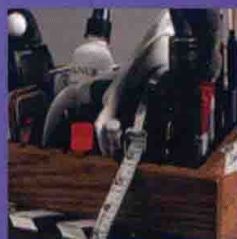


Fourth Edition

# The Camera Assistant's Manual

David E. Elkins, S.O.C.



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# **The Camera Assistant's Manual**

**FOURTH EDITION**

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To my father,  
who always believed in me

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# Preface

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The fourth edition of this book includes all of the information from the previous three editions along with expanded sections and new information. Chapter 3, Second Camera Assistant, contains new sections, including one that discusses dealing with the film lab, one about the effects of x-rays on motion picture film and transporting exposed film on airplanes in this time of heightened security along with some basic information about working in video. Chapter 4, First Camera Assistant, has an expanded camera prep section, focusing tips for the 1st AC and basic information about working in video. Chapter 5, Problems and Troubleshooting contains additional problems you may encounter and how to deal with them. Chapter 6, Cameras, contains many new illustrations of cameras and magazine threading diagrams. Appendix B, Equipment, includes names of some of the most commonly used video cameras and some new items in the section on Specialized Camera Equipment. Appendix C, Camera Department Checklists, Production Forms, and Labels, has been expanded to include many new forms and labels that may be needed by the camera department during the course of a production. All of the forms from the third edition have been revised and improved for this edition. Also included in this appendix is a newly designed camera report especially for use on video productions. All of the forms and labels in Appendix C are available for download on the companion website for this book. Added to Appendix D, Tools and Accessories, is a list of special tools for the working camera assistant and Appendix E, Tables and Formulas, contains many updated and useful tables and formulas you may need. In addition, there is a companion website for this edition that contains much of the information from the book. The web address is [www.cameraassistantmanual.com](http://www.cameraassistantmanual.com). For those of you that buy this new edition, you should have all the information you need in order to start your career as an assistant cameraman.

In a recent review of the third edition, a reviewer wrote, "I find it highly unlikely that someone who has never been on a film set would buy this book." I found that statement quite amusing, because in the many years since the first edition came out I have had many people thank me for writing the book and telling me how much it helped them

when they first stepped onto a film set. Many beginners as well as professional camera assistants have this book in their ditty bag.

As you read this edition, you may notice that some items are repeated from one chapter to another. One of the most important aspects of the job is clear communication between crew members. Part of this communication involves repetition of orders and requests. When a Director of Photography (D.P.) requests a specific lens, filter, or other accessory to be placed on the camera, the assistant always repeats it back to him. When the D.P. announces the t-stop to be set on the lens for a specific shot, it is always repeated back. The repetition of the orders and requests is important to ensure smooth operation of the film set and communication among the camera crew. In light of this, I have chosen to repeat some things from one chapter to the next to stress the importance of repetition of orders.

As a motion picture camera assistant, you must be constantly aware of many things happening around you during the performance of your job. There are many responsibilities and duties that a camera assistant should know about. This book is intended to be a guide for the beginner who would like to learn to become a camera assistant. Because of all of the information, including tables and charts, the book is also meant to be used by working professionals. When I first started in the film industry, there was no book that explained how to do the job of a camera assistant. Even while I was in film school, there was no course dealing with this specific area of production. All my training came from on-the-job work experience. I hope that with this book any student or beginning filmmaker who wishes to become a camera assistant will find it a little easier to learn the job duties and responsibilities. And for those working professional camera assistants, I hope that this new edition will be a valuable reference source that will always be kept in your ditty bag. With the knowledge obtained from this book, it should be easier to obtain your first job because you will at least know the basics and should have no trouble applying them to actual shooting situations. While this book will provide the basic information needed to do the job, nothing beats on-the-job training. Actually being on set and doing or observing is the best way to learn.

I begin with a description of the basics of cinematography in Chapter 1, because many readers of this book may have no previous photography or cinematography experience. This introduction will help beginners to understand much of the terminology used throughout the book. In Chapter 2 there is a description of the chain of command within the camera department and how each member works with and relates to the others. I chose to cover the job responsibilities of a Second Camera Assistant in Chapter 3, and then move on to the First Camera Assistant in Chapter 4. My reason for this is that when



most people first start in the camera department, they start as a Second Camera Assistant or Loader. Once they have worked at that position for some time, they move up to First Camera Assistant. The length of time spent at each position depends on each person's situation or preference. Chapter 5 discusses problems that may arise, and what you should do to either correct or prevent them. This is an important part of the job of a camera assistant. Despite careful checking of the equipment prior to production, something inevitably goes wrong at the worst possible time. If you know how to troubleshoot many of the most common problems, you will show that you are a professional and will most likely be hired on many more productions. Chapter 6 contains illustrations of most of the currently used cameras and magazines, and Chapter 7 contains some tips and guidelines on what to do before you have the job, once you are working, and after the job is over. Chapter 7 also contains information on the camera union including how to join, examples of the fees for joining, and examples of rates of pay. All of the information in these chapters is based on my experience as a camera assistant and from tips or advice other members of the camera department have given me.

The appendices cover five areas: film stock, equipment, checklists, tools and accessories, and tables. Appendix A is a complete listing of all film stocks available from the various manufacturers at the time of publication. It lists the recommended exposure index (EI) ratings for each stock for different lighting conditions. Appendix B lists the names of the most common pieces of equipment that you will be working with and should know about. Appendix C contains checklists for camera rental items, filters, and expendables that are usually needed on each production. In addition I have included some typical production forms and labels that the camera assistant may need in the day-to-day performance of the job. Some of these forms and labels are my design based on industry standards, and some I have specially designed based on my experience. Appendix D lists the basic tools and accessories that a camera assistant needs to do the job. Appendix E contains many useful tables and formulas that you may need to refer to in the day-to-day course of your job.

Following the appendices is a list of recommended books for the camera assistant who would like to learn more about the film industry. The Glossary lists many of the key terms used in the book and their meanings. Included in the Glossary are the items on the expendable list, camera rental items, and various filters mentioned in the book.





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# Introduction

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The process of motion picture photography started when George Eastman introduced the first 35 mm film in 1889, and Thomas Edison, along with his assistant W.K.L. Dickson, designed the Kinetograph and Kinetoscope, also around 1889. The Kinetograph was used to photograph motion pictures and the Kinetoscope was used to view them. These early pieces of equipment were very basic in their design and use. As film cameras became more complex, a need developed for specially trained individuals to work with this new technology and equipment. Two of these individuals became known as the First Assistant Cameraman (1st A.C.) and the Second Assistant Cameraman (2nd A.C.).

One of the most well known of the early cinematographers was Billy Bitzer, who shot most of the films of director D.W. Griffith. As a cameraman he did all of the jobs himself: carrying the equipment, setting it up, loading film, and so on. In 1914 D.W. Griffith hired an assistant to work with the cameraman. This assistant was called a camera boy, and his job was only to carry the equipment for the cameraman. Each morning, the camera boy would move all of the equipment from the camera room to wherever the scenes were being shot for the day. There was a lot of equipment, and many trips back and forth were required to get everything in place. In addition, the camera boy was required to take notes of what was being shot. There were no script supervisors at that time.

Around 1916, cameraman Edwin S. Porter asked for an assistant, after returning from a long location shoot. This camera assistant had some additional duties that the camera boy did not have. Because all of the early cameras were hand-cranked, the assistant had to count the number of turns of the crank and keep a log of the number of frames shot. Other duties included slating the scene, keeping track of footage, loading and unloading film, carrying and setting up the equipment, and anything else that the assistant may have been asked to do.

Because these two early cameramen had an assistant, a new position was created within the camera department. Many of the techniques of these early cameramen and assistants were probably passed on to others, and they developed into the very specific job duties performed today by the 1st A.C. and 2nd A.C. Some of those early job

duties are still part of the camera assistant's job requirements. Because this was such a new technology, the early camera assistants had no one to learn from, so they probably set most of the guidelines for performing their specific jobs. Each had specific responsibilities but was also capable of doing the other's job if necessary.

Today, a beginning filmmaker has a wide choice of places to get the training to work as a camera assistant. There are many colleges and universities that offer a complete curriculum dealing with motion picture production. In addition to the larger institutions, many smaller colleges and trade and technical schools offer film classes. There are also many schools and training facilities that now specialize in training filmmakers in the many crafts associated with filmmaking. In addition, there are many specialized workshops that teach very specific aspects of film production. There are workshops for camera operating, camera assisting, editing, and much more. These workshops may be 1 or 2 days long or possibly even 1 or 2 weeks long. They are usually very intense and teach a great deal of information in a very short period of time.

Instead of attending one of these schools, a beginning filmmaker may know someone in the film industry who is willing to train him or her, and give that important first break. I know many film professionals who have never attended film school but obtained their training and experience by starting out working on various productions. There is no right or wrong way to gain the experience. It is a matter of which way is best for you.

If you choose to attend film school, the best way to gain actual production experience is to work on as many student film productions as possible. Even though these productions are done on a much smaller scale than most professional productions, the basics will be the same, and you can apply what you have learned in your film classes. When you start looking for that first professional job, any experience, even if it is on a student production, increases your chance of getting a job. For those who do not wish to go to film school, or perhaps cannot afford the cost, it may be a little more difficult to obtain that first job. If you have an acquaintance or relative in the film industry, it may be a little easier. For me, film school was a valuable and rewarding experience. I was hired on my first production as a production assistant only 1 month after completing film school. That position led to my first job as a 2nd A.C. on the same film. The film crew was going to do some second unit shooting and needed a 2nd A.C. to load magazines and keep camera reports. The production manager had been a classmate of mine in film school, and he recommended to the Director of Photography (D.P.) that I be given the chance to work as the 2nd A.C. on the second unit. The D.P. gave me the opportunity to prove that I could do the job, and this led to my first job on a feature film as 2nd A.C.



You must be willing to work hard, not only at getting the job but also once you have the job, to prove that you are capable of handling it. If you have been in film school recently, an excellent way to learn about available jobs is to talk to your instructors. Ask them if they know about any productions that you may be able to work on. You also should stay in contact with other film students who were in your classes. There are also a few publications that come out daily or weekly that deal strictly with the film industry. Two of the most popular of these are *The Hollywood Reporter* and *Daily Variety*. Both publications have a listing of productions being done now or sometime in the future. The list often contains phone numbers or addresses to obtain more information about each production. These two publications also have web sites that contain listings of upcoming productions, but you must become a subscriber to access much of the web information. Unfortunately often by the time you obtain the listing and call or send a resumé the position has been filled. In addition, many of the listings are specifically for union jobs, which can be filled only by members of the specific guild or union. There is more discussion on union versus non-union work in Chapter 7. In addition to the various publications, there are many great web sites devoted entirely to the film industry, some specifically for listing jobs and crew positions available.

When you first try to get a job on a film, you may be asked to work for little or no money. The production company may be just starting out and have only enough money for the basic expenses. Or they may expect you to prove you can do the job before they offer you any pay. If you can afford to take such a job, it is an excellent way to get some experience. Three of my first jobs as a camera assistant were without pay, but they helped me to get paying jobs later because I had proved that I could do the job and was not afraid to work long, hard hours. Not everyone will find it necessary to work for free. I mention it only so that you know what you might encounter when you first start looking for work. The important thing to remember is not to get discouraged and give up. The film industry is a very competitive business; breaking into it may take awhile. If you don't get the first few jobs you apply for, keep trying. If you want a job bad enough and are willing to work, you will eventually find one.

Once you do start working in the industry, always stay in contact with people with whom you have worked in the past. Call them periodically just to say hello and find out what they are doing. They may be working on a production that needs additional crew members. Also, if you are working on a production that needs additional people, be sure to let other film professionals know about it. This process of keeping in touch with other film crew people is called *networking* and is probably one of the best ways to get jobs. Many of my jobs came from

recommendations from people with whom I have worked on other productions. Also, many D.P.s will call me back to work with them on other productions.

Another good way to break in to the business is to get a job at a camera rental company. This is a good way to learn about the wide variety of camera equipment and accessories that an assistant cameraman uses in the day-to-day performance of the job. Working at a rental house will enable you to meet a lot of camera assistants and D.P.s. Developing a good relationship with the assistants and D.P.s will most likely help you get that first job as an assistant. One problem associated with working at a rental house is the fact that you are removed from actual production work for an extended period. This may be acceptable for some people because it provides an opportunity to learn the equipment, but for others it may not work. You must decide what is the best route for you to take and then give it all you've got.

No matter what route you take to break into the film industry, keep in mind that nothing beats on-the-job training. You can learn so much from just being on set and observing how things are done or actually doing the job yourself. Reading books and sitting in a classroom can give you some basics, but until you are actually on set doing the job, you will not fully understand the joy of being a filmmaker.

Good luck to all the aspiring camera assistants who read this book. I hope that you find the motion picture industry to be as exciting and rewarding as I have. And don't forget, work hard but have fun, too.



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# Contents

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<b>Preface</b>	<b>xiii</b>
<b>Acknowledgments</b>	<b>xvii</b>
<b>Introduction</b>	<b>xxi</b>
<b>1 Basics of Cinematography</b>	<b>1</b>
Film Formats	1
Sync Speed	3
Sync and MOS	3
Film Stock	4
<i>Emulsion 4 / Base 4 / Anti-Halation Backing 5</i>	
Types of Film	5
<i>Negative Film 5 / Reversal Film 5</i>	
Film Stock Manufacturers	6
Film Stock Packaging Sizes	6
Exposure Index or ASA	7
Color Temperature and Color Balance	8
Aspect Ratios	9
Exposure Time	13
F-Stops and T-Stops	14
Exposure Meters	14
The Camera	17
<i>Gate 17 / Shutter 21 / Inching Knob 22 / Viewing</i>	
<i>System 23 / Lens 25 / Magazine 26 / Motor 26 /</i>	
<i>Additional Camera Components 27</i>	
Filters	28
<i>Conversion Filters 29 / Neutral Density Filters 30 /</i>	
<i>Polarizing Filter 30 / Combination Filters 30 / Diffusion</i>	
<i>Filters 31 / Fog Filters and Double Fog Filters 32 / Low</i>	
<i>Contrast Filters 32 / Soft Contrast Filters 32 / Ultra</i>	
<i>Contrast Filters 32 / Coral Filters 32 / Enhancing Filters</i>	
<i>33 / Graduated Filters 33 / Diopters 33 / Optical Flat</i>	
<i>34 / Filter Manufacturers 34</i>	

Camera Mounts	34
<i>Tripod and Spreader 35 / High Hat/Low Hat 35 /</i>	
<i>Tripod Heads 37 / Steadicam 38 / Dolly 39 /</i>	
<i>Crane 41</i>	
<b>2 The Camera Department</b>	<b>43</b>
Film Productions	43
<i>Director of Photography 44 / Camera Operator 46 /</i>	
<i>First Assistant Cameraman 48 / Second Assistant</i>	
<i>Cameraman 50 / Loader 51</i>	
Video or HD Productions	52
<i>Digital Imaging Technician 52 / Video Controller 53 /</i>	
<i>Camera Utility 53 / Digital Utility 54</i>	
<b>3 Second Camera Assistant</b>	<b>55</b>
Pre-Production	55
<i>Working with the Laboratory 56 / Obtaining Laboratory</i>	
<i>Supplies 57 / Choosing and Ordering Expendables 58 /</i>	
<i>Preparation of Camera Equipment 58 / Preparation</i>	
<i>of Camera Truck 59 / Preparation of Darkroom 59</i>	
Production	61
<i>Start of the Day Procedures 62 / Camera Reports 62 /</i>	
<i>Recording Shot Information 76 / Magazines 76 / Loading</i>	
<i>Magazines 81 / Unloading Magazines 89 / Using a</i>	
<i>Changing Bag or Changing Tent 92 / Setting Up the Camera</i>	
<i>96 / Marking Actors 96 / Slates 97 / Slating</i>	
<i>Procedures 102 / Changing Lenses, Filters, and Magazines</i>	
<i>105 / Using a Video Tap and Monitor 106 / Preparing</i>	
<i>Exposed Film for Delivery to the Lab 107 / Film Inventory</i>	
<i>and Record of Film Shot 110 / Ordering Additional Film</i>	
<i>Stock 139 / Storage and Care of Motion Picture Film 140 /</i>	
<i>Film, X-Rays, and Carrying Film on Planes 141 / Shipping</i>	
<i>Film (Exposed and Unexposed) 141 / Distribution of Reports</i>	
<i>142 / Record Keeping and Filing of Paperwork 142 /</i>	
<i>Performing the Duties of First Camera Assistant 144 /</i>	
<i>Packing Equipment 144 / Tools and Accessories 145 /</i>	
<i>Working in Video/HD 146 / 2nd A.C. Tips 149</i>	
Post-Production	153
<i>Wrapping Equipment 154</i>	
Resources	154
2nd A.C. Review Checklist (Clapper/Loader)	155