

# Vulcanizing Press

## Duraline<sup>®</sup>



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## **VULCANIZING PRESS ASSEMBLY**

1. Remove vulcanizing unit and accessories from packaging.
2. Install Handle – Position the aluminum handle on the threaded shaft of the press, aligning the small hole in the handle with the small hole in the shaft. Use the (2) provided 5/16-18 dog-point set-screws to secure the handle to the shaft from both sides. The dog-point of the set-screws should seat into the hole in the shaft. A 5/32” Allen hex key is provided.
3. Install “L” bracket for Stop Blocks – Seat the provided “L” shaped bracket into the milled slot on the top surface of the bottom plate of the mold. Align the hole in the bracket with the tapped hole in the base plate. Install the provided 1/4-20 x 3/4” socket-head cap screw to secure the bracket in place using the provided 3/16” Allen hex key to tighten.
4. Press should be securely anchored to a workbench to make process easier for operator and to achieve best results.

## **TEMPERATURE CALIBRATION OF VULCANIZING MOLD**

The thermostat in this vulcanizing press has been pre-set at the Duraline factory in the range of 325°F to 350°F. In the event that the thermostat adjustment changed during shipping, operators may need to adjust the thermostat. Temperature of mold is controlled by the thermostat, which is mounted on the bottom mold cavity inside the rear cover.

To recalibrate thermostat, close the mold so the top and bottom halves are pressed together. Turn unit on and wait for red light to turn off (meaning that the press is up to thermostat temperature). Check temperature with Temperature Crayon or pyrometer. Once you have determined whether there is a need to increase or decrease the temperature, turn off unit disconnect power cord from outlet. Remove wiring cover by removing screws on each side. Twist cover back away from mold press. Using insulated pliers. turn the adjustment screw counterclockwise to reduce temperature, and clockwise to increase temperature. Adjust as required.

Replace cover after adjustment, plug power cord into power source and repeat temperature check to determine whether or not the adjustment was satisfactory. If so, return to service. If not repeat process and make additional adjustments, as needed to achieve a molding temperature in the correct range.

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## VULCANIZER OPERATION

1. Plug the power supply cord into a 110 volt A.C. outlet fused for 15 amperes.
2. Turn switch on. Pilot lights will glow.  
The amber pilot light indicates that the power is on.  
The red pilot light indicates that mold is heating.

The molds are thermostatically controlled to maintain a molding temperature of 325° F to 350°F, for Neoprene and Hypalon jacketed cables. The red heater light will turn off when mold temperature has been reached. This indicates that mold is ready for use. Check mold temperature with Temperature crayon (Duraline p/n D600483-1). The heaters and heater light will cycle off and on as required to maintain temperature. See Page 1 for adjusting mold temperature.

3. When finished, turn unit off and remove plug from power source.

## VULCANIZING PROCEDURE - MALE OR FEMALE CONNECTOR

1. Cut cable to desired length. Use sharp cable cutter. Do not saw conductor as this distorts cable stranding so that it will not fit into crimp tube.
2. Strip approximately 1-3/4" of cable jacket. Insert bare conductor into contact crimp tube and crimp with hydraulic hand or bench press (20,000 PSI minimum), or other suitable crimping die. Die must be fully closed and sized for specific cable type/size. Refer to the table below:

CRIMP TUBE SIZE	CRIMP TUBE O.D.	T&B DIE# Full-size	T&B DIE# Half-size
250 MCM	.83"	66	66H
262 MCM - 444 MCM	1.05"	87	87H
500 MCM - 535 MCM	1.31"	99 or 106	99H or 106H
750 MCM - 800 MCM	1.50"	115	115H

Full-size Dies are for use with T&B 40-Ton Hydraulic-Head Crimper – T&B #21940

Half-size "H" Dies are for use with T&B 15-Ton Hydraulic-Head crimper – #TBM151

Electric, Hydraulic Pump T&B Model C, Catalog #13610A works with either Crimp Head

3. Roughen cable jacket approximately 6-1/2" behind contact to remove all dirt and wax. A coarse rasp, coarse wire wheel, coarse emery cloth or abrasive sanding belt may be used.
4. Coat roughened cable jacket with neoprene adhesive, Cam-Lok No. 238. Allow to dry, until tacky.
5. Wrap cable with neoprene tape keeping tension on tape. Wrap tape from contact back so that approximately 1/2" will extend beyond end of sleeve. Build tape up until it will give a snug fit on ID of sleeve. Wrap last layer of tape from cable toward contact for easier assembly into sleeve.

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6. Roughen up approx. 2" of the I.D. and O.D. of the insulator sleeve at cable end and apply an even coat of Chem-Lok 238. Allow to dry.
7. Apply "Spray Lube" into the I.D. of the insulator. Use sparingly.
8. Insert proper COME-A-LONG tool into connection end of sleeve and push it through the insulator. If binding occurs, spray COME-A-LONG with "Spray Lube."
9. A pair of COME-A-LONG tools are available to pull contacts and cable into insulator sleeves. The male COME-A-LONG is used to pull the female connector into its insulator, the female COME-A-LONG is used to pull the male connector into its insulator.
10. Connect COME-A-LONG to contact and pull contact and cable into insulator sleeve until pin on contact touches metal ring inside of insulator. Rotate insulator while pulling on COME-A-LONG until pin seats into groove in ring. Then pull forward until pin stops against U-shaped slot in ring. This locks contact into ring, so it will not move forward or rotate in insulator. When properly seated, the spring lock ring (on the contact) locks behind sleeve ring to hold contact, and the sleeve cannot be removed. Remove excess "SPRAY-LUBE" from contact and rear of sleeve.
11. Paint the roughened portion of sleeve with Chem-Lok 238. Allow to dry, until tacky.
12. Wrap two or three layers of tape over rear end of insulator, starting just after the "O" ring (approx. 2" from the back end of the sleeve) and continue back onto the cable jacket approximately 1/2". This wrapping should fill in the area where the cable jacket enters the insulator.
13. Fit the appropriate Stop Block onto the assembled contact and sleeve (type and sex) that you are vulcanizing just before the vulcanization process. It should fit into the space between the "L" bracket and mold body. If a small adjustment is required, tighten or loosen the square-head screw on the "L" bracket to create a fit that prevents the contact/sleeve/stop block from moving when pressure and heat are applied during the vulcanization process.
14. Place the prepared connector and sleeve with stop block into the mold. Check to be sure that mold bushing is the proper size for cable.
15. Male connectors having positive-latch release buttons should be placed in mold so that button is up. The ribs and grooves in sleeve must be aligned with mating ribs and/or grooves in mold.
16. Close top half of mold using screw handle. Mold must be completely closed. Close slowly, tightening clamping screw as vulcanizing tape heats up. Press should be bolted to top of workbench to securely anchor it.

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17. Mold at 325-350°F. for approximately 30 minutes. Neoprene tape will be firm and tough when completely cured.
18. Remove from mold. Allow assembly to cool. Trim off excess flash with razor blade, a sharp knife or scissors.
19. Optional – Add a final coat of chem-lok 238 over the vulcanized area.

## **MAINTENANCE and TROUBLE-SHOOTING**

It may be necessary to recalibrate thermostat if the vulcanizer was mishandled in shipping. The following are several possible problems and corrective actions to correct them.

<b><u>Problem</u></b>	<b><u>Cause and Corrective Action</u></b>
1. Pilot light stays lit. Does not turn off.	<ol style="list-style-type: none"><li>1. Contacts on thermostat are stuck. Jar sharply. This will free contacts</li><li>2. Thermostat set too high. Check temperature of mold, if above 350° reduce setting by rotating adjustment screw counter-clockwise. See detailed instructions at end.</li></ol>
2. Pilot lights don't light	<ol style="list-style-type: none"><li>1. Check light, possibly burned out or broken. Replace with new light. See instructions below.</li></ol>
	<b><u>Replacing Pilot Light:</u></b> <ol style="list-style-type: none"><li>A. Unplug vulcanizer supply plug.</li><li>B. Pilot lights are rugged, sealed assemblies. When one burns out, replace with entire new unit by loosening screws on terminal board, remove locknut on back of pilot light, remove pilot light, and replace with new pilot light assembly.</li></ol>
3. Molding doesn't cure	Mold temperature too low. Check temperature. It should be 325°-350°F Raise temperature by rotating adjustment screw on thermo switch clockwise. See detailed instructions at end.

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4. Molding scorched

See problem 1 above. Thermostat set too high. Check mold temperature. Adjust thermostat.

5. Neoprene tape does not bond to sleeve or cable

Dirty cable or sleeve. Failed to use bonding agent on cable and sleeve  
Wrong bonding agent for cable being used. Surface contaminated with grease, silicone, etc.

Tape not good, too old and has cured.

6. Sleeve is loose on cable after molding

Did not build up tape large enough to fit snugly into sleeve.

7. Can't close mold.

Too much tape used either on cable causing sleeve to expand or too much tape on sleeve.

Allow molding to warm up and keep applying pressure with clamp screw to close it as tape flows under heat. Reduce wrapping as required.

8. Mold will not heat.

1. Switch "not on".
2. Heater burned out. Replace with new heater.
3. Bad switch. Replace Switch.
4. Bad thermo switch. Replace with new thermo switch.

9. Vulcanizing tape doesn't flow or bond.

1. Tape cured up, too old. If rubbery like rubber band, it has expired. order fresh tape.

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2. Good tape is easily stretched, will bond to itself, and will soften and flow when heated.
3. Store tape in cool, dry place under 70°F. Maximum shelf life is 6 months.

## Accessory List

**COME-A-LONG** - COME-A-LONGS are special tools designed to fit male and female contacts to pull them into their respective insulating sleeves.

**DA200020-5** For use with Female Contact and Sleeves  
**DA200020-6** For use with Male Contact and Sleeves

**CABLE BUSHINGS** - The proper mold bushing must be used for each cable size. The bushing I.D. should be approximately 1/64 inch smaller than cable O.D. A bushing that is too large allows molding tape to squeeze out, resulting in a poor quality molding. A bushing that is too small prevents the mold from closing and/or cuts the cable, resulting in poor quality molding.

### BUSHING P/N

### CABLE SIZE

<b>DA200006-2</b>	250 MCM to 262 MCM Type W and DLO
<b>DA200006-3</b>	350 MCM to 373 MCM Type W and DLO
<b>DA200006-4</b>	400 MCM to 444 MCM Type W and DLO
<b>DA200006-5</b>	500 MCM to 535 MCM Type W and DLO
<b>DA200006-7</b>	750 MCM to 777 MCM Type W and DLO

### MISCELLANEOUS SPARE PARTS

<b>D100826-3</b>	Power Switch
<b>D100566-1</b>	Thermostat
<b>D200704-2</b>	Heater, 115V, 250W
<b>D100827-4</b>	Pilot light, Amber
<b>D100827-3</b>	Pilot light, Red

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**STOP BLOCK SETS** – Stop Blocks are provided in sets for each connector series. Each set includes one Stop Block for Male connectors and sleeves, and one stop block for Female connectors and sleeves. The Male stop block mates with Female connector, the Female stop block mates with a Male connector. The stop blocks must be fully mated and rotated onto its mating connector to positively hold sleeve and contact in the proper position for molding. The stop block adjusting screw must be tightened up against the stop block to hold the connector and sleeve in the mold during the vulcanization process.

**AD300068-MFJ** Stop Block Set for Male and Female J-Series (DE1017, DE1023) Contacts and Sleeves

**AD300068-MFB** Stop Block Set for Male and Female Ballnose (DE1022) Contacts and Sleeves

**AD300068-MFLS** Stop Block Set for Male and Female Long Shroud (DE1046 through DE1058) Contacts and Sleeves

**TEMP. CRAYON** D600483-1 325°F  
100823-4 350°F

**VULCANIZING TAPE** - Uncured Neoprene Tape, 1-1/2" wide - Neoprene vulcanizing tape is used to vulcanize the cable to the sleeve. Store the tape in a cool, dry place under 70° F for maximum shelf life. Under ideal conditions, tape should be usable for up to six months. Good tape will stretch easily, be sticky so that if rolled together, it will stick to itself, and if heated on vulcanizer, will be soft. If tape is cured, it will become rubbery like a rubber band, will not stick to itself, and it will not soften when heated.

**A003069-DURA-1** (1) 30' roll – enough for approx. 3 sleeves  
**A003069-DURA-6** (6) 30' rolls

## **ADHESIVE – CHEM-LOK No. 238**

Cable jackets must be thoroughly cleaned with a solvent and/or roughened with coarse emery cloth, a belt sander, wood rasp, or stiff wire brush to remove all dirt and wax. Apply neoprene adhesive, Chem-Lok No. 238 or equivalent to cable jacket, sleeve ID and OD. Allowed to dry before application of neoprene tape. **Please read instructions provided with this material thoroughly.** A material safety data sheet is available upon request.

## **SPRAYLUBE – 007447**

"Spraylube" is used for lubricating contacts and cable prior to assembly into sleeves. This allows the contacts and cable to slide together easily in assembly. "Spraylube" will not inhibit the bonding of molding tape to cable jackets and sleeves and is one of the few materials that will actually improve bonds. Use sparingly and wipe off excess.