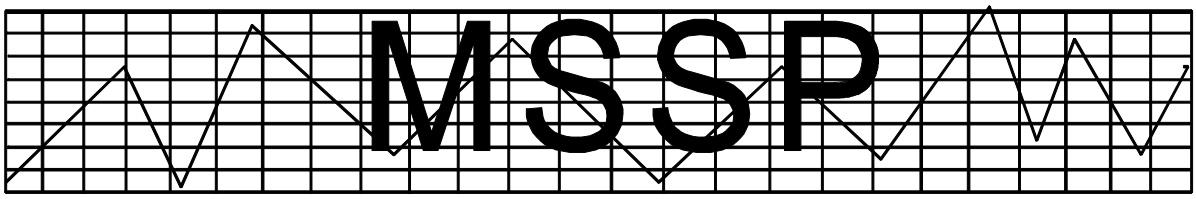

Market Segment Specialization Program

Commercial Printing

The taxpayer names and addresses shown in this publication are hypothetical. They were chosen at random from a list of names of American colleges and universities as shown in Webster's Dictionary or from a list of names of counties in the United States as listed in the United States Government Printing Office Style Manual.

This material was designed specifically for training purposes only. Under no circumstances should the contents be used or cited as authority for setting or sustaining a technical position.

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Internal Revenue Service

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Chapter 1

INTRODUCTION

WHY THE COMMERCIAL PRINTING INDUSTRY WAS SELECTED

During the examination of printing companies in Georgia, a pattern of similar issues was noted. As a result, an information gathering project was started to allow the Service an opportunity to gain knowledge of this very large manufacturing industry, to identify common areas of non-compliance, and to develop techniques and procedures to help promote compliance in the industry. The issues most frequently encountered were in cost of sales, particularly work-in-process, IRC section 263A, and omission of certain direct material items from inventory. Other issues included change in accounting method (from cash to accrual), sales cutoff, officer's compensation, and depreciation.

BACKGROUND AND PURPOSE

The purpose of this guide is to afford the examiner an opportunity to gain a better understanding of the commercial printing industry, and to provide a specialized examination tool, by focusing on the printing processes and the accounting and records flow associated with the business.

To accomplish this objective, information was gathered from local libraries, from publications issued by the National Association of Printers and Lithographers (NAPL) and the Printers Industry Association (PIA), as well as from a regional graphic communications and printing trade show attended by team members. Publications, such as "Printers Chart of Accounts" and "Forms For Managing A Printing Business," and an executive compensation survey were secured to assist with issue identification and development. The data from several of these publications was stratified by revenue range, geographic area, and product specialties, which enabled the team to identify general characteristics of the industry, trade customs, methods used to establish production standards and examples of the industry processes.

Examinations of 53 printing businesses, ranging from small quick copiers to larger automated commercial printers, were conducted. From the examinations it was determined an vast array of accounting duties were necessary in the operation of commercial printers. While a background in cost accounting is important in the accurate development and operation of a manufacturing costing system, cost accountants were generally not found in the majority of the businesses examined. The effect of this was the frequent misstatement of cost of goods sold. Although the industry associations publish many useful tools to aid in the record keeping and job costing requirements, many of the printers did not adhere to them. Even though there are many similarities in records maintained and printing processes, a wide variation in costing systems and accounting methods exist.

Currently, the printing industry is in the midst of a technological revolution, especially in the creative and prepress areas where the use of computers has virtually replaced many of the age old manual methods. New technological advances in equipment, materials, and printing processes are developing within this industry at an incredible rate and with them comes the need to address the associated tax and accounting issues. Within this guide, the more common industry issues observed during our examinations are addressed. However, this does not mean other issues are not present. It is also important to understand the basic language and processes of the industry if we are to do effective examinations.

Chapter 2

INDUSTRY ATTRIBUTES

GENERAL DESCRIPTION

The printing industry is a highly diversified manufacturing industry. Business operations vary from quick copy, to periodical production, to fine art reproduction, which can be found separately or as divisions of large commercial establishments. Many different processes are also involved, from lithography for tiny labels to large area screen printing. Because of the vast diversification and size of the industry, it is difficult to quantify and to classify all segments of the industry for the purpose of industry discussions.

The printing industry is only a subset of the communications industry, so it is important to think of it in the context of the progressive communications industry when considering a printing operation. In this guide, the focus is on a subset of the printing industry, commercial printing, which accounts for $40 to $60 billion of all revenues generated from printing and publishing. Between 30 and 60 percent of commercial printing sales are generated from advertising customers. The profitability of commercial printing is also significantly linked to price changes in ink and paper, as well as technological advances in equipment.

The major technological trends observed in the printing industry involves the increase in demand for equipment as printers try to compete. This is due to increased computerization, increased use of CD-ROM, automation of processes, and environmental regulations.

FRAGMENTATION

Printers speak in terms of a "market niche," which is a specialized market or concept. Understanding a particular printer's market niche(s) is extremely important to the revenue agent. A printing business may have various markets, but can expand to concentrate on a single market. Some may be limited by the location they serve or their processing capabilities. Others may choose to do only nontraditional printing such as screen printing T-shirts.

Other business markets center around printing annual reports, manuals, blue prints, patterns, blank checks, and technical literature. Quick printing or copying is a market niche which specializes in fast turnaround and usually serves the general public. Magazines, books, and other periodicals can have their own particular market such as

elementary text books or books on fine art -- specific artists and their works. As mentioned earlier, advertising influences most printing markets or niches.

A printer's business may be built around a particular type of printing, or a particular postpress service such as binding. See the discussions of the various processes under PRINTING PROCESSES in Chapter 3. The printing industry has many national and local organizations which provide information about their industry to its members. Because of this aspect, most printing operations are similar from region to region. See Exhibit 2-1 for a sample of industry organizations and associations.

Printing operations are marked by a degree of informality. Orders can be taken over the phone or purchase orders may be written, but for many of the aspects of conducting business no formal agreements are made. Trade customs, therefore, are very important to daily operations of a business. The Graphic Arts Council of North America (GACNA) whose members consist of major national printing organizations have made various studies of the industry's trade customs. The trade customs are important in interpreting legal obligations, and the examiner should review the Graphic Communications Business Practices. See Exhibit 2-2.

COMPETITION

Capacity has outpaced market demand with a slowing trend in market growth over the prior decade. Competition for new business should be very intense. Printers have been very quick to point out to revenue agents that their business is extremely price competitive. This is primarily a result of the large number of printers of different sizes, competing for the same printing business, and offering a wide array of capabilities. Automation and other technological advances have even further heightened competition, where pricing and searching for markets are crucial for survival.

Increased competition requires even tighter management of operating costs. To remain competitive printers must keep costs as low as possible, which creates a very competitive market for printer's paper, ink, supplies, labor, software, and machinery. Likewise, capital to buy the new software and equipment becomes crucial. Changes in the communications industry along with the increased interest of foreign printers to buy into the American printing market will increase acquisition activities and further fuel the competition of this already competitive market.

CHANGING ENVIRONMENT

Expect to see many changes taking place in the printing business such as the purchase of new accounting systems, businesses merged, and operating systems and accounting

methods changed. There are software companies specializing in management and accounting software for printers. If a printing business grows, it will need new and larger computers.

Expect not only changes in accounting and computer systems, but also changes in the personnel and labor there during the period under examination. This environment, combined with the high volume of transactions usually found, may alter the way you approaches the examination and the procedures used. The following suggestions are made but their use will depend on the size and complexity of the business being examined:

1. Due to the changing environment, it is usually difficult for people to understand and keep up with its effect on records. For this reason it may be more difficult to rely on oral testimony. In many cases there will be a need to examine more documentary evidence.

2. Examiners must have a higher degree of understanding of the software, input source documents, output documents, interfacing, and storage policies.

3. Judgmental sampling may not be sufficient to get an adequate understanding of costs and transactions. Large samples or statistical sampling may be necessary. Therefore, it is recommended that the examiner make some preliminary test samples of populations at different time intervals to understand variations and help determine how sampling or testing should be done.

4. Due to the volume of transactions and the extensive use of software applications, the examiner may need to make a referral to a computer audit specialist.

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Exhibit 2-1

INDUSTRY ASSOCIATIONS AND ORGANIZATIONS

Graphic Arts Technical Foundation 4615 Forbes Ave. Pittsburgh, PA 15213	(412) 621-6941
Graphic Arts Association 1900 Cherry St. Philadelphia, PA 19103	(215) 299-3300
Gravure Association of America 1200 A Scottsville Road Rochester, NY 14624	(716) 436-2151
International Prepress Association 7200 France Ave. S., Ste. 327 Edina, MN 55435	(612) 896-1908
Printing Industries of America, Inc. 100 Daingerfield Rd. Alexandria, VA 22314	(703) 519-8100
National Association of Printers & Lithographers 780 Palisade Ave. Teaneck, NJ 07666	(201) 342-0700
National Association of Quick Printers 401 N. Michigan Avenue Chicago, IL 60611-4267	(312) 644-6610
National Business Forms Association 433 E. Monroe Ave. Alexandria, VA 22301	(703) 836-6225
National Printing Equipments and Supply Association 1899 Preston White Dr. Reston, VA 22091	(703) 264-7200
Screen Printing Association International 10015 Main St. Fairfax, VA 22031	(703) 385-1335
Typographers International Association 84 Park Ave. Flemington, NJ 08822	(908) 782-4635

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GRAPHIC COMMUNICATIONS BUSINESS PRACTICES
June 1994

What are "Business Practices"?

The term "Business Practices," as presented in this document reflects the common practices of the printing industry. However, "Business Practices" are not necessarily "recommended" practices. Some printers may elect to follow them; others may not. As each company drafts its own contractual provisions, it will also want to consider customers' wishes, relationships with potential customers, and other competitive issues. It is important to note that Business Practices having to do with rates, payment terms, and warranties may be subject to modification.

1. Quotation

A quotation not accepted within 30 days may be changed.

2. Orders

Acceptance of orders is subject to credit approval and contingencies such as fire, water, strikes, theft, vandalism, acts of God, and other causes beyond the provider's control. Canceled orders require compensation for incurred costs and related obligations.

3. Experimental Work

Experimental or preliminary work performed at customer's request will be charged to the customer at the provider's current rates. This work cannot be used without the provider's written consent.

4. Creative Work

Sketches, copy, dummies and all other creative work developed or furnished by the provider are the provider's exclusive property. The provider must give written approval for all use of this work and for any derivation of ideas from it.

5. Accuracy of Specifications

Quotations are based on the accuracy of the specifications provided. The provider can re-quote a job at time of submission if copy, film, tapes, disks, or other input materials don't conform to the information on which the original quotation was based.

6. Preparatory Materials

Art work, type, plates, negative, positives, tapes, disks, and all other items supplied by the provider remain the provider's exclusive property.

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7. Electronic Manuscript or Image

It is the customer's responsibility to maintain a copy of the original file. The provider is not responsible for accidental damage to media supplied by the customer or for the accuracy of furnished input or final output. Until digital input can be evaluated by the provider, no claims or promises are made about the provider's ability to work with jobs submitted in digital format, and no liability is assumed for problems that may arise. Any additional translating, editing, or programming needed to utilize customer-supplied files will be charged at prevailing rates.

8. Alterations/Corrections

Customer alterations include all work performed in addition to the original specification. All such work will be charged at the provider's current rates.

9. Prepress Proofs

The provider will submit prepress proofs along with original copy for the customer's review and approval. Corrections will be returned to the provider on a "master set" marked "O.K.," "O.K. With Corrections," or "Revised Proof Required" and signed by the customer. Until the master set is received, no additional work will be performed. The provider will not be responsible for undetected production errors if:

-proofs are not required by the customer;
-the work is printed per the customer's O.K.,
-requests for changes are communicated orally.

10. Press Proofs

Press proofs will not be furnished unless they have been required in writing in the provider's quotation. A press sheet can be submitted for the customer's approval as long as the customer is present at the press during makeready. Any press time lost or alterations/corrections made because of the customer's delay or change of mind will be charged at the provider's current rates.

11. Color Proofing

Because of differences in equipment, paper, inks, and other conditions between color proofing and production pressroom operations, a reasonable variation in color between color proofs and the completed job is to be expected. When variation of this kind occurs, it will be considered acceptable performance.

12. Over-runs or Under-runs

Over-runs or under-runs will not exceed 10 percent of the quantity ordered. The provider will bill for actual quantity delivered within this tolerance. If the customer requires a guaranteed quantity, the percentage of tolerance must be stated at the time of quotation.

13. Customer's Property

The provider will only maintain fire and extended coverage on property belonging to the customer while the property is in the provider's possession. The provider's liability for this property will not exceed the amount recoverable from the insurance. Additional insurance coverage may be obtained if it is requested in writing, and if the premium is paid to the provider.

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14. Delivery

Unless otherwise specified, the price quoted is for a single shipment, without storage, F.O.B. provider's platform. Proposals are based on continuous and uninterrupted delivery of the complete order. If the specifications state otherwise, the provider will charge accordingly at current rates. Charges for delivery of materials and supplies from the customer to the provider, or from the customer's supplier to the provider, are not included in quotations unless specified. Title for finished work passes to the customer upon delivery to the carrier at shipping point; or upon mailing of invoices for the finished work or its segments, whichever occurs first.

15. Production Schedules

Production schedules will be established and followed by both the customer and the provider. In the event that production schedules are not adhered to by the customer, delivery dates will be subject to renegotiation. There will be no liability or penalty for delays due to state of war, riot, civil disorder, fire, strikes, accidents, action of government or civil authority, acts of God, or other causes beyond the control of the provider. In such cases, schedules will be extended by an amount of time equal to delay incurred.

16. Customer-Furnished Materials

Materials furnished by customers or their suppliers are verified by delivery tickets. The provider bears no responsibility for discrepancies between delivery tickets and actual counts. Customer-supplied paper must be delivered according to specifications furnished by the provider. These specifications will include correct weight, thickness, pick resistance, and other technical requirements. Artwork, film, color separations, special dies, tapes, disks, or other materials furnished by the customer must be usable by the provider without alteration or repair. Items not meeting this requirement will be repaired by the customer, or by the provider at the provider's current rates.

17. Outside Purchases

Unless otherwise agreed in writing, all outside purchases as requested or authorized by the customer, are chargeable.

18. Terms/Claims/Liens

Payment is net cash 30 calendar days from date of invoice. Claims for defects, damages or shortages must be made by the customer in writing no later than 10 calendar days after delivery. If no such claim is made, the provider and the customer will understand that the job has been accepted. By accepting the job, the customer acknowledges that the provider's performance has fully satisfied all terms, conditions, and specifications.

The provider's liability will be limited to the quoted selling price of defective goods, without additional liability for special or consequential damages. As security for payment of any sum due under the terms of an agreement, the provider has the right to hold and place a lien on all customer property in the provider's possession. This right applies even if credit has been extended, notes have been accepted, trade acceptances have been made, or payment has been made, the customer is liable for all collection costs incurred.

19. Liability

1. **Disclaimer of Express Warranties:** Provider warrants that the work is as described in the purchase order. The customer understands that all sketches, copy, dummies, and preparatory work shown to the customer are intended only to illustrate the general type and quality of the work. They are not intended to represent the actual work performed

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2. **Disclaimer of Implied Warranties:** The provider warrants only that the work will conform to the description contained in the purchase order. The provider's maximum liability, whether by negligence, contract, or otherwise, will not exceed the return of the amount invoiced for the work in dispute. Under no circumstances will the provider be liable for specific, individual, or consequential damages.

20. Indemnification

The customer agrees to protect the provider from economic loss and any other harmful consequences that could arise in connection with the work. This means that the customer will hold the provider harmless and save, indemnify, and otherwise defend him/her against claims, demands, actions, and proceedings on any and all grounds. This will apply regardless of responsibility for negligence.

1. **Copyrights.** The customer also warrants that the subject matter to be printed is not copyrighted by a third party. The customer also recognizes that because subject matter does not have to bear a copyright notice in order to be protected by copyright law, absence of such notice does not necessarily assure a right to reproduce. The customer further warrants that no copyright notice has been removed from any material used in preparing the subject matter for reproduction.

   To support these warranties, the customer agrees to indemnify and hold the provider harmless for all liability, damages, and attorney fees that may be incurred in any legal action connected with copyright infringement involving the work produced or provided.

2. **Personal or economic rights.** The customer also warrants that the work does not contain anything that is libelous or scandalous, or anything that threatens anyone's right to privacy or other personal or economic rights. The customer will, at the customer's sole expense, promptly and thoroughly defend the provider in all legal actions on these grounds as long as the provider:

   -promptly notifies the customer of the legal action
   -gives the customer reasonable time to undertake and conduct a defense.

   The provider reserves the right to use his or her sole discretion in refusing to print anything he or she deems illegal, libelous, scandalous, improper or infringing upon copyright law.

21. Storage

The provider will retain intermediate materials until the related end product has been accepted by the customer. If requested by the customer, intermediate materials will be stored for an additional period at additional charge. The provider is not liable for any loss or damage to store material beyond what is recoverable by the providers fire and extend insurance coverage.

22. Taxes

All amounts due for taxes and assessments will be added to the customer's invoice and are the responsibility of the customer. No tax exemption will be granted unless the customer's "Exemption Certificate" (or other official proof of exemption) accompanies the purchase order. If, after the customer has paid the invoice, it is determined that more tax is due, then the customer must promptly remit the required taxes to the taxing authority, or immediately reimburse the provider for any additional taxes paid.

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23. Telecommunications

Unless otherwise agreed, the customer will pay for all transmission charges. The provider is not responsible for any errors, omissions, or extra costs resulting from faults in the transmission.

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Chapter 3

BASIC INDUSTRY OPERATIONS

BACKGROUND

The printing industry is using a variety of high speed communication systems transmitting files between vendors, customers, printers, plants, and end users. In other words a customer in England may transmit a file to a Sacramento plant to be printed for a user in California. Some printers have already opened plants in Mexico due to the less stringent environmental regulations and the simplicity of file transmission. Regardless how modern systems become, basic operations still exist in the commercial printing business.

ESTIMATING COSTS AND PRICING

A printing job starts with a salesperson, customer service representative, other parties who estimate the cost of the job based on the customers specifications and then take the order. This is where ownership is established for any original graphic work. A job jacket is usually prepared at this point. All information is kept for the specific order in the jacket until completion, or final payment is made on the job. This will vary with the degree of computerization.

The printer produces a product that is usually unique for the customer, as to quantity, paper, color, graphics, etc. Therefore, the cost of the job is important in order for the printer to price the job and ensure he or she will make a profit. The relationship of cost to pricing is very sensitive and usually requires an estimate of costs.

An estimator is usually involved in making an estimate of the job costs which he or she used to base a quoted price for the job. The estimator must ensure the job is broken down to all the necessary steps or cost centers needed for completion while making material and time projections. In a small company, job cost sheets of similar jobs and published cost studies will probably be the sources used for estimates.

A standard cost system will normally be encountered with larger companies. However, different costs may be included for estimating purposes. Combinations of direct and indirect manufacturing costs as well as all inclusive costs (including sales and administrative costs) may be used. Surveys have shown that the all inclusive cost method is the most common among commercial printers. See, National Association of Printers and Lithographers Research and Education Foundation, Cost Markup in the Printing Industry, (Teaneck, New Jersey, 1989), pp. 2-3.

The estimated cost information which should be part of the job jacket is usually used to determine the price. Some printers, however, do not use estimates of cost and base their prices on guess work. They may believe estimating is too risky, or they may not

have the cost history or other data on which to base an estimate. Other considerations are the customer's ability or his or her willingness to pay and what the competition will charge. All of this is very subjective. But even the printer who has a fixed markup will take the competition into account and possibly lower the price in order to get the job.

Pricing can be based on similar jobs and prices charged in the past. Pricing for small businesses may be on a ratio basis. That is, the cost of a common component is used, usually paper, and a multiple of this cost is used to ensure cost recovery and profit.

Using a standard cost system, management will mark up costs by the desired profit. These markups may be applied to paper, ink, labor, and other components, or applied to the total estimated cost. The price quotes and considerations are usually part of the job jacket. The actual costs or standard costs charged to the job are kept in the job jacket and can be used to follow the work flow to completion.

Additional functions in which the estimator or salesperson may be involved with are the purchasing of raw materials, particularly specialized paper and ink, and scheduling/tracking the jobs for which they are responsible. Other business units will have different individuals and systems handling purchasing and scheduling production.

PREPRESS

The computerization of the printing industry involves advances such as optical or laser technology. New uses and capabilities of electronic scanning, both analog and digital, along with the integration of software and hardware will continue to change the make-up of prepress operations. Marked by more technological changes than other processes, the prepress operations may include combinations of the old or traditional methods as well as new electronic or digital methods. The following is a general description of the processes and functions they perform.

Traditional Prepress Methods

1. Input/Art Assembly: The printer must first see what the customer wants. This may include previously printed images, typesetting materials, photographs, or original art work. Often thought of as art layout and design, this stage involves paste-up work or making a board or overlays which include the combinations to be printed on a page. The end product is a camera ready mock-up of the printed page.

2.

2. Photography: Film used by the processing cameras is different from personal cameras and produces a high-contrast negative rather than a negative with continuous tones. This is necessary because the lithographic process can only work with highly defined images. To get the necessary shading, different screening processes are used to produce a negative called ***halftones***, consisting of dots at varying concentrations. Color images require the screening or separating of color into the basic colors being used. The end product is a film negative, or positive.

Color negatives will be produced for each color used, and each ink color for the press.

3. Page Assembly: This is also known as stripping, film assembly, and imposition. The stripper checks all negatives and markings, and tapes them on a piece of plastic or paper. The product of this stage is called a flat, which is the positioned negatives on the paper or plastic making up a page or a layout of pages for the plate making process.

4. Proofing: This is a process of checking for errors. Most proofs are done before the plate is actually made due to the expense. However, press proofs are the only way to check for some results. A photocopy of the input assembly may be used, although a photocopy of the plate-ready negative can also be used. Overlays of each color flat on a polyester film may be used, or an integral or composite of all colors on a single sheet. Other types of proofs are also available.

5. Plate making: Each plate has a light sensitive coating. Light is passed through the negatives exposing the plate. Light changes the physical properties so that the exposed areas, or image areas will accept ink and the non-image areas will accept water. Chemicals are wiped across the plate to develop it. Once on the press the plate receives a thin coating of water each time the cylinder turns. The image area receives the ink and is then pressed onto the paper. There are various other processes and substances, including waterless ink, affecting plate making in addition to the one described here.

Current Prepress Methods

1. Input and Art Assembly: Computer files are part of the current input used today. Many graphic illustrations and other art may be created on the computer and the customer may want this printed. Computer files in combination with the traditional inputs may be desired. Various software programs can be used to assemble these inputs.

2. Desktop Publishers (DTP): This is a system where a personal computer is used to design pages using both type and images. A laser printer or imagesetter is used to print out the assembled pages. The end product of this system can also be film or the printing plate. These systems are accomplishing input assembly, photography, and page assembly-at varying degrees.

3. Color Electronic Prepress Systems: This system is more complex and costly than the Desktop Publishers. An electronic scanner is used to digitize an image, including color separation. Other computer software and hardware are used for color correction and retouching, input assembly, and page assembly. The emphasis here is to integrate all of the prepress functions and produce an output of printing plates.

4. Proofing: Electronic proofing can be done with laser printers at various stages of

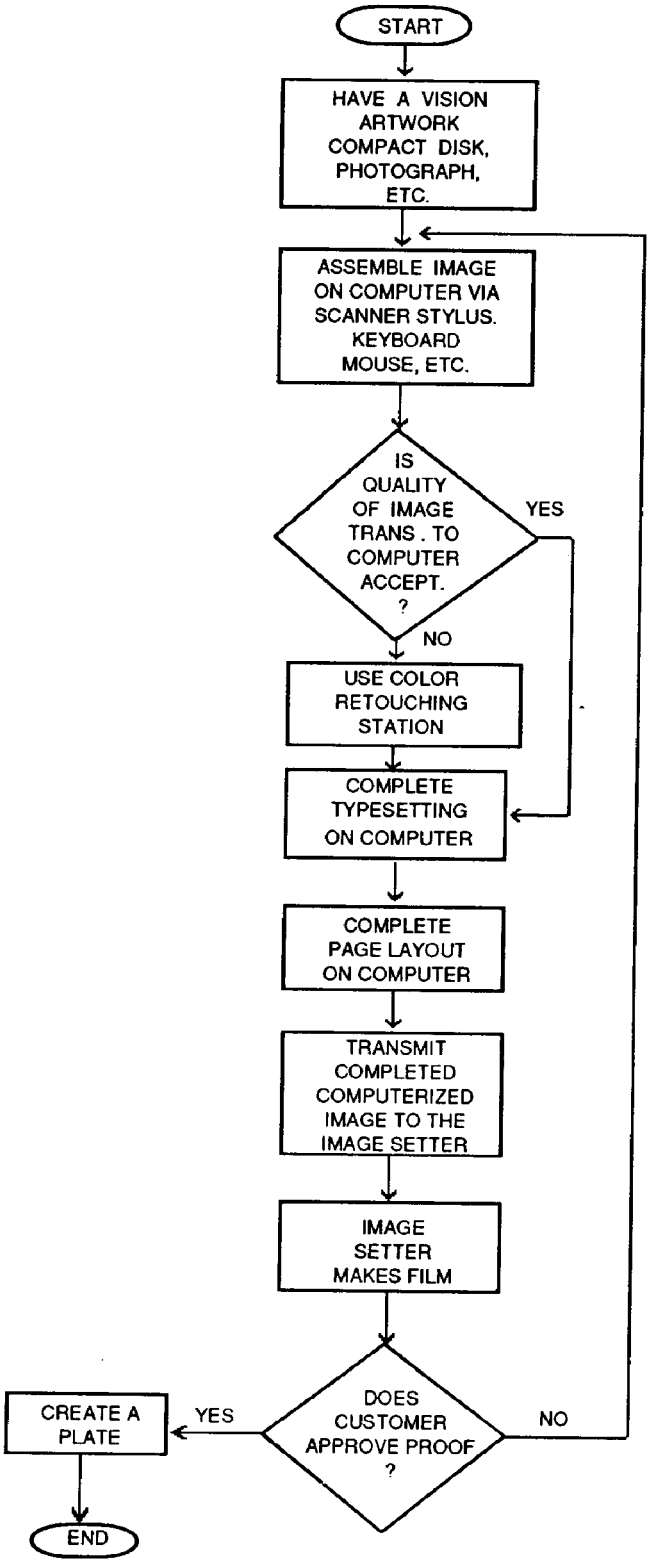
the assembly work, by printing the complete page or a color proof from the computer file. Film may be produced by an imagesetter and a photocopy can be used as a proof. A soft proof refers to the computer screen itself.

5. Plate making: Some of the most modern processes for making plates do not involve film. Laser technology can be used to burn images directly on plates from computer files. Other imaging technology is also available for the production of plates or printing directly from computer files.

A flow chart reflecting an example of computerized prepress processes is shown in Figure 3-1

Figure 3-1

Computerized Prepress Process



PRESS OPERATIONS

There are five major printing processes: Offset Lithography, Rotogravure, Flexography, Letter Press, and Screen Printing.

Offset Lithography

The most widely used commercial printing process is offset lithography. The characteristics which make this process so attractive include its short make-ready time (the time needed to prepare the press to run). It can also reproduce high-quality print on a multitude of materials, and is relatively inexpensive. Examples of products produced by offset lithography are newspapers, books, greeting cards, folders, labels, maps, boxes, coupons, and publications.

Offset lithography was invented in 1798 by A. Senefelder in Bavaria. It is based on the concept that water and oil do not mix. Senefelder discovered that by drawing on limestone with a greasy crayon, then wetting the prepared stone with water and inking it with a roller, the base portion of the stone accepted water and the crayoned portion accepted the ink. By pressing the stone against paper, the ink image was transferred to the paper. However crude the beginning processes were, the concept remains the basis of offset lithography today.

The modern offset lithography process is the transfer of images from an inked plate to a rubber blanket and then on to the paper. The plates can be made of various materials, however, the most common material used is aluminum. The plate is dampened with water to cover the non-image area, then ink is applied to the image areas. After the two substances are offset onto a rubber blanket, the ink image is then transferred to paper. Waterless printing is also used by coating the non-image portion of the plate with ink-repelling substances other than water.

Common traits of offset presses are a feeding unit which delivers paper into the machine; an ink unit which applies ink to the plate; a printing unit which transfers the image to the paper; a delivery unit which removes the printed paper; and a water unit which applies water to the plate. Two common offset presses used are the sheet-fed offset duplicator and the web-offset commercial press. The sheet-fed press takes one sheet of paper at a time and positions it for printing. Some can print as many as 10,000 sheets per hour. The web-fed press is a more complex machine which can perform a multitude of functions. The web press can print the top and bottom of a roll of paper simultaneously. It can run at very high speeds while producing a very high quality product. Some are equipped with heat set ovens used to dry the ink before cutting it into sheets and some are equipped with a folding and binding feature.

Rotogravure

The rotogravure process of printing is commonly used for package printing, mail-order catalogs, newspaper color inserts, and high quality magazines. The plate cylinders are built for long runs into the millions of impressions. Like offset lithography, the rotogravure process has a short make-ready time. However, unlike offset lithography, rotogravure is a more expensive process which is most efficient for runs of over a million.

A rotogravure press consists of a massive printing or engraved cylinder that is usually made of steel with a thin plating of copper and then chrome, an impression cylinder and an inking device. The image of tiny cells or dots etched into the cylinder has ink applied by running it in a trough of very thin or low-viscosity ink. The impression cylinder is covered with a rubber composition that presses the paper into contact with the ink in the tiny cells on the printing surface. Some modern presses use a high-voltage electrical charge that operates between the ink and the paper so that the ink is attracted to the paper. Rotogravure presses have as many as 12 printing units with 6 colors on each side of the web. Many also have automatic register and color controls, with real-time on press computer production monitors.

Flexographic

The flexographic printing process is a more specialized process commonly used for substrates that don't work well in offset presses. Examples of flexographic products are packages, waxed paper, boxes, wallpaper, labels, and cartons. The process uses rubber or plastic plates on a web press. The inks used are thin, fast-evaporating types. The quality of flexo printing does not give the solid ink coverage or fine screen rulings of offset, so images may be less vivid.

Letterpress

Letterpress is the oldest of the printing processes. The most famous use of the process was in 1454 when Johann Gutenberg made the first press and printed the Bible. Letterpresses print the image to be reproduced in "relief." Relief means that characters on the plate are higher than the material surrounding them. The design of the image and its support make up the letterpress printing plate. Ink is evenly applied against the surface and the ink film is split, leaving the image on the paper surface. Letterpress is commonly used for printing of information on items that have been previously printed and stored.

Screen Printing

Screen printing is also known as silk screen printing, although most modern screens are no longer made of silk. It is used for art prints, posters, greeting cards, wallpaper, fabrics, and many other items. The image to be printed is an open area in a woven screen. The amount of ink applied to the substrate is greater than the amount that can be applied by any other process. Commercial screen printing is done on mechanical

or power-operated presses. There are several types of screen presses available. Some are sheet fed and some are roll fed.

Technical improvements involving the production of better water-based inks and curable inks will allow screen printers to produce a higher quality product cheaper. Screen printing is also expected to become more automated. In the future it is expected that screen printers will be competing with offset lithographers. The overall trend in the press operations area is the automation and computerization of the printing press, increasing speed, quality, and reducing waste. Technological improvements in plates and ink will enhance the quality and flexibility of the printing industry.

POSTPRESS

Postpress processes, sometimes called bindery operations, consist of taking the printed product from the press and completing the necessary steps for delivery to the customer. This area of the operation is as crucial to the printer as the printing operation. Some postpress processes are collating, sorting, cutting, folding, laminating, stitching, padding, shrink wrapping, and packaging. To accomplish these processes, a variety of equipment and labor is utilized. Due to the variety of postpress processes, printers may utilize sub-contract services offered by outside binderies for large or specialized jobs. A sample of the postpress processes are discussed below:

1. Collating: The collating process involves the proper sequencing of the printed products. Collating may be accomplished manually or automatically by using a collator machine.

2. Sorters: The sorting process involves the separation of the printed products in a desired sequence. Often the sorting function can be done by the presses or other postpress equipment mentioned above so a separate sorter machine is not always necessary.

3. Cutting: The cutting process involves cutting the substrate to the desired specifications. Cutting can be accomplished by a wide range of different cutting machines. Two types of cutting are the straight edge cuts, also called trims and die cuts. The straight cuts are done by various cutting machines capable of cutting straight edges of different sizes. Die cutters cut shapes and patterns using a die cutting machine. Technically advanced laser cutters are also available. A laser, fed by a computer disc, cuts the desired shape or design. The laser can also engrave the paper.

4. Folding: The folding process involves folding the paper into a desired form. Folding can be accomplished by employing labor to fold the paper by hand or by utilizing a folding machine. Like the cutting equipment, there is a wide variety of folding machines in different sizes, speeds, and ranges of automation.

5. Laminating: The laminating process involves coating the completed product, usually paper, in a clear laminate film which is permanent and inseparable. The coating is done through a heat sealed process. The result is a protected and durable paper product.

6. Drilling: The drilling process involves making holes in the paper or substrate in the desired location. The characteristics of the drilling machines vary depending on the type and model. Differences among the equipment include speed, number of drilling heads, space between drilling heads, and the drill size.

7. Stitching: The stitching process involves binding together the paper with wire. There are a variety of stitching machines available. Some use wire which is fed from a roll, and some use wire already cut to a predetermined size. Other variations in the machines include the number of stitching heads, capacity (which determines the thickness which may be bound), and speed.

8. Padding: The padding process involves the bonding of loose sheets of paper together to form a pad of paper. This process is accomplished by a machine which applies a hot adhesive to the edge of the paper to glue the loose sheets together and at the same time allows individual sheets to be easily separated from the pad.

9. Shrink Wrapping: The process of shrink wrapping involves surrounding the finished product(s) in plastic film and sending the product through a heat tunnel. Applying heat shrinks the plastic film which results in tight, dry storage for the product.

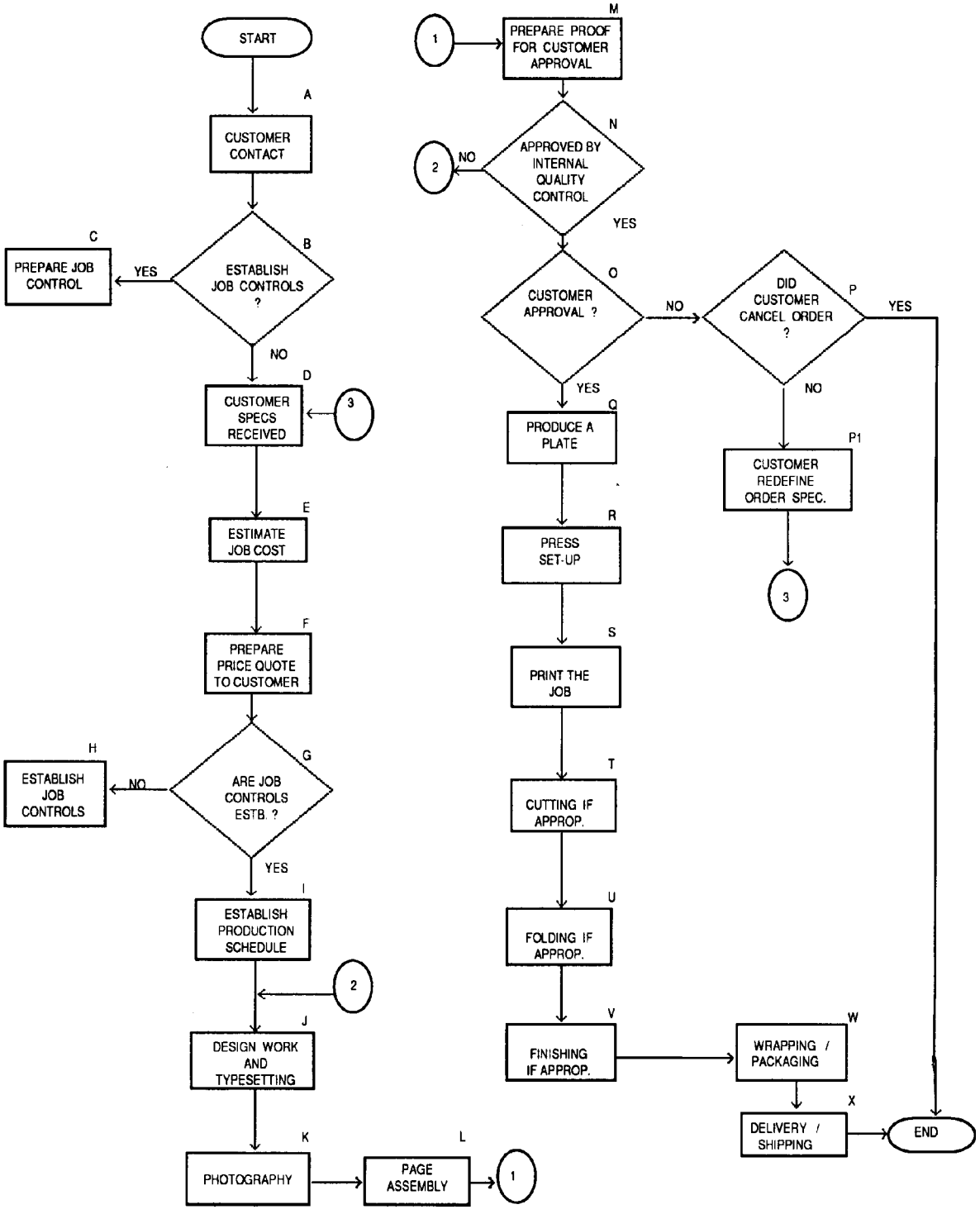
10. Packaging: The method of packing the finished product will depend on the product description, delivery mode and destination. Small bundles are packed to prevent damages during delivery.

The postpress processes mentioned above are an integral part of the printing industry. Automation within these processes is lagging behind the prepress and printing process which causes a bottleneck in the production process. Newer automated equipment is needed to keep up with the demands of the customers and the prior production processes.

The complete printing process from prepress to postpress is a complex manufacturing process which is currently being revolutionized by advancements in new computer and equipment technology. A flow chart reflecting the traditional printing process is shown in Figure 3-2.

Figure 3-2

TRADITIONAL PRINTING PROCESSES



Chapter 4

ACCOUNTING SYSTEMS AND RECORDS

ACCOUNTING AND RECORD FLOW

In examinations of printing companies, it is critical to gain an understanding of the work flow during the initial interview and tour. This will be especially useful in the examination of the cost of sales. You will find that as the costs are incurred during the printing processes, the paper trail will generally follow. The records available during the examination of these businesses could range from manually maintained records to in house developed computer systems, to sophisticated computer software management systems designed specifically for printers. Since more of their customers are providing jobs orders on disks, many printers are changing to electronic production. Any of the following systems may be seen on computerized records:

Estimating/Quotation	Invoicing
Job Tracking	Account Receivables
Scheduling	Account Payables
Inventory Control	Purchasing
Work In Process	General Ledger
Finished Goods Inventory	Financials
Job Ticket and Production Forms	Payroll
Cost Center Costing	Bank Reconciliations
Real-Time Data Collection	Shipping/Lading

The larger the printer the more likely you will see the accounts broken down into sub-accounts. For example, in recording outside service expenses the smaller printer would normally use only one account for outside services, while the larger printer would break down outside services into specific subsidiary accounts such as photography or binding. The paper trail may begin upon customer contact with a completed specification sheet which will clarify what the customer wants. A job jacket is subsequently generated. Included in the job jacket may be the customer's original artwork, proofs, cost estimate sheets, quotes, purchase orders, change orders, delivery tickets, and even sales invoices.

An estimate of the costs is computed by the estimator after which a markup is added and a quote is then given to the customer. Upon acceptance by the customer the production of the job is scheduled. During the tour you may notice the scheduling boards on the wall. The production manager keeps track of work in progress via production schedule sheets.

The direct material and labor costs are generally recorded on the job cost sheet. While the job is moving through each department the costs incurred such as hours worked,

paper, film, ink, and plates used are recorded on the job cost sheet which is generally attached to the front of the job jacket. In the plant there may be terminals where an employee may log in their employee number, and the job number, making hand written time sheets unnecessary. Supply expenses such as chemicals used in the darkroom are generally not charged to a specific job. Upon completion of the job, the shipping department arranges for delivery. In this department you may see a shipping schedule, a common carrier log book, or delivery tickets.

There is no one form that is used by all printers. Since a typical printer has the ability to design and print his or her own forms, most printers will design forms best suitable for their particular needs. Records are generally broken down by function, department, or cost center. You may see cost centers broken down, for example, by design, type, art, equipment, and by postpress functions such as cut, finish or outside contract. In doing so, the printer's budgeted hourly rates can be computed, making the pricing of a job easier. Some typical printing industry job documents used are as follows:

JOB DOCUMENTS

1. Customer Log Book
2. Job Jacket
3. Original Artwork
4. Specifications Sheet
5. Estimate Form
6. Credit Application
7. Pricing List/Workpaper
8. Quotation Form
9. Production Schedule
10. Job Cost Sheet
11. Department Cost Sheet
12. Quality Assurance Form
13. Purchase Orders
14. Proof Form/Jacket
15. Production Report
16. Variance Report
17. Shipping Schedule
18. Delivery Ticket
19. Sales Invoice

AVAILABILITY OF ACCOUNTING RECORDS

Because records are increasingly kept on magnetic media, the traditional hard copy ledger and journals are not found in many cases because taxpayers do not print them in their normal course of business. Rev. Rul. 91-59, 1991-2 C.B. 841, makes it clear that the machine-sensible data media used in automatic data processing of accounting records constitute records within the meaning of IRC section 6001. You may encounter some systems that are changing and do not have all of the source documents available, or the data may not be maintained which was used at yearend. An example of this is a job cost system where standards are changing periodically, but are not retained. This could make it more time consuming to examine inventory valuation.

Rev. Proc. 91-59 provides some guidelines for record requirements where some of the records are maintained by an automatic data processing system. One specific requirement is found in Section 5.11.

Extract

Section 5.11, Rev. Proc. 91-59, 1991-2 C.B. 843

> The taxpayer must be able to process the retained records at the time of a Service examination. Processing shall include the ability to print a hard copy of any record. When the data processing system that created the records is being replaced by a system with which the records would be incompatible, the taxpayer shall convert pre-existing records to a format that is compatible with the new system. * * *

The above cite points out several problem areas which may be encountered. The taxpayer may have changed software, or hardware making the retained records incompatible with the current system. It is the taxpayer's responsibility to make the records compatible to the new system. Where basic hard copies are not available at the beginning of an examination, it is suggested that the agent immediately request the printed records needed.

Other problems may be experienced when the taxpayer's hardware has limited capacity or memory to work with the files needed while still working on the current files. The taxpayer may only be able to work with several months of data at a time. The taxpayer may also have to do considerable work on various files in order to locate or reference hard copies needed. Thus, you will have to ascertain the time needed to retrieve the documents or records, and adjust your audit schedule.

The Computer Audit Specialist can offer assistance in this area. For example, the specialist may be able to get the necessary file and retrieve data which is needed, leaving the taxpayer's routine undisturbed.

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Chapter 5

AUDIT TECHNIQUES AND ISSUES

THE PRINTING INDUSTRY INTERVIEW

The initial interview of a printing company is a crucial audit technique which can save time during the examination as well as provide information to use later in the development of issues. It is important to acquire as much information regarding the taxpayer's business operations, record keeping, and filing system as possible. After the initial interview you may not get a chance to speak to the officers a second time. Be thorough and persistent and insist the taxpayer answer questions to the best of his or her knowledge. Much of the information obtained will be used when examining revenues, accounting methods, inventories, depreciation, and other issues. A list of interview questions specifically developed for the printing industry can be found in Exhibit 5-1. Review these questions when planning the examination and include many, if not all, with your routine interview questions.

TOUR OF OPERATIONS

A most integral step in the examination of a commercial printing company will be your visual inspection of the business premises. This is a stage of the audit process where many facts are gathered that will help determine the existence and potential of income tax issues. As in any type of diverse manufacturing industry, the best way to fully understand the operations and processes of a particular business is to visit the facility. A guided tour by a knowledgeable person who can explain and answer questions about each area of operation is a very effective examination technique.

It is common to find that commercial printers take pride in their finished product, and examples of their work may be displayed as wall hangings or enclosed in display cases. If present, this will give you an indication of the company's market niche(s). During the tour, follow these general procedures:

1. Observe and take notes on the different departments; that is, number of employees and types of computer systems and equipment used. Also, notice the source documents generated in each department.

2. Notice displays such as sales awards based on revenue, etc.

3. Note any job scheduling sheets and job tracking sheets.

4. Ask questions as often as necessary to fully understand each process and to gather pertinent information.

Specific Observations

Whether performed by one or two people, or by multiple staffs of workers, the functions enumerated below are all components of a commercial printing business. If not found on the business site, inquire about other off-site locations, or determine if certain functions are performed by sub-contractors. The information gathered during the tour should include the following:

1. Receptionist: Observe the front desk and types of logs kept by the receptionist.

2. Administrative: Observe the number of employees, source documents, and computer systems for administrative functions, such as:

    a. Accounts Payable
    b. Accounts Receivable/Billing
    c. Accounting and Finance
    d. Data Processing

3. Customer Service: Observe the number of employees, source documents, and the office equipment and computer systems used.

4. Sales/Estimators: Observe the number of salespeople and estimators, and find out what functions they perform. Notice how customer contacts are made and types of source documents generated.

5. Prepress: Observe the different prepress processes and the related paper trail, including source documents and job tracking sheets or logs. Notice how quality control systems work within each department. Ask where prepress supplies, such as film, chemicals, plates, and paper, are stored and note the quantity on hand. Notice how the prepress equipment and computer systems are used. View the types of proofs made and see how used film, chemicals, etc. are disposed. Ask to see where retained plates, negatives, and disk files are stored.

6. Inventories: The physical inspection is a significant aspect of the performance of the minimum inventory tests described in Chapter 652 of IRM 4235. The discussion here is designed to emphasize situations encountered in the examination of a commercial printer.

    Determine what inventory is kept on the premises and where it is stored, if there are purchases made for sub-contractors, or if other off-site locations should also be visited. Types of inventory observed should include:

    a. Raw Materials, such as paper and ink
    b. Work In Process
    c. Finished Goods

Observe the receiving department and source documents generated. Ask to be shown any raw materials that are held on consignment, and any finished goods that have already been sold (known as bill and hold items). Look for damaged goods, used paper, old ink, and used plates. It is not uncommon to see used plates or shredded paper scraps in bins or boxes located in various places throughout the production area or near the shipping area. Note any sections marked as hazardous waste areas.

7. Press Set-up: Observe the set-up processes performed in preparing the press for printing, such as cleaning the press, or loading the plates, paper, and ink. Make note of how the set-up procedures are documented (time logs, etc.). Note the number of employees involved. Find out whether the set-up process is a separate cost center or if it is combined with printing.

8. Printing Press Process: Make note of the number of presses, types, and sizes, and try to relate that to other information gathered about the company's market niche. For example:

   a. less than four color (normally used for black and white text)
   b. four color (adds some degree of color)
   c. greater than four color (used in high-techcolor graphic design)
   d. sheet fed (high quality and specialties such as posters)
   e. web presses (high volume such as books and magazines)

   Look for any presses not running and determine why they are not in use. Note any specialty type presses. Notice the age of the presses and technical advancement. Observe and inquire about any equipment that could have been refurbished or newly purchased. Look for real-time monitors attached to presses and other computer equipment which tracks the machine hours. Note scheduling boards and/or cards.

9. Postpress: Observe equipment used for postpress processes such as cutting, binding, shrink wrapping, laminating, stapling, and stitching. Ask if any of these services are performed elsewhere if not seen on the premises. Note the number of employees and any separate scheduling sheets.

10. Shipping: Observe shipping trucks, source documents and log books, and the number of employees in the shipping department. If present, take notes of any delivery trucks that may require highway use tax, (number of axles, etc.), and follow local package audit guidelines for potential excise tax issues. Notice the use of common carriers and separate logs for shipping in that manner.

CHANGE IN ACCOUNTING METHOD

Within the printing industry the overall accounting methods employed by the printing

companies vary between the cash, hybrid, and accrual methods of accounting.

During the examination of a printing company, address the method of accounting. It is necessary for you to determine that the accounting method in place meets the criteria under IRC section 446 and the regulations thereunder. First, the method of accounting must clearly reflect income. Second, Treas. Reg. section 1-446-1(C)(2) provides that taxpayers that are required to use inventories must use the accrual method to account for purchases and sales. In the commercial printing industry, this might refer, for example, to purchases of raw materials and sales of finished printing. Treas. Reg. sections 1.446-1(a)(4)(i) and 1.471-1 provide that taxpayers are required to use inventories when the production, purchase, or sale of merchandise is an income-producing factor in their business. Commercial printing companies will be required to use inventories and the accrual method to account for purchases and sales of inventory items under these regulations. See Exhibit 5-2 for a more detailed discussion.

Most commercial printers are required to use the accrual method to account for purchases and sales of inventory. You will occasionally encounter commercial printers who are not using the accrual method to account for purchases and sales of inventory. At this point, the question is whether you can require the taxpayer to use the accrual method for all purposes in order to clearly reflect income.

IRC section 446(c) recognizes both the cash receipts and disbursements method and the accrual methods as acceptable methods of accounting. The cash method or a hybrid method can clearly reflect income even though taxable income would be different if the taxpayer had used the accrual method of accounting. Therefore, the mere fact that the cash or hybrid method results in a different amount of taxable income than the accrual method does not inevitably mean that income is not clearly reflected.

Nonetheless, there will be circumstances where the use of the cash method will not clearly reflect the taxpayer's income. See for example, Applied Communications v. Commissioner, T.C. Memo 1989-469. Most commercial printers will be required to maintain inventories and hence, will be required to use the accrual method for purchases and sales of inventory items, for example, paper, ink, and finished printing. Note, however, that use of the accrual method for purchases and sales of inventory items does not foreclose the use of the cash method to account for other items (such as wages and other expenses). In other words, a hybrid method may be used. In Treas. Reg. section 1.446-1(c)(1)(iv) any combination of acceptable methods of accounting will be permitted in connection with a trade or business if such combination clearly reflects income and is consistently used. Treas. Reg. section 1.446-1(c)(1)(iv) further provides that a taxpayer using an accrual method of accounting with respect to purchases and sales may use the cash method in computing all other items of income and expense.

The relevant regulations only require the accrual method of accounting for purchases

and sales of inventory. Thus, the relevant regulations would permit a hybrid method irrespective of whether it results in income that would result from a pure accrual method.

Of course, IRC section 446(b) provides the Commissioner with broad discretion over methods of accounting if the taxpayer's method does not clearly reflect income. Additionally, Treas. Reg. section 1.446-1(a)(2) provides that no method of accounting is acceptable unless, in the opinion of the Commissioner, it clearly reflects income. When the Commissioner concludes that the cash method does not clearly reflect income, the taxpayer has a heavy burden to show that the Commissioner has abused his or her discretion. Asphalt Products Co. v. Commissioner, 796 F2.2d 843, 848 (6th Cir 1986). "In light of this deference, a taxpayer arguing that the Commissioner has abused (her) discretion must demonstrate substantial identity of results between his method and the method selected by the Commissioner." Ralston Development Corp. v. United States, 937 F.2d 510, 513 (10th Cir 1991) (citing Wilkinson-Beane Inc. v. Commissioner, 420 F.2d 352, 356 (1st Cir 1970). See also J.P. Sheahan Associates Inc., T.C. Memo 1992-239. In other words, the substantial identity test is not used to make the original determination that income is not clearly reflected. Instead, it is a test used by taxpayers to show that the Commissioner's determination is arbitrary. Note that the substantial identity test has normally arisen in cases where the Commissioner determined that the taxpayer was required to maintain inventories and could not, therefore, continue to use the cash method for purchases and sales. American Fletcher Corp. v. United States, 86-1 U.S. Tax Ct. (S.D. Ind. 1988) aff'd 832 F.2d 436 (7th Cir 1987).

It is up to you to gather the facts and make determinations as to the existence of inventory. See the section on "Cost of Goods Sold" for inventory audit techniques.

Computation of Change From Cash or Hybrid to Accrual

To compute a change in accounting method, the balance sheet accounts must be examined and the balances at year end for the year under exam and the prior year must be obtained. If the books are kept on the accrual method and adjusting entries are made to convert to the cash basis for tax purposes, the calculation reverses the yearend adjusting entries for both the year under exam and the prior year. If the books are kept on the cash basis, you will have to determine from the taxpayer's records the correct yearend accounts receivable, accounts payable and inventory balances for both years in addition to prepaid items. To assist you in making this determination, refer to the sections under "Interview," "Tour," and "Cost of Goods Sold." An example of a computation of a change in accounting method from cash to accrual for a printing company is shown in Exhibit 5-3.

Computation of Tax

To compute the tax due on an adjustment of change in accounting method, IRC

section 481(b)(1) mandates computing the taxable income as if one third of the 481(a) adjustment was made in the 2 prior years and the current year. The income tax shall not be greater than the tax computed by placing the entire 481(a) adjustment plus the current year amount in the current year or the tax computed as allocated over 3 years. An example of the computation of income tax is shown in Exhibit 5-4.

Authorization to Change

The Internal Revenue Code and Treasury Regulations give the Service the authority to change a method of accounting when no method of accounting has been regularly used by the taxpayer, or if the method used does not clearly reflect income. Revenue Rulings issued in this area give many examples of changes in accounting methods. Case law is replete with situations upholding the Government's position to change an accounting method from a cash or hybrid method to an accrual method when income is not clearly reflected or if inventories are a material income producing factor. Exhibit 5-5 provides a summary discussion of the applicable Code and regulation sections on this issue.

The Service may require the taxpayers to change their method of accounting whenever it is determined the current method no longer clearly reflects income, despite previous approval of the method in use currently. See, Knight-Ridder Newspapers, Inc. v. United States, 84-2 U.S.T.C. 9827 (11th Cir. 1984).

The accrual method of accounting is also required for taxpayers who manufacture custom-made goods, if inventory is a material income producing factor. See Fame Tool and Manufacturing Co., Inc. v Commissioner, 71-2 U.S.T.C. 9596 (S.D. Ohio 1971); Rev. Rul. 73-485, 1973-2 C.B. 150; Rev. Rul. 74-279, 1971-1 C.B. 110.

Revenue Procedure 92-20

Revenue Procedure 92-20 1992-1 C.B. 685, provides the general procedures for requesting the consent of the Commissioner of Internal Revenue to change a method of accounting for federal income tax purposes. Upon contact for examination, the revenue procedure provides a limited 90-day window during which the taxpayer may file a request to change an accounting method without first obtaining the approval of the district director. The taxpayer receives terms and conditions during this 90-day window that are less favorable than those available for method changes made prior to contact, but more favorable than those required by the district director as part of an examination. Always advise the taxpayer of his or her rights provided by Revenue Procedure 92-20.

COST OF GOODS SOLD

Most printing companies earn their income by selling inventory. Therefore, inventory is an income-producing factor which must be accounted for by the taxpayer.

Printers sell a printed product and most sell a custom ordered printed product manufactured by the printer. It begins with an idea which is transformed by some combination of the processes previously described, to a completed printed product which could be in the form of a business card, a book, a calendar, a poster, or other item.

Raw Materials Inventory

Ending inventory for a printing company includes all raw materials, work in process, and finished goods on hand at the end of their tax year. Raw materials may include, but are not limited to the following:

Film -- assorted types of film, that is, negative film, positive film, duplicator negative, etc.

Plates -- assorted types, such as aluminum, paper, rubber

Chemicals -- that is, development, fixer, activator, plate developer, scratch remover

Typesetting film/chemicals -- typesetting film, developer, fixer

Masking Sheets -- assorted types and sizes of masking sheets

Paper -- assorted colors, sizes, and textures

Envelopes -- assorted styles, colors, sizes, and textures

Ink -- assorted colors, types, and container sizes

Wire -- wire for binding and staples

Plastic film -- shrink wrapping, laminating film

Glue -- padding glue

Boxes -- shipping boxes

Palates -- custom order palates

Extract

IRC section 471(a)

* * * Whenever in the opinion of the Secretary the use of inventories is necessary in order clearly to determine the income of any taxpayer, inventories shall be taken by such taxpayer on such basis as the Secretary may prescribe as conforming as nearly as may be to the best accounting practice in the trade or business and as most clearly reflecting the income.

Extract

Treas. Reg. section 1.471-1

* * * In order to reflect taxable income correctly, inventories at the beginning and end of each taxable year are necessary in every case in which the production, purchase, or sale of merchandise is an income-producing factor. The inventory should include all finished or partly finished goods and, in the case of raw materials and supplies, only those which have been acquired for sale or which will physically become a part of merchandise intended for sale, in which class fall containers, such as kegs, bottles, and cases, whether returnable or not, if title thereto will pass to the purchaser of the product to be sold therein. * * *

Extract

Treas. Reg. section 1.263A-1(e)(3)(ii)(E)

* * * Indirect material costs include the cost of materials that are not an integral; party of specific property produced and the cost of materials that are consumed in the ordinary course of performing production or resale activities that cannot be identified or associated with particular units or groups of units of property. Thus, for example, a cost described in Treas. Reg. section 1.162-3 relating to the cost of a material or supply, is an indirect material cost.

Indirect materials and supplies include, but are not limited to items such as chemicals, film, plates, typesetting film, and masking sheets.

Most printers produce a custom order product with an oral agreement as to the sales price before production begins. This agreed upon sales price is not generally subject to change unless the job specifications also change. Due to this fixed sales price, most printers are required to use the cost method for inventory valuation, and are not permitted to use the lower of cost or market method.

Cost in the case of merchandise produced by the taxpayer since the beginning of the taxable year, is defined by Treasury Regulation section 1.471-3(c), to include:

(1) the cost of raw materials and supplies entering into or consumed in connection with the product, (2) expenditures for direct labor, and (3) indirect production costs incident to and necessary for the production of the particular article, including in such indirect production costs an appropriate portion of management expenses, but not including any cost of selling or return on capital, whether by way of interest or profit. See sections 1.263A-1 and 1.263A-2 for more specific rules regarding the treatment of production costs.

During the examination of raw materials inventory at year end for a printing company, follow IRM 5(10)2.2 guidelines and conduct the minimum inventory checks. Audit techniques for determining raw materials on hand for a printing company include, but are not limited to the following:

1. Comparison of interview and tour notes to the ending inventory list to ascertain all

items of raw materials are included in ending inventory.

2. Comparison of yearend purchase invoices of raw materials such as paper, ink, film, etc. to the inventory list to ensure yearend purchases are included in raw materials.

3. Footing the ending inventory list to ensure amounts are added correctly.

4. Inspection of the general ledger for questionable credit entries to year end inventory account.

5. Inspection of the yearend inventory list for write downs to the value of ending inventory.

6. Comparison of vendor price books, which are provided to the printer, to the cost assigned to specific items shown on the inventory list for proper costing.

Most printers should have a list of the physically counted raw materials inventory at the end of the tax year. According to Treas. Reg. section 1.471-2(e), "[i]nventories should be recorded in a legible manner, properly computed and summarized, and should be preserved as a part of the accounting records of the taxpayer. * * *" The taxpayer must satisfy the district director as to the correctness of the prices adopted. Also ensure that the taxpayer has properly calculated and included IRC section 263A uniform capitalization of costs as they pertain to raw materials. Refer to the section regarding IRC section 263A for details.

Work in Process Inventory (WIP)

Printing companies operate under a job order costing system. Under job order costing, products or services are readily identified by individual units or batches receiving varying inputs of direct materials, direct labor and indirect costs in jobs produced for a specific customer.

Many small printers do not have any finished goods on hand, but do have work-in-process. The same elements should be included in work-in-process and finished goods with the only difference being the level of completion. The three elements of work-in-process consist of:

1. Direct Materials
2. Direct Labor
3. Indirect Costs

Treas. Reg. section 1.471-11(b)(2) and (3) defines these elements as:

Direct Materials -- materials which are an integral part of the finished product and materials which are consumed in the manufacturing process; provided they are identifiable with specific products or processes.

Direct Labor -- labor which is an integral part of the finished products including basic compensation, overtime, sickpay, vacation pay, and payroll taxes.

Indirect Costs -- include variable overhead that is, power, supplies, indirect labor and fixed overhead that is rent, insurance, supervisor's salary - break down into three categories: See Treas. Reg. section 1.471-11(c)(1).

Category I -- Items includible for tax purposes regardless of taxpayer's financial reporting treatment. Examples: Repairs, maintenance, rent, utilities, indirect labor, production supervisor wages (See Treas. Reg. section 1.471-11(c)(2)(i)).

Category II -- Items not required to be inventoried. Examples: Marketing, advertising, selling, distribution, interest, officer's salary not attributable to production process (See Treas. Reg. 1.471-11(c)(2)(ii)).

Category III -- Items which must be included or excluded from inventory in accordance with taxpayer's financial accounting treatment provided such costs are not inconsistent with GAAP (Treas. Reg. section 1.471-11(c)(2)(iii)). Examples: Officer's salaries performed for production or manufacturing and insurance on production machinery (See Treas. Reg. section 1.471-11(c)(2)(iii)).

As of December 31, 1986, the Uniform Capitalization Rules remove any option and require that all defined indirect costs be included regardless of financial accounting treatment. See IRC section 263A and the regulations thereunder.

In examining work-in-process, it is important that during the initial interview you determine the following:

1. How is work-in-process computed and by whom?

2. When is work-in-process considered to be present?

    a. When materials are first applied?

    b. When the order is confirmed?

3. When is a job considered complete?

4. What are the maximum, average, and minimum days to complete a job?

    a. Number of days to produce?
    b. Number of days to ship?
    c. Number of days to bill?
    d. Number of days to collect?

Finding out the number of days in process will aid in testing the percentage of

completion of jobs and aid in arriving at a work-in-process figure when it was not computed. The CPA or the comptroller may not know these details. The production manager is generally very knowledgeable.

There may be whole departments or cost centers which may not be included in work-in-process; therefore, understanding the business flow is imperative. Start by identifying the company's major functions, departments, and types of printing processes used such as offset lithography, rotogravure, flexographic, letterpress, or screen printing. Some of the observations to be made during the tour to aid in the examination of work-in-process are as follows:

1. Identify all process centers

2. Learn what is actually taking place in each location of the plant

    a. Number of employees in each process center

    b. Determine additional source documents not previously identified

3. Include the following areas in your tour

    a. Customer access areas

    b. On-site storage

    c. Off-site storage

    d. All production facilities.

In addition to requesting work-in-process calculations, and adjusting journal entries, records which may be useful in testing and recreating ending work-in-process are as follows:

1. Job Cost Sheets

2. Job Order Files which include:

    a. Estimating Sheet (based on job spec.)

    b. Price Quote or Contract

    c. Time Records

    d. Material Records

    e. Outside Service Records

f. Billings

3. Shipping and Delivery Documents

   - will show the job number and date shipped

4. Production Managers' Reports

   a. Used for traffic control

   b. Show jobs in plant

   c. Show date the job was started and completed

5. Accounts Receivable Journal

6. Purchase Invoices

7. A/R Billings

   - Show completion date and price

8. Labor Records or Time Cards

   - If they show the job number and name, sampling the last months may identify undisclosed jobs

9. Sales Analysis Reports

   - Show customer name, job number, sales price.

Many of the smaller printing companies do not compute any work-in-process. In these situations, it is best for the taxpayer to compute work-in-process. However, if the taxpayer refuses to compute work-in-process, you can recreate a work-in-process estimate at year end.

An example of a work-in-process spreadsheet showing an accounts receivable cutoff test and a recreation of work-in-process inventory, when it has not been computed by the taxpayer, is shown in Exhibit 5-5.

Extract

Treas. Reg. section 1.263A-1(f)

(1)* * * sets forth various detailed or specific (facts-and-circumstances) cost allocation methods that taxpayers may use to allocate direct and indirect costs to property produced * * * In addition, in lieu of a facts- and-circumstances allocation method, taxpayers may use the

simplified methods provided in sections 1.263A-2(b) and 1.263A-3(d) to allocate direct and indirect cost * * * produced * * *

(2)* * * specific identification method traces cost to a cost objective, such as a function, department, activity, or product, on the basis of a cause and effect or other reasonable relationship between the costs and the cost objective.

(3)(A)* * * A burden rate method allocates an appropriate amount of indirect cost to property produced or property acquired for resale during a taxable year using predetermined rates that approximate the actual amount of indirect costs incurred by the taxpayer during the taxable year. Burden rates (such as ratios based on direct costs, hours, or similar items) may be developed by the taxpayer in accordance with acceptable accounting principles and applied in a reasonable manner. A taxpayer may allocate different indirect costs on the basis of different burden rates. Thus for example, the taxpayer may use one burden rate for allocating the cost of rent and another burden rate for allocating utility cost. Any periodic adjustment to a burden rate that merely reflects current operating conditions, such as increases in automation or change in operation or prices, is not a change in method of accounting under section 446(e). * * *

(B)* * * The following factors, among others, may be used in developing burden rates:

(1) The selection of an appropriate level of activity and a period of time upon which to base the calculation of rates reflecting operating conditions for purposes of the unit costs being determined.

(2) The selection of an appropriate statistical base, such as direct labor hours, direct labor dollars, machine hours, or a combination thereof, upon which to apply the overhead rate.

(3) The appropriate budgeting, classification, and analysis of expenses (for example, the analysis of fixed versus variable costs).

* * * * * * *

Based on our examinations, we noted the bases for applying overhead costs most commonly used by printers are:

Direct Labor Hours -- Since time devoted to specific products is often used for correlating overhead with products, indirect labor and supply usage are most closely related to direct labor hours.

1. Time is traced to specific products by using work tickets for direct labor.

2. Predetermined overhead rates are derived by dividing:

$$\frac{\text{Budgeted Total Overhead}}{\text{Budgeted Total Direct Hours}}$$

Machine-Hours -- This is often a better predictor of overhead than direct labor hours.

1. Depreciation, supplies, and indirect labor are frequently more closely related to machinery utilization.

2. This base will be seen more frequently in larger commercial printers.

Direct-Labor Cost -- If labor rates are nearly uniform for every operation, the use of a labor-dollar base for overhead application yields the same results as using direct-labor hours; otherwise, in theory direct-labor hours is better.

An example of how the accounts would be broken down for work-in-process is as follows:

Job #	Job Date	Customer Name	Materials/ Outside Fee	Labor Cost	Machine	= Total WIP

The taxpayer would use the "Machine" account to apply indirect costs based on machine hours. Upon selection of a particular job, you may see department costs broken down by different operations for example:

Depart.#	Department	Material	Machine	Labor	Outside Fee	= Total WIP
20	Scanning					
30	System					
40	Proofing					
50	Dot Etching					
60	Stripping					
70	Production					

Most printers will have work-in-process inventory or some finished goods. Whether the taxpayer accounts for work-in-process or not, it is up to you to correct ending inventory. IRC section 263A should be reviewed for proper application of the uniform capitalization rules.

Uniform Capitalization, IRC section 263A

The Tax Reform Act of 1986 created IRC section 263A which provides for including additional expenses in inventory. This Code section provides no exceptions for manufacturers as it does for retailers. Usually printing processes meet the definition of manufacturing processes, and as such are subject to IRC section 263A.

Costs which the printers included in inventory prior to the enactment of IRC section 263A are referred to as "Section 471 costs." Per Temp. Treas. Reg. 1.263A-1T(b)(5)(iii), "471 costs" include any costs which the printer may have included under their prior method of accounting regardless of whether such prior method required the absorption of such costs under Treas. Reg. section 1.471-11. This is not a definitive discussion of issues relating to IRC section 263A, since there are many different cost methods used by printers. Instead, this discussion focuses on

specific costs which may need to be considered for examination. A printer may have just started accounting for inventories, due to a recent accounting change, but is only including direct cost in inventory. You may also be examining a printer who uses an all-inclusive cost system where many of the costs are already inventoried. In both cases it is the costs omitted from inventory capitalization which should concern you. Some of the following expenses may need examination:

1. Bidding and proposal expenses are required to be deferred and then capitalized if an order or contract is awarded. Some taxpayers have tried to argue that these are selling expenses. A good argument can be made if the goods are already produced. However, in the printing industry the orders are for a customer's specifications and demands. Very little printing is done without an order. Therefore, the work that an estimator or salesperson does to establish the price by estimating the costs for the job, and determining the overall specifications for the order constitute IRC section 263A costs which should be capitalized.

2. Management salaries and related costs usually include some costs which directly benefit or are incurred in the performance of production activity; that is, the prepress, printing, and postpress processes. The executives or management are also involved in other activities, such as business acquisitions or policy making decisions. A reasonable allocation is required to determine the portion, of any, attributable to the production activity and subject to uniform capitalization under IRC section 263A.

   The following activities of management should be considered as benefitting or incurred for the performance of productive activity:

   a. Purchasing production equipment and software.

   b. Hiring production management and personnel

   c. Negotiating rebates and discounts with suppliers of raw materials

   d. Managing production and/or scheduling

   e. Acquiring outside services for jobs

   f. Quality control.

3. Employee Benefits relating to production include contributions to stock bonus, pension, profit sharing plans as well as workman's compensation, premiums on health and life insurance, recreational and eating facilities, and so forth.

4. Tax depreciation and other Schedule M adjustments should be considered in regard to IRC section 263A capitalization. Most taxpayers will include excess tax depreciation, but will omit consideration of other Schedule M adjustments,

such as adjustments for pension and profit contributions.

5. Idle time and excess capacity may be areas of concern if the business being audited has overcapacity. Depreciation and amortization applicable to idle time does not have to be capitalized under IRC section 263A; however idle time is narrowly defined as a plant shut-down. See various examples under Temp. Treas. Reg. 1.263A-1T(b)(2)(viii). Per Temp. Treas. Reg. 1.263A-1T(b)(2)(vii), the use of the concept of practical capacity is not allowed. That is, fixed costs for a plant cannot be expensed rather than capitalized based on the relationship between actual production and practical or theoretical capacity of the facility.

6. Variances produced by a standard cost system may be allocated to inventory depending on significance or materiality. Per Temp. Treas. Reg. 1.263A-1T(b)(3)(D), significance is determined by the relationship between the variances and indirect costs. This should also be examined in the context of the business unit, the accounting and profit center for which separate inventory records are kept.

Final regulations for IRC section 263A were recently issued and are effective for periods beginning January 1, 1994. These regulations were reviewed and do not contradict the above general discussion of 263A costs.

OFFICER'S COMPENSATION

In this industry, officer's compensation was found to be an area of noncompliance. Even though two of the main industry organizations, the National Association of Printers and Lithographers, and the Printing Industries of America, publish executive salary surveys, most of the printers examined did not base their salaries on the surveys.

Definition of Reasonable Compensation

IRC section 162 -- All ordinary and necessary expenses, including reasonable compensation for personal services actually rendered.

Treas. Reg. section 1.162(7) -- Compensation for personal services may not exceed what is reasonable;

1. All circumstances will determine reasonableness

2. Reasonable means ordinarily paid for like services by like enterprises under like circumstances

3. Reasonableness is determined at date contract for services is entered into not when questioned.

In determining whether reasonable compensation is present, some of the factors you should consider are defined in IRM 4233-232.2(3), and are:

1. Nature of Duties

2. Background and Experience

3. Knowledge of Business

4. Contribution to Profit

5. Time Devoted to Business

6. Economic Conditions in General & Locally

7. Responsibility Including Character & Amount

8. Time of Year When Compensation is Determined

9. Relationship of Compensation to Shareholdings

10. Whether Compensation is Payment for Assets

11. Amount Paid by Similar Size Businesses, in Same Area, to Equally Qualified Employees, for Similar Services.

Excessive compensation is a facts and circumstances adjustment. The adjustment must be based on more than just the fact that the officers is paid more than the amount listed in the various executive salary surveys. The duties and responsibilities of the executive as set out in the surveys must be compared to the actual duties and responsibilities of

the executive whose salary is questioned. Look at all the facts as to why the executive receives a certain salary and determine, considering all the facts, whether the salary is unreasonable. The facts relied upon must be documented in the workpapers.

Treatment of Excessive Compensation

Treas. Reg. section 1.162-7(b)(1) -- Amounts paid in the form of compensation but not in the purchase price of services are not deductible.

Treas. Reg. section 1.162(8) -- Treatment of nondeductible compensation will be determined on a case by case basis;

1. If based on stockholdings and there is earnings and profits, it is treated as a dividend

2. If for property, payor treats it as a capital expense and recipient treats it as part of the purchase price

3. Absent evidence to justify other treatment, excessive payments will be included in the gross income of the recipient.

Some ways that officer's compensation is used for tax planning are to:

1. Finance capital asset acquisitions

2. Reduce S-Corporation taxable income or create an NOL, thereby avoiding Built-In Gains Tax

3. Reduce accumulated earnings subject to accumulated earnings tax

4. Claim prior years taxes paid, through NOL Carrybacks.

Audit Techniques

Return Pre-Plan. Consider officer's compensation as a percentage of gross receipts (except for personal services); do a quick comparable check to a financial ratio survey; compare compensation to prior years and consider whether the compensation created a net operating loss.

Information Document Request (IDR). It is extremely important to consider not only the factors listed in the IRM but factors argued in recent court cases. Information you may want to request in your IDR is as follows:

1. Description of all officers' duties and percentage of time devoted to each duty

2. For the year under audit and the 5 prior years provide:

a. Total officer's compensation broken down by regular wages, year end bonuses, and fringe benefits

b. Pension plan contribution amount

c. Gross receipts per tax return

d. Taxable income/NOL

e. Total assets

f. Financial statements.

3. Corporate minutes since incorporation

4. Dates and amounts of dividends paid

5. The standard industry code applicable to your business.

Interview. Once you have identified this issue as warranting further examination, you may want to add the following to your list of interview questions:

1. What are your work hours?

2. What days do you work?

3. Have you been undercompensated in prior years? If so, by how much?

4. Have you personally guaranteed any loans?

5. Are you involved in other businesses? If so, how much time is devoted?

6. Who are other officers? What do they do? How much are they paid?

7. Are there any sales that you directly bring in through your personal duties?

8. What percentage of your time is spent doing CEO duties verses sales?

9. How do you determine compensation during the year? When is it paid?

10. How is your yearend bonus determined? When is it paid?

11. If you receive bonuses, do other employees receive them? How are theirs computed?

12. Have you always used the same method of determining your compensation? If not, what changes have you made?

13. Have you used compensation surveys? Are you aware of any?

14. Have you entered into any contingent compensation arrangements, that is, bonuses?

15. Have you just become a minority shareholder? If so, are you receiving any noncompete or consulting payments?

16. What is your education?

17. What is your experience?

18. Do you have any salespersons? If so, what is their commission rate?

19. Have there been any increases in sales? If so, what were the reasons?

Other. Scanning the corporate minutes can be very useful in determining any tax planning techniques being used by the taxpayer. It will also show whether compensation has been approved and if dividends have been paid.

Make sure the taxpayer knows before the closing conference that this issue will be discussed. Be prepared for hostility since this is a very sensitive issue.

In using comparables in the development of the issue, the industry compensation surveys are the best comparables. If they are not available, the general ratio surveys are useful. When using a general survey however, make sure the accurate standard industry code is used. Examples of general surveys are:

1. *Robert Morris & Associates*
2. *Dunn & Bradstreet*
3. *Almanac of Business & Industry Financial Ratios*
4. *Corporate Tax Return Statistics (Pub 16*)
5. *Government Clerical Survey.*

Using other tax returns as comparables may provide a quick look as to unreasonableness. However, these comparables cannot be used in court. In addition, the use of an outside compensation expert may be extremely helpful.

It should be noted that there is a line of cases, beginning with the decision of the Supreme Court in *Lucas v. Ox Fibre Brush Co.*, 281 U.S. 115 (1930), holding that payments for services rendered in prior years may be deductible. In other words, many struggling companies simply do not have the financial resources to pay appropriate officer salaries during the "lean" years. When their financial ship comes in,

however, these companies may choose to pay so-called "catch-up" payments to compensate their officers for services rendered in prior years. These payments are deductible as long as no legally enforceable liability was incurred during these prior years.

Some commercial printing companies may seek to use the "prior services" argument to justify higher levels of compensation. If this argument is advanced, it is important to examine all the relevant facts and circumstances.

Based on this and other issues, it is clear that potential reasonable compensation adjustments can present thorny issues of fact which require careful consideration and high levels of development.

DEPRECIATION/CAPITALIZATION OF COST

Capital Versus Repair Expense

Because printing companies are capital intensive, carefully examine the capital related accounts. Suggested audit techniques to examine depreciation are:

1. Compare the fixed asset accounts with depreciation schedules and repairs and maintenance expenses.

2. Look at notes payable for financing of new equipment.

3. During the tour of the facility take notes regarding any equipment not in use, any new equipment and/or old equipment which may have recently been refurbished.

4. New assets should be ascertained during the initial interview and tour to determine that they have been appropriately listed on the depreciation schedule.

5. Determine during the examination that the basis of any new asset, that is: presses and computer systems includes the installation and set-up costs.

6. Refurbishment of old equipment, which extends the useful life of the asset, should be addressed during the initial interview to ensure that refurbishment costs were included on the depreciation schedule and not expensed, that is: presses and the cylinders on the presses.

If repairs and maintenance expenses appear excessive during the year under examination, test a sample of large entries. Inspect source documents for the description of the services provided to determine whether they are for routine maintenance, repair, or for refurbishment of the equipment, which will extend the useful life or increase the value of the asset. If for refurbishment, the item(s) should be disallowed as an expense and reclassified as a depreciable asset, allowing the appropriate amount of depreciation expense.

Authorization for Position. IRC section 263(a) and the regulations thereunder define capital assets and require the capitalization of such cost verses their expense. IRC section 263(a) states that no deduction shall be allowed for (1) any amount paid out for new buildings or for permanent improvements or betterments made to increase the value of any property or estate. Treas. Reg. section 1.263(a)-1(b) states that the amounts referred to in 263(a) include amounts paid or incurred (1) to add to the value, or substantially prolong the useful life, of property owned by the taxpayer, such as plant or equipment, or (2) to adapt property to a new or different use.

Treas. Reg. section 1.263(a)-2(a) states that the cost of acquisition, construction, or erection of buildings, machinery and equipment, furniture and fixtures, and similar property having a useful life substantially beyond the taxable year shall be capitalized.

Class Life of Assets

In examining depreciation, scan the depreciation schedule and determine that the taxpayer has used the proper method and life for the assets listed. In numerous cases it was found that a 5-year class life was assigned to printing equipment and the related printing trade service equipment. Under the Accelerated Cost Recovery System (ACRS) method passed by the 1981 Tax Reform Act, the 5-year life was correct. However, the Tax Reform Act of 1986 modified ACRS by adding two more classes, 7 and 20-year property. For assets placed in service after 1986, the taxpayer is required to use the Modified Accelerated Cost Recovery System (MACRS).

Under MACRS, 7-year property includes any property with an Asset Depreciation Range (ADR) of 10 years or more and less than 16 years, and property with no ADR. Included in this class are office furniture, fixtures, and equipment which was previously in the 5-year class. Therefore, printing equipment and trade service equipment should be depreciated over a 7-year life. In cases where taxpayers continue to use the 5-year life for printing equipment placed in service after 1986, the adjustment to reduce depreciation expense should be made.

Authorization for Position. IRC section 168(a) states that the depreciation deduction provided by section 167(a) for any tangible property shall be determined by using (1) the applicable depreciation method, (2) the applicable recovery period, and (3) the applicable convention.

IRC section 168(c) provides for the applicable recovery periods according to the classifications of property provided. IRC section 168(e)(2) describes the classification of buildings and other real property. IRC section 168(e)(3)(A) and (B) list the specific assets qualifying as "3 year" and "5 year property." IRC section 168(e)(3)(c) provides the classification of "7 year property" for any property that does not have a class life and is not otherwise classified under paragraphs (2) or (3) of IRC section 168(e).

Automation Issues

At the *Sunbelt Graphics '94* trade show recently held in Atlanta, keynote address speaker, Paul Brainerd, made the statement, "Few industries are seeing more technological change than the printing and publishing industries." The focus of the keynote address was to emphasize the continuing challenge and the dramatic impact of the "digital revolution" on the printing and graphic communications industry. Through examinations, it is evident that income tax issues are evolving from the modernization of printing equipment as well as computerization.

Consulting and Professional Fees. Treas. Reg. section 1.263(a)-2(a) provides this example of a capital expenditure:

> The cost of acquisition, construction, or erection of buildings, machinery and equipment, furniture and fixtures and similar property having a useful life substantially beyond the taxable year.

Therefore, legal and professional fees are required to be capitalized for income tax purposes when paid or incurred to acquire or improve an asset or property having a useful life of more than one year. These expenses must be treated as part of the cost of the asset, and recovered through annual depreciation deductions, as provided under IRC section 167(a).

The capitalization rule generally applies to all acquisition expenses including professional services such as legal, accounting, and other consulting services. See *Safety Tube Corp. v. Commissioner*, 168 F.2d 787 (6th Cir. 1948), and *Reed v. Commissioner*, 55 T.C. 32 (1970), *Indopco Inc. v. Commissioner*, 112 S.Ct. 1039 (1992).

Computer Software. Software is available for most levels of the printing business. Not only are there management, accounting, cost, estimating, inventory, and pricing systems, but the production software and systems are rapidly changing. Technology, computers and advances in image processing software are changing the printing industry. The use of digital electronic printing methods is expected to reduce the use of film and plates.

IRC section 197(e)(3)(B) defines computer software as any program designed to cause a computer to perform a desired function. However, it excludes any database or similar item unless that item is in the public domain and is incidental to the operation of otherwise qualifying computer software.

Rev. Proc. 69-21, 1969-2 C.B. 303, provides guidelines for the deduction of costs incurred to develop, purchase, or lease computer software. In determining the appropriate income tax treatment of computer software costs, the distinction between purchased computer software and internally developed software becomes very important.

Purchased software must be capitalized. Rev. Proc. 69-21 states that the Service will not disturb a taxpayer's treatment of the costs of purchased computer software if the taxpayer consistently follows these practices:

1. Where such costs are included, and not separately stated, in the cost of the hardware (the computer) and such costs are treated by the taxpayer as part of the cost of the hardware that is capitalized and depreciated; and

2. Where such costs are separately stated, and the software is treated as an intangible asset, the cost of which is recovered by ratable amortization deductions over a period of 5 years, or such shorter period that the taxpayer can establish as the more appropriate useful life of the software in his hands.

IRC section 167(f) was added effective August 10, 1993 and states that if a depreciation deduction for any computer software is allowable under IRC section 167(a), the deduction is to be computed using the straight-line method over a 3-year useful life.

Current deductions are allowable for software development costs. Rev. Proc. 69-21 did not state that the costs of developing computer software constitute research or experimental expenditures within the meaning of IRC section 174. However, it did reason that since such costs were so similar in many respects to research and experimental expenditures within the scope of IRC section 174, that they should be treated similar to IRC section 174 expenditures.

Rev. Proc. 69-21 states that the Service will not disturb a taxpayer's treatment of costs incurred in developing software (whether for in-house use or for resale), where the taxpayer meets either of the following two conditions:

1. All of the costs properly attributable to the development of software by the taxpayer are consistently treated as current expenses and deducted in full in accordance with rules similar to those under IRC section 174(a); or

2. All of such software development costs are consistently treated as capital expenditures that are recoverable through deductions for ratable amortization, in accordance with rules similar to those under IRC section 174(b), over a period of 5 years from the date of completion of development or over such shorter actual useful life of the software.

Thus, Rev. Proc. 69-21 analogized the software development costs to IRC section 174 expenditures, but with the notable exception of affording a more favorable treatment than the IRC section 174 mandate of a minimum 5-year amortization period. Although the proposed regulations under IRC section 174 do not address computer software development costs, the preamble to these regulations states that taxpayers may continue to rely on the analogy of Rev. Proc. 69-21.

Under the 1983 Proposed Treas. Reg. section 1.174-2(a)(3), qualifying expenditures for development of new or significantly improved software to be treated within the purview of IRC section 174 were limited to programming costs. While the reasoning for this limitation was unclear, this meant that some of the most important stages of the development process would be excluded, such as basic and applied research, and improvement efforts.

The 1989 proposed regulations contained examples of additional qualifying development costs. Both the 1983 and 1989 proposed regulations have been withdrawn. In defining qualifying costs, the 1993 proposed regulations under IRC section 174 look to the "nature of the activity." Unlike the previous proposed regulations, the 1993 proposed regulations do not attach additional conditions to the qualification of software development costs as research or experimental expenditures beyond those applied to other products. See Explanation of Provisions to the 1993 proposed regulations, 58 Federal Register 15820.

The Explanation of Provisions to the 1993 proposed regulations further states that while the Service does not currently intend to change its administrative position of allowing IRC section 174 treatment of software development costs, as contained in Rev. Proc. 69-21, it continues to study its viability.

Any change made by the taxpayer in the method used to treat computer software costs, from capitalizing to expensing or vice-versa, constitutes a change in accounting method requiring IRS consent. Refer to Section 6.01 of Rev. Proc. 69-21, Rev. Rul. 71-248, 1971-1 C.B. 55.

Audit Techniques for Automation Issues

1. Through the interview and tour, find out when the company may have acquired new equipment or computer hardware or software.

2. Determine what may have been constructed or developed internally, as opposed to purchased.

3. Request and inspect the invoices for large consulting and professional fee charges (being expensed for tax purposes), to determine what services were performed and in relation to what event; that is, arranging the financing of equipment, routine accounting services, a lawsuit for a bad debt recovery, or the purchase of new computer systems.

4. If necessary, inspect contracts relating to the acquisition of assets to determine if consultant advice was solicited or other professional services were rendered. In the case of new computer systems, also determine which costs are attributable to the hardware versus the software.

OTHER ISSUES

Acquisitions/Dispositions

Due to the competition and changing technology in the industry, you may encounter acquisitions and dispositions of various printing businesses as larger printers try to expand their market niche(s). These areas are usually material transactions and should be examined to some degree. Some possible areas for issues are listed below.

Acquisitions

1. Acquisition costs such as travel and loan costs not capitalized

2. Reorganization costs not capitalized

3. Allocation of purchase price among assets including intangibles

4. Acquisition costs treated as covenant not to compete or covenant amortized over a period shorter than the contract period.

Dispositions

1. Correct sales amount recognized and correct tax basis used to determine gain,

2. Contingent liabilities paid by acquiring business,

3. Forgiveness of debt/basis reduction, and

4. Contingent losses based on decision to shut down discontinued business segment.

Sales Recognition

Since most commercial printing orders are contingent upon customer satisfaction of proofs, advance billings are usually the exception rather than the rule. However, there may be some instances, due to poor credit rating or budget requirements of the customer, etc., where pre-billing becomes necessary. Information regarding these circumstances should be gathered in the initial interview when asking the taxpayer about customer deposit requirements, credit screening practices, and extending credit.

Another way to identify deferred income is to perform a detailed analysis of the balance sheet accounts. Normally, deferred income will be included as a liability item, but it may or may not be identified as such on the tax return. Examination of the taxpayer's "liabilities" will usually disclose any income received and recorded on the books that was not included in current year sales. A scan of other accounts for unusual credit entries may also lead to identification of deferred revenues.

A more common sales recognition issue found in the printing industry has been the failure to recognize all year end receivables. This is due to delays in billing the customer after shipment near yearend. Delays of this type may result from the billing process itself, or may be due to a yearend shut down of operations.

Quite often the sales invoice will reflect the same date for shipment and billing, which is why an inspection of the delivery ticket is usually necessary. A copy of the delivery ticket is generally kept inside the job jacket, or may also be filed by month with tickets for other jobs. Use of dated notations on the job jacket itself, as well as other documents, such as card files or shipping logs, will also be helpful.

Other documents that may be useful in testing sales include:

1. Accounts receivable journals with enough subsequent year entries in order to perform an adequate cutoff test

2. Calendars or job schedules for the last month of the fiscal year

3. Sales commissions statements

4. Finished goods and work-in-process inventory detail sheets.

Exhibit 5-5 may be a useful tool in performing cutoff tests for sales as well as for work-in-process. When the taxpayer has satisfactorily established a legitimate reason for a delayed billing, such as disputes with the customer, the entire cost of the job(s) should be reflected in Finished Goods ending inventory. This practice, if consistently followed by the taxpayer, is acceptable as long as there is no material distortion of taxable income.

Rebates and Discounts

Due to the competitiveness of the suppliers, various discounts or rebates are usually offered to the printer. In some cases discounts may be based on the order volume, type of account, early payments, and perhaps location. In some cases where the printer has large accounts, reduced prices or discounts may be negotiated up front at the beginning of the year and the reduced price reflected on the purchase invoices. This enables the printer to correctly estimate his or her costs for pricing jobs.

For other suppliers, agreements may be made where the printer will have to file claims for rebates or meet other conditions. This could be based on volume over an entire year. You will need to find out the terms and conditions of the agreements in order to determine when the rebate is fixed and all of the events have been met to accrue a rebate for tax purposes. You will want to assure youself that the printer has included in income all rebates and discounts which are accruable at year end.

Sometimes other concessions can be made rather than a direct reduction in the price of purchases or credit memos for a supply account. A supplier who also sells equipment, software, or other property, may apply some of the credits to debt owed on assets, or may make personal items available. The income tax effect of such concessions should be considered by the agent.

Environmental Concerns

All levels of government continue to increase the environmental regulations affecting the printing industry. Smaller printers who have not been effected may find themselves subject to regulations. These regulations will affect decisions, such as where to locate, what kind of ink to use, or whether to buy new environmentally safe equipment.

The emission of commonly used ink solvents into the atmosphere, without some control process such as incineration or solvent recovery, has been severely restricted by Governmental regulations. Printers who cannot recapture solvents must purchase incineration equipment due to the stringent regulations on permissible emissions. Most affected are gravure and flexography. Enforcement in this area has begun to deter the use of water-based inks and has spurred the development and use of waterless inks and related equipment.

The disposal of cleanup solvents in sewers and solid waste are also highly regulated. Biodegradable alcohol substitutes are being purchased to replace the alcohol solutions traditionally used to clean plates and equipment. These nonhazardous solutions are then sometimes collected in drums and transported to plants that transform them into energy. The printing company will usually pay a small fee for removal of such nonhazardous waste and a higher fee for removal of hazardous waste from the premises.

The income tax issue that has surfaced as a result of environmental regulations, has been the improper deduction of penalties incurred regarding hazardous waste and emission non-compliance. Therefore, inquire about any inspections that may have been performed by regulatory agencies, such as the Environmental Protection Agency, or OSHA. Suggested interview questions are provided in Exhibit 5-1.

The printers' concerns are generally limited to the use of environmentally safe products and the removal of waste as explained above. While still costly, their efforts do not normally involve the magnitude of remediation activities that have recently been the topic of concern. No large liability or capitalization issues have been encountered in the study of the commercial printing industry with regard to exorbitant remediation costs to clean up and restore land, facilities, or other contaminated property. This has been attributed to the fact that printers are not normally involved in either the production of chemicals or other hazardous substances, or in the operation of waste disposal sites. Although the removal of asbestos could occur in almost any industry, and the tax treatment controversy is acknowledged, it is not considered a necessary

topic for further discussion in this industry guide.

See generally: *Indopco, Inc. v. Commissioner*, 112 S.Ct. 1039 (1992); Priv. Ltr. Rul. 9411002 (November 19, 1993); Priv. Ltr. Rul. 9315004 (December 17, 1992).

Another environmental subject that should be noted is recycling, as it does routinely occur in the commercial printing business. As mentioned in the TOUR section of this guide, it is common to find that printers do recycle paper, metal plates, and film for its silver content. The income from these sources is usually recorded as a miscellaneous revenue, and is not normally substantial in relation to gross revenues from printing sales.

Used ink and ink overstocks are sometimes sent to a major ink supplier for regrinding, which is a recycling process that converts unwanted ink into usable ink. For example, unpopular colors can be converted to black and resold. The printer will normally keep a detailed listing of such inks returned for credit or cash. This will normally occur during or shortly before an inventory count.

In addition to tour observations, the taxpayer should be questioned regarding recycling activities and how they are accounted for on the books. Purchase invoice files from major suppliers should be inspected for the existence of credit memos or discounts.

Business Bad Debts

During the examination of several printing companies, it was noted that some printers aggressively write off past due accounts which are slow in paying but are not worthless. The amount of a printing company sales invoice can vary from very small to large. However, many sales are in the range of $300 to $1,000. If a bad debt expense item appears high in relation to the average sales invoice amounts, the taxpayer may be writing off many past due accounts. Ascertain through the initial interview the taxpayer's policies for writing off bad debts. If deemed necessary, test a sample of the accounts written off to determine if the accounts are in fact bona fide uncollectible and worthless accounts.

The Tax Reform Act of 1986 repealed the availability of the reserve method in computing the deduction for bad debts for most taxpayers. Thus, taxpayers (other than certain financial institutions) will be required to use the specific charge-off method in accounting for bad debts.

IRC section 166(a) states there shall be allowed as a deduction any debt which becomes worthless within the taxable year. Treas. Reg. section 1.166-2(a) states, "that in determining whether a debt is worthless in whole or in part, the District Director will consider all pertinent evidence, including the value of the collateral, if any, securing the debt and the financial condition of the debtor." Treas. Reg. section 1.166-2(b) states, "where the surrounding circumstances indicate that a debt is

worthless and uncollectible and that legal action to enforce payment would in all probability not result in the satisfaction of execution on a judgment, showing of these facts will be sufficient evidence of the worthlessness of the debt for purposes of the deduction under Section 166."

It is up to the taxpayer to show the efforts expanded to collect overdue accounts and to show the facts and circumstances leading to the conclusion that the account is uncollectible. If the taxpayer is unable to show that specific accounts are uncollectible, they are generally not entitled to the bad debt deduction.

Labor and Employment Tax Considerations

The rapid changes in technology, software, and systems overall, including improved presses, is requiring a skilled labor force; but the total number of employees needed is decreasing due to the automation. However, since the growth in the labor force is not growing as fast as in the days of the baby boomers, the competition for these skilled laborers is more intense. The indirect costs, training costs, and benefits associated with the skilled workers is rising. Consequently, management of these workers is taking on additional significance and responsibility.

Employment tax issues may be present in fairly large plants in the area of postpress operations. This area usually employs less skilled employees. The printer may be faced with the decision of overtime or part time, or temporary employment, especially where there may be a need to get the order out as fast as possible.

It is common for printers to use temporary employment service agencies. However, a printer may incorrectly use the same part-time employees as independent contractors, working on the production along side full time employees who are subject to employment taxes. If this inconsistency is observed, employment tax issues should be considered.

INTERVIEW QUESTIONS
THE COMMERCIAL PRINTING INDUSTRY

Background

1. Describe your business units and market niche for each unit.
2. Within your market niche(s) do you have any peak or slow periods?
3. If so, when are you the busiest? When are you the slowest?
4. Do your operations ever shut down? If so when?
5. Have you bought any businesses in the last 3 years?
6. Have you sold any assets or businesses in the last 3 years?
7. If so, why did you buy or sell any businesses?
8. Describe your printing processes.
9. How many employees, by job category/department that is, estimators, layout, designers, pressmen, etc. do you have?
10. How many jobs do you normally have going on at one time?
11. Do you do speculative printing?
12. Do you ever use temporary labor?
13. If so, do you use a temporary agency or do you pay the labor yourself?
14. If you pay temporary labor directly, how is the compensation treated?

Records

1. How do you control and track your jobs?
2. Do you keep a job log book?
3. What information is recorded in job log book and by whom?
4. What information is recorded on the outside of the job jacket?
5. What type of information do you keep inside the job jacket? How are job jackets filed?
6. How are job jackets cross referenced to sales invoices?
7. What type of source documents are there for the different departments?
8. How are your sales invoices filed?
9. How are your delivery tickets filed?
10. Do you use software programs? If so, for what functions (both accounting and non-accounting)?
11. What programs and systems are interfaced?

Sales and Revenue

1. How are your sales prices determined and by whom?
2. What data is used to determine prices?
3. Do you use pricing guides?
4. How are salespeople paid? Do they earn commission?
5. If so, how are commissions determined?
6. How long after delivery do you send sales invoice to customers?

7. How many days does it take to collect on a job after you bill?
8. Do you require any deposits from customers when order is placed?
9. If so, how do you account for deposits?
10. Do you provide any services to customers that is, storage, distribution?
11. Do you charge for these services?
12. If so, how do you account for the sales and expenses related to the services?
13. Do you ever sell products or provide services to related parties?
14. If so, how are prices determined and how are they booked?
15. Do you ever bill and hold shipments? If so, how do you account for these?
16. Are unusable items such as scrap paper or used film recycled? If so, how do you account for them?
17. Are any inventories or services ever exchanged or bartered?

Purchases

1. Who orders supplies and at what point?
2. Who are your vendors? What items do you purchase from them?
3. Do you ever make purchases of chemicals or ink from foreign companies?
4. Do you purchase supplies/services from any related parties?
5. If so, how are purchase prices determined?
6. Do you ever use outside contract services such as printing, binding, cutting, typesetting, etc.?

7. If so, how often and for what type of service?
8. What is the time frame for receiving purchase invoices for these outside services?
9. Do you order supplies to be sent to outside contractors? If so, describe.
10. When do you pay purchase invoices?
11. Do you take advantage of discounts? If so, how often?
12. How do you account for discounts taken?
13. Do you ever receive rebates from vendors?
14. If so, how do you account for rebates earned?

Inventory

1. Are inventories of supplies (ink, paper, plates, film, chemicals, etc.) maintained?
2. Where are inventories stored (warehouse, on site, off site, back room, held by vendors, in transit, etc.)?
3. How are inventories taken and how often?
4. What kind of controls are used for pricing and verification?
5. Do you use count sheets or tagging?
6. If inventory is not taken at year end, how are adjustments made to correct year end inventory?
7. How are costs of ending inventory determined? What documents are used?
8. Are price books provided by your vendors?
9. If you use standard cost system, when are standards updated?
10. How do you arrive at your standard costs?

11. How do you account for difference between standard cost and actual cost and when?

12. What are the policies regarding obsolescence, write-downs, and slow moving or returned items?

13. What adjustments are made to the ending inventory balance before posting to the books, or to the return?

14. How long after a job order is received before you begin work on it?

15. How long does the average job take from the time work begins until it is completed?

16. How soon after a job is complete do you ship/deliver to customer?

17. At what point in time do you consider a potential job a firm order?

18. When do you consider a job complete?

19. When are the first costs applied to the job?

20. When do you consider WIP present?

21. How is WIP computed and by whom? What departments are included?

22. How do you allocate indirect cost (machinery and labor)?

Fixed Assets

1. Were any new presses purchased during the year?

2. What funds were used to purchase the equipment?

3. How are you financing the printing equipment (computers, camera, presses etc.)?

4. Who did you pay to set up your presses? Your computer programs?

5. Who decides the depreciation method and class life?

6. Over what life do you depreciate your equipment (presses, computers, etc.)?

7. How do you maintain your printing equipment?

8. What type of repairs have you had on your equipment?

9. Have you had any refurbishing of printing equipment during the year audited?

10. Have you purchased any hardware/software or updated software during the year audited?

11. If so, how did you account for purchase?

12. Did you obtain the service of an outside consultant for software/computer services (setting up programs/systems and providing training of your employee)?

13. If so, how did you account for the cost?

Environmental

1. How have you prepared for an environmental regulatory review?

2. Has the company been reviewed, or penalized regarding hazardous waste?

3. How does the company dispose of waste and how often?

SUMMARY OF APPLICABLE LAW FOR METHOD OF ACCOUNTING

THE PERMISSIBLE METHODS OF ACCOUNTING

IRC section 446(a) provides the general rule that taxable income shall be computed under the method of accounting on the basis of which a taxpayer regularly computes income in keeping his or her books.

Treas. Reg. section 1.446-1(a)(1) contains the same general provision but goes on to point out that special methods of accounting are permitted or required with respect to certain specific items of income and expenditures. It, therefore, prefaces the general rule with the provision that "[e]xcept for deviations permitted or required by such special accounting treatment," taxable income shall be computed under the method of accounting on the basis of which the taxpayer regularly computes income in keeping his or her books.

Treas. Reg. section 1.446-1(a)(2) recognizes that some flexibility in bookkeeping detail is necessary but provides that "no method of accounting is acceptable unless, in the opinion of the Commissioner, it clearly reflects income."

IRC section 446(b) and Treas. Reg. section 1.446-1(b)(1) both state that if the taxpayer does not regularly employ a method of accounting or the method does not clearly reflect income, the computation of taxable income shall be made in a manner which, in the opinion of the Commissioner, does clearly reflect income.

Extract

Treas. Reg. section 1.446-1(a)(4)(i)

> In all cases in which the production, purchase, or sale of merchandise of any kind is an income-producing factor, merchandise on hand (including finished goods, work in process, raw materials, and supplies) at the beginning and end of the year shall be taken into account in computing the taxable income of the year.

Both IRC section 446(c) and Treas. Reg. section 1.446-1(c)(1) make the adoption of an accounting method subject to all of the provisions of IRC sections 446(a)

and 446(b) and Treas. Reg. sections 1.446-1(a) and 1.446-1(b). If either the production, purchase, or sale of finished goods, work in process, raw materials, or supplies, is an income-producing factor, inventories must be taken into account.

Commercial printing companies will be required to use inventories to account for items such as paper, ink, and finished printing. Generally speaking, service establishments that charge for materials or components are required to use inventories. See, for example, Rev. Rul. 74-279, 1974-1 C.B. 110; *McGrath & Son Inc v. United States*, 549 F.2d Supp 491 (SDNY 1982), JP *Sheahan Assoc v. Commisioner*, T.C. Memo 1992-39, *Sutronics Inc v. Commissioner*, T.C. Memo 1985-277. Furthermore, the Service can argue that the regulations requiring inventories apply to commercial printing companies because they produce and sell "merchandise," as that term is used in the regulations. See *Knight-Ridder Newspapers v. United States*, 743 F.2d 781, 790 (11th Cir 1984) (where newspapers were considered to be the "merchandise" of a publisher even though the publisher argued that the publisher was only in the business of providing a news gathering service).

Extract

Treas. Reg. section 1.471-1

> * * *In order to reflect taxable income correctly, inventories at the beginning and end of each taxable year are necessary in every case in which the production, purchase, or sale of merchandise is an income-producing factor. The inventory should include all finished or partly finished goods and, in the case of raw materials and supplies, only those which have been acquired for sale or which will physically become a part of merchandise intended for sale * * *

The product that commercial printers produce should be regarded as "merchandise" as that term is used in the regulations. Therefore, raw materials and supplies (such as paper and ink) which physically become part of the merchandise will be required to be inventoried, as well as finished printing that remains on hand at year end. Furthermore, the accrual method will be required to account for purchases and sales of inventory items under Treas. Reg. section 1.446-1.

The permissible accounting methods specified in IRC section 446(c) and Treas. Reg. section 1.446-1(c)(1) are as follows:

1. Cash receipts and disbursements method
2. Accrual method
3. Other permissible methods
4. A combination of the foregoing methods

Treas. Reg. section 1.446-1(c)(2)(i)(ii) provide two special rules applicable to all methods of accounting.

The first special rule states:

Extract

Treas. Reg. section 1.466-1(c)(2)(i)

> In any case in which it is necessary to use an inventory, the accrual method must be used with regards to purchases and sales unless otherwise authorized under subdivision (ii) of this subparagraph.

The subdivision (ii) referred to is the second rule which contains the following provision:

Extract

Treas. Reg. section 1.466-1(c)(2)(i)

> * * * The Commissioner may authorize a taxpayer to adopt or change to a method of accounting permitted by this chapter although the method is not specifically described in this part if, in the opinion of the Commissioner, income is clearly reflected by the use of such method.

This rule also provides that the Commissioner may authorize the continued use of a method not specifically authorized by the regulations if income is clearly reflected by the use of the method.

IRC section 448 prohibits the use of the cash method of accounting for tax shelters. It also restricts the use of the cash method for C-Corporations and partnerships with a C-Corporation partner, unless the entity:

1. Is a farming business;

2. Itself, or C-Corporation partner, qualifies as a personal service corporation; or

3. Meets a "$5,000,000 Gross Receipts Test" as detailed in IRC section 448(c), and which limits the allowable amount of gross receipts to qualify to use the cash method.

However, Temp. Treas. Reg. section 1.448-1T(c) states:

Extract

Temp. Treas. Reg. section 1.448-1T(c)

> Effect of section 448 on other provisions. Nothing in section 448 shall have any effect on the application of any other provision of law that would otherwise limit the use of the cash method, and no inference shall be drawn from section 448 with respect to the application of any such provision. For example, nothing in section 448 affects the requirement of section 447 that certain corporations must use an accrual method of accounting in computing taxable income from farming, or the requirement of section 1.446-1(c)(2) that an accrual method be used with regard to purchases and sales of inventory. Similarly, nothing in section 448 affects the authority of the Commissioner under section 446(b) to require the use of an accounting method that clearly reflects income, or the requirement under section 446(c) that a taxpayer secure the consent of the Commissioner before changing its method of accounting. For example, a taxpayer using the cash method may be required to change to an accrual method of accounting under section 446(b) because such method clearly reflects that taxpayer's income, even though the taxpayer is not prohibited by section 448 from using the cash method. * * *

The Commissioner's authority to require a taxpayer to change the method of accounting used to compute taxable income falls into two related yet separate general categories. The first category includes situations where the taxpayer's accounting method fails to comply with the specific requirements of the Code or regulations. The requirements in Treas. Reg. section 1.446-1(a)(4)(i) that inventories be taken into account and in Treas. Reg. section 1.446-1(c)(2)(i) that if inventories are necessary, the accrual method must be used are examples of the first category. The first category is, therefore, to a large extent, an objective test. The second category includes all those situations where, in the opinion of the Commissioner, the taxpayer's accounting method does not clearly reflect income.

EXISTENCE OF INVENTORY

If a taxpayer has inventory, income and expenses should be reported using the accrual method of accounting. Though the word "inventory" is not used in Treas. Reg. section 1.446-1(a)(4)(i), the requirement to take into account "merchandise on hand (including finished goods, work in process, raw materials, and supplies) at the beginning and end of the year" clearly means that they are to be inventoried. Treas. Reg. section 1.446-1(c)(2)(i) then requires that the accrual method of accounting must be used for purchases and sales if inventories have to be used, unless authorized under Treas. Reg. section 1.446-1(c)(2)(ii).

Extract

IRC section 471(a)

Whenever in the opinion of the Secretary the use of inventories is necessary in order clearly to determine the income of any taxpayer, inventories shall be taken by such taxpayer on such basis as the Secretary may prescribe as conforming as nearly as may be to the best accounting practice in the trade or business and as most clearly reflecting the income.

Treas. Reg. section 1.471-1, Need for inventories, provides in part:

Extract

* * * The inventory should include all finished or partly finished goods and, in the case of raw materials and supplies, only those which have been acquired for sale or which will physically become a part of merchandise intended for sale, in which class fall containers, such as kegs, bottles, and cases, whether returnable or not, if title thereto will pass to the purchaser of the product to be sold therein. Merchandise should be included in the inventory only if title thereto is vested in the taxpayer. Accordingly, the seller should include in his inventory goods under contract for sale but not yet segregated and applied to the contract and goods out upon consignment, but should exclude from inventory goods sold (including containers) title to which has passed to the purchaser. A purchaser should include in inventory merchandise purchased (including containers) title to which has passed to him, although such merchandise is in transit or for other reasons has not been reduced to physical possession, but should not include goods ordered for future delivery, transfer of title to which has not yet been effected.

In Revenue Ruling 83-59, C.B. 1983-1, 103, the issue regarding ownership of

inventory was addressed. The taxpayer in this case sold excess inventory to an unrelated party for salvage value. Conditions of the sale restricted the purchaser's rights in regard to the inventory purchased and the seller maintained the right to repurchase any portion of the inventory. Relying on IRC section 471, the Service ruled that a manufacturer's ending inventory may not be reduced by such purported sales of excess inventory, when in fact the manufacturer continues to possess benefits and burdens of ownership, use, control and disposition. The Service stated that although appearing to be in compliance with IRC section 471, the "sale" was actually no more than an inventory write-down, such as that disallowed by the Supreme Court in Thor Power Tool Co. v. Commissioner, 439 U.S. 522 (1979). Although in form the taxpayer had sold the inventory, the Service challenged the sale and the actual ownership of the assets on the basis that "the economic substance of the transactions, rather than their form, governs for tax purposes." Rev. Rul. 83-59, C.B. 1983-1, 103, 105.

In determining which costs are to be inventoried, Treas. Reg. section 1.471-11(a) states, in part:

Extract

Treas. Reg. section 1.471-11(a)

Use of full absorption method of inventory costing. In order to conform as nearly as may be possible to the best accounting practices and to clearly reflect income (as required by section 471 of the Code), both direct and indirect production costs must be taken into account in the computation of inventoriable costs in accordance with the "full absorption" method of inventory costing. Under the full absorption method of inventory costing production costs must be allocated to goods produced during the taxable year, whether sold during the taxable year or in inventory at the close of the taxable year determined in accordance with the taxpayer's method of identifying goods in inventory. Thus, the taxpayer must include as inventoriable costs all direct production costs and, to the extent provided by paragraphs (c) and (d) of this section, all indirect production costs.

Extract

Treas. Reg. 1.471-11(b)(1)

> *In general*. Costs are considered to be production costs to the extent that they are incident to and necessary for production or manufacturing operations or processes. Production costs include direct production costs and fixed and variable indirect production costs.

For tax years beginning after 1986, manufacturers are required to value their inventories under the uniform capitalization rules of IRC section 263A, which requires an even greater portion of indirect costs to be allocated to inventory. In Senate Report 99-313, 1986-3 C.B. 1, 133, for The Tax Reform Act of 1986, in sections 301 and 302 of the bill relating to IRC section 263A, the Senate defined who must maintain inventories for purposes of IRC section 263A:

Extract

Senate Report, 99-313, 1986-3 C.B. 133

> Taxpayers must maintain inventories and generally must use the accrual method of accounting for purchases and sales for tax purposes whenever necessary to clearly determine their income (IRC section 471). In general, all producers and sellers of goods must maintain inventories under methods prescribed by the Internal Revenue Service as conforming to the best accounting practice in the particular trade or business and as clearly reflecting income.

Treas. Reg. section 1.263A -2(a)(1)(i) defines "produce" as including construct, build, install, manufacture, develop, improve, create, raise, or grow. Notice 88-86 defines what is meant by a producer for purposes of IRC section 263A. A producer is defined as any taxpayer who constructs, builds, installs, manufactures, develops, improves, raises, or grows tangible personal or real property for resale or for use in a trade or business. Thus, certain taxpayers who were not considered manufacturers under the old full absorption rules now must comply with the Uniform Capitalization Rules.

Please note that Temp. Treas. Reg. section 1.263A-1T was superseded by Treas. Reg. sections 1.263A-1, 1.263A-2 and 1.263A-3. Temp. Reg. section 1.263A-1T is still effective for all tax years beginning before 1994, while Treas. Reg. sections 1.263A-1, 1.263A-2 and 1.263A-3 are effective for all tax years beginning after December 31, 1993. The final regulations were reviewed and do not contradict this discussion of IRC section 263A costs. Subsection (a) of IRC section 263A provides

the requirement for certain costs to be capitalized and included in inventory.

IRC section 263A(b) discusses the property to which 263A applies. This section states:

Extract

IRC section 263A(b)

* * * Except as otherwise provided in this section, this section shall apply to --

(1) PROPERTY PRODUCED BY TAXPAYER. -- Real or tangible personal property produced by the taxpayer.

(2) PROPERTY ACQUIRED FOR RESALE. --

(A) IN GENERAL. -- Real or personal property described in section 1221(1) which is acquired by the taxpayer for resale.

(B) EXCEPTION FOR TAXPAYER WITH GROSS RECEIPTS OF $10,000,000 OR LESS. -- Subparagraph (A) shall not apply to any personal property acquired during any taxable year by the taxpayer for resale if the average annual gross receipts of the taxpayer (or any predecessor) for the 3-taxable year period ending with the taxable year preceding such taxable year do not exceed $10,000,000.

(C) AGGREGATION RULES, ETC. -- For purposes of subparagraph (B), rules similar to the rules of paragraph (2) and (3) of section 448(c) shall apply.

* * * * * * *

Extract

IRC Section 263A(g)

(1) IN GENERAL. -- The term "produce" includes construct, build, install, manufacture, develop, or improve.

(2) TREATMENT OF PROPERTY PRODUCED UNDER CONTRACT FOR THE TAXPAYER. -- The taxpayer shall be treated as producing any property produced for the taxpayer under a contract with the taxpayer; except that **only costs paid or incurred by the taxpayer** (whether under such contract or otherwise) shall be taken into account in applying subsection (a) to the taxpayer. (Emphasis added)

Exhibit 5-3

COMPUTATION OF ACCOUNTING METHOD CHANGE FROM CASH TO ACCRUAL

Compute the net amount of the balance sheet accounts which are the result of Sales and Cost of Goods Sold. If the taxpayer wants to include all balance sheet accounts in the computation, allow all liability accounts as well as all prepaid asset accounts.

Balance Sheet Account:	**9206**	**9306** (Audit Year)
Accounts Receivable	$230,000	$250,000
Less Allowance for Bad Debt	(4,000)	0
Inventory:		
Raw Materials	6,000	7,000
Work in Process	12,000	14,000
Finished Goods	1,000	2,000
Accounts Payable	(120,000)	(130,000)
NET TOTAL:	$125,000	$143,333

Total Change in Accounting	$143,000
Less 481(a) Amount	(125,000)
Current Year Amount	$18,000

Your report will reflect the adjustment, change in accounting method IRC section 481(a) of $125,000 and current year change of $18,000. The total increase to taxable income for the year under examination will be $143,000. Refer to Exhibit 5-4 for the computation of the tax liability.

If the taxpayer is on a hybrid method of accounting, be sure to take into account the specific items of revenue and cost of goods sold that the taxpayer may have accounted for under the accrual method.

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Exhibit 5-4

TAX COMPUTATION OF SECTION 481(b) ADJUSTMENT

Three Year Allocation:	**9106**	**9206**	**9306** (Audit Year)
Taxable income on return	$90,000	$80,000	$70,000
1/3 of 481(a) amount:	41,677	41,677	41,676
Current year change:	0	0	18,000
Adjusted Taxable Income	$131,677	$121,667	$129,666
Correct Tax:	$34,600	$30,700	$33,820
Less Tax on Return:	(18,850)	(15,450)	12,500
Tax Deficiency:	$15,750	$15,250	$21,320

Total Tax Due From:	9106 amount	$15,750
	9206 amount	15,250
	9306 amount	21,320
TOTAL TAX DUE		$52,320

Alternative Tax Computation:	
Taxable Income on Return	$70,000
481(a) Amount	125,000
Current Year Amount	18,000
Adjusted Taxable Income:	$213,000
Correct Tax:	$66,320
Tax on Return	(12,500)
Total Tax Due:	$53,820

The tax on the report will be the lesser of the allocation method or the alternative method, in the case $52,320.

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Exhibit 5-5

YEAR END WORK IN PROCESS SPREADSHEET

COL: 1	2	3	4	5	6	7	8	9	10	11
SALES INVOICE # AND DATE	JOB JACKET NUMBER	DATE JOB BEGAN	DATE JOB DELIVERED	DAYS IN PROCESS FY 9306	TOTAL DAYS IN PROCESS	SALES INV. $$, NET OF SALES TAX	EST.COST OF JOB (7X60%)	EST.WIP (8/6)X 5= 9	ADDITIONAL ACCOUNT RECEIVABLE	COMMENTS/NOTES WORKPAPER REFERENCES
1001-7/1	9341	06/15/93	06/22/93	8	8	$1,230	N/A	-0-	$1,230	
1002-7/1	9342	06/15/93	06/23/93	9	9	740	N/A	-0-	740	
1003-7/1	9348	06/22/93	06/30/93	9	9	810	N/A	-0-	810	
1004-7/2	9350	06/30/93	07/02/93	1	2	75	$ 45	$ 23	-0-	
1005-7/2	9339	06/08/93	07/02/93	23	25	3,425	2,055	1,891	-0-	
1006-7/6	9343	06/16/93	07/05/93	15	20	1,200	720	540	-0-	
1007-7/6	9345	06/18/93	07/05/93	13	18	842	505	365	-0-	
1008-7/6	9344	06/16/93	07/05/93	15	20	780	468	351	-0-	
1009-7/6	9346	06/22/93	07/06/93	9	15	750	450	270	-0-	
1010-7/7	9347	06/22/93	07/06/93	9	15	645	387	232	-0-	
1011-7/7	9349	06/25/93	07/06/93	6	12	490	294	147	-0-	
							TOTAL WIP INVENTORY:	$3,819		
					TOTAL ACCOUNT RECEIVABLE ADJUSTMENT:				$2,780	

COL:

1. Shows sales invoices issued at the beginning of subsequent year by invoice number and date. A a printing company may have as many as 40 or more invoices for the first week of subsequent year. The invoice may show the corresponding job jacket number.

2. Shows the job jacket number corresponding to invoice. The job jacket will normally have all data needed to complete the spreadsheet. Inspect job jacket to determine dates for columns 3 & 4.

3. Shows the date job began. This date can be found on the job jacket, or on a job cost sheet. It may be found in a job log book.

4. Shows the date the job was delivered to customer. This date may be found documented on the job jacket, it may be available on delivery tickets, or may be found in a common carrier log book.

5. Number of days the job was in process during the audit year. Computed by counting all the day from and including the day the job began to the last day of the tax year.

6. Number of days the job was in process. Computed by counting all the days from and including the day the job began to the day the job was delivered.

7. Shows the sales invoice amount net of sales tax.

8. Estimated total cost of the job. Includes direct labor, material and overhead. Computed as a percentage of the sales invoice shown in column 7. The percentage may be based on a sample of job cost sheets analyzed, or may be based on an oral testimony of the taxpayer, or an industry average.

9. Estimated work in process at year end is computed by dividing the estimated job cost by the total days the job was in process, shown in column 6 and then multiplying by the days in process during the tax year, shown in column 5.

10. Shows amounts which should have been included in the taxpayer's year end account receivable and sales. Job delivered during the tax year. Invoice was not issued until subsequent year.

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GLOSSARY

Business Unit -- A separate profit center for which separate accounting and inventory records are kept; a decentralized business segment.

Die -- A wooden block embedded with metal strips to form a desired shape or design used as a cutting device for paper or for stamping and embossing.

Die Cut -- To cut shapes in paper using a die.

Electronic Imaging -- Forming images with a computer using digital processes whereby the images are stored on disk, tapes, and CD-ROM.

Electronic Scanner -- A devise where light is reflected from an original paper or hard image and the colors are separated by filters and photoelectric cells; the current produced by each cell represents a color which can be perfected by computer software.

Estimator -- A person responsible for determining the best projected costs for a specific job order.

Flat -- Assembled negatives on a piece of paper or plastic and used to make a plate; the flat consist of the layout of negatives or pages for the plate.

Halftones -- Continuous images are converted by use of contact screens into images made up of dots of different shapes and sizes; the dot image is in halftones with the dots forming the image.

Horizontal Integration -- In marketing, a diversification into other business products or services which may be competing product lines or services; diversification into different lines or types of business.

Imagesetter -- A device which takes digital input from a computer and uses laser technology to produce photos or film.

Ink Jet Printer -- A printer which uses a computerized controlled nozzle which sprays drops of ink on the paper forming the letters.

Job Jacket -- A folder containing all documents and forms for a specific job order.

Laser -- An intense beam of light which can be used to produce images by electronic impulses from digital data.

Lithography -- The printing process using a plate where the image area attract the ink and the non-image area repels the ink.

Offset Printing -- The printing process that transfers the image from a plate to a rubber blanket and onto the substrate.

Pasteup -- The layout of artwork to be printed.

Plate -- A flat surface of metal, plastic, paper or rubber containing the image to be printed.

Rubber Blanket -- A rubber coated cylinder inside a offset press used to transfer an image from a plate to a substrate.

Substrate -- Any surface, material or substance on which printing is done.

Vertical Integration -- In marketing, a diversification into the other processes, supplies, software, or distributions relating to the same product line or service being offered.

Web Press -- A printing press which prints from rolls of paper, instead of single sheets of paper.