

TIP 0305-33

OLD TIP NO. 205-68
ISSUED – 1982
REVISED – 1989
REAFFIRMED – 1994
REVISED – 1999
WITHDRAWN – 2007
REVISED AND REINSTATED – 2007
© 2007 TAPPI

The information and data contained in this document were prepared by a technical committee of the Association. The committee and the Association assume no liability or responsibility in connection with the use of such information or data, including but not limited to any liability or responsibility under patent, copyright, or trade secret laws. The user is responsible for determining that this document is the most recent edition published.

Cleanup procedures for flexo folder gluer/rotary diecutters

Scope

This technical information sheet has been written to provide general guidelines to the plant for formalizing the clean up procedures for flexo folder gluer/rotary diecutters. Each plant should modify this guideline to fit the specific needs dictated by the actual type of machinery being run. This guideline is provided solely as a starting point.

Safety precautions

Equipment manufacturer's lock out/tag out procedures must be strictly followed when cleaning or servicing any piece of equipment according to schedules recommended in this TIP. Hand protection is mandatory when handling cutting dies of any type. Eye protection is also required when performing the clean up procedures recommended by this TIP.

This TIP may require the use, disposal, or both of chemicals which may present serious health hazards to humans. Procedures for the handling of such substances are set forth on Material Data Safety Sheet which must be developed by all manufacturers and importers of potentially hazardous chemical and maintained by all distributors of potentially hazardous chemicals. Prior to use this technical information paper, the user should determine whether any of the chemicals to be used or disposed of are potentially hazardous and, if so, should follow the procedures specified by both the manufacturer, as well as local, state, and federal authorities for safe use and disposal of these chemicals.

Daily

The time required for the following steps is approximately one half hour for two employees.

1. Drain all ink from all printing stations and flush the entire ink system with warm water [100-120°F (38-49°C)].
2. Open all sections of the die press and clean all ink from the printing plates using a flexo die wash. This step can be eliminated if the press is equipped with automatic die washers.
3. Inspect the rubber doctor roll and anilox rolls to ensure that they have been cleaned adequately with the warm water that was circulated through the machine earlier. Use a brass bristle brush to clean chlorine anilox rolls if additional cleaning is necessary. Use a fiber or stainless steel brush to clean ceramic rolls.
4. Clean all shafts with soap and water or ink supplier approved ink detergent and then wipe down with a light machine oil.

TIP Category: Automatically Periodically Reviewed (Ten-year review)



Documents
Document Sharing Hub

5. Thoroughly vacuum clean the machine from the feed table through the stacker, making sure that all scrap has been removed from inside, underneath, and on top of the machine. Do not use a compressed air hose. "Blowing down" spreads the scrap and dust to other areas of the machine and plant.
6. Remove the ink filters and place them in a bucket of flexo wash water.
7. Inspect the rotary cutting die and remove any scrap that has hung up on the die itself. It is particularly important that no scrap be left underneath the cutting cylinder on the downstream side of the machine.

Weekly

These procedures require two employees approximately five hours each.

1. Thoroughly clean all ink rolls as done in the daily procedure, but scrub with the proper brush to ensure that there is no residue of dried ink anywhere on the rolls.
2. Thoroughly clean the rubber doctor roll as done in the daily procedure with a rag soaked with a flexo cleaner if necessary to remove all traces of dried ink from the roll. Be certain there is no power to the roll before cleaning.
3. Take the ink funnels or feed pipes off and thoroughly clean.
4. Remove the ink return pumps; thoroughly clean and replace them on each of the printing stations. Newer equipment may have nonremovable pumps which are cleaned as part of the regular wash cycle.
5. Clean all shafts with soap and water or ink supplier approved ink detergent and then wipe down with a light machine oil.
6. Wipe ink spillage off the side of the machine and off the sides of the ink pumps and floor.
7. If you are using an immersion type ink pump, clean the dried ink from the external surface of the pump and then place the ink pump in a 5-gal (19 liter) bucket of clean water containing some flexo cleaning solution.
8. Remove the ink system filters; dismantle and brush thoroughly to remove all ink residue.
9. Clean ink feed lines of any dried ink particles.
10. Clean and flush the floor drains as required, being sure to remove any scrap that may have settled in the floor drain system.
11. Clean remaining ink and excess grease from the machine frame on all sections of the press.
12. Clean floor tracks, being sure to scrape any dried ink or grease from the track.
13. Thoroughly inspect cutting die cylinders to make sure that there is no scrap hung up in the cutting die or underneath the cutting drum.
14. Have the departmental supervisor inspect the machine to make sure that it has been thoroughly cleaned and is ready for operation the following week. This is particularly important as the personnel that normally do the cleaning are not from the first shift that will start up the machine on the following Monday morning.

Daily related maintenance procedures

In addition to the weekly cleanup procedures, several items should be required on a daily basis. They relate primarily to maintenance, but since cleanup and maintenance are so closely allied they should be handled in much the same manner.

1. Periodically check the surface of the anilox rolls with a magnifying glass to make sure that there has been a thorough cleanup on a daily or weekly basis.
2. Approximately every two weeks, use a copper sulfate test to verify the amount of chrome left on the anilox rolls. Recommended for chrome rolls only.
3. Have the first shift operator turn in a daily checklist every morning to verify the condition in which he found the machine upon startup. An example of that list is shown in Fig. 1.
4. There are certain lubrication procedures for these machines that must be done on a daily, as well as weekly and monthly, basis. They must be done either by operating crews or maintenance crews. This is particularly important as there is a significant amount of paper dust associated with a rotary diecutting operation and a lack of lubrication will cause bearings to deteriorate at an accelerated rate.
5. Thoroughly inspect cutting die covers to determine the need for rotation or replacement of those blankets. The diecutting manufacturer can recommend a rotation sequence as well as a frequency of rotation.