Installation Guide

English

Dolev 4press V/V²

399Z2G647D

www.creo.com

Dolev 4press V/V2

Installation Guide

creo™

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4,456,924	5,291,273	5,519,852	5,708,736	5,973,801	6,136,509	6,295,076
4,500,919	5,323,248	5,526,143	5,713,287	5,986,819	6,137,580	6,299,572
4,558,302	5,325,217	5,532,728	5,742,743	5,995,475	6,147,789	6,318,266
4,743,091	5,339,176	5,561,691	5,764,374	5,996,499	6,158,345	6,340,817
4,992,864	5,343,059	5,568,595	5,764,381	5,998,067	6,159,659	6,352,816
5,049,901	5,355,446	5,576,754	5,771,794	6,003,442	6,164,637	6,353,216
5,079,721	5,359,451	5,579,115	5,785,309	6,014,471	6,180,325	6,366,339
5,081,617	5,359,458	5,592,309	5,802,034	6,016,752	6,181,362	6,371,026
5,103,407	5,367,360	5,594,556	5,813,346	6,031,932	6,181,439	6,377,739
5,111,308	5,384,648	5,600,448	5,818,498	6,043,865	6,186,068	6,387,597
5,113,249	5,384,899	5,608,822	5,854,883	6,060,208	6,189,452	6,396,422
5,122,871	5,412,491	5,615,282	5,861,904	6,063,528	6,191,882	6,396,618
5,124,547	5,412,737	5,625,766	5,861,992	6,063,546	6,204,874	6,407,849
5,132,723	5,420,702	5,636,330	5,875,288	6,072,518	6,208,369	6,414,755
5,150,225	5,420,722	5,649,220	5,894,342	6,090,529	6,214,276	6,422,801
5,153,769	5,459,505	5,650,076	5,900,981	6,096,461	6,217,965	6,435,091
5,155,782	5,473,733	5,652,804	5,934,196	6,098,544	6,252,522	
5,157,516	5,481,379	5,680,129	5,942,137	6,107,011	6,260,482	
5,208,818	5,488,906	5,691,823	5,946,426	6,112,663	6,266,080	
5,208,888	5,497,252	5,691,828	5,947,028	6,115,056	6,266,134	
5,247,174	5,508,828	5,696,393	5,958,647	6,121,996	6,267,054	
5,249,067	5,509,561	5,699,174	5,966,504	6,130,702	6,268,948	

Creo Inc.
3700 Gilmore Way
Burnaby, B.C., Canada
V5G 4M1
Tel: 1-604-451-2700
Fax: 1-604-437-9891

http://www.creo.com

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Contents

Using this Guide ix

This Guide Includes x
Conventions Used in This Guide xi

Laser and Safety Precautions 1

General 2
Safety Instructions for the Service Engineer 7

1 General Description 9

1.1 About the Dolev 4press Imagesetter Family 10
1.1.1 Imagesetter Features 10
1.1.2 Specifications 12
1.2 Imagesetter Installation Checklist 15

2 Site Preparation 17

2.1 Overview 18
2.2 Pre-installation Checklist 18
2.3 Space Requirements 20
2.3.1 Floor Space 20
2.3.2 Imagesetter Weight 20
2.4 Electrical Requirements 21
2.4.1 General Considerations 21
2.4.2 Supply 21
2.4.3 Power Line Disturbances 22
2.4.4 Grounding 22
2.4.5 Cables 23
2.5 Environmental Requirements 24
2.5.1 Cleanliness 24
2.5.2 Static Electricity 24
2.5.3 Air Conditioning 24
2.5.4 Film Handling 25
2.6 Inline Processor Requirements 26
2.6.1 Recommended Vendors 26

3 Hardware Installation 27

3.1 Overview 28
3.2 Unpacking 28
3.2.1 General 28
3.2.2 Checking for Damage 29
3.2.3 Precautions 29
3.2.4 Parts Checklist 30
3.2.5 Removing The Imagesetter 31
3.3 Opening the Imagesetter Doors 32
3.4 Leveling the Imagesetter 33
3.5 Removing Shipping Safeguards 35
3.5.1 Overview 35
3.5.2 Loading and Unloading Drawer Securing Ties 36
3.5.3 Lower Film Gate Adhesive Tape 36
3.5.4 Optomechanical to Chassis Shipping Brackets 36
3.5.5 Optics Carriage Transport Locking Plates 38
3.5.6 Film Guide Door Screws Ties and Foam 38
3.5.7 Static Optics Assembly Foam 39
3.6 Film Path Selector Position 40
3.7 Electrical Connection 40
3.7.1 Installation Instructions 40
3.7.2 Line Voltage Selector Settings 41
3.7.3 Selection of Power Supply Cord 43
3.7.4 Selection of In-line Processor 44
3.8 Connecting to the Host 45
3.8.1 TSP Data Connectivity 45
3.8.2 Using TSP Data Cable Link (Data Connectivity) 46
3.8.3 Accessing the Output Device Configuration 47
3.8.4 Configuring the Dolev 4press V/V^2 Imagesetters 50
3.8.5 VLSI Board 55
3.8.6 Other Boards 57
3.8.7 Imagesetter Power On 58
3.8.8 Software Version Check 58

4 Start Operation 61

4.1 Overview 62
4.2 Using the Interlock Keys 62
4.3 Loading and Unloading the Film Cassettes 63
4.3.1 Load Cassette 63
4.3.2 Unload Cassette 68
4.4 Updating Media Information 69
4.5 Checking the Imagesetter 70
4.5.1 Carriage Motion 71
4.5.2 Spinner 71
4.5.3 Laser 72

4.5.4 Running Imagesetter Diagnostics ... 72
4.6 Emptying the Imagesetter Drum ... 73
4.7 Restarting the Imagesetter ... 74
4.8 Closing the Imagesetter Doors ... 74
4.9 Loading New Film into the Drum ... 74
4.10 Checking the Laser Intensity ... 75
4.11 Regular Unloading ... 76
4.12 Film Processing ... 76
4.13 Examining and Setting Laser Intensity ... 77
4.14 Exposing Internal Pattern ... 78
4.15 Examining Overall Film Quality ... 80

5 System Configuration 81

5.1 General ... 82
5.1 Configuration on the Host ... 82
5.1.1 Imagesetter Definition ... 82
5.1.2 Set Units Of Measure ... 83

Index 85

Using this Guide

This Guide Includes x
Conventions Used in This Guide xi

This Guide Includes

This guide explains how to install the Dolev 4press V/V^2 imagesetter. It is intended for use by Creo engineers, both prior and during the imagesetter installation.

This document assumes a working knowledge of Dolev Imagesetters and Creo PostScript RIPs, as well as pre-press technologies.

The guide includes the following chapters:

Chapter 1, General Description, provides an overview of the Dolev 4press V/V^2, it's specifications and an installation check list.

Chapter 2, Site Preparation, reviews site requirements for imagesetter installation.

Chapter 3, Hardware Installation, details imagesetter unpacking and step-by-step installation instructions of imagesetter hardware and cables.

Chapter 4, Start Operation, provides a step-by-step guide to beginning operations on the imagesetter.

Chapter 5, System Configuration, describes configuration of the imagesetter on the host computer.



For related documents, see *Dolev 4press V/V2 User Guide, 399Z2G644D.*

Conventions Used in This Guide

This section describes the fonts, terminology, and symbols used in this manual.

Fonts

Frutiger bold is used to refer to buttons and other items in a dialog box, file names, folders, menu names, and menu commands.

Minion Italic is used to refer to other chapters in the manual, book titles, and titles of other manuals.

Frutiger is used for figure and table captions.

`Letter Gothic` is used for messages on your computer screen and for information that you must type.

SMALL CAPS is used for a key or key combination on your keyboard.

Terminology

Clear	Place the mouse pointer over the check box for the specified option, and click the left mouse button so that the X or check mark is removed from the check box.
Click	Place the mouse pointer over the specified option or button and press and release the left mouse button.
Double-click	Place the mouse pointer over the specified option or button and quickly press and release the left mouse button twice.
Enter	Type the information and press the ENTER or RETURN key.
Press	Press the specified key or key combination on your keyboard, for example, press CTRL+ALT+DEL.

Right-click	Place the mouse pointer over an area of the application window, and then press and release the right mouse button to display the shortcut menu. For more information about using shortcut menus, see your Windows documentation.
Select	Place the mouse pointer over the check box for the specified option, then click the left mouse button so that an X or check mark appears in the check box. Or: Place the mouse pointer over the specified box or button, and then click the left mouse button.
Type	Type the information. Do not press the ENTER or RETURN key.

Symbols



DANGER: This indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury. This does not alert you to a property damage accident unless personal injury risks are associated with the accident.



WARNING: This indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury. This does not alert you to a property damage accident unless personal injury risks are associated with the accident.



CAUTION: This indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. This may also alert you to unsafe practices or potential property-damage-only accidents.



Important: This symbol tells you about things that may cause process delays or reduce functionality, reliability, or quality.



Note: A note provides additional information that you may need to consider.



Tip: This symbol draws attention to information that can help you perform a task more quickly or easily.



The reference symbol tells you that related information on the topic is available in another Creo document.

Laser and Safety Precautions

General.....2
Safety Instructions for the Service Engineer 7

General



Important: Read the following Safety Precautions carefully before installing, operating or maintaining the Dolev 4press V/V^2 imagesetter.



Note: This product is a Class 1 product according to IEC825-1.
The Dolev 4press V/V^2 imagesetter is installed and serviced exclusively by specialized technicians, trained in the proper procedures for working with, and adjusting, the laser beam power and its optical path.



DANGER: Even brief exposure of the eyes to the laser beam or its reflections may cause permanent loss or permanent degradation of eyesight.
Use of controls and/or adjustments, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

Disconnection from the Mains Supply

The Dolev 4press V/V^2 is equipped with both a mains supply power inlet switch and a front **On/Off** switch, located near the display panel. To achieve complete disconnection from the mains supply, you must also disconnect (switch to O position) the mains supply power switch at the lower rear part of the Dolev 4press V/V^2. Disconnection of the front On/Off switch alone will leave some circuits of the Dolev 4press V/V^2 energized.

Lithium Battery

The Dolev 4press V/V^2 contains a lithium battery in the CPU board.
The battery should be replaced by qualified service personnel.
The battery must not be replaced by the user.



DANGER: Danger of explosion if battery is incorrectly replaced!



Important: Replace only with the same or equivalent type, recommended by the manufacturer. Dispose of the used battery according to manufacturer's instructions.

If film gets stuck inside the imagesetter drum area, proceed as follows:

1. Press the left side of the **On/Off** switch on the panel, to turn off the imagesetter (see *Figure 4 on page 10*).
2. Press on the lower part of the Main Power Breaker to power off the imagesetter (see *Figure 6 on page 12*).
3. To access the inside of the imagesetter drum area, open the left or right service door, as explained on *Opening the Imagesetter Doors* on page 32.



Note: Upon opening the service doors, specially designed interlock switches automatically disconnect power from the laser and motors.

4. Remove the stuck media, as explained in the *Dolev 4press V/V^2 User Guide, chapter 5, Media Related Troubleshooting*.

Interlocks

Upon opening the left/right service door:

- Interlock switches are designed to disconnect power from the laser and the motors
- You are forbidden, under any circumstances, to defeat any interlock switch.



CAUTION: Beware not to touch the spinner motor or the rotating prism while they are rotating. It may take up to 30 seconds for the rotating prism to rest after the service door has been opened!



WARNING: Even when the interlocks are not defeated, the media loading rollers, located inside the loading drawer, may be rotating. Keep your hands off the running loading rollers!

Upon opening the unloading drawer:

- Interlock switches are designed to disconnect power from the laser and the motors
- You are forbidden, under any circumstances, to defeat any interlock switch.

Laser Warning Labels

Types of labels:

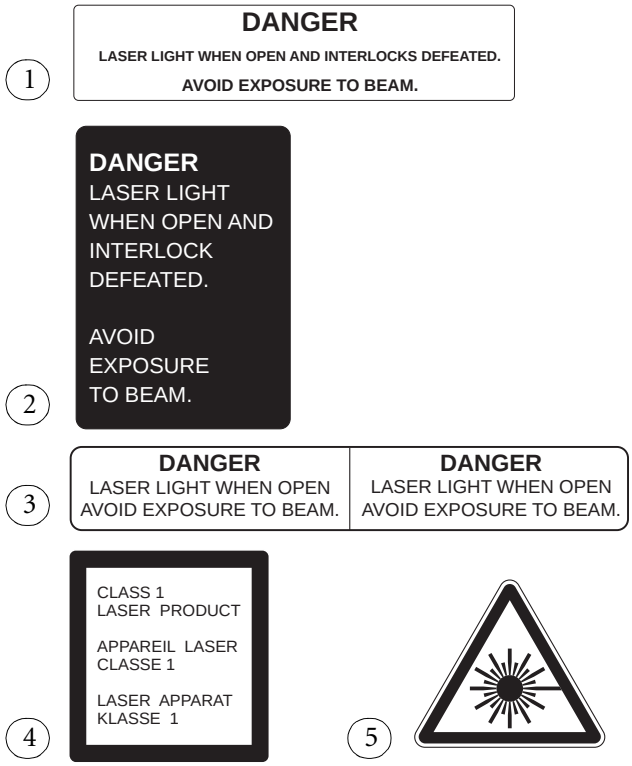
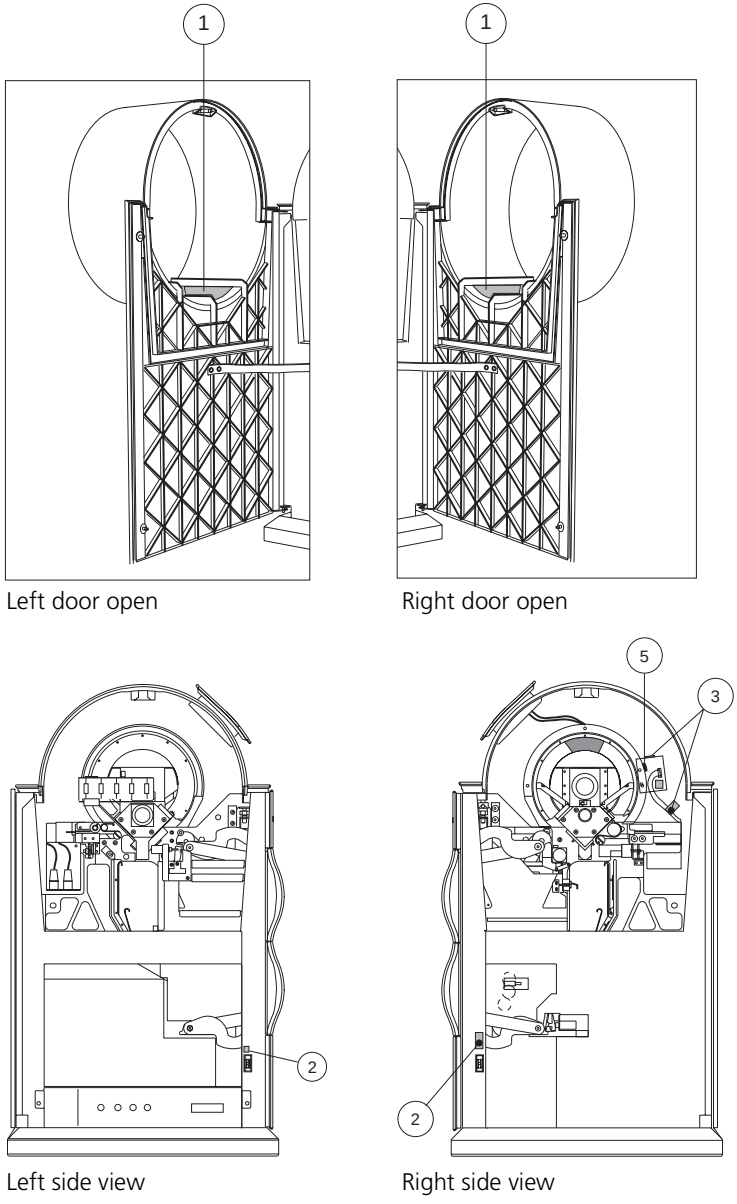


Figure 1: Warning labels

Note: Make sure that all warning labels are in good order. Renew warning labels if needed.

Note: Where a language other than English is spoken, the service engineer should stick the translated stickers in the relevant location in the imagesetter.



Left door open

Right door open

Left side view

Right side view

Figure 2: Label locations

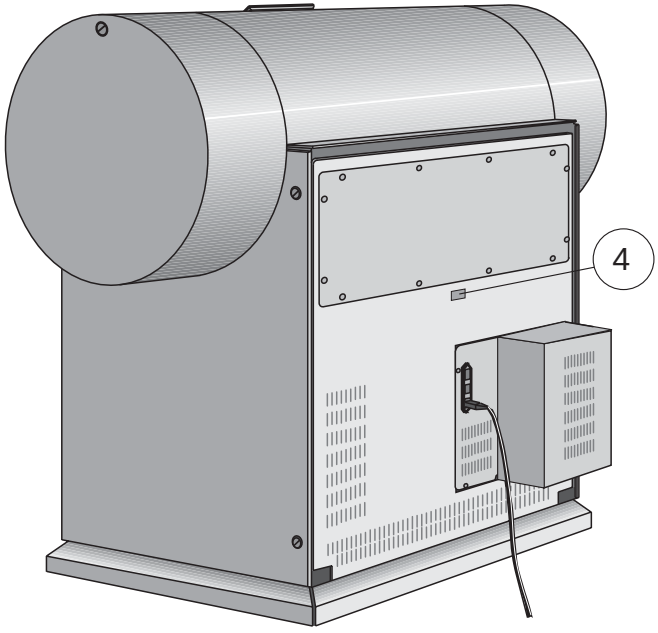


Figure 3: Rear side view

Service Engineer Laser Precautions for the Dolev 4press V/V^2

Read these Safety Precautions carefully before installing, operating or servicing the Dolev 4press V/V^2 imagesetter.

Read the operator laser safety precautions for the Dolev 4press V/V^2 imagesetter, an indispensable part of the service engineer's precautions.

DANGER: Even brief exposure of the eyes to the laser beam or its reflections may cause permanent loss or permanent degradation of eyesight.
Use of controls and/or adjustments, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

Safety Instructions for the Service Engineer

Many service procedures can be performed while the imagesetter is switched off.



Note: Service the imagesetter while **OFF** whenever possible.

When the interlocks are defeated, hazardous movements of the imagesetter motors, including the carriage knife and the spinner motor are likely to occur. Beware not to be exposed to hazardous movements.



Note: Beware not to touch the spinner motor or the prism while they are rotating. It may take up to 30 seconds for the rotating prism to rest after the power has been cut off.

Defeat the interlock switches only when no alternative procedure is available. Especially avoid defeating the interlock when the knife laser attenuator at the static optic assembly is at a minimum attenuation position.

If the interlocks are defeated, the optical and mechanical assemblies of the imagesetter remain energized and hazardous.

In addition to the electrical and mechanical hazards, up to 10 milliwatts of laser power, at a wave length of approximately 650 nanometers, may be present inside the static optics assembly.

Up to 3 (3) milliwatts of laser power at a wave length of approximately 650 nanometers may be present in the static optic assembly output connector, optic fibers, dynamics optics assembly optical connector and on the inside of the imagesetter drum.



WARNING: Avoid exposure to the laser beam or its reflections. The laser radiation is hazardous to the eyes and skin.

To minimize the chance of laser reflection, remove all jewelry, wristwatches and reflective objects from your wrists and hands prior to service.

Wear laser safety alignment goggles if you are in danger of exposure to the laser beam or its reflection.



Note: The required goggles are: Creo 507B35948. The goggles are marked OD 1-2, 400-700 NM, 20 MW.

Be sure that no one, near or far, can be exposed to the beam.



Note: The human blinking process is an essential part of goggle protection. Do not intentionally refrain from blinking. Before putting on your goggles, check them for defects. Even with goggles on, never look into the laser beam or its reflections. Wearing the goggles will not impede laser alignment actions.

1 General Description

About the Dolev 4press Imagesetter Family 10
Imagesetter Installation Checklist 15

1.1 About the Dolev 4press Imagesetter Family

The Dolev 4press V/V^2 is an advanced, state-of-the-art imagesetter. The external appearance of the writing engine is radically different from that of its predecessors of the Dolev family, but the system contained within its casing is in fact a natural design progression, featuring substantial improvements in all critical performance areas.

Offering highest quality and speed, the formats of the Dolev 4press V/V^2 family are designed to suit the majority of printing presses in use worldwide.

The imagesetter's combination of writing engine formats, and the advanced concept and functionality of its digital front end (DFE) raster image processor (RIP) bring pre-press output much closer to press, reducing the need for intermediate manual intervention and increasing process automation.

1.1.1 Imagesetter Features

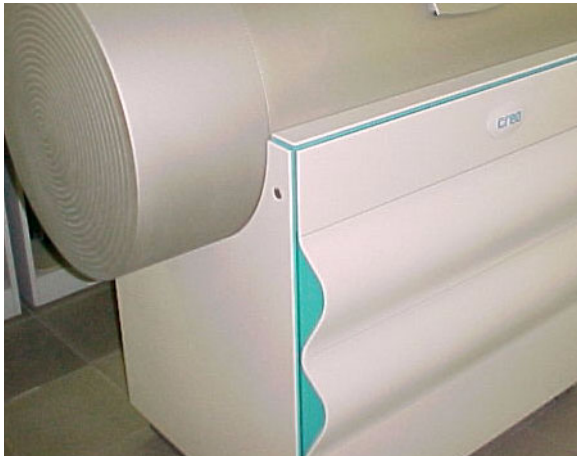


Figure 4: Imagesetter front view



Figure 5: Imagesetter control panel

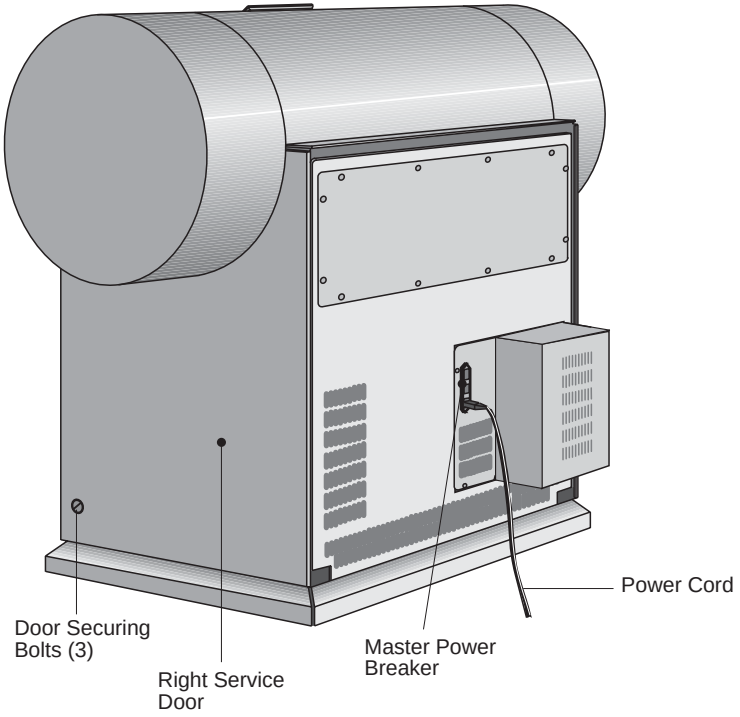


Figure 6: Imagesetter rear view

1.1.2 Specifications

Technology

Structure	Internal Drum.
Light Source	Laser Diode 650 nanometers.
Spot Size (variable with intensity)	17 microns nominal.
Raw Imaging Speed For V @2540 dpi @2032 dpi	 29.1 centimeter^2/second (270 inches^2/minute) @31300 RPM. 42 centimeter^2/second ((390 inches^2/minute) @36000 RPM.

Raw Imaging Speed For V^2 @2540 dpi @2032 dpi	 52.41 centimeter^2/second (487.38 inches^2/minute). 69.88 centimeter^2/second (649.84 inches^2/minute).
Raw Imaging Speed @2032 dpi	
Repeatability (on film)	±15 microns.

The Image Features

Maximum Net Image Area	743x580 millimeter (29.25 x 22.83 inches) 743 x 550 millimeter (29.25 x 21.65 inches) with optional head punch.
Page Formats Capability	Up to 4 A4, 2 A3, 4 B4, 2 B3, 1 A2, 1 B2.
Press Formats Capability	Heidelberg GTO, MO, SM 72; Man Roland 100; Komori 26, 28.
Resolution	60, 80, 100, 120, 140, 160 pt/mm (1524, 2032, 2540, 3048, 3556, 4064 dots per inch); continuously variable (optional).
Multi-image Capability	Flat, 1-Up, 2-Up, Auto.
Screen Technology	Turbo Screening including Conventional Dot shapes: Round, Square, Diamond, Gravour, Creo Composite, Geometric Dot and FM.
Screen Frequency	2-24.6 lines/millimeter (50-625 lines/inch).
Screen Angles	User-selectable from a variety of preset angles.
Communications	TSP cable.
Inline Processor	Optional.
Registration System	Customized head and side punch; tail on special order (optional).
Dimensions	Width: 1400 millimeters (55 inches) Depth: 630 millimeters (25 inches) Height: 1140 millimeters (45 inches).
Weight	230 Kilograms (506 pounds).

The Media

Film Type	Medium-to-high contrast red sensitive, orthochromatic litho or line film, paper or polyester plates; emulsion-out type.
Film Width	254-737 millimeters in steps of 25 millimeters (10-29 inches in steps of 1 inch).
Film Length	Minimum 100 millimeters; maximum 20 meters with Accumulating Cassette. Minimum 250 millimeters; maximum 609 millimeters with Inline Processor (optional).
Film Thickness	4 or 7 microns.
Loading/Unloading	Fully automatic loading, cutting and unloading in daylight to Accumulating Cassette or Inline Film Processor.
Loading Cassette	Roll film; 61 meters (200 feet) @ 0.004 millimeter; 30 meters (100 feet) @ 0.007 millimeter.
Unloading Cassette	Accumulating roll; 20 meters (60 feet) capacity.

Operating Environment

Electrical Requirements	100/110/120 Volts AC ±10%; 200/220/240 Volt AC ±10%; Single Phase, 50/60 Hertz ±2 Hertz.	
Operating Environment	Lighting:	Daylight operation; no direct sun.
	Temperature:	22° C ±2°C
	Relative Humidity:	55% ±5%
	Audible Noise:	< 55dbA
	Cleanliness:	Standard work area
	Heat Dissipation:	1500 BTU/hour.
Area Requirements	6.32 cubic meters.	

Physical Dimension

Dimensions	Width:	1400 Millimeters (55 Inches).
	Depth:	630 Millimeters (25 Inches).
	Height:	1140 Millimeters (45 Inches).
Weight	230 Kilograms (506 Pounds).	

1.2 Imagesetter Installation Checklist

Use the following checklist to plan and track the imagesetter installation:

Installation Item	Completed
1. Site Preparation	☐
2. Hardware Installation	☐
3. Check for Damage	☐
4. Remove the Imagesetter	☐
5. Open Imagesetter Doors	☐
6. Level the Imagesetter	☐
7. Fit the Inline Processor (Optional)	☐
8. Remove Shipping Safeguards	☐
9. Select Film Path	☐
10. Electrical Connection	☐
11. Host Connection	☐
12. Power On	☐
13. Software Version Check	☐
14. Start Operation	☐
15. Insert the Interlock Keys	☐
16. Load the Film Cassettes	☐
17. Update Media Information	☐
18. Imagesetter Check	☐
19. Empty Imagesetter Drum	☐
20. Restart the Imagesetter	☐

Installation Item	Completed
21. Close Imagesetter Doors	☐
22. Load New Film into Drum	☐
23. Check Laser Intensity	☐
24. Perform Regular Unload	☐
25. Process Film	☐
26. Examine and Set Laser Intensity	☐
27. Expose Internal Pattern	☐
28. Examine Overall Film Quality	☐
29. System Configuration	☐
30. Configuration on the Host	☐
31. Test Exposure from the Host	☐
32. Attach translated labels (if relevant)	☐

2

Site Preparation

Overview 18
Pre-installation Checklist 18
Space Requirements 20
Electrical Requirements 21
Environmental Requirements 24
Inline Processor Requirements 26

2.1 Overview

This chapter describes how to prepare the customer site for Dolev 4press V/V^2 imagesetter installation.

It includes details on such requirements as:

- Floor space
- Electrical
- Environmental
- Communications
- Inline processor (ILP).

Before installing the Dolev 4press V/V^2 imagesetter:

➢ Read this chapter thoroughly before attempting to install the imagesetter. It will help to prevent unnecessary problems and delays.

2.2 Pre-installation Checklist

Before arrival of the Dolev 4press V/V^2 imagesetter at the installation site, you should prepare a final layout of the site, and determine that all requirements will be met. Work together with the customer to ensure that you have all pertinent details:

Requirement Item	Met?
1. Electrical power	☐
2. Isolation transformers or power conditioners	☐
3. Circuit breakers and sockets	☐
4. Grounding network	☐
5. Air-conditioning power	☐
6. Space	☐
7. Cable routing provisions	☐
8. Communication network	☐

Requirement Item	Met?
9. Water supply	☐
10. Illumination	☐
11. Fume exhaust system	☐
12. Delivery route: doors, corridors, elevators	☐
13. Protection from direct sunlight	☐
14. Anti-static flooring	☐
15. Thermometers and humidity meters/recorders	☐
16. Storage space	☐
17. Access to and operation of the system	☐
18. Inline processor	☐
19. Phone lines (two outlets)	☐
20. Preparation of technical drawings	☐
21. Preparation of electrical wiring	☐
22. Preparation of air-conditioning plans	☐
23. Air pressure	☐
24. Fire detection and prevention	☐



Note: For additional guidance on site preparation, see the *Creo Site Preparation Guide*, 745-74181.

2.3 Space Requirements

2.3.1 Floor Space

Depending on the model, the Dolev 4press V/V^2 imagesetter requires between 5.7 and 6.32 cubic meters of space. This measurement reflects the area required around the imagesetter, to allow for unimpeded work and considerations such as heat dissipation.

The following figure shows the minimum floor dimensions required for proper operation of the imagesetter.

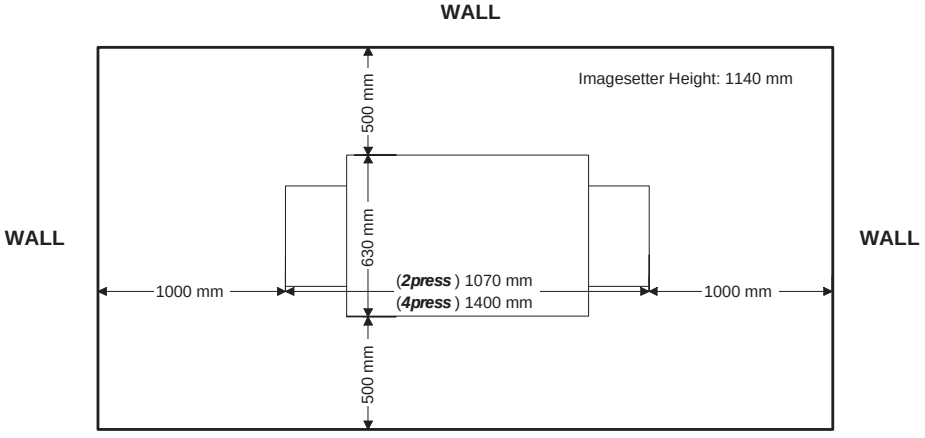


Figure 7: Imagesetter space requirements

Note: This diagram does not depict use of an inline processor. See *Inline Processor Requirements* on page 26, for details.

2.3.2 Imagesetter Weight

The Dolev 4press V/V^2 imagesetter weighs between 180 and 230 kilograms and rests on four (4) symmetrically-placed cushioned legs. Most standard industrial floors are strong enough to support the imagesetter, though actual room dimensions and additional equipment at the site should be considered.

2.4 Electrical Requirements

2.4.1 General Considerations

The total power consumed by your system is determined by the system configuration selected. Remember to allow sufficient margin for system expansion when calculating the required electrical capacity.

2.4.2 Supply

Each separate piece of equipment is individually powered from source, allowing maximum permutation of layout, and reduced dependency during operation. Provision of sufficient power sockets must therefore be taken into consideration.

All equipment operates from standard mains supply sockets. The Dolev 4press V/V^2 imagesetter is switch-selectable to comply with a wide range of voltage applications.

Voltage variations of up to ± 10% on all selectable voltages are acceptable. Supply frequency variations of ± 2 Hertz are similarly acceptable.

The main circuit breaker should be a shunt trip breaker, which trips on loss of voltage. A single phase isolated outlet is required for the Dolev 4press V/V^2 imagesetter.

Note the following guidelines:

- The input power cable (from the building input feeder/main power entrance to the system branch circuit power panel) should be a dedicated line, 5-wire protected cable, not longer than 30 meters (100 feet).
- Output circuit breakers should be used for every branch circuit (outlet). Each circuit breaker should be labeled, identifying its load relationship, and correspondence to outlet.
- Additional isolated single phase outlets are required for service purposes.
- Special codes and regulations may exist covering the installation of electrical facilities in general, and in computer sites in particular. Ensure that site construction complies with these local codes before the system is delivered.

2.4.3 Power Line Disturbances

The reliable operation of computer systems depends on the availability of relatively noise-free AC power.

Lighting, line faults, or the power switching, commonly found in machinery or equipment in office or factory environments, can generate line transients which far exceed the peak value of the applied voltage. If not attenuated, these micro-second pulses can disrupt system operation.

Note the following guidelines:

- Limited power supply attenuation has been incorporated into your equipment to minimize the possible effects of disruptive factors (such as transient and instantaneous power interruptions).
- Since these conditions are unique to your particular site, we recommend additional protection, including provision of a mains input circuit breaker with shunt trip, and an isolation transformer with common mode noise attenuation of more than 120 decibels.
- It is recommended that the power conditioner isolation transformer used should be one which includes a power distribution system (output circuit breakers and receptacles). When installed in the system room, the conditioner/transformer will make system installation easier and reduce installation time and cost.
- All other potential noise-generating equipment (for example, fans, fluorescent lighting and air-conditioning system) must be separated from the power source used for the system.

2.4.4 Grounding

The power ground system for 50 Hertz sites should include the 220 Volts AC and 380 Volts AC grounds, tied back to the main power ground point of the building, by means of a 40 millimeter solid copper wire (7 millimeter in diameter).

At 60 hertz sites, 220 volts AC, 110 volts AC, and 208 volts AC grounds tied by AWG #1 solid copper wire are required.

Grounding requirements for the Dolev 4press V/V^2 imagesetter, and all equipment communicating with it, should be observed to ensure trouble-free operation.

Grounding requires the following:

- Grounding wires that are insulated and at least equal in size to the phase conductors.
- Ground impedance less than 2 ohms.
- A single point and dedicated ground.
- Power stabilizer equipment that is supplied by three (3) uninterrupted phase wires, and one uninterrupted copper ground wire, from the main building entry service panel. These should run in the same conduit and be at least equal in size to the phase wires.
- Neutral and ground are bonded together in the main building entry service panel, and a good earth ground at this point of not more than 2 Ohms impedance.
- Each system load (Imagesetter, Host, etc.) is fed through an isolated ground outlet and has a separate ground, as well as neutral and phase line of equal size wire.
  - ❒ Chained neutrals or grounds are not permissible.
- All ground wires from isolated ground outlets are kept isolated from building ground and terminated only at the ground bus of the power stabilizer.
- Other equipment, not on the power stabilizer but communicating with the imagesetter, must have a reference ground wire installed between the power stabilizer ground bus and that piece of equipment.



Note: These instructions **do not** replace any enforced government or local standards. The engineer performing installation should check the applicable electrical code and assure full compliance.

2.4.5 Cables

If cables must be routed through a wall, the holes in the wall should be as follows:

- Round holes should be 10 centimeters (4 inches) in diameter.
- Square holes should be 8.9 centimeters (3.5 inches) in diameter.



Important: No electrical wiring (stabilized or unstabilized) may run in the data cable conduit.

2.5 Environmental Requirements

2.5.1 Cleanliness

The cleanliness of standard laser operating environment, that is, up to 0.168 milligram/M (Class 4, B.S. 5295) should be as follows:

- Up to 200,000 particles/M^3 when greater than 5 microns.
- Up to 40,000 particles/M^3 when greater than 10 microns.
- Up to 4,000 particles/M^3 when greater than 25 microns.



Note: Filters in the air conditioning system will be able to block 60% of all 10 micron dust particles.

2.5.2 Static Electricity

Use of floor carpeting is not recommended in the imagesetter area. If carpets are used, only anti-static carpets should be installed at the site. Their size should be at least 2.5 m (8 feet) in all directions of the operator's access.

2.5.3 Air Conditioning

Sufficient air-conditioning should be present to provide heat dissipation for the Dolev 4press V/V^2 imagesetter (1500 BTU per hour) plus all additional equipment residing in the system room plus a minimum 25% safety margin.

Example (all in BTU/hour)

Imagesetter:		**1500**
Host:		**2500**
Light Table:	**+**	**3500**
Other Misc:		**1500**

Safety Margin: :	**+**	**2250**
+ (25% of above)		
_____		
Total Heat:		**11250**

- The Dolev 4press V/V^2 imagesetter requires a constant air temperature of 22°C ± 2°C and relative air humidity of 55% ± 5% when the imagesetter is ON.
- The maximum temperature variation is 5° per hour.
- The minimum allowed temperature is 10° when the imagesetter is OFF.

Note the following guidelines:

- It is recommended that the air flow in the System room be maintained above normal air pressure, in order to prevent dust from entering the room.
- The System room should ideally contain both a thermometer and hygrometer, permanently mounted in a central location.

2.5.4 Film Handling

The standard film will be orthochromatic (red sensitive), requiring a bright cyan safety light. (For more details, refer to the film manufacturer's recommendations).

Although the film must be loaded into its cassette in a suitable darkroom, following this initial step, routine film handling can be performed under normal daylight conditions. Direct sunlight should always be avoided.

2.6 Inline Processor Requirements

2.6.1 Recommended Vendors

The following manufacturers have designed ILP models which are compatible with the Dolev 4press V/V^2 imagesetter:

- Glunz & Jensen
- Lüth
- Echo Graphic.



For updated approved CTF processors see *Consumable / CTF Processors on Tech Planet*.

3

Hardware Installation

Overview 28
Unpacking 28
Opening the Imagesetter Doors 32
Leveling the Imagesetter 33
Removing Shipping Safeguards 35
Film Path Selector Position 40
Electrical Connection 40
Connecting to the Host....45

3.1 Overview

This chapter describes the physical installation of the Dolev 4press V/V^2 imagesetter.

It details the following steps which are required to make the imagesetter ready for operation:

- Unpacking
- Opening doors
- Leveling
- Removing shipping safeguards
- Setting the film path selector
- Electrical connection
- Host connection

3.2 Unpacking

3.2.1 General

Handle all packing materials with care. These materials will be used again if you need to transport the imagesetter in the future.

Before you begin unpacking the imagesetter, ensure that the unpacking site is large enough to allow easy maneuvering of the imagesetter.

Ensure the following:

- Available radius for lifting and/or turning the imagesetter
- Doorway clearance

3.2.2 Checking for Damage

To check for damage:

1. Check that the shipping container is undamaged. Do not proceed with the installation if it is damaged in any way and notify the shipping agent immediately.

   A shock indicator is attached to the outside of the imagesetter shipping container. This instrument indicates whether excessive shock was encountered during shipment (for example, if the container was dropped).

2. Read the gravity shock as shown on indicator. If the shock indicator is missing, or indicates that the imagesetter has experienced an excessively large shock, do not proceed with the installation and notify the shipping agent immediately.

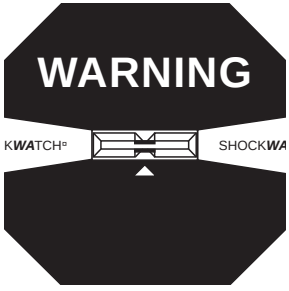


Figure 8: Gravity shock indicator

3.2.3 Precautions

Observe the following precautions before unpacking:

- Do not unpack the imagesetter in extreme heat or cold (above 30° C or below 0° C).
- If there are any signs of ice on the machine, do not touch any of the mechanical parts. Wait 24 hours (preferably 48 hours) for the imagesetter to gradually reach room temperature.
- Do not unpack the imagesetter in a non air-conditioned room in case the weather is very humid.

3.2.4 Parts Checklist

The following parts are shipped along with the imagesetter:

Description	Part No.	Quantity
Fuse - 5 Amp / 125 Volts	175A25005S	1
Fuse - 6.3 Amp / 250 Volts Slow Blow	175C26300	4
Cheat Interlock for switch release	194J10020	2
Power cord (3 conductors), 3 meters	199A03110	1
High frequency TSP cable	199D06226	1
Conveyor warning - P. I.	374A20454	1
LR for the output device	399Z1R510A	1
Unpacking instructions	399Z7G041A	1
Bag for cables	443F05060	1
Front skirt assembly	505H39957	2
Side skirt	505H39966	2
Short lead film cutter	507A40073A	1
Unloading accumulating cassette	507E38470A	1
Loading cassette	507E7G479	1
Safety label kit	510K50201	1
Software package	510V1P483D	1
CS Support kit	513K50635A	1
DOS 6.22 package	630P70219	1



WARNING: Do not proceed with the installation unless all of the above parts are present.

3.2.5 Removing The Imagesetter

Important: A minimum of three (3) technicians is required to lower the imagesetter from its pallet.

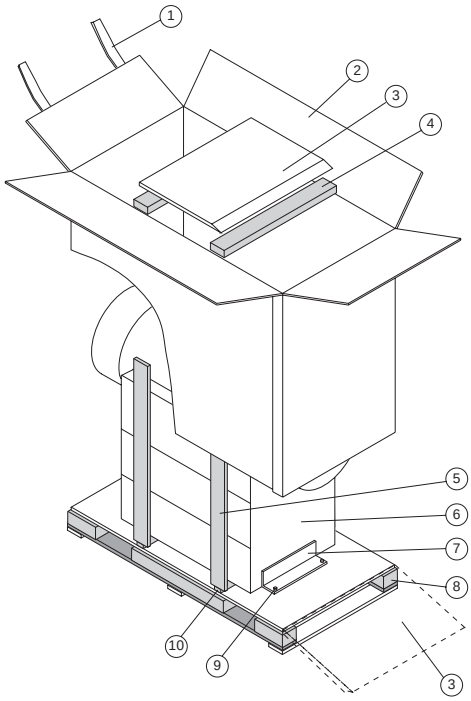


Figure 9: Unpacking the imagesetter

The figure above shows the unpacking process. Refer to this figure to identify the numbers appearing inside brackets in the text.

To unpack the Dolev 4press V/V^2 imagesetter:

1. Cut the two (2) plastic bands [1] surrounding the shipment.
2. Open the container cover flaps [2].
3. Remove the ramp skid [3] from the top of the opened package.
4. Remove the staples that secure the outer container [2] to the wooden shipping pallet [8].
5. Remove the entire container carton.
6. Remove the imagesetter books, cables, cassette boxes and skirt packaging.

7. The imagesetter [6] is secured to the shipping pallet by two (2) brackets [7]. Remove the four (4) bolts, washers and nuts [9] from these brackets using two (2) ¾-inch open-end wrenches.
8. Lift the imagesetter off the shipping pallet planks [10], located under the machine. Three (3) technicians are required to perform this and the following steps.
9. Place the ramp [3] at one of the short ends of the shipping pallet.
10. Two (2) technicians should stand at the side closest to the ramp. One technician should stand at the opposite side of the imagesetter.
11. The single technician should gently push the imagesetter down off the shipping pallet via the ramp, while the two (2) remaining technicians control its descent, ensuring that the ramp does not move. At all times, grasp the imagesetter at its middle or at its base.



Note: Do not attempt to push or lift the imagesetter by the cylinder-shaped upper part of its access doors.

12. Carefully roll the imagesetter into its final location at the site. Handle all packing materials with care. (These materials will be used again should you need to transport the imagesetter in the future.)

3.3 Opening the Imagesetter Doors

Since the installation procedure requires access to imagesetter internal assemblies, it is performed with the imagesetter doors open.



Note: The procedure for opening the imagesetter service doors is identical for both left and right doors.

To open the imagesetter door:

1. Release the three (3) securing bolts.



Note: There is no need to remove the bolts since the door springs open when they are loosened.

2. Open the service door.

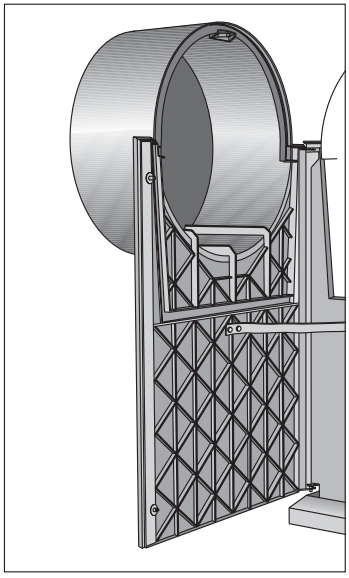


Figure 10: Left service door open

3. Repeat for either the left or right imagesetter door.

Note: When you are closing the door, secure the three (3) bolts in the following order: bottom, middle, and top.

3.4 Leveling the Imagesetter

The imagesetter is at the proper position when all of its wheels are raised just above the floor. A standard leveling instrument should be used to ensure that the imagesetter is level.

Note: In this instance, level means that the imagesetter is situated on a uniform horizontal plane at all four (4) corners.

To level and stabilize the imagesetter:

1. Adjust the level adjustment mounts on each of the four (4) imagesetter legs to fix the machine at a level position. See page 34. Each mount uses two (2) lock nuts to fix the machine in a level position.

Note: Use two (2) open-end wrenches (one 9/16-inch and one 5/8-inch) to loosen the lock nuts.

a. Loosen the top lock nut. Hold the bottom lock nut in position with the second wrench.

b. Turn the bottom hex nut clockwise (to raise) or counter-clockwise (to lower) the mount to the required height.

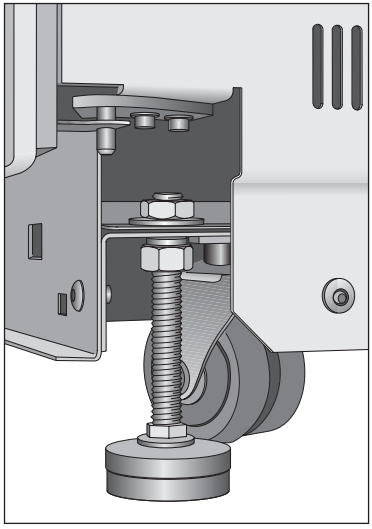
c. To reach the proper height for each mount, raise the mount until the nearby wheel begins to rotate freely above the floor. Use slight fingertip pressure to rotate the wheel.

d. When adjustment is complete, tighten the top hex nut to lock the current position.

Note: It is best to adjust the height of each of the four (4) mounts *before* you lock any of the mounts in place. Lock the hex nuts only when all four (4) legs are set to their proper height.

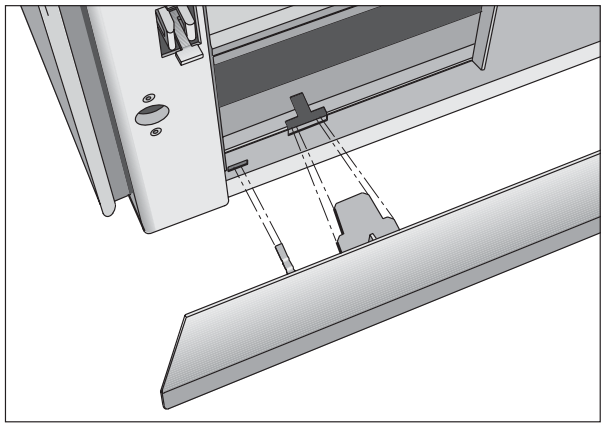
2. Attach the four (4) lower skirts framing the imagesetter. (The skirts are shipped disassembled from the imagesetter.)

3. From each side of the imagesetter, align the matching skirt with its attachment holes and push firmly. To see how the skirts are attached to the machine, see page 35.



Note: There are two (2) skirt types. Ensure that the attachment tabs and springs for each skirt match the correct attachment holes on the imagesetter.

Figure 11: Detail - leveling mounts



Attaching imagesetter skirts

3.5 Removing Shipping Safeguards

3.5.1 Overview

The imagesetter is shipped with numerous safeguards that prevent excessive movement of internal parts during transport.



Important: These safeguards must be removed prior to imagesetter operation.

The following topics are discussed below:

- Loading and unloading drawer securing ties
- Lower film gate adhesive tape
- Optomechanical to chassis shipping brackets
- Optics carriage transport locking plates
- Film guide door screws, ties and foam
- Static optics assembly foam

3.5.2 Loading and Unloading Drawer Securing Ties

There are four (4) standard plastic ties securing the film loading and unloading drawers during shipment.

1. From the left side of the imagesetter, cut the two (2) plastic ties securing the loading and unloading drawers.
2. Repeat for the two (2) remaining ties located on the right side of the imagesetter.

3.5.3 Lower Film Gate Adhesive Tape

1. Open the film unloading drawer fully.
2. Remove the three (3) pieces of adhesive tape securing the mouth of the lower film gate.

3.5.4 Optomechanical to Chassis Shipping Brackets

These special mounting brackets lock the optomechanical assembly into place during transport. There are three (3) bracket units, one on each side of the imagesetter, and one at the center rear.

Side Bracket Units

Each side bracket unit consists of one (1) part.

1. Release the nut and then loosen the 7/8-inch hex screw at the top part of each unit.
2. Repeat for either left or right sides of the imagesetter.

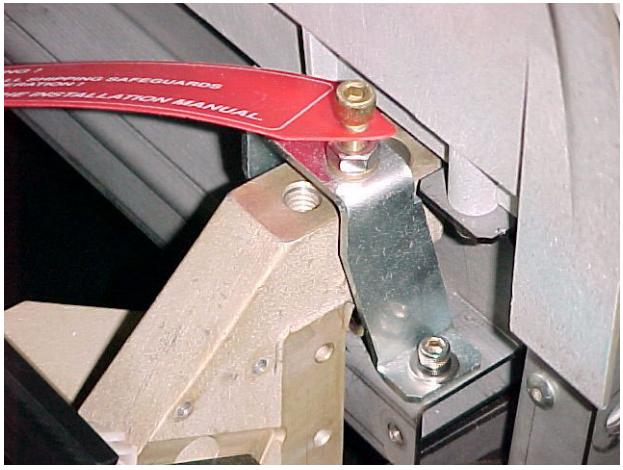


Figure 12: Side optomechanical-to-chassis shipping bracket

Rear Bracket Unit

The rear bracket unit consist of two (2) parts.

- Remove the back portion of the unit by releasing its 7/8-inch hex screw.

Note: Store this part with the accessories kit for possible later use.



Figure 13: Mounting Bracket

3.5.5 Optics Carriage Transport Locking Plates

These plates secure the dynamic optics carriage in place during transport. They are colored red for easy identification.

- Remove the four (4) 3/32-inch hex screws and the red plates from the left and right sides of the carriage.



Note: Store this hardware with the accessories kit for possible later use.

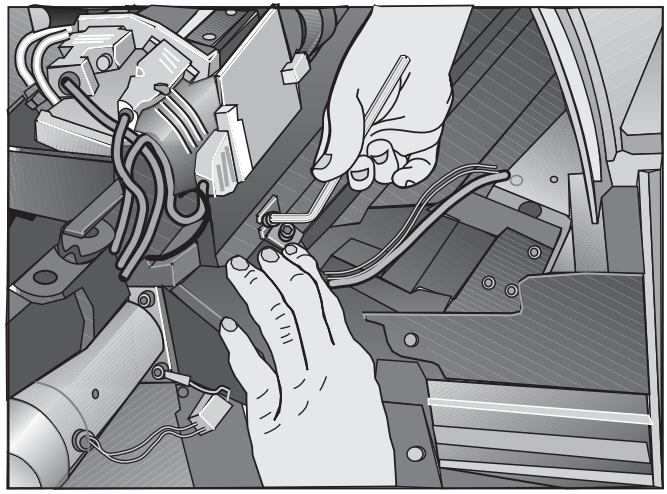


Figure 14: Detail – optics carriage transport locking plate

3.5.6 Film Guide Door Screws Ties and Foam

These safeguards prevent the film guide upper door from excessive movement during transport.

To remove safeguards:

1. Close the upper door, replace the door to its upright position with one hand and tighten the black screw to secure door (on both sides of machine).
2. Release the two black screws securing the film guide upper door, located at both left and right sides of the imagesetter.
3. Cut the two (2) plastic ties located at both left and right sides of the film guide lower door.

4. Remove the protective foam lodged inside the film guide doors.

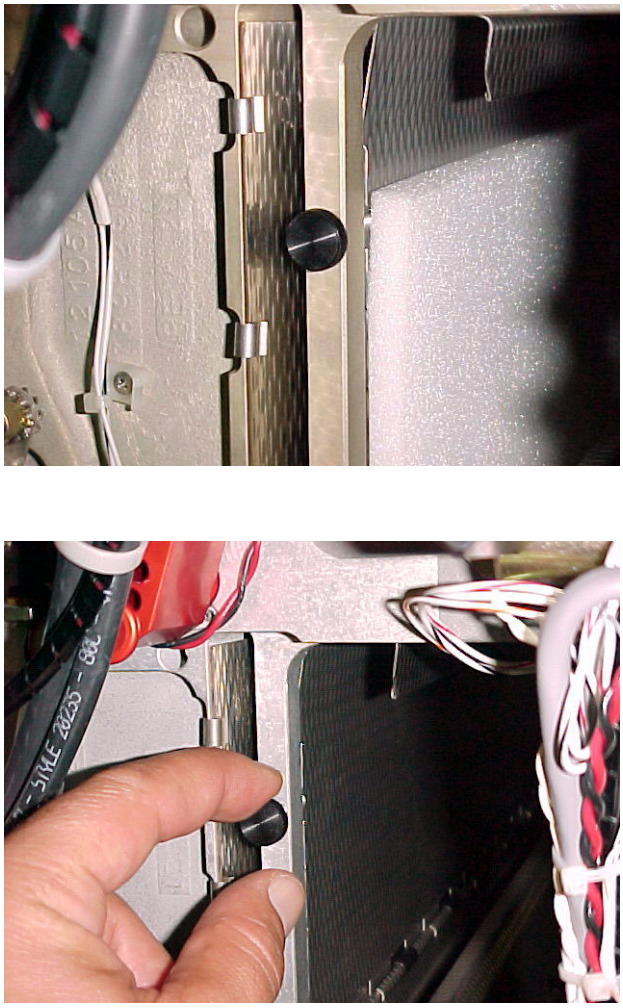


Figure 15: Film Guide Upper Door Screws

3.5.7 Static Optics Assembly Foam

This foam protects the static optics assembly from excessive vibrations during transport.

➢ Remove the protective foam lodged between the static optics assembly and the imagesetter drum.

3.6 Film Path Selector Position

The film path selector determines whether film is advanced to the unloading cassette or to the inline processor. The film path selector is located on the left side of the imagesetter.

- To direct the film to the unloading cassette, turn the selector to the **left** (counter-clockwise).
- To direct the exposed film to the inline processor, turn the selector to the **right** (clockwise).

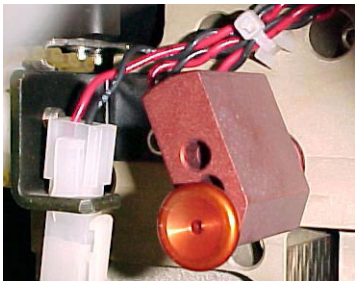


Figure 16: Film path selector

Note: Since the selector is arrow-shaped, it points to the selected output device (film unloading cassette or to the inline processor).

3.7 Electrical Connection

3.7.1 Installation Instructions

Important: Installation must be done by authorized service personnel only.

CAUTION: To avoid risk of fire, make no connections to the supply until line voltage selector setting is complete.

Prior to connecting the electrical power supply, ensure that all voltage settings, fuses and cords are in full accordance with local standards.

3.7.2 Line Voltage Selector Settings

The voltage selector is included in the power inlet and switch module located at the lower rear of the Dolev 4press V/V^2. (See page 43).

The voltage selector is set at factory to 220Volts. The voltage selector setting must match the line voltage at your site.



Note: The measured line voltage should suit the nominal line voltage in your country.

To match line voltage, proceed as follows:

1. Make sure that the power inlet switch and the **ON/OFF** switch, located near the display panel, are both in the **OFF** position.
2. Measure the line voltage at the wall outlet.
3. Check that the Dolev 4press V/V^2 is disconnected from the mains supply.
4. Using a small tool, carefully take out the cover of the voltage selector; the cover contains two fuses.
5. Remove the inner part of the voltage selector.
6. Set the inner part so that the correct number appears at the voltage selector window.
7. Close the cover of the voltage selector. Leave the two fuses as supplied by the factory (T 6.3Amp 250Volts).
8. After the cover is closed, check again that the correct number appears in the voltage selector window.



Note: If measured line voltage is in the range 180V- 229V, make sure that **220** appears in the voltage selector window.
If measured line voltage is in the range 230V-254V, make sure that **240** appears in the voltage selector window.
If measured line voltage is in the range 90V-109V, make sure that **100** appears in the voltage selector window.
If measured line voltage is in the range 110V-127V, make sure that **120** appears in the voltage selector window.

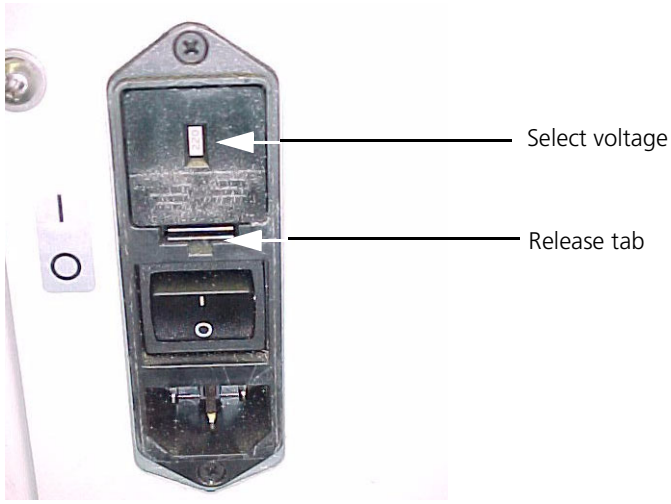


Figure 17: Opening the fuse holder

To change the line voltage selector setting:

1. Ensure that the power cord is not connected to the imagesetter.
2. Locate the electronic power drawer assembly at the rear left side of the imagesetter.
3. Remove the fuse holder from the unit to provide access to the voltage selector.
4. Place a small pen knife or flat head screwdriver under the tab at the bottom of the fuse holder, and lift the tab slightly to release the holder.
5. Once it is released, pull the holder completely out of the Unit.

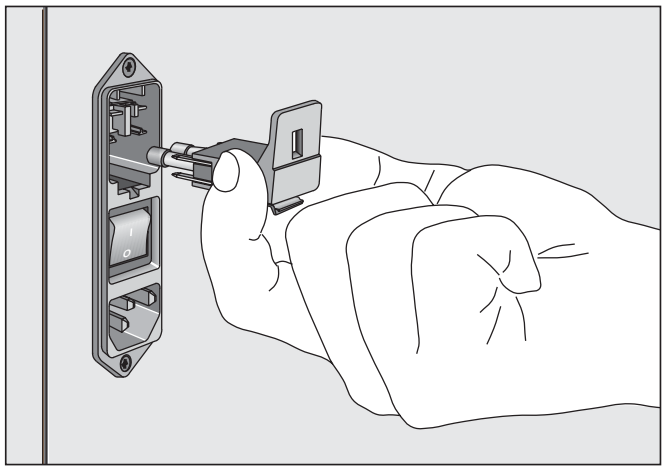


Figure 18: Removing the fuse holder

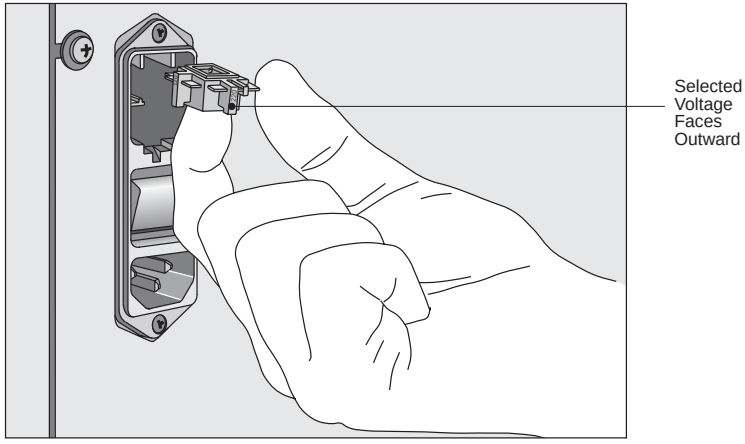


Figure 19: Selecting the voltage setting

3.7.3 Selection of Power Supply Cord

The Dolev 4press V/V2 is supplied with a power supply cord (199A03110).

Make sure the power supply cord you have complies with approved standards for the country in which the equipment is installed.

In the United States and Canada: Make sure your power supply cord is a UL Listed/CSA Certified cord set that includes a flexible cord Type SJ, SJE, SJO, SJOO, SJT, SJTO, SJTOO, S, SE, SO, SOO, ST, STO, or STOO, with

minimum 16 AWG, 3 conductors. The cord set must have a min.12 Ampere parallel blade grounding type attachment plug and IEC 320 type appliance coupler.

In Europe: Make sure your power supply cord uses only a 3 conductors HAR type cord. Conductor cross section must be 1.25 mm2 minimum and the cord set must include a grounding type attachment plug and an IEC 320 type appliance coupler.

Once the correct voltage setting has been selected, connect the appropriate power cord to the power inlet plug of the Electronic Power Drawer Assembly. Plug the opposite end of the cord into the electrical power supply located in the wall.
Do not turn on the power switch yet.

3.7.4 Selection of In-line Processor

An opening is provided in the back of the Dolev 4press V/V2 imagesetter for the purpose of connecting it to an in-line processor. The exposed media is conveyed through this opening and through a mating opening in the processor to the inside of the processor. For the safe use of the imagesetter with the processor connected to it, the processor used should be so designed that the operator will not be exposed to hazards.

This should be achieved as follows:

- The mating opening in the processor will not allow the touching of hazardous moving parts inside the imagesetter, even while operator's openings in the processor are open.
- The opening in the processor will not enable to touch hazardous moving parts inside the processor through any of the imagesetter side doors.
- The processor will be so designed that it will not be possible to touch any hazardous parts of the processor that penetrate to the inside of the imagesetter, through any of the side doors while they are open.

The decision if a part can or cannot be touched should be made after using the Test Finger described in Figure 19 of the Standards for safety UL1950 or IEC950.



Important: The customer must select an in-line processor that complies with these requirements.

3.8 Connecting to the Host

The imagesetter receives all control and exposure data via a fiber optics cable from the host.

Optional control data from a second host can be received also via host A or host B ports at the imagesetter rear.

Before making data connections to the host, settings on the various imagesetter electronics boards must be checked.

3.8.1 TSP Data Connectivity



WARNING: Do not connect the TSP cables unless the Dolev 4press V/V^2 is switched **off**.

The Dolev to Brisque connectivity consists of a cable connection for data transfer and communication between the Dolev and the Brisque.

Following are the locations of the TSP boards on the Dolev 4press V/V^2.

Brisque Platform	Slots	Isdev	TSP Cable	Laser #
F50	# 5	nsp0	TSP1*	Laser1*
6F1	# 7	nsp0	TSP1*	Laser1*
44P-170	# 4	nsp0	TSP1*	Laser1*

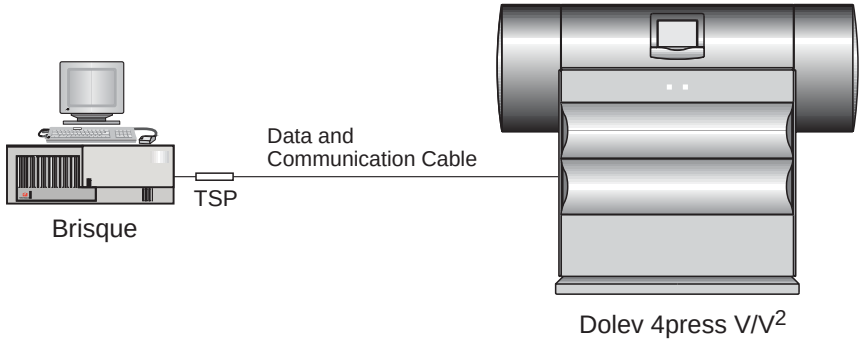


Figure 20: Connecting TSP cables - Dolev 4press V/V^2

3.8.2 Using TSP Data Cable Link (Data Connectivity)

To connect the TSP data cable (p/n - 199D06226) link between the Brisque and a Dolev 4press V/V^2:

1. Connect the cable marked TSP to the TSP Board on the Brisque (*see table on page 45*).
2. Connect the other end of the TSP cable to connector COM 3 or 4 on the SOMC board.

3.8.3 Accessing the Output Device Configuration

The Output Device Configuration on the Brisque is used to configure the Dolev 4press V/V^2, to view the device parameters, to define Press Formats, and to perform Excurve and Tone Reproduction.

To access the Output Device Configuration:

1. From the Brisque Launch Pad, open the **Setup** panel.

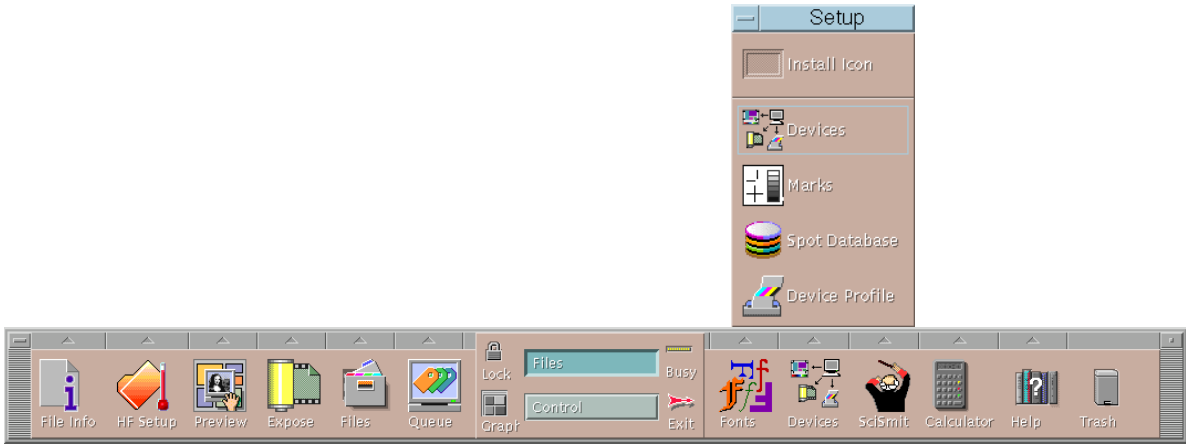


Figure 21: Brisque Launch Pad with Setup panel open

2. Double-click the **Devices** icon. The Output Devices Handling window appears.

The Output Devices Handling Window

From the Output Devices Handling window all configurations of the output devices are performed. From here new devices are configured, currently configured devices modified or deleted and previously configured devices are re-configured periodically.

All the device groups, device families and device configurations are displayed in this window, as well as the various operations relevant to each of the selected configurations. The device specific operations and the general operations relevant to all output devices are accessed via the available operation buttons in the Operations section.

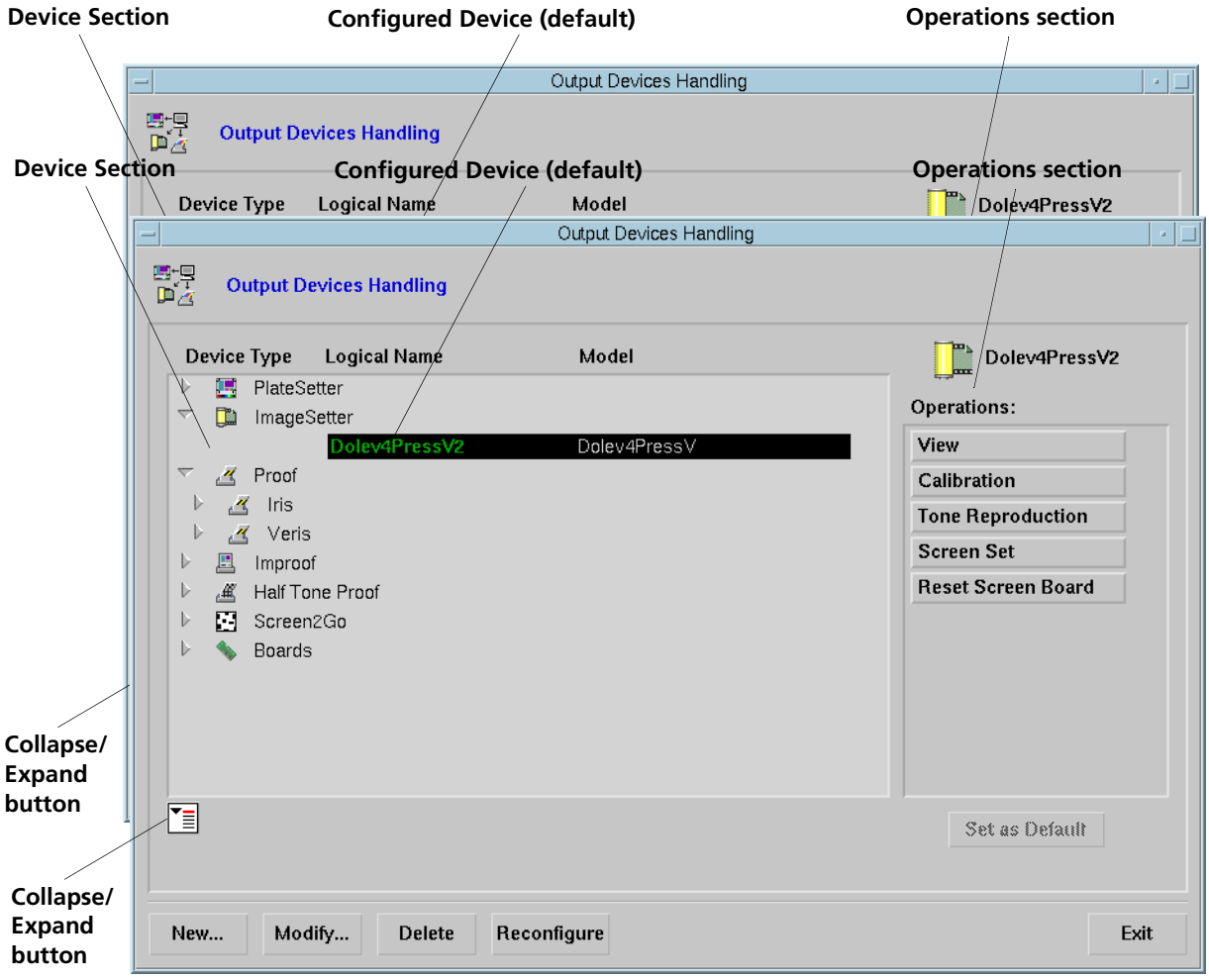


Figure 22: Output Devices Handling window

Item	Description
Device section	**The section is comprised of three columns:** **Device Type** - Displays the Device Groups such as Imagesetter, The list of Device Families appears under each group such as Dolev. Each level is locally expandable or collapsible, using the arrow on the left. **Logical Name** - This column displays the name of a specific configuration. When highlighted, relevant operations are enabled (in the Operations section). **Model** - This column displays the physical device name.
Expand or Collapse icon	Click to expand or collapse the entire list of devices to show or hide all details.
New...	Click to open the New Device Wizard and start configuring a new device.
Modify...	Click to modify parameters for an existing output device.
Delete	Click to delete an established configuration to an output device.
Reconfigure	Reestablishes the connection to the selected device. Click **Reconfigure** to reconnect the device (Online mode); a message confirms the connection or warns of the failure to connect. When a device is configured, the data is read and registered in the Brisque database. Disconnection of the device or failure of a component, is not logged in the Brisque, and no mechanism is currently available to warn of the device disconnection. We recommend that you reconfigure the device before every use.

Item	Description
Operations section	Operations related to the output devices are activated from here. Operations are enabled when a particular configuration is selected. Some operations are connection-specific, others are applicable to all output devices.
Set as Default	Not relevant.
Exit	Exit the Output Devices Configuration window.

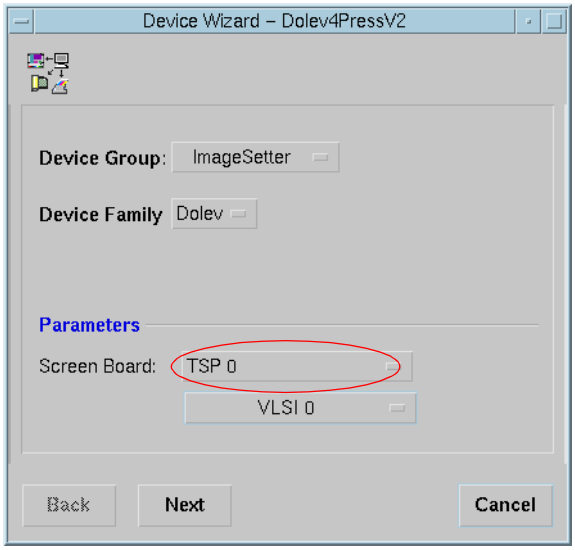
3.8.4 Configuring the Dolev 4press V/V^2 Imagesetters

To check if a Dolev 4press V/V^2 Imagesetter is configured:

1. In the Output Devices Handling window, click the arrow next to the **imagesetter** icon.
2. Click the arrow next to the **Dolev** icon. The connection to the Brisque is displayed under the **Dolev** icon; the name is in **green** if it is the default imagesetter.

To configure a new Dolev 4press V/V^2 Imagestter:

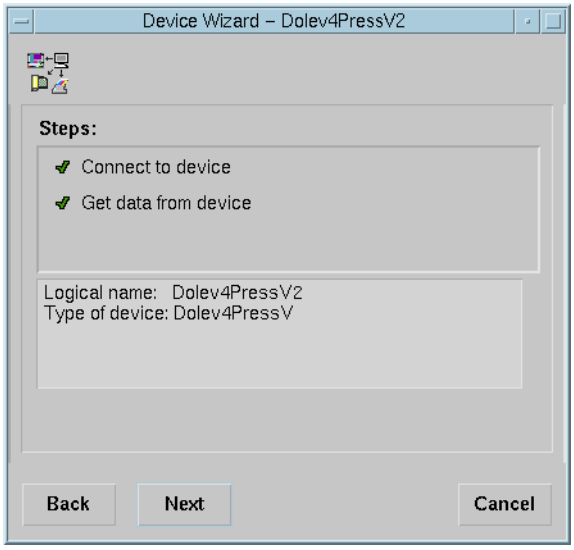
1. In the Output Devices Handling window, click **New...**. The following dialog box opens.



2. From the **Device Group** list box, select **Imagesetter**. The **Device Family** list box is labeled **Dolev**.

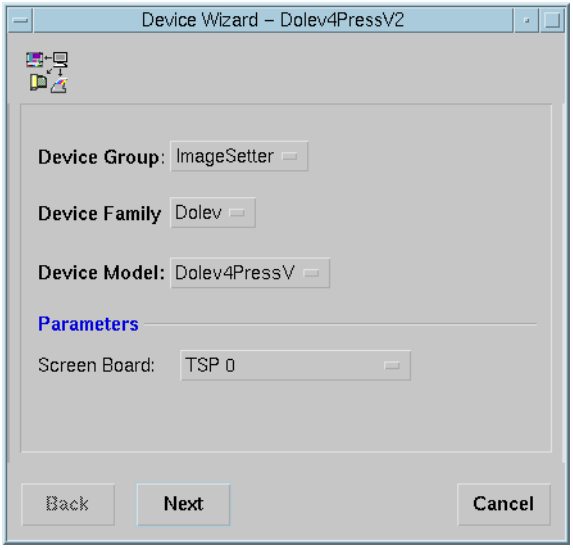
3. In the Screen Board drop-down list, choose **TSP 0** or choose **VLSI** for Fiber optic board.

4. Click **Next**. A device summary is displayed. Now the Device Type is identified as `Dolev4pressV/V`[2].

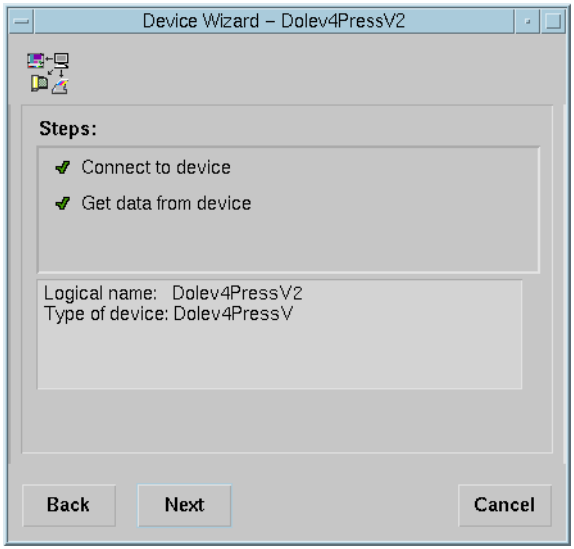


To modify the Dolev 4press V/V^2 imagestter parameters:

1. From the Output Devices Handling window, select the **Dolev imagesetter** configuration and click **Modify...**. The following dialog box opens. The Device Model name **Dolev 4pressV/V^2** is returned from the connected device.



2. Click **Next**. The following dialog box opens.



3. Click **Save** to save the configuration. If the update was successful, a confirmation message is displayed for a few seconds. The modified connection is displayed in the Output Devices Handling window under the **Dolev** icon.

To delete the Dolev 4press V/V^2 imagesetter configuration:

1. From the Output Devices Handling window, select the appropriate **Dolev** configuration and click **Delete**. The delete confirmation is displayed.
2. Click **Yes** in the confirmation dialog to delete. The configuration is removed from the Output Devices Handling window.

To reconfigure the Dolev 4press V/V^2 imagesetter:



Important: In case of failure, check the physical connection to the device, then try to reconfigure.

1. From the Output Devices Handling window, select the **Dolev** configuration.
2. Click **Reconfigure**. The Brisque reads the data from the device and confirms the connection. It displays a confirmation dialog for a few seconds, if the device has been reconnected. Otherwise, a failure message is displayed.

3.8.5 VLSI Board

The VLSI board is located at the bottom of the imagesetter, and is accessed from the left imagesetter door. The board connects to the host for exchange of both control and exposure data.

VLSI Board Connections

To connect the VLSI to the host:

1. Remove the imagesetter rear panel by loosening its four (4) Phillips-type screws.
2. Route one end of the multi-mode fiber link cable from the outside rear of the imagesetter, through the rear panel area, and over the fan assembly located at the bottom right side of the machine.
3. Remove the protective cover from the cable end. Connect this end of the fiber link cable to the fiber optic connectors on the imagesetter VLSI board. The two (2) connectors use a bayonet mount.

4. Insert the receiving (RX) cable connector into the plug marked TX1 on the VLSI board. Insert the transmitting (TX) cable connector into the plug marked RX1 on the VLSI board.

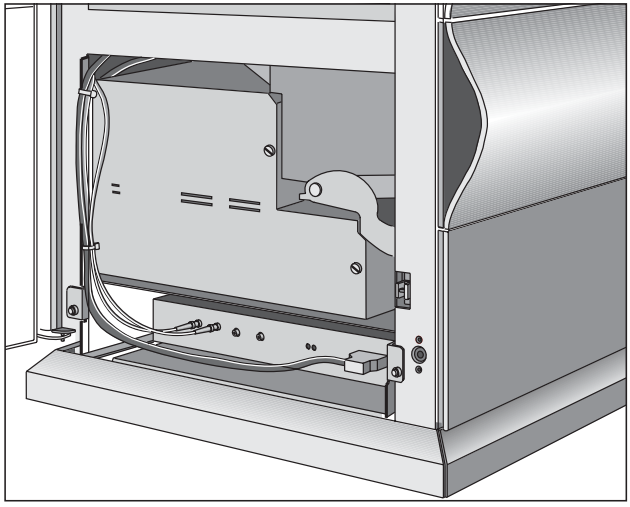


Figure 23: VLSI board connections

5. Connect the free end of the fiber link cable to the SFLP board in the host computer. The TX cable should connect to the RX plug of the SFLP on the host.

3.8.6 Other Boards

The Electronics unit (also called the E-Box) houses most of the imagesetter's electronics boards. The figure below depicts each board and it location

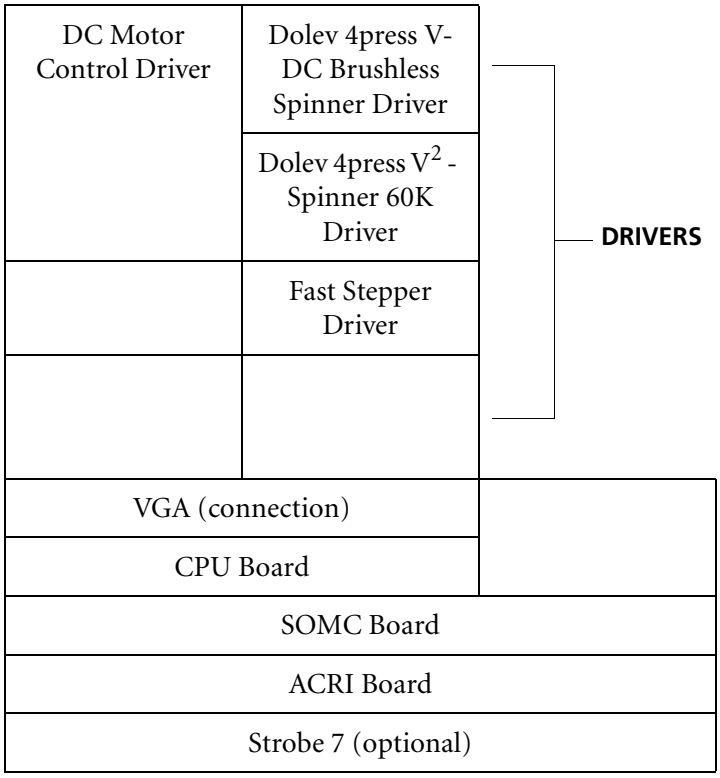


Figure 24: Boards in the Electronics Unit

The imagesetter is shipped with all Electronics unit boards connected to their ports. If necessary, see identification information located on the imagesetter to verify that all connections are correct.

In the event of an operational failure during imagesetter installation, ensure that all required boards are in their correct positions in the Unit.

1. Open the Electronics unit cover by removing its two (2) spring-loaded retaining screws. Remove the cover completely from the Unit.
2. Examine each slot in the unit and identify the boards in each. See table above, to verify board types and positions.



Note: For ease in identification, you may want to release a board by pulling it out of the unit slightly. To do this, you will first need to remove the bar which secures the boards inside the unit.

3.8.7 Imagesetter Power On

Once you have ensured that all imagesetter boards and connections are in position and are correct, it is safe to power-on the imagesetter.

1. Ensure that the imagesetter is safely connected to the electrical supply.
2. Turn on the main power breaker on the electronic power drawer assembly on the rear side of the imagesetter.
3. Turn on the **On/Off** Switch located on the upper rim of the imagesetter control panel.

3.8.8 Software Version Check

Before proceeding, ensure that the operating software being used on both the imagesetter and the host are compatible.

Following power-on, the imagesetter automatically loads its software.

1. When the system has loaded, note the current imagesetter software version identifier appearing at the top center of the imagesetter display.
2. Determine the software version currently running on the host. (See the host manuals, if necessary.)
3. Ensure that the imagesetter software version is fully compatible with the software currently running on the host.

Updating Imagesetter Software

If the current software versions are not compatible, you will most likely need to update the operating software on the imagesetter.

1. Obtain imagesetter software which is compatible with the host operating software.



Note: If different update instructions accompany the update disk, follow the new instructions.

2. Ensure that the software update diskette is write-protected. Insert the new software diskette into the floppy drive at the imagesetter rear.
3. Reset the imagesetter. The imagesetter will boot from the diskette and the operating system software update will be executed.
4. Remove the update diskette from the imagesetter floppy drive.
5. Reset the imagesetter again.

4 Start Operation

Overview 62
Using the Interlock Keys 62
Loading and Unloading the Film Cassettes 63
Updating Media Information 69
Checking the Imagesetter 70
Emptying the Imagesetter Drum 73
Restarting the Imagesetter 74
Closing the Imagesetter Doors 74
Loading New Film into the Drum 74
Checking the Laser Intensity 75
Regular Unloading 76
Film Processing 76
Examining and Setting Laser Intensity 77
Exposing Internal Pattern 78
Examining Overall Film Quality 80

4.1 Overview

This chapter details the first steps toward routine operation of the imagesetter. These steps should be performed only after you have completed all hardware installation.

At this stage, the following conditions should be met:

- The imagesetter is powered-on
- Both film loading and unloading drawers are open
- The **Not Ready** message appears on the imagesetter control panel (for additional details on operating the imagesetter, see *Chapter 1* of the *Dolev 4press V/V^2 User Guide*).

4.2 Using the Interlock Keys

The imagesetter is equipped with two (2) interlock keys which interrupt power to critical parts of the machine such as the laser, the spinner and the DC motors when either left or right Imagesetter Service Doors are opened.

The purpose of these interlock devices is to protect both yourself and the imagesetter from potentially hazardous access.



Important: Only a Creo engineer is authorized to manipulate the interlock system to service the imagesetter.

To interrupt power:

1. Locate the two (2) red plastic keys in the imagesetter accessory kit.
2. Insert these keys into the interlock device on each side of the imagesetter, and rotate them clockwise by 90° in order to lock them into place.

4.3 Loading and Unloading the Film Cassettes

4.3.1 Load Cassette

Imagesetter film arrives from the manufacturer in a protective container and rolled onto a cardboard tube.

Loading film on the imagesetter is a two-stage process, as follows:

- Film is first loaded into the loading cassette
- The loaded cassette is then placed into the imagesetter.

Important: Be sure that the film width meets the imagesetter specification. Loaded film should be of the Emulsion-out type. Be sure to load film under the appropriate lighting conditions.

To load a roll of film into the Loading Cassette:

1. Clear sufficient space on a dry tabletop in the darkroom.
2. Place the cassette on the table with its two (2) spring-loaded tabs facing upward.

   Note: Make sure the cassette is placed with the tabs closest to you, as shown.



Loading cassette

3. Push the tabs toward the center and lift the cover.

4. Lift the film spool to remove it from the cassette, and place it on the table. A different flange is attached to each side of the film spool, namely, the left flange and the right flange.

Tip: The left flange of the film spool has two (2) positions:
Closer to the middle of the spool if side punches are not installed (by default, the flange is set to this position).
Closer the end of the spool if side punches are installed.

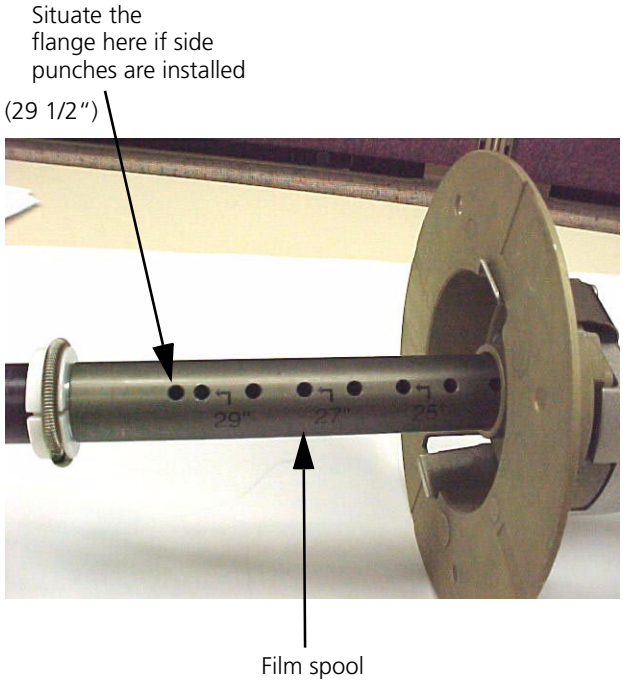


Figure 25: Left flange

5. To adjust the flange, press on its inner part, and move it to the appropriate position (as shown in *Attaching the right flange* on page 65). When the flange is at the desired position, release its inner part to lock it into position. Attempt to move the flange slightly to ensure that it is locked in position.

6. Insert the spool into the film roll until the roll rests on the inner part of the left flange.

7. Attach the right flange to the opposite side of the spool, as shown in Figure 26 on page 65. Press on the inner part of the right flange and move it to the film width groove nearest the edge of the film roll. When the flange is at the desired position, release its inner part to lock it into position. Attempt to move the flange slightly to ensure that it is locked in position.

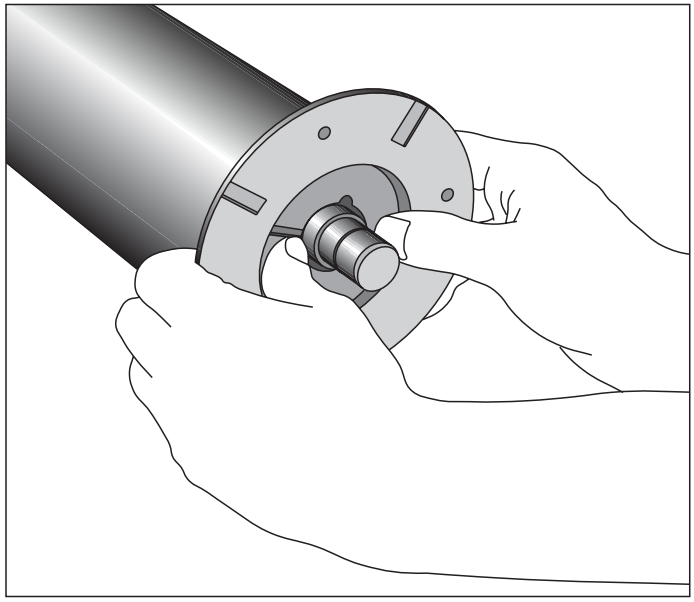


Figure 26: Attaching the right flange

8. Insert the loaded film spool into the cassette, film emulsion facing upward.



Figure 27: Inserting the film spool

9. Rest the film spool ends in the V-shaped channels on both sides of the cassette. Pull at least 50 mm (2 inches) of film so it extends beyond the edge of the cassette.
10. Close the cover of the cassette until it locks soundly with a click.

Note: To make sure that the cover is closed, push the tabs toward the sides of the cassette.

11. Turn the cassette and grasp it by the inset handles on both its sides. Exit the darkroom.

Note: If you are using red-sensitive film, the remainder of the film loading procedure can be performed under normal daylight conditions.

12. Place the loaded cassette in the film loading drawer so that its tabs face the imagesetter, and the film exits from the top of the cassette, as shown.



Figure 28: Placing the loading cassette

13. The cassette should rest against the rear side (the side furthest from you) of the film loading drawer.

14. Locate the special film trimmer in the accessories kit, and trim the film evenly, as shown.

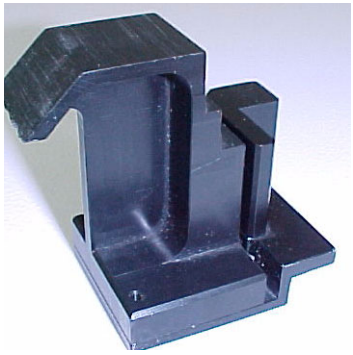


Figure 29: Film trimmer

15. Grasp the edge of the film with one hand. Hold the trimmer with two (2) fingers (of your other hand). Place the trimmer on the left side of the film, and slide it to the right along the width of the film as shown.

Note: To make sure that trimming is straight, hold the trimmer steadily, and push it downward.



Figure 30: Trimming the film

Note: The trimmer leaves exactly 32 mm (1.26 inches) of film protruding from the cassette.

16. Close the film loading drawer. Push firmly until it clicks shut.

4.3.2 Unload Cassette

To unload cassette:

1. Place the accumulating/unloading cassette in the film unloading drawer. Use the inset handle at the top center of the cassette to drop it into place, as shown.



Figure 31: Placing the unloading cassette

The cassette should rest against the tabs closest to the front side of the drawer, as shown in *Placing the unloading cassette* on page 68.



Figure 32: Unloading cassette orientation

2. Close the film unloading drawer. Push firmly until it clicks shut.

4.4 Updating Media Information

After you close the film loading drawer (and the film unloading drawer is already closed), the Media Info window is displayed on the control panel screen.

Material^	>Film	[Film]
Media Thickness^	4	[4mil]
Media Width^	736	[254]
Media Position^	Punch	[Punch]
Res/Int Table #^	1	[1]
Vendor^	None	[None]
Cur. Length (m)^	61	[61]

The Media Info window shows the parameters of the Media Info table of the currently loaded film (the square brackets enclose the default value of the field).

The system uses this data to inform you of the status of the cassettes during exposure.

To update media information:

1. Check the values in the table, and modify them to suit the film you loaded.
2. To update a parameter, press the soft button below **Toggle**. This switches between available options.



Note: The **Media Position** field refers to the position of the media inside the loading cassette. If you have positioned the media in order to accommodate built-in side punches, select **Punch** as your choice here.

3. Select **Done** when finished. A first load is performed and the new film is automatically loaded into the imagesetter drum.
When the first load is completed, a Standby message is displayed on the imagesetter control panel.

4.5 Checking the Imagesetter

To check the imagesetter:

- Open the imagesetter service doors, and perform the film loading cycle (see *Loading New Film into the Drum* on page 74) to provide a brief physical check of the imagesetter.



Note: In order for the imagesetter to operate with its service doors open, you need to ensure that the interlock system is defeated. See *Using the Interlock Keys* on page 62.

If the imagesetter malfunctions during this check, see *Running Imagesetter Diagnostics* on page 72.



For information on the control panel and its functionality, see the *Dolev 4press V/V^2 User Guide,* 399Z2G644D.

4.5.1 Carriage Motion

Ensures that the dynamic optomechanical carriage moves freely and is correctly calibrated.

To ensure carriage free motion and correct calibration:

1. On the imagesetter control panel, select **Util**. The **Util** menu appears.
2. Select **Service Utilities**. The Service Utilities Main screen appears.
3. Select **Machine**. The **Machine** menu appears.
4. Select **Carriage**. The **Carriage** menu appears.
5. Select **Move to End Position**. The carriage moves to its end position. When movement is complete, the message PASS should appear at the extreme right of the data line at the bottom of the screen.
6. Return to the **Machine** menu once again. Select **Carriage**.
7. Select **Calibrate Home Position**. The carriage returns to its home position. When calibration is complete, the PASS message should appear at the extreme right of the data line at the bottom of the screen.

4.5.2 Spinner

Ensures that the spinner is operating according to required specifications.

To ensure spinner operation:

1. From the Service Utilities Main screen, select **Machine**. The **Machine** menu appears.
2. Select **Spinner**. The **Spinner** menu appears.
3. Select **Start Spin**. The spinner begins spinning. The PASS message should appear at the extreme right of the data line at the bottom of the screen.
4. Return to the **Machine** menu. Select **Spinner**.
5. Select **Stop Spin**. The spinner stops spinning. The PASS message should appear at the extreme right of the data line at the bottom of the screen.

4.5.3 Laser

Ensures that the laser is operating according to required specifications.

To ensure laser operation:

1. From the Service Utilities Main screen, select **Machine**. The **Machine** menu appears.
2. Select **Laser**. The Laser menu appears.
3. Select **Create NDF Graph**. The imagesetter activates the laser and performs a series of programmed steps in order to create an analytical graph.



DANGER: The laser light is active with service doors open during this procedure. Take the appropriate precautionary measures to protect both yourself and others in the imagesetter installation area.



Note: This procedure takes approx. two (2) minutes to complete.

Immediately following these programmed steps, the graph is displayed, showing the laser intensity.

4. Examine the graph. Make sure the maximum intensity laser value is above 40,000.
5. To exit the graph, select **Cancel**.

4.5.4 Running Imagesetter Diagnostics

If the imagesetter malfunctions during the check, you need to run the Diagnostics package.

To set up the Diagnostics for your device:

1. From the Service Utilities Main screen, select **Options**. The **Options** menu appears.
2. Select **Diagnostics Setup**. The Setup window appears.
3. From the Setup window, choose the output device type for Diagnostics results. Select **PC**, **Laptop** or **Host** and press **Done**.

To run the Diagnostics program:

1. Return to the **Options** menu, and select **Diagnostics.** The Diagnostics application starts to execute.
2. Perform the diagnostics routine(s) appropriate to the malfunction.

4.6 Emptying the Imagesetter Drum

Following the basic imagesetter check, perform the following film unloading cycle with imagesetter service doors open.

To empty the drum:

1. Check the following items during the film Cut and Collect cycle:
   Film Cutter - The exiting film should be cut smoothly and evenly. The cutter should travel without interference of any kind. (It pauses for a few seconds at the opposite side of the imagesetter, then returns to its home position.)
   Accumulating/Unloading Cassette - The exiting film should enter the opening of the cassette in a straight path and without interference of any kind.
2. Select **Advance** from the **Util** menu. The Advance window appears.
3. In the **Film Length** field, select **600** and press **Done**. The imagesetter advances the film into the unloading cassette. The Standby message should appear at the top of the control panel screen.
4. Select **Change Media** from the **Util** menu. The film is emptied from the imagesetter drum into both the loading cassette and unloading cassette. At the end of the cycle, both imagesetter drawers open automatically.
5. Remove the wasted film from the unloading cassette and discard it. (This film has been exposed to room light.)
6. Remove the wasted film from the loading cassette.
   a. With the cassette in place, pull on the film until you feel some resistance from the film roll.
   b. Use the film trimmer to retrim the film.

4.7 Restarting the Imagesetter

After you have emptied the wasted film, reboot the imagesetter. This checks the reset process.

To restart the imagesetter:

- Press the **Reset** button located on the top rim of the control panel (see *Imagesetter control panel* on page 11).



Note: After reboot, the control panel should display the `Not Ready` message.

4.8 Closing the Imagesetter Doors

Before proceeding, prepare the imagesetter for normal exposure conditions.

To close the service doors:

1. Remove the interlock defeat keys from both service doors.
2. Close the service doors.
3. Secure the three (3) bolts in the following sequence: bottom first, middle next, and then top.



Note: Tighten the bottom securing bolt until you hear the click of the imagesetter's interlock device, located near the door bottom.

4.9 Loading New Film into the Drum

This film will be used to conduct tests used for building the various imagesetter exposure tables.

To load new film:

1. Reinsert the loading and unloading cassettes into their drawers (see *Load Cassette* on page 63 and *Unload Cassette* on page 68). Close both film drawers firmly until they click shut.
2. Update the Media Info table (see *Updating Media Information* on page 69). The imagesetter initiates a first load cycle. The imagesetter control panel displays a `Standby` message.

4.10 Checking the Laser Intensity

Before checking overall exposure quality, the correct laser intensity for each plotting resolution must be determined.

To check Laser Intensity:

1. Ensure that the imagesetter control panel displays a `Standby` message.
2. From the Service Utilities Main screen, select **Expose**. The **Expose** menu appears.
3. Select **Test Intensity**. The Intensity window appears.

Start Value^	>5000	[10000]
End Value	20000	[60000]
Step Inten	5000	[5000]
Strip Height	30	[20]
Strip Width	500.0	[100.00]
Move Carriage~	Yes	[No]
Lad Media^	Yes	[No]
Resolution	80	[80.00]
Spin Speed	36000 (V)	[36000.00]
	60000 (v^2)	[60000.00]
Height Offset	0.00	[0.00]
Width Offset	0.00	[0.00]
Data Frequency	25.0	[25.00]
SSP number	0	[0]
Punch Unique Sys#^	No	[No]

4. Fill-in the window, as follows:
   a. Start value can range from 700 to a maximum of 60000.
   b. Strip height setting applies to 26-inch film. Reduce height setting if necessary.
   c. Resolution values can be: 60, 80, 100, 120, 140 or 160.
   d. Spin speed should be suitable to the selected resolution.
5. Select **Done** when finished. The imagesetter begins exposing the current set of intensity strips.

6. Repeat previous steps to expose a set of strips for each resolution (60, 80, 100, 120, 140 or 160). Ensure that the **Spin Speed** field is set correctly for the currently selected resolution.

4.11 Regular Unloading

To perform regular unload:

1. On the Control Panel Main screen, select **Film**. The **Film** menu appears.
2. Select **Cut & Collect**. The imagesetter performs a regular film unloading cycle, and the film unloading drawer opens.
3. Remove the unloading cassette.



Important: Be sure to leave a flap of film sticking out of the cassette, as shown.



Figure 33: The removed unloading cassette

4.12 Film Processing

To process film:

1. Take the unloading cassette to the darkroom (film processor).
2. Flip the cassette end-over-end so that the film flap sticks out of the cassette bottom. Rest the cassette on the film processor entry bed.
3. To release the film, press on both sides of the film gate until it clicks shut.

4. Slowly advance the film toward the processor take-up roller with your fingers until the processor begins feeding the film automatically.



Note: Carefully label each internal pattern and set of strips as it comes out of the film processor. This makes it easier to later differentiate between the various pattern types and exposures resolutions used.

4.13 Examining and Setting Laser Intensity

Laser intensity must be calibrated and set for each film type and plotting resolution used, in order to guarantee consistent high-quality exposure.

To determine correct laser intensity, for each set of strips exposed:

1. On a light table, measure the density of the exposed strips. Look for the darkest strip on the film.
   This strip should ideally measure 4.2 (for rapid access films) or 5.2 (for high contrast films).



Note: The screen associated with the darkest strip must still be smooth, sharp and of high quality. If you cannot find a strip approximating this density on the film set, you need to adjust the overall laser intensity and recreate the strips.

2. Write down the intensity appearing next the darkest strip on the film.

To set the new intensity value, for each set of strips exposed:

1. From the Service Utilities Main screen, select **Expose**. The **Expose** menu appears.
2. Select **Res. Int. Setting** and choose a setting number (between 1and 6). A setting window for that table appears.

```
Material^              >Film       [Film]
Vendor                 Brand X     [None]
Media Thickness        4 mil       [4mil]

     Resolution            Laser Intensity
60          [60]       22000       [10000]
80          [60]       16500       [10000]
100         [60]       13000       [10000]
120         [60]       10000       [10000]
140         [60]       8500        [10000]
```

3. Fill-in the window. Enter current film type details and the intensity setting you recorded for the current resolution.
4. Repeat previous steps for each plotting resolution and for each media type, as required. Use a unique Res. Int. setting number for each unique media type calibrated.

4.14 Exposing Internal Pattern

Expose test film with the imagesetter's internal pattern generator. These films are used to check imagesetter plotting accuracy prior to routine operation.

Internal pattern exposure should be performed only after you have checked and calibrated laser intensity.

To expose internal pattern:

1. Ensure that the imagesetter control panel displays the `Standby` message.
2. From the Service Utilities Main screen, select **Expose**. The **Expose** menu appears.
3. Select **Internal Pattern**. The Internal Pattern window appears.
4. Fill-in window.

Patterns^	>Uni	[Grid]
Move Carriage^	Yes	[Yes]
Load Media^	Yes	[Yes]
Resolution	80	[80.00]
Spin Speed	36000.0 (V)	[36000.00]
	60000.0 (v^2)	[60000.00]
Write Inten	2000-3000	[10000]
Plot Height[a]	500.00	[100.00]
Plot Width	500.00	[100.00]
Height Offset	0.00	[0.00]
Width Offset	0.00	[0.00]
Pattern Period	4	[4]
Pattern Size	50	[50]
data Frequency	25.0	[25.00]
SSP Number	0	[0]
PunchUnique System#^	No	[No]

a. Plot height setting applies to 26 inch film. Reduce height setting if necessary.

5. Select **Done** when you are finished. The imagesetter begins plotting the selected internal pattern.
6. Unload and process the exposed films. See *Regular Unloading* on page 76 and *Film Processing* on page 76.

4.15 Examining Overall Film Quality

➢ Check the processed film output for overall quality. Use a densitometer.

- Output should appear over the full exposure area of the imagesetter, and be completely uniform, edge-to-edge.
- The film should have no scratches, random lines, light patches or reflections.



Note: Should reflections appear, access the imagesetter setting window, and check the value of the Expose Start Width and Height fields (Service Utilities Main screen:Setup).

- No random patterns or density shifts should appear in screens.

When film quality is acceptable, proceed to the next chapter, System Configuration.

5 System Configuration

General....82
Configuration on the Host....82

5.1 General

This chapter describes how to configure the imagesetter to the host computer.

Perform these steps only after you have ensured that software versions for both the imagesetter and the imagesetter are compatible. To check for compatibility, see the *Software Version Check* section in Chapter 3.



Note: The imagesetter software version is also found in the *Factory Configuration/Settings* document shipped with the imagesetter.

For additional details on operating the host, see the Host User Guide.

5.1 Configuration on the Host

5.1.1 Imagesetter Definition

To define the imagesetter on the host:

1. At the Console login prompt, type `sciutil` and press ENTER.
2. The Creo Utilities application loads, and its initial screen appears.
3. Select **1. Local Devices Configuration** from the Creo **Utilities** menu.
4. Select **6. Imagesetter SetUp** from the Local Devices Configuration menu. The Imagesetter Setup window appears.
5. For each of the fields below, use the SPACE BAR to choose the following parameters:
   - Device Type: Dolev4press V/V^2
   - Ripping Type: Dual or Single (as required)
   - Card Type: VLSI/TSP.

   Note: The height and width parameters will reflect the default output size of the chosen Device Type.
6. Select **Save & Exit (F1)**, to store these settings.
7. Select **Quit (F8)** to exit the Creo Utilities application.
8. At the Console login prompt, type **Creo** and press ENTER.

9. Press ENTER again after `EOF:` appears. The main Creo application starts and the Library screen appears.

5.1.2 Set Units Of Measure

The default units of measure are set via the main Creo application.

To set the units of measure:

1. On the Library screen, select **Set Up** from the Utility strip. The Set Up menu appears.
2. From the **Set Up** menu, select **Unit Defaults**. The Unit Defaults form appears.
3. Switch to **Millimeters** or to **Inches**.
4. Select **Save & Exit (F1)** to exit the application.

Index

A

attention symbol, xii

C

Carriage
    free motion, 71
caution symbol, xii
channels
    loading cassette, 66
checklist, 15, 18
Config window. *See* Output Device Configuration application
Configuring Output Devices
    Lotem PlateSetter, 50
    PlateSetters, 50
conventions used in the manual, xi

D

danger symbol, xii
Drum
    emptying, 73
    loading film into, 73

E

edge of film, 66, 67
electrical requirements, 20
emulsion
    loading, 65

F

features, 10
Film Gate, 76
film spool, 64
Film Width
    right flange, 65
flange, 64
floor space, 20
fonts used in the manual, xi

I

Imagesetter SetUp, 82
important symbol, xii
installation, 15
installation checklist, 12

L

laser intensity, 75
leveling imagesetter, 33
Loading Cassette, 64, 65
Loading drawer, 66, 69
loading roll of film, 63

N

note symbol, xiii

O

opening door, 32
Output Device Configuration application
    Config window, 48

P

parts list, 30
pre-installation, 18
processor requiremenrs, 26
processor requirements, 23
punches
    left flange, 64

R

reference symbol, xiii

S

Site preparation, 18, 20
software update, 59
space requirements, 18
specifications, 12
spinner operation, 71
status
    cassettes, 70
symbols used in the manual, xii

T

tabs
    Loading Cassette, 66
terminology used in the manual, xi
tip symbol, xiii
trimmer, 67
tsp connectivity, 45

U

unloading cassette, 68
unpacking imagesetter, 31

V

vlsi board, 55

W

warning labels, 4