



SAFETY INFORMATION

Turret Winder Safety

INTRODUCTION

The purpose of the **Turret Winder** is to wind webs of paper, paperboard and non paper products such as film and polyethylene into rolls that have uniform tension and density across their widths.

A benefit of this type of winder is its ability to wind pressure sensitive materials under low winding pressures and to wind low tensile strength products under low tension. Each winder is custom engineered to meet the needs of the particular product to be produced and to be able to operate both continuously and intermittently. To be able to operate in a continuous mode, **Turret Winders** utilize various types of roll changers.

Products, properties, speeds and widths vary from winder to winder and from plant to plant; therefore, the proper procedure of threading and attaching each particular product to the winder may vary from winder to winder.

IT IS ESSENTIAL THAT OPERATING PERSONNEL BE THOROUGHLY TRAINED IN THE **TURRET WINDER SAFETY** AND THE OPERATING PROCEDURES APPLICABLE TO THE PARTICULAR PRODUCT AND WINDER INVOLVED.

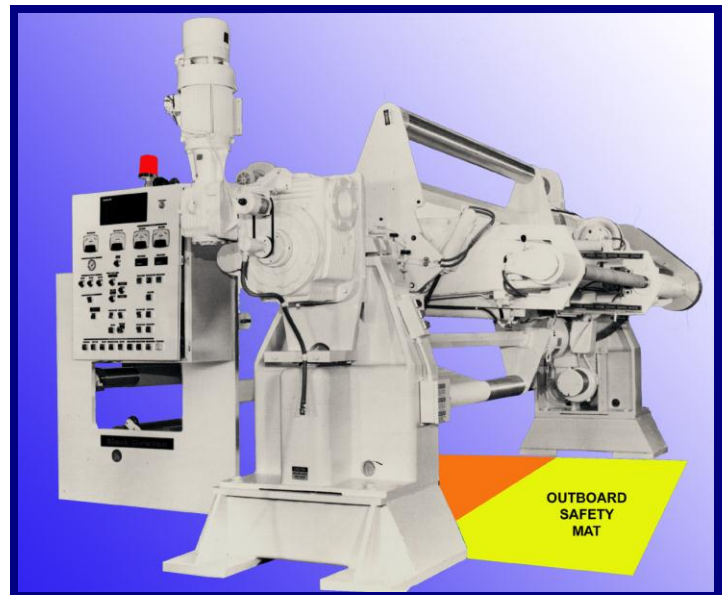


Figure 1.

Lack of proper training can be A MAJOR CAUSE OF SERIOUS INJURY. Care must be taken while transferring the finished product from the **Turret Winder** to the converting or shipping area. Special safety measures must be taken while transporting this heavy roll whether by crane or trolley.

Wherever practical and appropriate, adequate barriers and safety signs must be installed to protect and remind personnel of potential **Turret Winder** hazards as referred to in this bulletin. For examples of unsafe practices, see page 18.



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DANGER IN-RUNNING NIPS

PERSONNEL MUST NEVER COME INTO CONTACT WITH THE IN-RUNNING NIP POINT BETWEEN THE PRESSURE ROLL AND CORE OR THE WINDING ROLL OF PRODUCT. VERY SERIOUS INJURY CAN RESULT.

Many **Turret Winders** wind rolls of paper or film using a pressure roll. (Sometimes called rider roll, pack roll, layon roll, or bump roll.) See **Figure 2**.

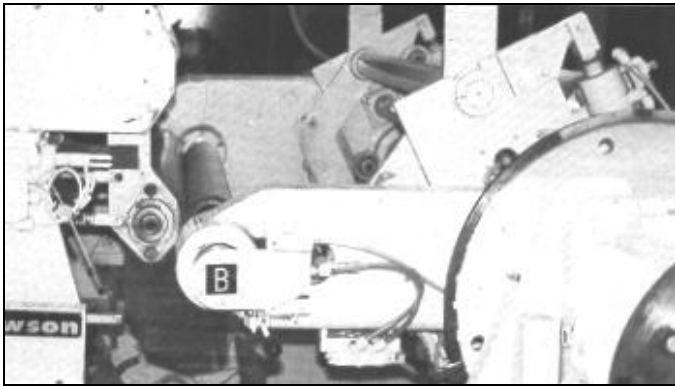


Figure 2.

The operator must never try to attach product to a core while the pressure roll is energized, in its ready position or in contact with the core.

NEVER ATTACH PRODUCT TO THE CORE WHILE THE WINDER IS RUNNING.

The types of web being wound dictate what safety devices are necessary and what methods should be used to safely thread the winder and attach the web to the core.

This Bulletin discusses and illustrates typical methods of safe operation. Davis-Standard, LLC is available to assist you with implementing a safety program for your Egan, Black Clawson Company, Black Clawson Converting Machinery LLC, Black Clawson Converting Machinery, Inc., as well as Davis-Standard **Turret Winders**.

IMPORTANT NOTE

This bulletin applies to **Turret Winders** manufactured by Davis-Standard, LLC, Egan, Black Clawson Company, Black Clawson Converting Machinery LLC, and Black Clawson Converting Machinery, Inc. only. Although these instructions will apply to most Davis-Standard, LLC, Egan and Black Clawson Turret Winders, there are a number of specialty winders in use that differ slightly in design. If the instructions in this bulletin do not apply to your particular **Turret Winder**, please contact Davis-Standard, LLC.

SAFETY DEVICES

Because operators require access to the **Turret Winder** for threading and full roll removal, completely surrounding the winder with fixed barrier guards is almost always impractical. **Turret Winders** come in all sizes and combine with other equipment to make each application unique. If removable barrier guards are utilized, they must be fully interlocked with the drive so that the indexing drive, as well as the spindle drives, are disabled when the barriers are opened or removed.



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SAFETY MATS - INBOARD

Safety mats (presence sensing devices) are strongly recommended for use in the area under the pressure roll and inboard spindle so that when an operator steps on the mat, the drive for the winder is disabled, the spindles are stopped, and any movement of the knife transfer system is prevented. The safety mat should be fixed permanently to the floor. See **Figure 3**.

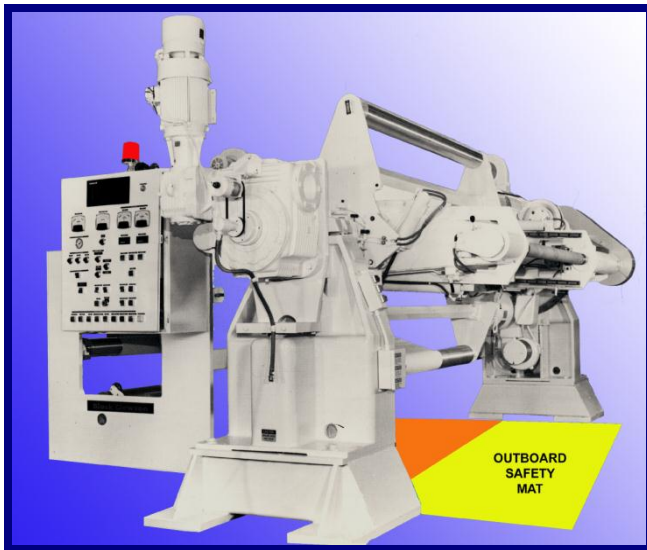


Figure 3.

SAFETY MATS – OUTBOARD

Safety mats (presence sensing devices) are strongly recommended for use in the area below the outboard spindle so that the outboard spindle cannot be started and the turret indexed while an operator is on the mat. The operator must stand clear of the spindle and off the mat before the spindle can be started and the material wound up. Standing back on the mat will not stop the spindle but will still prevent indexing.

FAILURE TO INSTALL INBOARD AND OUTBOARD SAFETY MATS CAN RESULT IN SERIOUS PERSONAL INJURY.

LIGHT CURTAINS

- Light curtains can be used in place of the outboard safety mat to provide identical safeguards. Manual resetting of the light curtain is required. It is not the intent of this particular light curtain to prevent access to the winder.
- Light curtains can also be used under certain circumstances to stop the winder if operators attempt to enter unsafe areas. Care must be taken to locate the light curtain at a sufficient distance from the hazard to allow for the approach speed of the operator and the stopping time of the winder.

SPINDLE RAMP UP SPEED

For initial wind up at the outboard spindle the drive is in tension mode. To prevent rapid acceleration on start up, without tension, the drive ramp up speed from stationary to operating speed should be limited to 35-50 FPM/SEC at limited torque.

WARNING

Safety devices are no substitute for safe and proper operating procedures. Interlocks can and often will be bypassed if the operator feels they are a hindrance to production. Davis-Standard, LLC only supplies interlocks that are necessary for safe operation. **UNDER NO CIRCUMSTANCES SHOULD SUCH INTERLOCKS BE BYPASSED FOR ANY REASON.** It is the duty of the user to maintain interlocks in good repair.



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LATCH LOCK ASSEMBLIES

This applies to latch lock assemblies on Turret Winders manufactured prior to March 15, 2003 by the Black Clawson Company and Black Clawson Converting Machinery, LLC.

The latch lock assembly has been redesigned for the above mentioned Model 10, 20, 30, 40 & 50 Turret Winders.

On occasion the original latch lock assembly has been incorrectly assembled creating an unsafe condition where the locking mechanism has failed to lock. The new latch lock assembly does not require drilling at assembly and correct assembly is virtually assured.

We strongly recommend that when the plant replaces the latch lock assembly because of wear, they contact Davis-Standard, LLC spare parts department referencing installation sheet # A-397597.

FAILURE TO ASSEMBLE THE LATCH LOCK ASSEMBLY CORRECTLY CAN CAUSE THE SPINDLE TO DISENGAGE FROM THE CORE ON LOSS OF AIR AND CAUSE SERIOUS PERSONAL INJURY OR MACHINE DAMAGE.

WARNING

When barrier guards are not used, clearly mark the operating area with yellow lines on the floor. Personnel must stay outside of these lines when winder is running.

WARNING SHEET THREADING

Threading of a web onto a **Turret Winder** is required at initial start-up and after a web break. Personnel must read, understand and strictly follow proper and safe threading procedures in order to avoid serious personal injury.

Basically two types of webs are run on **Turret Winders**:

1. Cast Film which involves extruding a continuous web from a film die.
 2. Paper and Film grades which involve an unwind-to winder operation that can be intermittent.
- A. **CAST FILM - INITIAL THREADING PROCEDURE:**
1. Open all nips and with the entire machine line "Off", thread a "leader" through the equipment prior to the **Turret Winder** and through the winder to the OUTBOARD spindle.
 2. Attach the "leader" to cooled web and pull the web from the extruder chilled roll to the outboard spindle on the **Turret Winder** at **THREAD SPEED**. Cut off "leader" and attach web to the stationary outboard spindle. Stand clear and wind up slack, index the winding bundle into normal winding position, adjust tensions, and bring the spindle up to normal operating speed. Do a normal roll change following normal operating procedures.



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WARNING

Never attach web to a ROTATING outboard or inboard spindle, or touch rotating bundle.

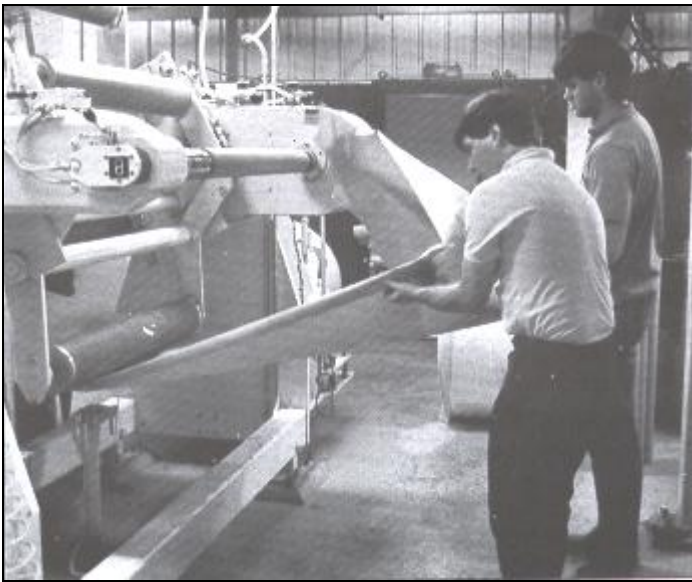


Figure 4.

B. ALL GRADES THAT INVOLVE INTERMITTENT OPERATION - INITIAL THREADING PROCEDURE:

Feed the web through each of the machine line sections, from the unwind to the winder. Feed each section one at a time with any and all nips open and then close each nip. Adjust draw as required before going to each subsequent section until the web has reached the **Turret Winder**. With the **Turret Winder** shut off, thread the web through the winder and attach to the stationary outboard spindle. See **Figures 4 and 5**. Cut off excess material; do not allow large amounts of material to accumulate on the floor.

Step off the safety mat, stand clear of the outboard spindle, wind up slack in thread mode, index the winding bundle into normal winding position, and bring spindle up to operating speed. Do a normal roll change following normal operating procedures.



Figure 5.

Shows web being attached to stationary outboard spindle.

WARNING

Never attach the web to a ROTATING outboard or inboard spindle, or touch rotating bundle.

The only exception to this is when the material to be threaded cannot tolerate the sudden tension induced by slack take up when threading to a stationary core. Special design features must be incorporated into the drive design to include a limiting torque drive at thread speed. The threading torque of the motor must be such that should an operator be entangled with the spindle core and material, the spindle will stall.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS PERSONAL INJURY.



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ALL PAPER & FILM GRADES RETHREADING

Conditions may cause the roll changer to fail to do a "tuck in" or transfer. When this occurs:

UNDER NO CIRCUMSTANCES IS THE OPERATOR TO ENTER THE WINDER AND TRY TO RE-ATTACH THE TAIL WHILE THE MACHINE IS RUNNING. SERIOUS PERSONAL INJURY MAY RESULT. SHUT DOWN the machine, rethread and attach the web to the stationary spindle, as described in initial threading for both Cast Film & All Grades that involve intermittent operation.

FAILURE TO FOLLOW THESE INSTRUCTIONS FOR THREADING AND RE-THREADING CAN RESULT IN SERIOUS PERSONAL INJURY.

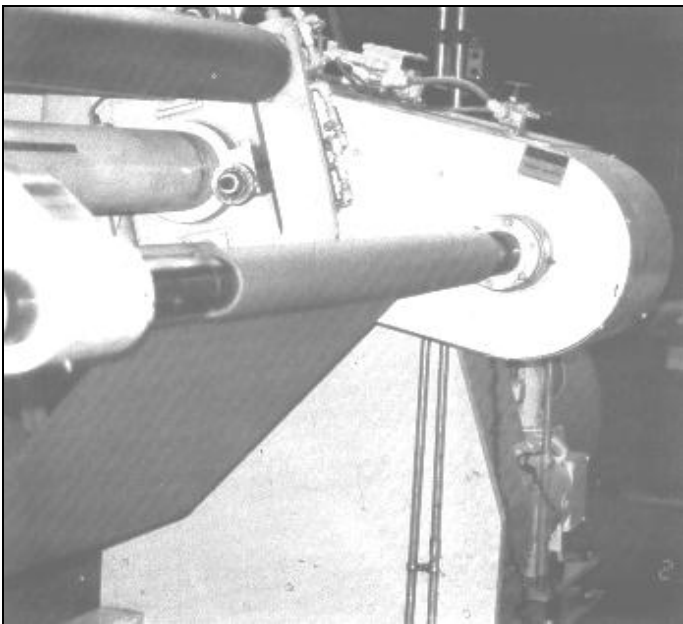


Figure 6.

Shows slack take up on spindle.

WARNING GAP BETWEEN WINDING ROLL AND MAINSHAFT

As the winding roll increases in diameter, the gap between it and the mainshaft decreases. This small gap can cause serious crushing injuries.

UNDER NO CIRCUMSTANCES IS THE OPERATOR TO ENTER THE WINDER TO TOUCH THE WINDING ROLL AS SERIOUS PERSONAL INJURY MAY RESULT.

SLITTERS

As a general rule, in-line cross machine slitters are not used in conjunction with **Turret Winders** unless:

1. The web has enough stretch to take care of the difference in basis weight cross profile.
2. The web is extremely flat.
3. The spindle has a slip core to compensate for the basis weight profile. Without a slip core, the **Turret Winder** would have to wind slit rolls of varying density and tension on a single spindle rotating at uniform speed. For these reasons, the vast majority of **Turret Winders** that have slitters are used on film lines. As a rule, Davis-Standard, LLC does not recommend **Turret Winders** for paper grade application with in-line slitting across the machine.



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Always check with the manufacturer of your **Turret Winder** BEFORE adding slitters. PROCEDURES MAY VARY, AND SERIOUS PERSONAL INJURY COULD RESULT FROM THE OPERATOR USING IMPROPER PROCEDURES.

NOTE: Edge slitters are not a problem with paper grades as the slit edges must be discarded by a trim removal system and not wound on the core.

The following is a listing of current threading practices recommended by Davis-Standard, LLC on Davis-Standard, LLC, Egan, and Black Clawson **Turret Winders** with in-line slitters:

IMPORTANT

All operating and supervisory personnel must learn and understand the threading procedure for their **Turret Winder** Line. If your Winder Line was manufactured by Davis-Standard, LLC, Egan, or Black Clawson, we will be pleased to assist you in establishing and developing proper procedures

WARNING THREADING WITH IN-LINE SLITTERS

Initial threading of machine and **Turret Winder** is exactly as described in the previous THREADING chapters for both Cast Film and Paper Grades. During this threading sequence the slitters MUST NOT BE ENGAGED. Engaged slitters could cause serious personal injury during the threading process. After the threading procedure is complete and the web is attached to the NON-ROTATING outboard spindle, stand clear, wind up slack in thread mode, index the winding bundle into normal winding position, adjust tensions, and bring spindle up to normal operating speed. Now ENGAGE slitters.

Do a normal roll change according to operating procedures. Check for good separation after the slitters to prevent interweaving on core.

NEVER enter the winder and attempt to cut or separate the slits by hand. Serious personal injury could result. Always do a roll change and start over.



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WARNING CUT OFF AND ROLL CHANGE MECHANISMS

The Turret Winder is engineered to continuously wind product without interruptions for roll changes. To do this, the winder utilizes an automatic cut-off and roll change mechanism.

Some Turret Winders with automatic cut off arrangements can also be operated from the control panel in a manual mode when, for whatever reason, the knife fails to fire or cut the web.

As procedures vary from winder to winder, it is important that the operator read and understand the instructions provided with the Turret Winder in regard to operating it in the automatic and manual roll change mode.

Davis-Standard, LLC has utilized various cut-off and transfer arrangements, and for information purposes, we have included several here.

Figure 7 shows the basic Turret Winder without roll change mechanisms.

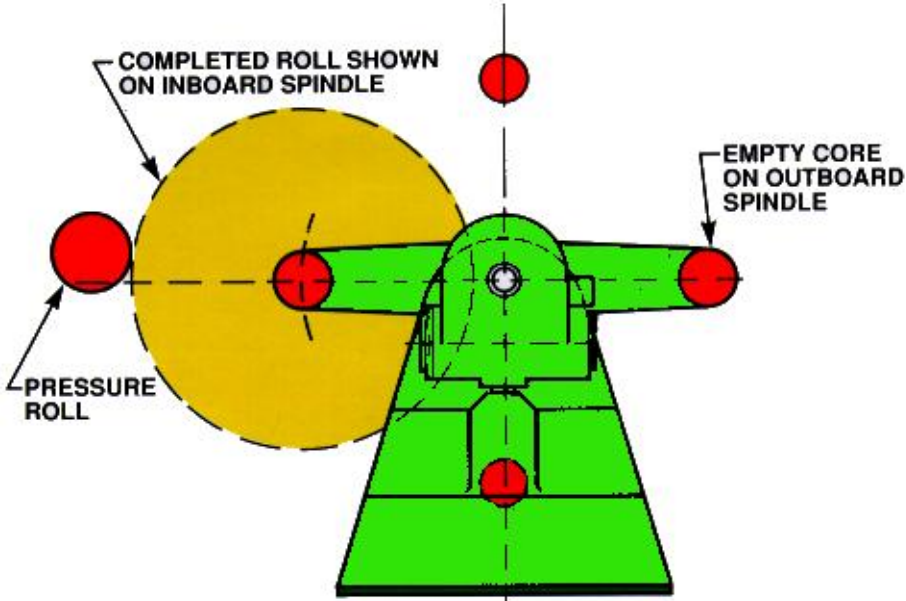


Figure 7.



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STATIONARY KNIFE

Figure 7 shows the basic **Turret Winder** with a completed roll on the inboard spindle. The pressure roll is shown to the left. An empty core has already been loaded into the outboard spindle, adhesive has been applied to the core and it is ready for transfer. See **Figure 8** showing adhesive tape being applied to a stationary outboard core. With the stationary knife arrangement as shown in

Figure 9, the completed roll is rotated on the turret in a clockwise manner. When the empty core is in proper location with the pressure roll just clear of the core, the knife assembly is rotated into the position shown. The pressure roll is fired onto the rotating core at which time the stationary knife cuts and severs the paper or film. The leading edge of the cut paper or film adheres to the adhesive on the core, thereby completing the transfer.

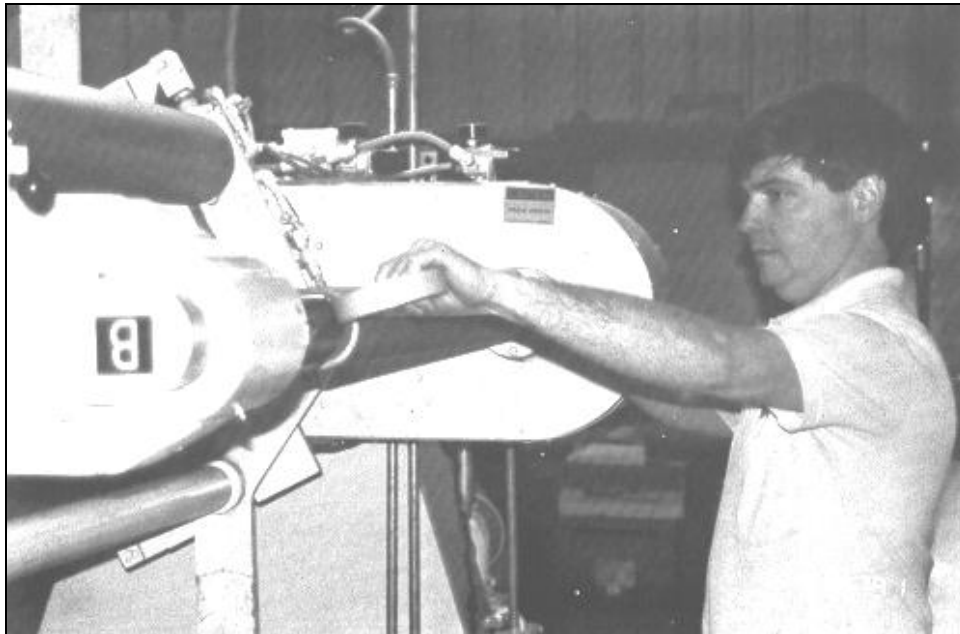


Figure 8.



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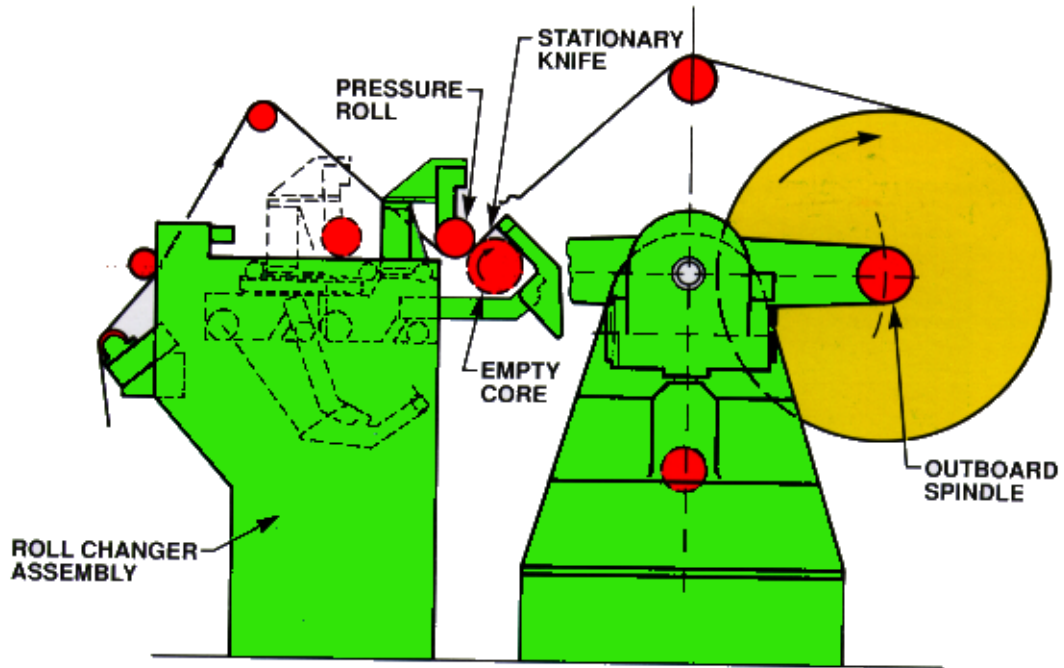


Figure 9.

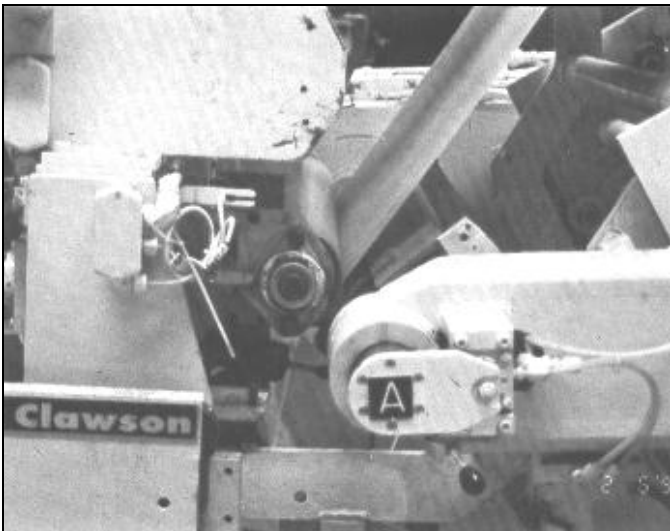


Figure 10.

Figure 10 to the left shows the stationary knife in position just prior to transfer. Note the slight gap between the pressure roll and core.



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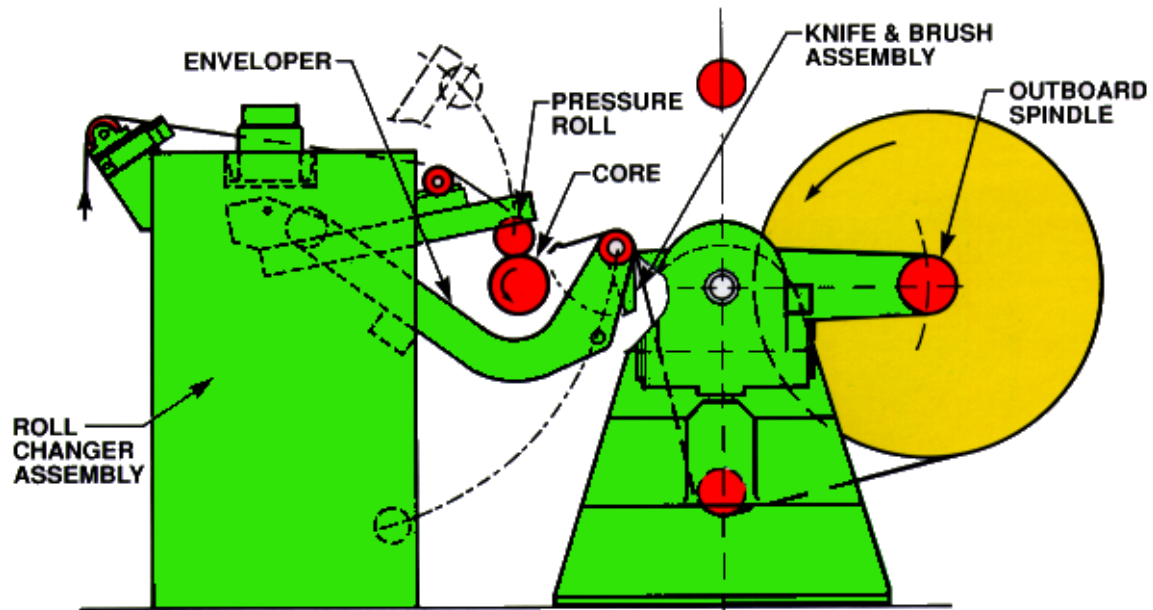


Figure 11.

ENVELOPER AND TUCK-IN

Figure 7 shows the basic **Turret Winder** with a completed roll on the inboard spindle. The pressure roll is to the left. An empty core has already been loaded into the outboard spindle and is ready for transfer. Adhesive is not required with this arrangement. With the Enveloper and Tuck-in arrangement as shown in **Figure 11**, the completed roll is rotated on the **Turret Winder** in a counter-clockwise manner. When the empty core is in the proper location, the pressure roll is lowered onto

the core and the enveloper roll, knife and brush assembly is rotated upwards. As soon as the assembly reaches its maximum height, the knife is fired and severs the web. As the knife is fired, the brush on the assembly sweeps the core, tucking the loose web into the nip between the core and pressure roll, thereby completing the transfer.



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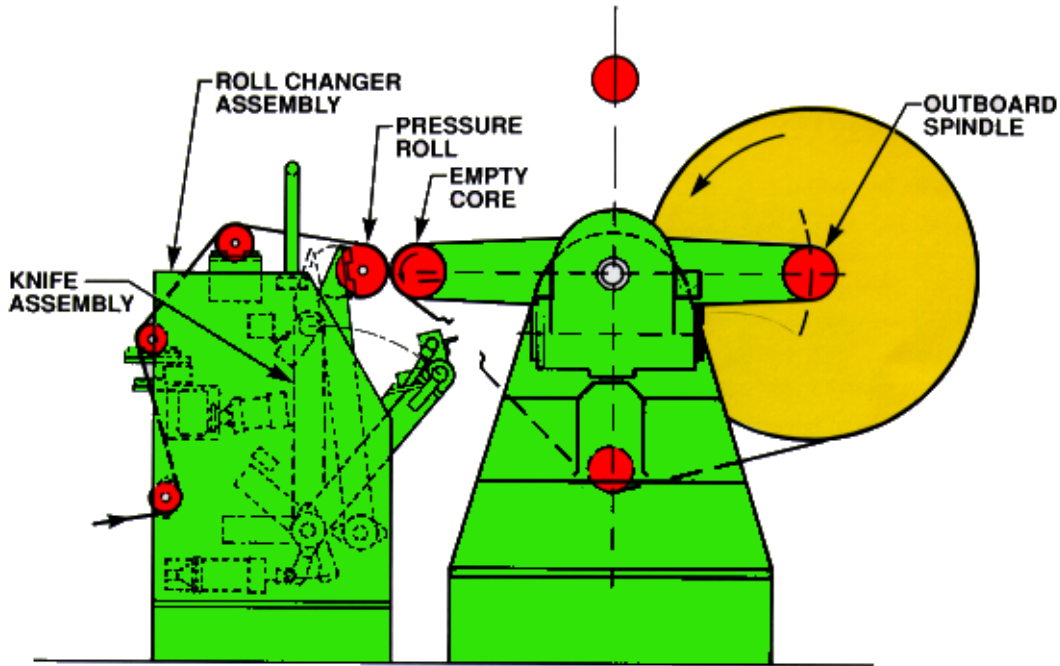


Figure 12.

BUMP AND CUT

The two previously described arrangements require complex logic and interlocks in the control system. The "Bump and Cut" method is simple by comparison and adequate under some circumstances.

Please refer to the basic **Turret Winder** as shown in **Figure 7** with a completed roll shown on the inboard spindle, as previously described. Adhesive must be applied to the empty core on the outboard spindle prior to rotation. **Figure 12** shows the "Bump and Cut" arrangement.

The full roll rotates counterclockwise and the empty core, with adhesive applied, bumps against the pressure roll. Immediately before this, the knife assembly is rotated into firing position.

As the core and pressure roll "bump", the knife is fired into and cuts the web. The leading edge of the web then adheres to the adhesive on the spindle, thereby completing the transfer.



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WARNING LOCK OUT – TAG OUT

All personnel must be trained in the proper procedures for lock out. Refer to OSHA Subpart J 1910.147. Lock out and tag out devices must identify the employee applying the device.

All drives must be de-energized and locked out before performing any maintenance on a **Turret Winder**.

Where programmable logic controllers (PLCs) are used, disable and lock out all output functions.

All controls must be locked out and all systems de-energized before performing any work on the **Turret Winder** by any personnel.

De-energizing the winder must not create a hazard. All rolls and components left in an "UP" position must be blocked or pinned up before de-energizing.

After maintenance is completed, replace all guards that were removed and ensure that no unsafe condition exists and that all personnel are clear of the **Turret Winder** before removing the lock outs and activating the controls.

WARNING ROLL UNLOADING

1. Ensure roll handling equipment is in place before unlatching roll. Use extreme caution when unloading any roll or loading a new core shaft.
2. The roll **MUST** stop rotating **BEFORE** it is unlatched.

WARNING CONTROL PANEL LOCATION

Make sure that nothing blocks the view of the operators when operating the controls.

WARNING CORE LOADING

1. Cores must only be loaded on the outboard spindle. Never load on the inboard side — serious personal injury may result.
2. Keep hands and fingers away from all pinch and nip points.
3. Leave pneumatic latching valve at the IN position during winding. Do not use the safety lock to secure the latch. The safety latch is not an operating tool and is there as a back up should the Turret Winder lose pneumatic power.
4. Do not depress the Core Ready button until the machine is ready for a roll change. If loaded cores need to be repositioned, de-activate the Core Ready circuit before entering the machine frames. Make sure length of shaft is correct for lock-in spindle.

UNDER NO CIRCUMSTANCES SHOULD THE OPERATOR ENERGIZE THE "CORE READY" CIRCUIT UNTIL THE MACHINE IS READY FOR A ROLL CHANGE. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS PERSONAL INJURY AND/OR MACHINE DAMAGE.



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WARNING TURRET INDEXING

1. Clear all personnel from the winder area before indexing the turret.
2. Machines with indexing automatically initiated from the footage counter control must sound an alarm prior to machine movement. This alarm consists of a horn and a flashing beacon. The beacon must continue to flash throughout the roll change and the horn must sound at least 3 seconds before the turret indexes.
3. Machines with automatic index initiation must also have a "New Core Ready" circuit. This circuit prohibits automatic indexing until after the operator has prepared the new core for roll change and has depressed the "Core Ready" button.

WARNING ROTATING SHAFTS

All power transmission equipment such as shafts, couplings, gears, pulleys, belts, etc. must be guarded in accordance with OSHA's Regulation Subpart O 1910.212 & 219.

Never wear loose clothing near rotating power transmission components. Long hair should be up and covered to prevent entanglement with rotating equipment.

WARNING OVERHEAD CRANES

Overhead cranes are sometimes used to remove rolls. Crane operators and other personnel must be aware of all safety procedures for the safe operation of overhead cranes.

Personnel must be alerted to the hazard of the overhead crane travel. Crane operators must be aware of the possibility of workers being in the crane's path and must warn all workers to keep clear.

Slings, hooks and lifting devices must be checked regularly to ensure their good condition. Personnel must understand the proper procedures for the handling of rolls and use the proper lift points to pick up and transport equipment as recommended by the crane manufacturer.

DANGER HIGH VOLTAGE

Spindle drive motors, indexing motors and any driven rolls require HIGH ELECTRIC VOLTAGE. HIGH VOLTAGE can cause serious personal injury.

LOCK OUT POWER before servicing motors, slip ring or drive cabinet.

NEVER REMOVE THE SLIP RING COVER OR REPLACE BRUSHES BEFORE LOCKING OUT POWER.



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EMERGENCY STOPS

Turret Winders must be equipped with devices that will stop the winder in an emergency. OSHA recommends that the devices consist of pushbuttons for electric motive power (or electrically operated engine stops), pull cords connected directly to the prime mover, control clutches, or other devices interlocked with adequate braking action. These emergency stops must be located so any person working on the machine can stop the machine section, or the entire machine, in the quickest possible manner, in case of an emergency.

Emergency stop devices shall be red. Stop buttons or electrical switches with letters or other markings used for emergency stopping of machinery shall be red.

Emergency stop devices should be tested periodically to make certain they are operational at all times.

Emergency stops are not safety devices that can prevent accidents and must never be used as an operational tool.

All employees must be made aware of the emergency stops in their section as part of their safety training. (Reference: OSHA 1910.261, Section K-1)

WARNING OPERATION

REVIEW THE FOLLOWING SAFETY RULES BEFORE OPERATING THE TURRET WINDER.

- Do not remove or cover safety signs. They are installed to warn personnel of possible hazards. Observe all instructions given on the signs.
- Observe all color coding. **ORANGE:** This color indicates hazards on the machine which might cause personal injury and to be avoided during operation. **YELLOW:** This color indicates caution and is used for marking physical hazards; such as, falling and tripping, etc. Examples would be fixed guards, crosswalks and steps.
- Footwalks, handrails, barriers, and guards must be in place before starting the machine.
- Do not over-reach, climb or stand on places other than properly designed and designated ladders, steps or walkways.
- Aisles must be clean and clear of obstructions. Wipe up spilled oil, grease and water. Good housekeeping prevents injuries.
- Keep clothing and all parts of the body away from in-running nips, traveling belts, gears, ropes, and rotating or pivoting loading mechanisms.
- Beware of head-high obstacles in and around the machinery area. Wear proper head protection when indicated.
- Keep clear of winding roll in outboard spindle.
- Do not walk or crawl under operating equipment.



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WARNING OPERATION (cont'd)

- Exhaust blasts from air motors may blow dirt, scale or other foreign materials into eyes causing eye injury. Wear proper eye protection when indicated.
- Keep all parts of the body away from rotating drive components.
- Any in-running nip point on converting machinery is a hazard area. Keep clothing and all parts of the body away at all times. And especially do not wear loose clothing that could become drawn into the roll nip.
- Do not operate equipment until all personnel are accounted for and outside of safety lines.
- Guards should be provided for all exposed head bolts on rolls. Rotating nuts or capscrews on roll heads may catch clothing or loose paper. Use caution in these areas while the machine is running. Never climb between guards and moving machinery.
- Keep hands away from belt and chain drives. Make certain that all guards on drive components are in place.
- When threading machinery, feet must be squarely and properly placed for adequate balance.
- When threading machinery all drives must be stopped and nips open.
- Do not use bent or damaged core shafts.
- If using pre-existing core shafts, not originally furnished with the winder, ensure torque ratings are compatible.
- Do not enter between machine frames while machine is in operation.

WARNING MAINTENANCE

REVIEW THE FOLLOWING SAFETY RULES BEFORE PERFORMING MAINTENANCE ON THE TURRET WINDER.

- Lock out all drives and controls before working on the machinery.
- All non-operating personnel are to be out of the area before activating drives and operating controls. Mirrors should be used to provide the operator with a view of the drive side area.
- Inspect slings and cables for worn or weak spots before using them. Keep all personnel out from under machine components when lifting. Use lifting points specified by manufacturer. Do not allow chains or other lifting devices to hang in the aisles.
- Do not walk under machinery, rolls or other items being transported by overhead crane equipment.
- Do not depend upon hydraulic or pneumatic devices to hold equipment in a raised position while performing maintenance. Pin, chain or block in a raised position.
- Inspect chains and clevis pins at frequent intervals for wear and damage. Block under or around units raised by chains when performing maintenance to prevent injury to personnel.



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WARNING MAINTENANCE (cont'd)

- Attach the sling(s) securely when attempting to lift machine components. Rotation of out-of-balanced pieces could be hazardous.
- Release pressure from oil and air lines before disassembly. Fluids and gases under pressure can be dangerous to personnel in the area.
- Some roll changers use accumulator tanks in the knife firing circuit. Make sure that these are fully de-pressurized before performing maintenance.
- Use protective gloves when changing out knife blades. Lock out all power before removing.
- Pneumatic spindle latches are equipped with safety latch lock devices. These prevent a winding roll from falling out of the winder upon loss of air. They must be inspected periodically to ensure that they are not worn or broken and are correctly assembled.
- Use proper stops when applying hydraulic movement equipment to bearings, heads, gears, etc. These items may travel at a high rate of speed once they have broken loose from the fit.
- Be sure that all slings and cables are designed to lift the loads taking into consideration the angles of the hookup and the load to be lifted.
- Use lifting points as specified by manufacturers. Where provisions have been made for lifting eyes to be screwed into a tapped hole, make certain that eyebolt is tightened to the shoulder and that eye is parallel to the lifting plane to prevent breakage.
- Personal articles are not to be stored in electrical switch boxes, panels or in other potentially hazardous places.
- Safety interlocks must be checked for proper operation as part of regular maintenance schedules.
- Do not walk or crawl under suspended loads or rolls.



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UNSAFE PRACTICES

To avoid injuries, operators and other personnel should be aware of and avoid the following:

- Failure to read, understand and follow instructions
- Unguarded in-running nip points
- Unguarded wrap points
- Unguarded pinch or crushing points
- Moving parts and parts capable of moving
- Unguarded rotating machinery
- Unguarded moving members
- Poor maintenance of hoist equipment
- Improper handling of broke, trim or web during a break
- Inadequate barriers
- Failure to lock-out and de-energize when working on or repairing the **Turret Winder**
- Improper unloading of full rolls
- Manual tuck-in when machine is in operation
- Improper modifications to latching mechanisms and or improper assembly
- By-passing or tampering with safety interlocks
- Improper threading of machine
- Inadequate safety signs
- Removal of handrails and guarding
- Improper use of footwalks, crosswalks, access steps, ladders, etc.
- Poor maintenance of hoist equipment
- Poor housekeeping, failure to keep working and traffic areas free of scrap and other tripping hazards
- Improperly protected cut-off knives
- Improper handling of cut-off knives
- Improper care when cleaning with chemicals
- Improper maintenance of hydraulic hoses and fittings
- Failure to ensure that all personnel are clear before indexing the turret
- Touching the winding bundle, travelling web or turning rolls
- Lifting product or core shafts in excess of 50 lbs per person
- Crawling or walking under suspended loads or rolls.
- Failure to ensure the area around the **Turret Winder** is clear of personnel before starting the machine



SAFETY INFORMATION

Safety Signs

INTRODUCTION

Operators of Davis-Standard, LLC machinery, where practical and appropriate, may be protected from certain hazards by a physical barrier and may; in addition, be warned of those hazards by the placement of Safety Signs. These signs alert persons to the degree or level of the hazard, the nature of the hazard, to how the hazard can be avoided, and the consequences of involvement with the hazard.

The following examples illustrate the ANSI Z535 standard series format for product safety signs and labels. These standards must be referred to when designing safety signs and labels. Not all safety signs will have a pictorial panel.

Color-coding for the words DANGER, WARNING, CAUTION, and SAFETY INSTRUCTION is important for the identification of the hazard level.



DANGER – (white letters with a red background) indicates an immediate hazard that if not avoided **WILL** result in death or serious injury. This should be limited to the most extreme situations.



WARNING – (black letters with an orange background) indicates a potential hazard that if not avoided **COULD** result in death or serious injury.



CAUTION – (black letters with a yellow background) indicates a potential hazard that if not avoided **MAY** result in minor or moderate injury.



SAFETY INSTRUCTION – (white letters with a green background) is used to convey multiple messages stating procedures or actions that must be followed for the safe operation of the product.



SAFETY INFORMATION

DUAL LANGUAGE

The ANSI Z534.4 Product Safety Sign and Label standard provides a suggested format for multi-lingual safety signs. International and European Union standards require safety signs to be in the official language of the country in which the machine is to be used.

Davis-Standard, LLC has a number of ANSI format dual language safety signs for use in countries where English is not the official language.

AVAILABLE SAFETY SIGNS

The following safety signs are available for your Davis-Standard, LLC machine. Other safety signs may be available, including dual language. Signs can be provided for situations not covered by those listed below.

Contact Davis-Standard, LLC for additional information on availability, sizes, material, and placement.

SAFETY SIGNS ARE NEVER TO BE USED IN LIEU OF GUARDING WHERE GUARDING IS FEASIBLE.

<u>PART #</u>	<u>HAZARD</u>
424656	Confined space
424650	Hazardous voltage
424632	Roll to roll nip
424645	Belt or chain nip
424661	Pinch point
424653	Automatic movement
424647	Rotating equipment
424692	Hazardous area
424663	Shear and crushing point
424670	Web edges and wrap points
424638	Fixed member nip
424651	Multiple electrical sources
424672	Unexpected machine motion
424743	General safety instructions
424655	Airborne contamination
424699	Static electricity
424646	Gear nip
424668	Equipment above
424687	Hot surface area
424667	Low clearance
424708	Hot fluids
424700	Radiation
424652	Electrical grounding
424686	Hot water or steam
424649	Do not remove guard/Guard removed



SAFETY

INFORMATION

Reference Information

All machine operators, maintenance and supervisory personnel should read and understand not only the selected OSHA sections listed, but also all applicable OSHA codes pertaining to their job duties and functions.

OSHA and ANSI standards are updated periodically and the section numbers may change. The following references are correct at the time of printing. Owners of machines should be aware of the most recent standards applicable to their machine.

OSHA REGULATIONS

The following list of regulations from OSHA CFR 29, Section 1910 is for your reference. OSHA regulations are available on line at www.osha.gov.

Subpart G – Occupational Health
§95 – Noise exposure

Subpart I – Personal Protective Equipment
§133 – Eye and face protection
§134 – Respiratory protection

Subpart J – General Environmental Controls

§146 – Confined Space
§147 – Lockout Tagout.

Subpart N – Material Handling
§179 – Overhead cranes

Subpart O – Machinery & Machine Guarding

§212 – General requirements
§219 – Power transmission

Subpart R – Special Industries

§261 Pulp Paper and Board Mills.
(a) General Requirements
(b) Safe Practices
(k) Machine Room

Subpart S – Electrical

§303 – General requirements



SAFETY INFORMATION

ANSI STANDARDS

The American National Standards Institute publishes several consensus standards of interest to machinery users.

Z535.4: Safety Signs and Labels

ANSI B151.5 – 2000: Plastic Film and Sheet Winding Machinery.

ANSI B151.2 – 1999: Plastic Film Casting Machinery.

ANSI B151.20 – 1999: Plastic Sheet Production Machinery.

NATIONAL & INTERNATIONAL STANDARDS

The International Standards Organization (ISO) and the International Electrotechnical Commission (IEC) list many standards of interest' as does the European Union, whose standards are nearly identical. In addition, many countries promulgate their own standards. A source for many of these can be found at www.global.ihc.com.

INSTRUCTION MANUALS

It is essential that operators be thoroughly trained in turret winder safety and the procedures applicable to the process in which they are involved.

Davis-Standard, LLC provides instruction manuals with all machine orders. All operators should read and understand the information in these manuals before operating the machine.

LACK OF PROPER TRAINING AND UNDERSTANDING CAN BE A MAJOR CAUSE OF SERIOUS PERSONAL INJURY.



SAFETY INFORMATION

IMPORTANT INFORMATION

For help on how to safely operate your Davis-Standard, LLC's Turret Winder or for such assistance or help with guarding Turret Winders manufactured prior to March 15, 2003 by The Black Clawson Company or Black Clawson Converting Machinery LLC, or any Turret Winders manufactured by Black Clawson Converting Machinery, Inc. or Egan Machinery, contact:

Davis-Standard, LLC
46 North First Street
Fulton, NY 13069, USA
Telephone – (315) 598-7121

Please locate the serial number plate on the machine in question and write down the drawing number, order number and serial number, if any. This will greatly expedite locating information on your specific machine.

Drawing No.

Order No.

Serial No.

SAFETY NOTES:



SAFETY
INFORMATION

SAFETY NOTES:

Turret Winder Safety Bulletin
No. DSLCC BUL. 5-09/07
Davis-Standard, LLC
46 North First Street
Fulton, NY 13069
Ph. (315) 598 7121

This and other safety bulletins may also be found on-line at:
<http://www.davis-standard.com/safety-bulletins>



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