLESHOOTING OF PS PLATES

| PROBLEM | CAUSES | SUGGESTIONS & SOLUTIONS |
|--|--|---|
| Scratching : marks or cuts on plate surface | (1) Insufficient density remained in gum solution. | (1) Make sure enough concentration and reliable gum solution to be applied. |
| Spots after plate baking : | (1) Baking gum solution applied unevenly. | (1) Applying baking gum solution on plates thoroughly and evenly. |
| Dot shrinkage | (1) Dirty on the glass of exposure machine. (2) Spotted film. (3) Non-smooth film composition. (4) Improper or shortage vacuum. (5) Improper bottom paper or robber under exposure machine. (6) Insufficient density of film. (7) Too strong developer applied. (8) Un-even light or aged lamp of exposure machine. | (1) Use glass cleaner to clean the glass of exposure machine. (2) Use film cleaner to clean the film. (3) Keep the distance at least 3mm from the montage edge to the subject text. (4) Start exposing until full contact of PS plate and film is reached (5) Replace the bottom or robber periodically (make sure of flatness). (6) Check the exposure value of film & its developer status. (7) Check by gray scale. (8) Check & re-new the lamp while the certain time. |
| Stain (background of PS plate) | ※Exposing Shortage (1) Film was not transparent enough. (2) Insufficient exposure time. (3) Aged lamp. | (1) Re-new the film. (2) a. Exposure as per the standard. b. Proof printing : 2-3 steps clear. c. Normal printing : 3-4 steps clear. (UGRA scale 1982) (3) Re-measure the standard time by gray scale. |


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Info. No. 112-3

TROUBLESHOOTING OF PS PLATES

| PROBLEM | CAUSES | SUGGESTIONS & SOLUTIONS | | |
|--------------------------------|---|---|---------------|------------|
| Stain (background of PS plate) | ※Insufficient Development (1) Developing temperature is too low. (2) Too less developing time. (3) Concentration of developer is insufficient. (4) Developer became weaker or un-workable. (5) Re-fill of developer improperly. | Developing as the following conditions: | | |
| | | Type | European-Type | Asian-Type |
| | | Temperature | 25±2 °C | 25±2 °C |
| | | Developer | Tp-4 | Tp-4 |
| | | Ratio (mixing with water) | 1:5 / 1:6 | 1:7 / 1:8 |
| | | Developer refilling ratio | 1:3 | 1:4 |
| Stain when printing | (1) Incorrect roller adjustment. (2) Too few alcohol quantity contained in fountain solution. (3) Dampener is dirty. (4) Incorrect PH value. (5) Printing plate stain on plate rollers. (6) Ink problem. (7) Water problem. (8) High temperature and humidity. | (1) Adjust by operation manual. (2) 5%~15% isopropanol to avoid stain. (3) Wash distributing roller by isopropanol or alcohol; wash chromate roller by concentrated fountain solution or cleaner; after those steps, spread a layer of Arabic gum. (4) Normally the PH value is 5.5 ± 0.5 and adjust by printing difference. (5) Adjust to proper water volume. (6) Notice ink characteristics and water absorption. (7) Notice purity of water, acid objects, emulsification, and water decay. (8) Water on the plate surface will be evaporated. | | |

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TROUBLESHOOTING OF PS PLATES

| PROBLEM | CAUSES | SUGGESTIONS & SOLUTIONS |
|-------------------|--|---|
| Poor ink adhesion | <ul style="list-style-type: none">(1) Did not use designate gum solution.(2) Concentration of gum solution is too high.(3) Application of gum solution is unbalanced.(4) Drying temperature is too high.(5) Print after plate's been processed for at least one week.(6) After applying gum solution, the plate has been irradiated by strong light.(7) Store the plate under hot and humid circumstance after exposure.(8) Influenced from plate cleaner.(9) Developer fatigue. | <ul style="list-style-type: none">(1) Pay attention to the quality of gum solution.(2) Follow accurate gum solution dilute ratio.(3) After applying gum solution, wipe evenly by dry cloth.(4) Make sure drying temperature is below 60°C.(5) If the plate will be used after the plate has been exposed for one week or longer, it is necessary to re-apply gum solution.(6) Avoid strong light irradiation after gum solution is applied.(7) Always store plates under moderate temperature and humidity.(8) Rinse the plate with water after applying cleaner, then use acid pickle to retouch it.(9) Standard applying capacity of developer is 26 sqm/L. |

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TROUBLESHOOTING OF PS PLATES

| PROBLEM | CAUSES | SUGGESTIONS & SOLUTIONS |
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| Run length impression | <ul style="list-style-type: none">(1) Plate has been sensitized (before exposure, before development).(2) The black density tone of image on the film is insufficient.(3) Over-exposure.(4) Developing temperature is too high.(5) Developing time is too long.(6) Developer concentration is too high, or supply too much.(7) Other chemicals are adhered on the plate, such as strong acid, alkali, organic solvent, and image remover, etc.(8) Plate cleaner is too strong.(9) Acidity and alkalinity in fountain solution.(10) High printing pressure.(11) Paper structure, PH value.(12) Blanket characteristics, glazing cleaner.(13) Fountain solution's alcohol content.(14) Ink related problem. | <ul style="list-style-type: none">(1) Use yellow light in working area. Other pernicious lights must be eliminated. Pay attention to ultraviolet rays.(2) Remake the film. (density 3.5)(3) Develop under standard instructions.(4) 25°C~27°C is most suitable.(5) Adjust time and speed.(6) 1:7~1:8.(7) Avoid using unsuitable chemicals.(8) Beware of the chemical erosion.(9) PH5.5 ± 0.5 is the most suitable.(10) Suitable printing pressure.(11) Friction coefficient is different with different paper.(12) Use suitable blanket and beware of the chemical erosion.(13) High alcohol content erode plates.(14) Pay attention to ink characteristics. |

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TROUBLESHOOTING OF PS PLATES

| PROBLEM | CAUSES | SUGGESTIONS & SOLUTIONS |
|--|--|---|
| Poor tone-grade | (1) Too much exposure. | (1) Exposure by correct time. Sample printing with gray scale 2-3 steps clear. Printing with 3-4 steps clear, the 10th step must be all black. |
| Plate correction | ※Insufficient correction (1) Insufficient plate corrector. (2) Plate left with too much water while doing plate correction. (3) Insufficient time for plate correction. (4) Plate corrector inaction. (Lid is not properly sealed after use). (5) Long plate correction time leads to the damage of hydrophile. | (1) Make sure adequate plate corrector is applied. (2) Make sure water is properly removed before plate correction. (3) Before washing the plate, allow at least 30-40 seconds time after plate corrector is applied. (4) Securely seal the lid after use. (5) Plate correction time should be carefully controlled within 30-40 seconds. |
| Stain on the rim of corrected area | (1) Insufficient exposure. (2) Insufficient development (The remnants of correctors amass at the rim of the part where corrected. | (1) Exposure based on the correct exposure time. (2) Develop based on the correct development time. |
| Dot lost on the rim of corrected area | (1) Plate corrector spreads to the figures. (2) Influenced by the gaseous matter. | (1) Make sure water is properly removed before plate correction. (2) Use mild dot corrector. Correct the plate after glue is applied. |



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TROUBLESHOOTING OF PS PLATES

Use of gray scale:

To increase each one clear step, increase 1.4 times of current exposure time.

To decrease each one clear step, expose the plate at 0.7 times of current exposure time.

Insufficient exposure time will lead to:

1. Plate hydrophile will get stain after press printing.
2. Fail to delete the tape shade of the original film and take more time for the correction.

Excessive exposure time will lead to:

1. Printing line becomes slim, dot losing and poor reproduction of dot line.
2. Poor ink ability for the printing line.

The printing run for positive PS plate will not be influenced by various exposure times.

However, if the black density is not sufficient on the film, the printing line will lead to partial exposed so that after plate processing, printing run will be shortened.