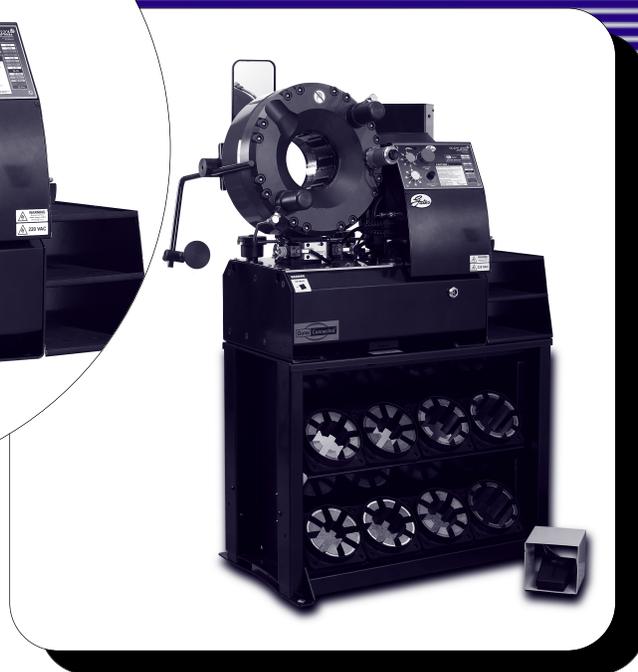
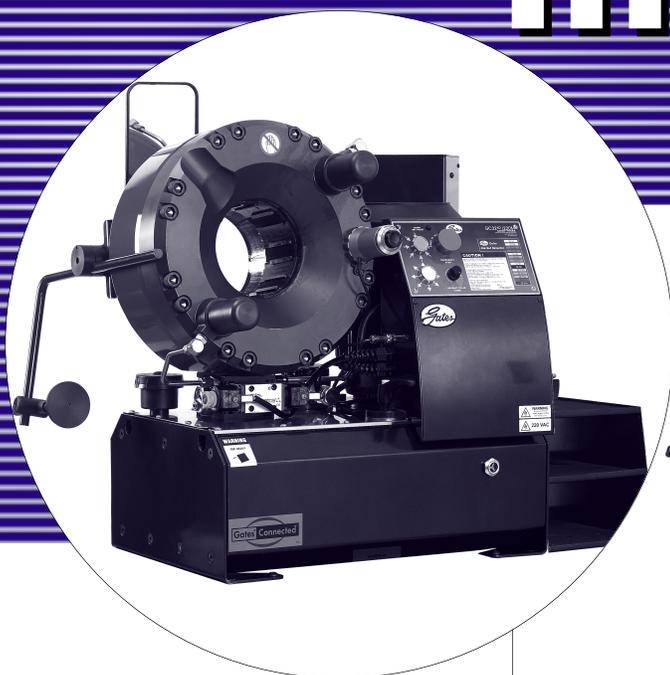


GC32-XD

Safety & Operating Manual



Crimper Specifications:

Power source: Any world-wide electrical source 208-264V, 45-65 hz, 1 or 3 phase and 20 Amps

Dimensions: 27" H x 23" W x 19 ½" D

Approx. Weight: 660 lbs.

Maximum Rated Working Pressure: 4351 psi (300 bar)

Stand Dimensions: (*Adjustable Height*) 25 ½" H x 31 ¾" W x 16 ½" D



WARNING

Carefully read and understand the following warnings before operating this crimper.

An incorrect hose assembly can rupture or blow apart in use, resulting in serious injury, death, or property damage. **REMEMBER:** Others depend on you to make correct assemblies.

FOR SAFETY'S SAKE USE THIS MACHINE ONLY IF YOU:

1. Receive hands-on **TRAINING** with this Gates crimper and assemblies.
2. Follow current **GATES OPERATING MANUAL** and **CRIMP DATA** for the GC32-XD crimper.
3. Use only **NEW (UNUSED GATES)** hose and fittings.
4. Wear **SAFETY GLASSES**.
5. Keep hands clear of moving parts.

NOTE:

Gates recommends only those hose and coupling combinations specified in the Gates Hydraulic Product catalogs. Gates disclaims any liability for any hose assemblies which have not been produced in conformance with Gates assembly recommendations.

SERIAL NUMBER: _____
 (Located on rear reservoir base)

DATE OF PURCHASE: _____

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	Crimper	Accessory Package **	Stand (Optional)	Rack (Optional)	Depth Stop (Optional)
Part No.:	78828	78844	78829	78839	78840
Prod. No.:	7480-7001	7482-7112	7480-7002	7480-7003	7482-7108

**** CONTENTS:**

- Tube of Grease with brush
- Grease Gun
- Calipers
- Allen Wrench
- Fuses
- Crimp Data Manual
- Instructional CDROM
- Operator's Manual

* Patent Pending



IDENTIFICATION LIST



CRIMPER



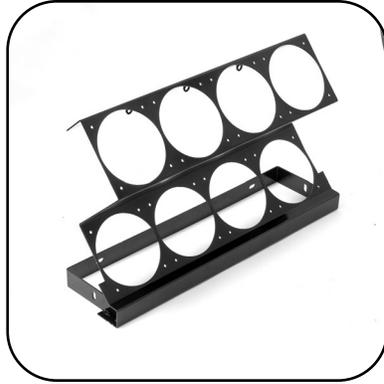
MIRROR



FOOT PEDAL



DIE SETS
(Ordered Separately)



RACK (Optional)
Mounts in stand or on wall.



STAND (Optional)



DEPTH STOP
(Optional)

IDENTIFICATION LIST



GREASE GUN



GREASE WITH BRUSH



DIAL CALIPERS



QUICK CHANGE TOOL (QCT)



ALLEN HEAD WRENCH



LITERATURE PACKET

SETUP

1. UNPACK OPTIONAL STAND CARTON.

(If stand not purchased, proceed to #2).
Uncrate stand (Part No. 78829, Product No. 7480-7002) and unbolt from pallet. To attach tool shelf, remove allen head bolts from top of stand, position shelf and replace bolts.

Adjust height of stand. It is approximately twenty inches from the top of the stand to the center of the crimper head. If this is comfortable, no adjustment is needed. If this is too high or too low, adjust height of stand by setting stand on its side and removing leg bolts. Raise or lower legs to comfortable height. Replace bolts and tighten.

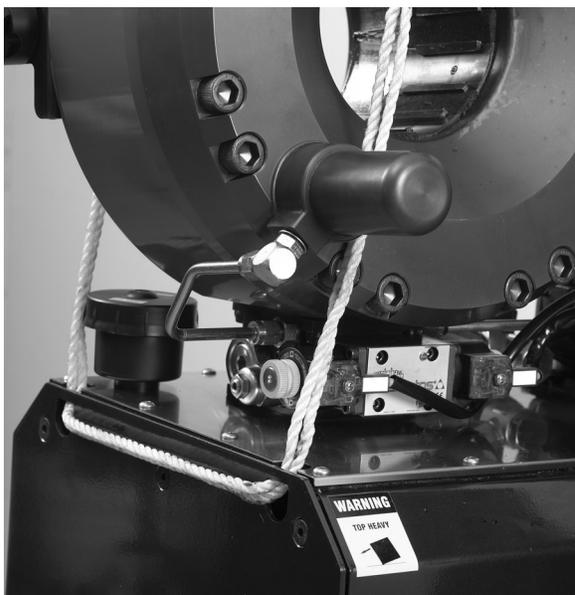
If optional die racks were purchased, place in bottom of stand or hang on the wall.

Position stand where you have access to the front and back of the stand. Front and rear access of the crimper is necessary. Bent tubes are loaded from the rear of the crimper head.



WARNING:

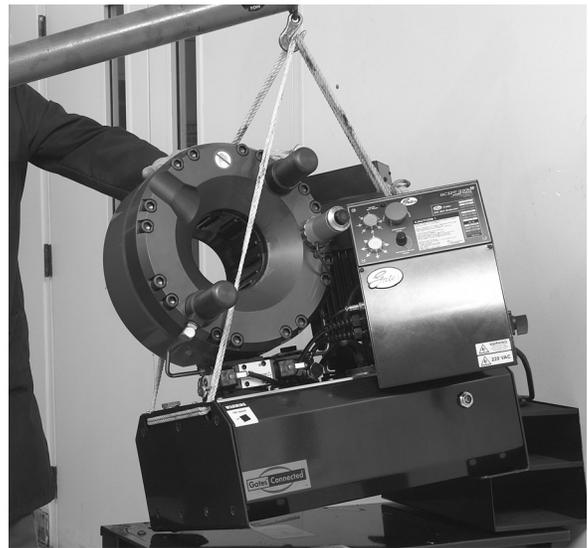
- Crimper is very top heavy (approx. 660 lbs).
 - Follow correct set-up procedure as shown in supplied CD.
 - Failure to follow proper procedures can create risk of severe injury and/or damage to crimper.
 - DO NOT lift crimper by head. Use lifting anchors on crimper base.
- (See photos below.)



2. UNPACK CRIMPER.

Included in the carton with the GC32-XD crimper (Part No. 78828, Product No. 7480-7001) will be a mirror, foot pedal and the Quick Change Tool (QCT). To go with the crimper, you should have received the Accessory Kit, Part No. 78844, Product No. 7482-7112 which includes a tube of grease with brush, grease gun, an instructional CDROM, crimp data book, operating manual, dial calipers, and an Allen head wrench for dial vernier adjustments. Stand, depth stop, dies and rack are ordered separately.

Remove crimper from shipping container by removing bolts connected through the pallet. Using the included nylon rope sling and an engine hoist, fork lift or other mechanical lifting device, suspend crimper from the lifting anchors on base of crimper and pull crimper from crate. **DO NOT** lift crimper by head. Refer to Instructional CDROM for proper procedure.



3. ATTACH CRIMPER TO SECURED OPTIONAL STAND OR BENCH.

Place crimpers on stand bolted to floor or on a secured bench capable of supporting over 660 lbs. Proper crimping height is approximately 32". Position crimpers so operator may feed hose assemblies into the rear or front of crimpers head. If using the stand, bolt crimpers using the four 6mm Allen head bolts (included) through predrilled holes. If mounting to a bench, drill four 1/2" holes aligning with holes in crimpers and bolt together.

4. RECORD SERIAL NUMBER.

Locate serial number assigned to crimpers on back of reservoir and record on Page 1 for future reference.



5. POWER CORD PLUG.

The GC32-XD crimpers can accept any power source 208-264 volt, 45-65 hz, 1 or 3 phase. The converter on the crimpers will change the input voltage to 220V, 3 phase. The GC32-XD crimpers comes with a North American 20 amp, 250 volt, 2-pole, 3-wire grounding plug already assembled. If this will not work for your local power source, install the proper electrical circuit that is within the listed range. Be sure circuit is grounded and complies with all local electrical codes.

NOTE: Incorrect power cord installation will void your equipment warranty.



WARNING:

- Consult with a qualified electrician for the correct plug and outlet for your power supply.
- Incorrect electrical connection can cause damage to component or an electrical hazard for personnel.

Turn power switch on. Press top blue CRIMP button to check rotation of pump motor. It should be rotating clockwise (see figure 1). If motor is rotating counterclockwise, the colored phase wire connections need to be reversed.



6. OIL PLUG.

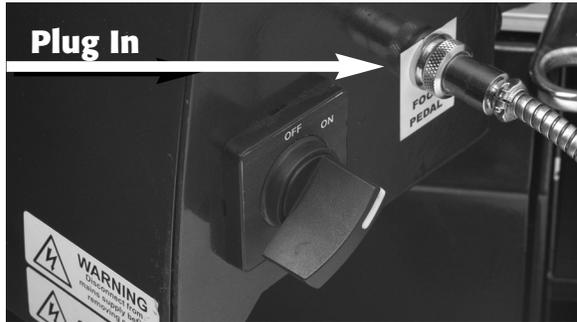
Oil reservoir is shipped full. Remove plug and replace with cap. Check the sight glass to make sure oil level is full. (See Maintenance for checking oil level.)



SETUP

7. INSTALL FOOT PEDAL.

This crimper can also be activated by using a foot pedal. The protective metal case surrounding the pedal will avoid accidental activation. Install foot pedal by plugging it into the lower right side of control panel next to the power switch.



8. INSTALL MIRROR.

Install the mirror on either side of the back of crimper head with 5mm Allen head bolts (included). The pivot bolt incorporated on the mirror mount contains an integrated wrench. Grasping the wrench handle and pulling out allows for free travel. Once in desired position, either tighten or loosen nut underneath and engage handle by pushing down. Handle works similar to a socket wrench.



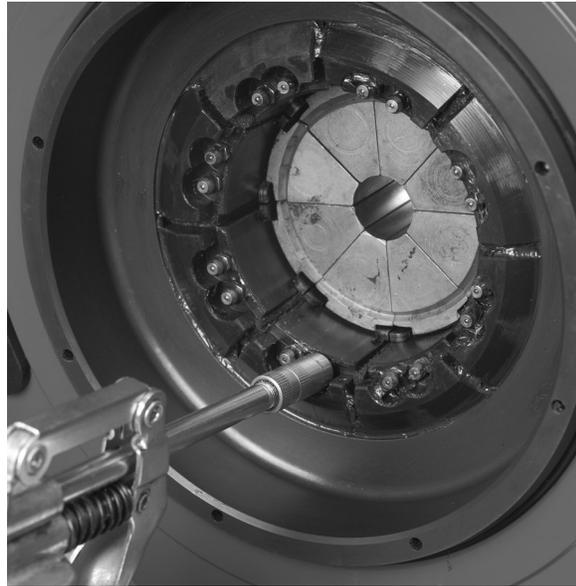
9. PLACE CONTROL PANEL IN COMFORTABLE WORKING POSITION.

The control panel can be rotated to a position that is more accessible depending on where the operator is working. Loosening the locking handle located to the left of the control panel will allow panel to pivot approximately 90 degrees left or right.



10. LUBRICATE DIE SHOE GREASE FITTINGS.

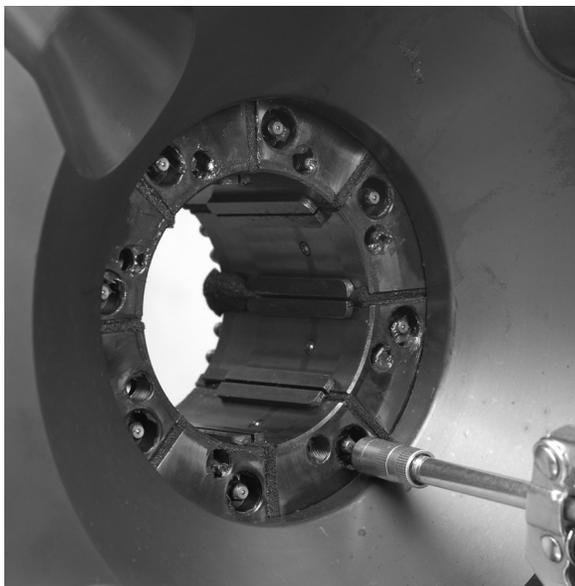
Press and hold top blue CRIMP button and cycle head to fully closed position or until grease fittings are exposed.



Lubrication should be done whenever the sliding surfaces of the die cone get shiny or about every 250 crimps.

11. STORE AND INSTALL DIE SETS.

Using the Quick Change Tool (QCT), load dies into the front and/or back of stand, in optional rack or store in plastic shipping tubs.



Turn power switch off. Using grease gun, grease both front (8) and back (16) die shoe grease fittings until grease appears between die and die cone surface (approximately 1 1/2 pumps). Fully cycle crimper 5 times to distribute grease evenly (alternate between top blue CRIMP button and bottom yellow RETRACT button, or actuate with foot pedal).

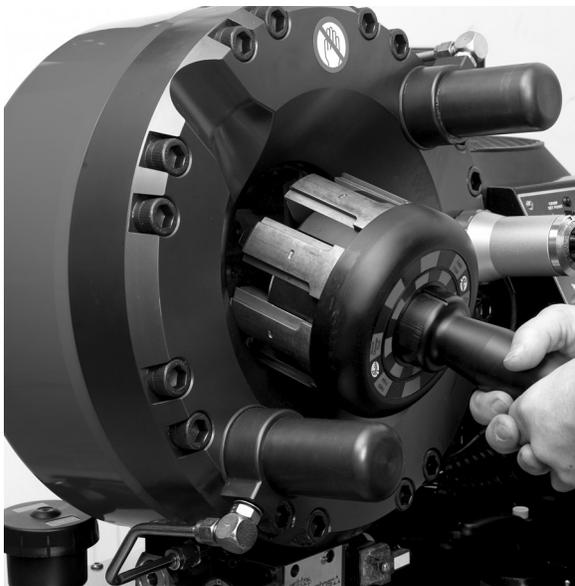


CALIBRATION

12. CALIBRATION

Before crimping a hose assembly, check calibration. Calibration is the proper relationship between a setting and the crimp diameter. It should be checked at least monthly, weekly or daily, if crimper has been used heavily or abused.

- A. Retract die shoes to fully open position.
- B. Load the **GC32-33** die set into crimper for calibration. Press the QCT down until you feel it bottom out on the die shoe surface. Twist the QCT clockwise until it engages the die fingers, then pull out of crimper head, aligning red with red decal on the QCT.



- C. Set the dial vernier to **1.23** to calibrate.
- D. While holding the thread end of an **8G MegaCrimp**® coupling, insert coupling into crimper so that ferrule is 1/8" from front edge of die shoe.
- E. Press and hold top blue CRIMP button. Crimper will close down to position set on dial vernier. Once it reaches that position, crimper will automatically shut off.

NOTE: CRIMP button and foot pedal operate on a "dead man" control. It only operates as long as you depress the CRIMP button or hold foot pedal down. It stops immediately when switch is released.

▲ **WARNING:**

To Prevent Serious Injury:

- Keep away from all moving parts! If bodily contact should occur with a moving part, immediately release CRIMP button, foot pedal or emergency stop.
- Do not operate crimper with hand, fingers, or any body part in crimper mouth.
- Keep additional personnel away from crimper while operating.

- F. Remove coupling and measure crimp diameter. Crimp diameter must measure 1.000" +/- .003". To properly measure crimp diameter, refer to Page 14.
 - If the crimp diameter is acceptable, no adjustment is necessary.
 - If crimp diameter is not acceptable, crimper must be calibrated. Proceed as follows:
 - a. Lock setting to 1.23 by using black locking lever on top of dial vernier.



CALIBRATION

- b. Use Calibration equation to determine approximate new setting.

$$\left(\frac{\text{Actual COD} - \text{Target COD}}{\text{COD}} \right) \times 22 + \text{Published Setting} = \text{Adjusted Setting}$$

Example:

$$(1.010 - 1.000) \times 22 + 1.23 = 1.45$$

Changing the dial vernier number by approximately .02 will change crimp diameter .001".

- c. Using the Allen head wrench included in the Accessory Kit, remove the dial vernier by loosening the set screw located at bottom on black knob of dial vernier.



- If crimp was too tight, unlock dial vernier and lower setting according to above calibration equation. Lock in place.
- If crimp was too loose, unlock and raise setting. Lock in place.



- d. Reinstall dial vernier and tighten set screw using Allen wrench.
e. Unlock and reset dial vernier to 1.23.



- G.** Repeat calibration steps until published crimp diameter is achieved. Crimper is now calibrated.

HOSE PREPARATION

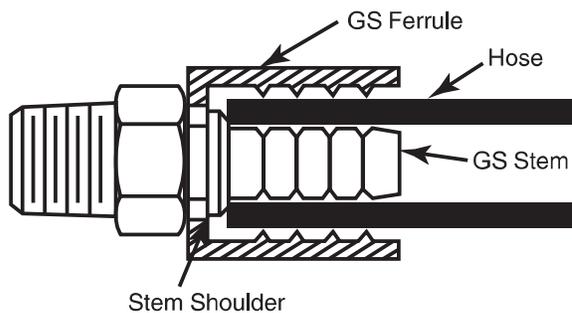
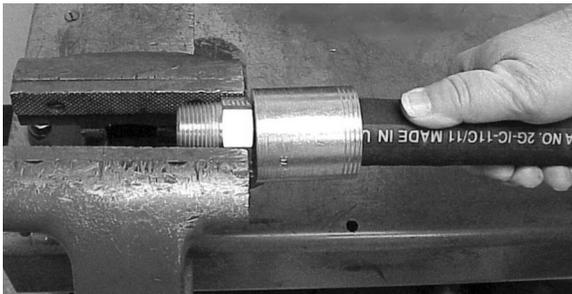
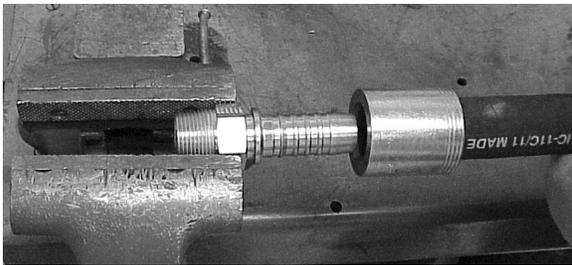


CAUTION:

A new hose and end fittings (stem/ferrule) must be used when building a hose assembly. Reusing any components will seriously affect performance and could result in serious injury or property damage.

GLOBALSPIRAL™ COUPLINGS

1. Cut hose to desired length.
2. Using Gates Crimp Data Manual or our electronic crimp data program, Ecrimp, select correct GS stem and ferrule. (Visit our website to download our electronic crimp data program at www.gates.com/ecrimp.)
3. Slide ferrule over hose end.
4. Lubricate the first two or three serrations on stem with lightweight oil (SAE 10W).
5. Clamp stem in vise on hex portion and push hose onto stem until locking collar bottoms out against hose. Hose should be flush against stem shoulder.



6. Hose and coupling are now ready for crimping.

MEGACRIMP® PRE-ASSEMBLED COUPLINGS

1. Cut hose to desired length.
2. Using Gates Crimp Data Manual or Ecrimp, select correct MegaCrimp coupling. (Visit our website to download our electronic crimp data program at www.gates.com/ecrimp.)
3. Place a visible mark on hose cover at the insertion length shown in the crimp data manual, or by using the MegaCrimp Hose Insertion tool, Part No.: 78017, Product No.: 7482-1342.



4. Insert coupling into hose until the mark lines up with coupling ferrule end.



5. Hose and coupling are now ready for crimping.

OPERATING INSTRUCTIONS

1. TURN POWER SWITCH ON.

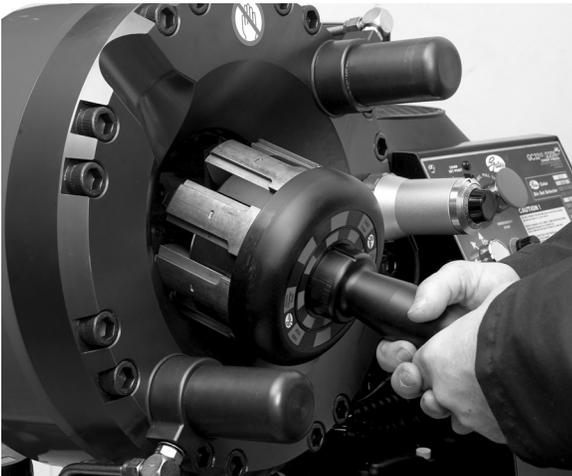


2. SELECT CORRECT DIE SET.

Using Gates Crimp Data Manual, select correct die set for the hose and coupling being crimped.

3. LOAD DIE SET.

- Using the Gates Quick Change Tool (QCT), select die.
- Align die finger dovetails with die shoe receptacles in crimper head.
- Press the QCT in until it bottoms out on the die shoe surface. The die is then set. (Red aligns with black on decal.)



- Release the QCT by twisting to the left, or counterclockwise, until die fingers are disengaged. (Red aligns with red on decal.)
- Withdraw the QCT.

4. SELECT CORRECT SETTING.

- Reference the GC32-XD crimp data manual.
- Select the approximate dial vernier setting for the specific hose/coupling combination.
- Dial this setting into the dial vernier.



CAUTION:

Improperly made assemblies could result in blowing the hose out of the fittings at high pressure, risk of fire and/or serious injury or death.

- Crimp **MUST MEET** specified crimp diameter. All settings are approximate!
- Machine tolerances exist for each crimper, die set and supporting piece of equipment, which will affect your actual crimp setting.
- **ALWAYS** check the crimp diameter to ensure that it is within published limits.

5. SET RETRACT PULSE TIMER DIAL.

The RETRACT PULSE TIMER dial can be adjusted to control the final die shoe position after crimping.



- Place an uncrimped coupling in front of the crimper mouth.
- Adjust the RETRACT PULSE TIMER knob counterclockwise for a smaller retract position (or a smaller

OPERATING INSTRUCTIONS

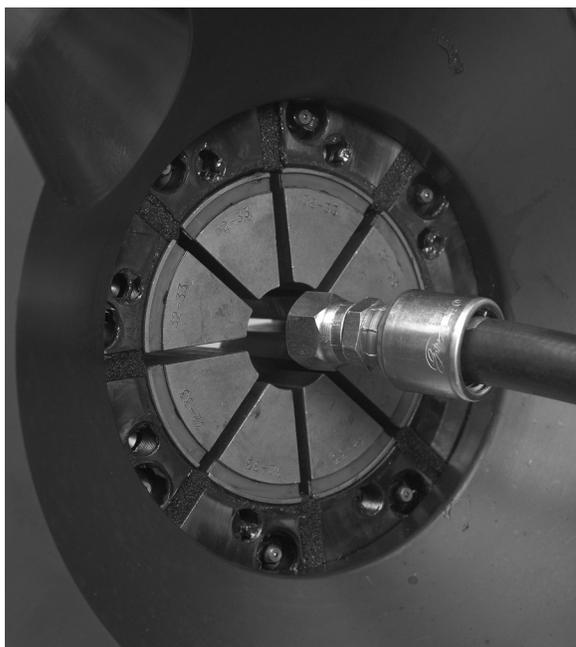
mouth opening). Adjust the RETRACT PULSE TIMER knob clockwise for a larger retract position (larger mouth opening).

- Press and hold bottom yellow RETRACT button until mouth clears coupling.



6. INSTALL ASSEMBLY INTO CRIMPER HEAD.

- Insert straight assemblies through either front or back of crimper head. If a bent tube is being crimped, it must be crimped by loading assembly from the rear of crimper.
- Adjust front of ferrule approximately 1/8" from edge of die shoe.



IMPORTANT: For GS couplings, make sure top of ferrule rests against hex or round shoulder of locking collar to ensure proper crimp.

7. BEGIN THE CRIMP.

NOTE: CRIMP button and foot pedal operate on a "dead man" control while in crimp mode. It only operates as long as you depress the CRIMP button or hold foot pedal down. It stops immediately when switch is released. If using only the foot pedal, when crimp setting is reached, crimper will momentarily pause and automatically retract to the RETRACT position whether the foot pedal is depressed or not.

WARNING:

To Prevent Serious Injury:

- Keep away from all moving parts! If bodily contact should occur with a moving part, immediately release CRIMP button, foot pedal or emergency stop.
- Do not operate crimper with hand, fingers, or any body part in crimper mouth.
- Keep additional personnel away from crimper while operating.



- Press and hold top blue CRIMP button or depress foot pedal.



OPERATING INSTRUCTIONS

- When crimping a two-piece coupling (e.g., GS, PC) as soon as the die fingers contact the ferrule, pull slightly on the hose assembly. That ensures the ferrule-locking collar is properly located over the stem locking groove.
- Crimper will close to the position selected on the dial vernier. Once it reaches that position, the crimper stops automatically.
- Press and hold the bottom yellow RETRACT button until the crimper stops.



- Crimp is now complete.

8. REMOVE HOSE ASSEMBLY.

9. MEASURE CRIMP DIAMETER TO MAKE SURE IT'S WITHIN TOLERANCE. If not, discard assembly and recalibrate. (Refer to Calibration for procedure.)



Crimp new assembly following steps 1-9 until proper crimp diameter is achieved.

10. UNLOAD DIE SET.

- Open crimper head fully.
- Press the Quick Change Tool (QCT) in until it bottoms out on the die shoe surface.
- Twist QCT clockwise until die fingers are engaged and withdraw QCT. This will pull the die fingers out of the crimper head.



- Place die fingers back into storage receptacle and press downward.
- Twist QCT handle counterclockwise to unload die fingers.
- Withdraw QCT.

MEASURING AND ADJUSTING CRIMP DIAMETERS

NOTE: DO NOT measure on top of part number stamps or ridges.

1. Measure crimp diameter.

- Using Gates calipers (Product No. 7369-1320/ Part No. 78217), measure halfway between ridges. (Fig. 1) To be sure crimp diameter is being properly measured, mark a crimp flat. Beginning with that flat, count 9 flats to get the diameter. Be sure caliper fingers DO NOT touch ridges or part number stamps.
- Measure halfway between the ends of the crimped portion of the ferrule. (Fig. 2)

2. Check crimp diameter.

- The measured crimp diameter must be within 0.010" of the published crimp diameter.
- Should the actual crimp diameter not be within specified crimp tolerance, the assembly MUST be discarded.

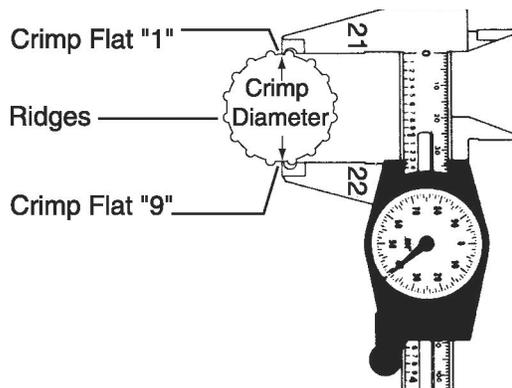
3. Adjust the crimp diameter (if necessary).

- If crimp diameter is not within specified crimp tolerance, an adjustment to the crimp setting needs to be made.
- To obtain a smaller crimp diameter, change dial vernier setting to a smaller number.
- To get a larger crimp diameter, change dial vernier setting to a larger number. Changing the dial vernier number by approximately .02 will change crimp diameter .001".
- After the correct diameter is achieved, record this new setting in your crimp data manual for future reference.

4. Multiple crimps.

- When crimping multiple assemblies, check every tenth crimp to ensure diameter is within acceptable range (± 0.010 ").
- Discard those outside the specified tolerance.

▲ WARNING:
Protect the safety of people using your assemblies! Your measured crimp diameters MUST be in tolerance range as listed in the Gates Crimp Data Manual.

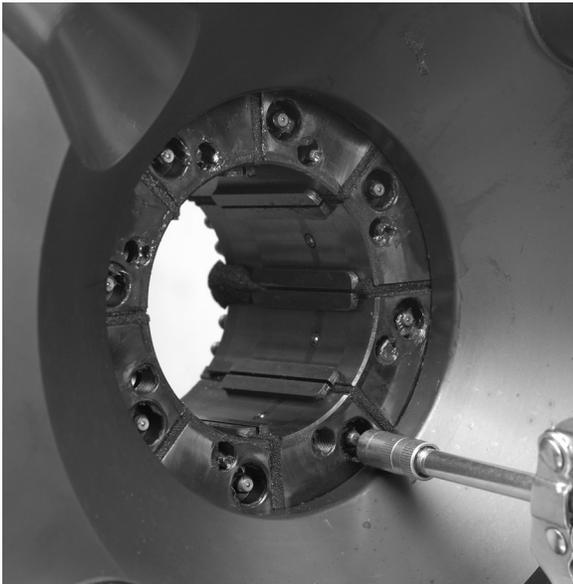


This crimper requires minimal maintenance. However, the following practices are recommended to ensure maximum reliability and service.

Lubrication

Lubricate sliding surfaces of die cone whenever they become shiny or approximately every 250 crimp cycles. Use Lubrimatic Moly EP Grease or equivalent.

- Press CRIMP button to close crimper mouth and expose grease fittings.
- Shut power switch off.
- Using grease gun, grease both front (8) and back (16) die shoe grease fittings (24 in all) until grease appears on die cone surface.



- Operate crimper through a full CRIMP and RETRACT cycle 5 times to distribute grease evenly.

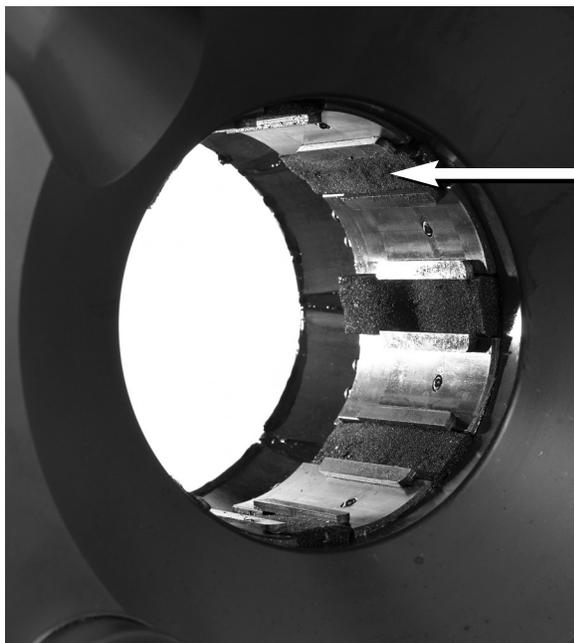
Flange Head Bolts

Every six months, check the torque of the flange head bolts. Torque should be at 330 Nm (2900 in lbs).



Foam Filler Pads

Check every 1000 crimps. If foam pad does not fill space between die shoes, order new set and install. Foam should rebound to original shape when squeezed.



MAINTENANCE

Check oil level

- Check hydraulic oil level in pump reservoir after every 10 hours of use.
- Hydraulic oil should be visible in sight glass. To check oil level, push CRIMP button to fully close crimp head. If oil level drops below the site glass, oil is needed.



- Remove 2-part cap (air filter in top).
- Add Tellus AW 46 (SAE Grade 46) hydraulic oil or equivalent.



Change oil and filter

(NOTE: Frequency depends on the pump's general working conditions, severity of use, and overall cleanliness.)

- For general shop conditions, change oil every 300 hours. Change the filter every time you change the oil.
- Remove cap using a wrench to loosen. Drain, clean and refill reservoir per pump operating instructions with Tellus AW 46 or equivalent.



CRIMPING TOOLS

Die Sets (Includes Tub)

Die Set	Part No.	Product No.	Notes
32-21	78860	7482-7128	
32-22	78861	7482-7129	
32-31	78862	7482-7130	
32-33	78863	7482-7131	
32-34	78864	7482-7132	
32-35	78865	7482-7133	
32-36	78866	7482-7134	
32-37	78867	7482-7135	
32-38	78868	7482-7136	
32-39	78869	7482-7137	
32-310L	78870	7482-7138	
32-311	78871	7482-7139	
32-312	78872	7482-7140	
32-313	78873	7482-7141	
32-314	78874	7482-7142	
32-40	78875	7482-7143	Air Conditioning
32-41	78876	7482-7144	Air Conditioning
32-42	78877	7482-7145	Air Conditioning
32-43	78878	7482-7146	Air Conditioning
32-44	78879	7482-7147	Power Steering
32-45	78888	7482-7156	Grease
32-46	78880	7482-7148	Battery Cable
32-81	78881	7482-7149	GL
32-82	78882	7482-7150	GL
32-83	78883	7482-7151	GL
32-84	78884	7482-7152	GL
32-85	78885	7482-7153	GL
32-86	78886	7482-7154	GL
32-87	78887	7482-7155	GL
32-301	78889	7482-7157	Clamp Collar

ID Slug Die Finger

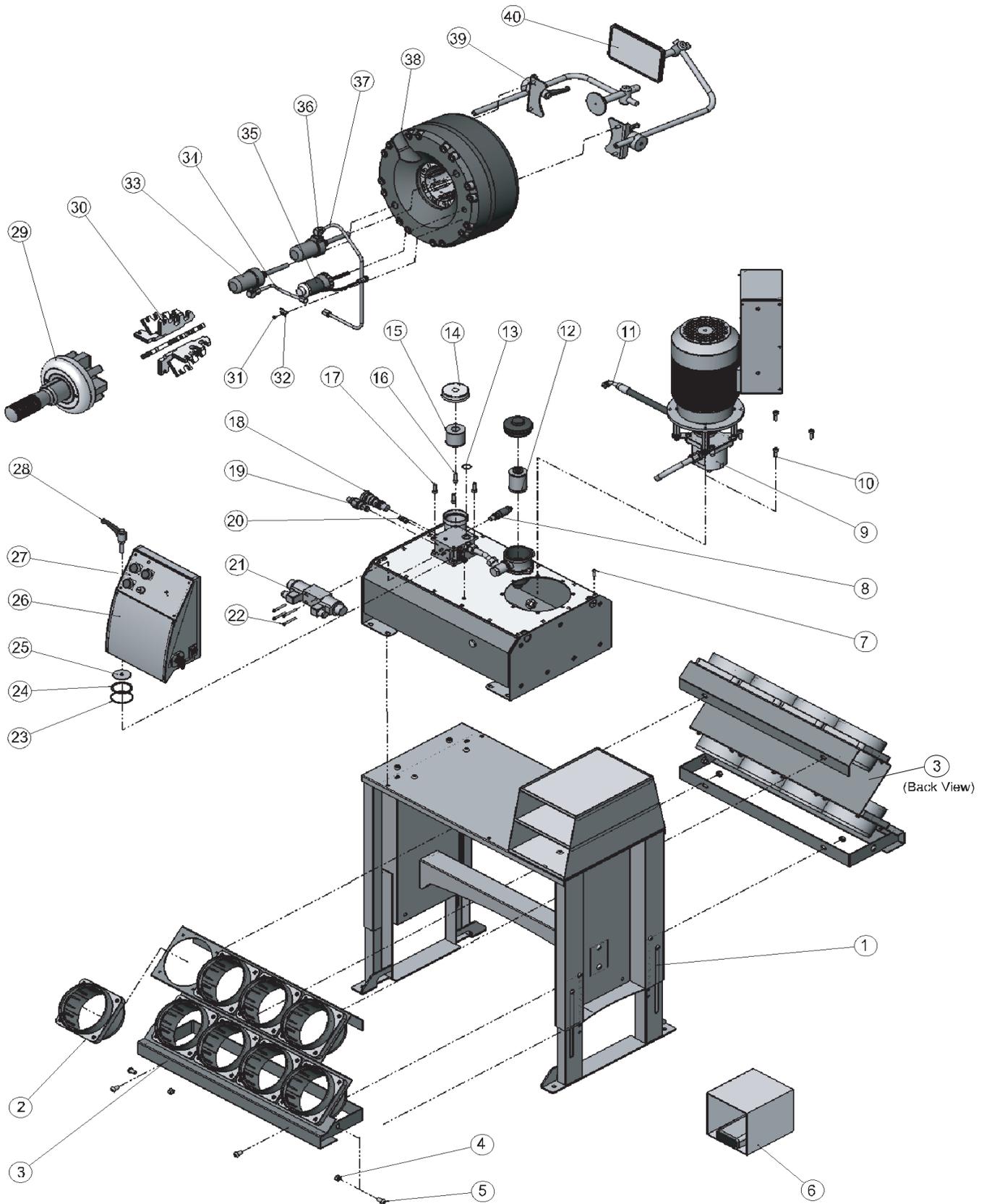
Finger Number	Part No.	Product No.
32-31	78890	7482-7158
32-33	78891	7482-7159
32-34	78892	7482-7160
32-35	78893	7482-7161
32-36	78894	7482-7162
32-37	78895	7482-7163
32-38	78896	7482-7164
32-39	78897	7482-7165
32-46	78904	7482-7172
32-301	78906	7482-7174
32-310L	78898	7482-7166
32-311	78899	7482-7167
32-312	78900	7482-7168
32-313	78901	7482-7169
32-314	78902	7482-7170
32-331	78905	7482-7173

Die Tooling Supplies

Item	Part No.	Product No.
Stainless Steel Dial Caliper	78217	7369-1320



SCHEMATIC



REPLACEMENT PARTS LIST

Complete GC32-XD Crimper

Part No.: 78828

Product No.: 7480-7001

Includes: Quick Change Tool (QCT), Mirror
Foot Pedal

Start-up Accessory Tool Kit

Part No.: 78844

Product No.: 7482-7112

Includes: Tube of Grease, Brush, Grease Gun,
Dial Calipers, Allen Wrench, Fuses

No.	Item	QTY	Product No.	Part No.
1	Stand - Die Rack (Optional) not included	1	7480-7002	78829
2	Die Tubs	1	7482-7124	78856
3	Die Rack - (Optional)	2	7480-7003	78830
4	Rack Nuts (4)	4	7482-7183	78913
5	Rack Bolts (4)	4	7482-7182	78912
6	Foot Pedal	1	7482-7111	78843
7	Reservoir Deck screws	16	7482-7110	78842
8	Back Pressure Control Cartridge	1	7482-7194	78925
9	Power Unit Replacement Kit (Invertor)	1	7481-0043	78831
10	Pump bolts	4	7482-7186	78916
11	Hose Assembly	1	3663-5161	78915
12	Oil Filter Element	1	7482-7196	78927
13	Head Seal	1	7482-7126	78858
14	Breather Cap	1	7482-7175	78907
15	Breather Element	1	7482-7195	78926
16	Long Mounting Bolts (Head)	2	7482-7181	78911
17	Short Mounting Bolts (Head)	2	7482-7106	78838
18	Pilot Operated Check	1	7482-7103	78835
19	Relief Valve	1	7482-7193	78924
20	Valve block adaptor	1	7482-7102	78834
21	2 Position 3 Way Solenoid Valve	1	7482-7180	78910
22	Solenoid Bolts set	4	7482-7171	78903
23	Outer Washer (Control Panel)	1	7482-7190	78921
24	O-ring (Control Panel)	1	7482-7191	78922
25	Inner Washer (Control Panel)	1	7482-7192	78923
26	Control Panel Replacement Kit	1	7482-7101	78833
27	Fuses	2	7482-7176	78908
28	Control Panel Post	1	7482-7115	78847
29	Quick Change Tool (QCT)	1	7482-7104	78836
30	Foam Fillers	8	7482-7119	78851
31	M5x10 Button Cap Screw (Dial Vernier Lock Plate)	1	7482-7189	78919
32	Dial Vernier Locking Plate	1	7482-7188	78918
33	Kickers	1	7482-7179	78909
34	Piston Tubing (Lower)	1	7482-7117	78849
35	Dial Vernier	1	7482-7105	78837
36	Piston Adaptor	1	7481-7118	78850
37	Piston Tubing (Upper)	1	7482-7116	78848
38	Head Replacement Kit	1	7482-7100	78832
39	Depth Stop (Optional)	1	7482-7108	78840
40	Mirror	1	7482-7109	78841

TROUBLE SHOOTING

Troubleshooting Guide

All equipment is tested for proper performance before it is shipped from the factory. However, if you experience any difficulties, check the list below to help restore equipment to proper operating standards.

PROBLEM	CORRECTIONS
<ul style="list-style-type: none"> Pump motor will not start. 	<ul style="list-style-type: none"> Check electrical connections.
<ul style="list-style-type: none"> Setting will not change. 	<ul style="list-style-type: none"> Locking switch may be engaged. Move Switch to left.
<ul style="list-style-type: none"> Will not hold crimp calibration. 	<ul style="list-style-type: none"> Flange head bolts are loose. Check torque of flange bolts to 330 Nm or 2900 in lbs every 6 months of operation.

Red LED on Control Panel	Indicates
Flashing	Crimper is ready
Solid	Crimper is in the crimping process
Rapid Flashing	Problem with electronics in control panel



WARNING:

- Avoid electrical shock or hydraulic related injury!
- Disconnect crimper from power source before removing control panel, loosening hydraulic tubing or removing any components.



Symbol Chart

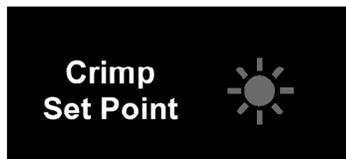
Lamp flashing or lit momentarily	
Lamp lit	



-Hirschmann Plug



-Hirschmann Plug Lit



- Crimp Set Point Light (Flashing)



- Foot pedal Pressed



- Crimp Button Pressed



- Retract Button Pressed

Before removing control panel, read these instructions and contact Gates H/C Product Application at (303) 744-5070 for guided help.

	IDLE
	FAULT
	O-LOAD
	Q-STOP
	SLOW
	FAST
	RETRACT
	CRIMP

- LED

(Located on printed control board behind Control Panel fascia)



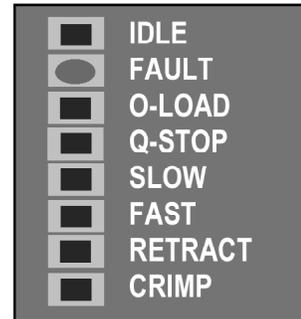
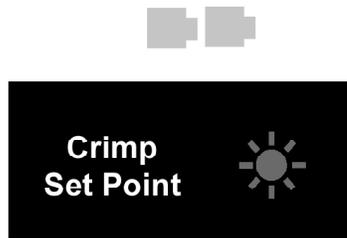
ADVANCED TROUBLESHOOTING

Normal Operations

1- Operator Action

The Power switch is turned ON.

2- Indicator(s)



3- Condition

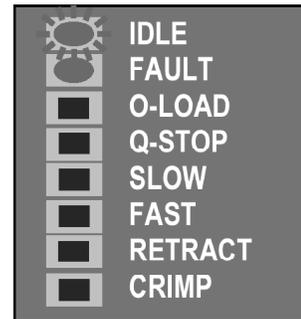
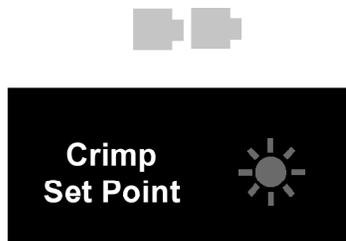
The crimper is ON.

1- Operator Action



The Power switch is turned ON.

2- Indicator(s)



3- Condition

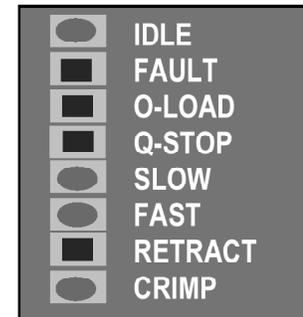
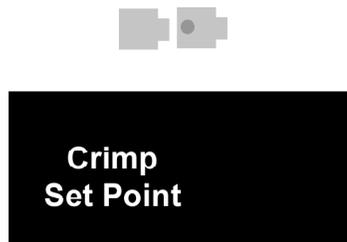
Motor and light may stay on for 10 seconds and then motor will switch off, IDLE light will dim and FAULT light will go solid. All lights on LED may light momentarily when the button or foot pedal is initially depressed.

1- Operator Action



The Power switch is turned ON.

2- Indicator(s)



3- Condition

All lights on the LED may light momentarily when the button or foot pedal is depressed.

ADVANCED TROUBLESHOOTING

Normal Operations - Continued

1- Operator Action

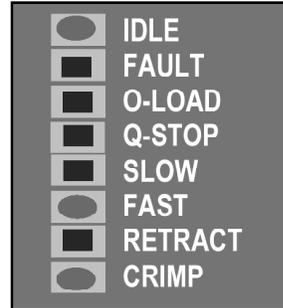


The Power switch is turned ON.

2- Indicator(s)



Crimp Set Point



3- Condition

Crimper is off Fast Attack Ramp. Crimper motor has shifted from Slow speed to Fast speed.

1- Operator Action

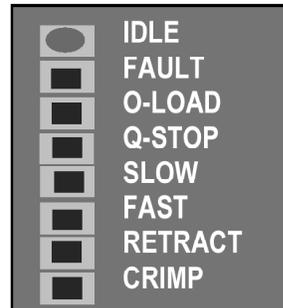


The Power switch is turned ON.

2- Indicator(s)



Crimp Set Point



3- Condition

Crimper Set Point reached- Crimper motor has shifted to IDLE.

1- Operator Action

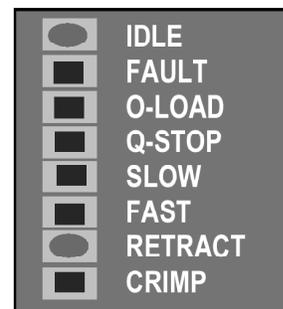


The Power switch is turned ON.

2- Indicator(s)



Crimp Set Point



3- Condition

RETRACT Button or Foot pedal is pressed or the Foot pedal is in Automatic mode and Crimper motor has shifted to IDLE.

ADVANCED TROUBLESHOOTING

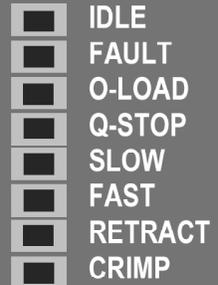
Motor isn't running

1- Operator Action

The Power switch is turned ON.

2- Indicator(s)

Crimp
Set Point



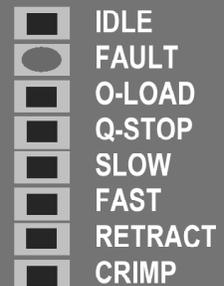
3- Description or Test	4- Solution
Plug may not be wired correctly.	Check for proper wiring on the plug. See Operator's Manual for correct wiring diagram.
Fuse may have burned out.	Check fuse in Control Panel.
Wiring for 3 phase plug may be incorrect.	See Operator's Manual for correct wiring diagram.
Transformer wiring may be incorrect.	Unplug Crimper. Check transformer wires in Control Panel are connected to proper terminals. See Operator's Manual for correct wiring diagram. Remove Control Panel cover and check transformer wire connector in Control Panel is connected to control board.
Circuit breaker may be problem.	1- Check circuit breaker has a 15 amp minimum rating. 2- Check that Emergency Stop is pulled out.

1- Operator Action

The Power switch is turned ON.

2- Indicator(s)

Crimp
Set Point



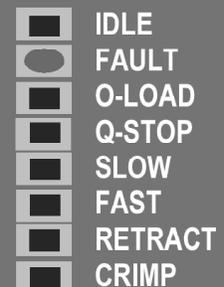
3- Description or Test	4- Solution
Facia wiring may be loose.	Unplug crimper and remove Control Panel cover and check Facia wiring connector is properly plugged into control board.

1- Operator Action

The Power switch is turned ON.

2- Indicator(s)

Crimp
Set Point



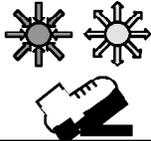
3- Description or Test	4- Solution
Dial Vernier may not be tightly connected	Check that Dial Vernier cable is properly installed. Unplug crimper and remove Control Panel cover and check Dial Vernier wiring connector is properly plugged into control board.

ADVANCED TROUBLESHOOTING

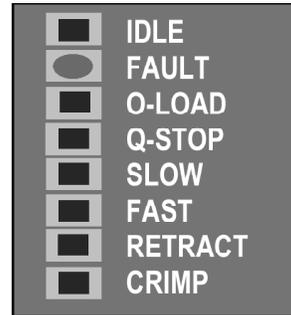
Motor is running - Head isn't moving

1- Operator Action

The Power switch is turned ON.



2- Indicator(s)



3- Description or Test

The Emergency Stop button has been used.

4- Solution

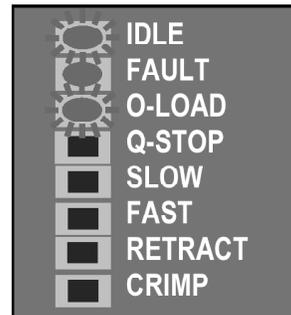
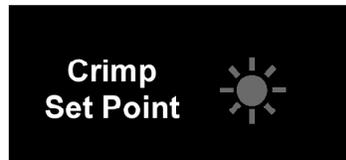
Pull the Emergency Stop out.

1- Operator Action

The Power switch is turned ON.



2- Indicator(s)



3- Description or Test

Directional Control Valve problem.

Oil may be cold.

Wrong die.

4- Solution

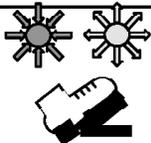
Unplug crimper and remove Control Panel cover and check Directional Control Valve wiring connector is properly plugged into control board.

Motor overload Oil may be cold. Press Retract button for several seconds.

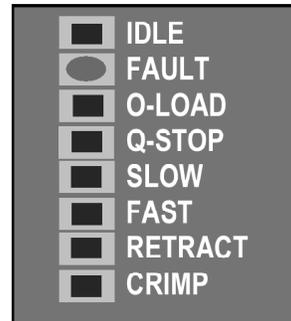
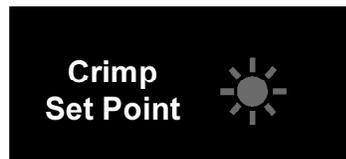
Motor overload May have the wrong sized dies. Check Crimp data.

1- Operator Action

The Power switch is turned ON.



2- Indicator(s)



3- Description or Test

Crimp setting too low.

Valving problem.

4- Solution

Motor overload Setting turned below 0.0. Reset to greater than 0.0.

- 1- Remove pilot operated check valve and clean.
- 2- Remove relief valve cartridge and clean.
- 3- Remove directional control valve and clean

ADVANCED TROUBLESHOOTING

Motor is running - Head isn't moving - Continued

1- Operator Action	2- Indicator(s)	<ul style="list-style-type: none"> <input type="checkbox"/> IDLE <input type="checkbox"/> FAULT <input type="checkbox"/> O-LOAD <input type="checkbox"/> Q-STOP <input type="checkbox"/> SLOW <input type="checkbox"/> FAST <input type="checkbox"/> RETRACT <input type="checkbox"/> CRIMP
The Power switch is turned ON.	 	




3- Description or Test	4- Solution
Mechanical Power unit problem	Remove power unit assembly and check that hose in tank hasn't ruptured.

Motor is running - Dies don't stop at Crimp Set Point

1- Operator Action	2- Indicator(s)	<ul style="list-style-type: none"> <input type="radio"/> IDLE <input type="checkbox"/> FAULT <input type="checkbox"/> O-LOAD <input type="checkbox"/> Q-STOP <input type="checkbox"/> SLOW <input type="radio"/> FAST <input type="checkbox"/> RETRACT <input type="radio"/> CRIMP
The Power switch is turned ON.	 	




3- Description or Test	4- Solution
Remove finger from Crimp Button and Crimp Set Point light flashes beyond set point.	1- Remove Dial Vernier from front of machine and reconnect Dial vernier cable to control box. Push control rod in and out. If light goes solid, replace solenoid valve.
	2- Remove Dial Vernier from front of machine and reconnect Dial vernier cable to control box. Push control rod in and out. If light doesn't go solid, replace dial vernier.

ADVANCED TROUBLESHOOTING

Pump continues to operate - Piston is fully retracted

1- Operator Action

The Power switch is turned ON.



2- Indicator(s)

Crimp
Set Point



- IDLE
- FAULT
- O-LOAD
- Q-STOP
- SLOW
- FAST
- RETRACT
- CRIMP

3- Description or Test	4- Solution
Invertor problem	Check that invertor control cable from Control Panel or that it is properly connected. Unplug crimper and remove Control Panel cover and check Invertor wiring connector is properly plugged into control board.

Motor is running - Piston is retracted - Dies don't open

1- Operator Action

The Power switch is turned ON.



2- Indicator(s)

Crimp
Set Point



- IDLE
- FAULT
- O-LOAD
- Q-STOP
- SLOW
- FAST
- RETRACT
- CRIMP

3- Description or Test	4- Solution
Dies don't open and dies move away from front flange.	Press CRIMP button until die shoes are near front flange and tap rear of shoes with mallet. Grease machine. See operators manual.
Dies don't open and RETRACT Hirschmann light still on.	Clean or replace Directional control Valve.
Directional control valve may not be operating properly.	Unplug crimper, remove Control Panel cover and check wire connectors are firmly plugged into Control Card.
Manual override on Directional control valve is pressed IN, RETRACT Hirschmann light still on and dies close.	Replace Directional Control Valve.
Manual override on Directional control valve is pressed IN, RETRACT Hirschmann light still on and dies won't close. Clean or replace	Pilot Operated Check Valve.
Relief Valve isn't operating properly.	Clean or replace Relief Valve Cartridge.

ADVANCED TROUBLESHOOTING

Motor is running - Piston is fully retracted - Dies don't close

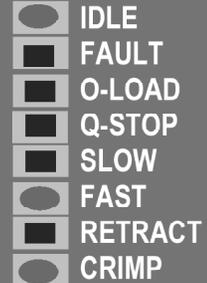
1- Operator Action

The Power switch is turned ON.



2- Indicator(s)

Crimp Set Point



3- Description or Test	4- Solution
Dies don't close and CRIMP Hirschmann light still on.	Unplug crimper, remove Control Panel cover and check wire connectors are firmly plugged into Control Card.
Manual override on Directional control valve is pressed IN, CRIMP Hirschmann light still on and dies close.	Replace Directional Control Valve.
Manual override on Directional control valve is pressed IN, CRIMP Hirschmann light still on and dies won't close. Clean or replace Relief Valve isn't operating properly.	Pilot Operated Check Valve. Clean or replace Relief Valve Cartridge.

Motor is running slow after Fast Attack Ramp

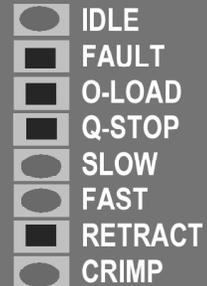
1- Operator Action

The Power switch is turned ON.



2- Indicator(s)

Crimp Set Point



3- Description or Test	4- Solution
Remove Dial vernier and connect to Control Panel. Press CRIMP button and press in control rod on Dial vernier. Motor speeds up.	Consult Gates Product Application.
Remove Dial vernier and connect to Control Panel. Press CRIMP button and press in control rod on Dial vernier. Motor doesn't speed up.	Replace Dial Vernier.
Remove Dial vernier and connect to Control Panel. Press CRIMP button and press in control rod on Dial vernier. Motor doesn't speed up.	Check Fault Analysis on control card and compare to manual and replace Control Panel if necessary.

ADVANCED TROUBLESHOOTING

Oil Leaks

On front flange around kickers

Description or Test	Solution
Worn or faulty seals in kicker rams.	Replace kickers with kicker replacement kit.

From Head Drain

Description or Test	Solution
Remove Kickers from front flange. Kicker rods have oil on them.	Replace kickers with kicker replacement kit.
Remove Kickers from front flange. Kicker rods don't have oil on them.	Replace crimper head with Gates Head Replacement Kit.

From back of head

Description or Test	Solution
Oil is leaking from rear housing seal.	Replace crimper head with Gates Head Replacement Kit.

From between head and valve block

Description or Test	Solution
Oil is leaking from between head and valve block.	Replace Head seal.

Excessive Noise

Description	Solution
Noise comes from electric motor.	Replace with Power Unit Replacement Kit.
Noise comes from head movement.	Replace with Head Replacement Kit.

Excessive Oil Temperature Contact Gates Hose Product Application

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TWO-YEAR LIMITED WARRANTY ON EQUIPMENT

For two years from the date of shipment of the equipment to the original user, Gates Corporation will, at its option, replace or repair any unit which proves to be defective in material or workmanship, or both, at no cost to the original user of the equipment. This is the exclusive remedy. THERE IS NO OTHER EXPRESS OR IMPLIED WARRANTY. ALL INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM DATE OF SHIPMENT OF THE EQUIPMENT TO THE ORIGINAL USER. LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES UNDER ANY AND ALL WARRANTIES IS EXCLUDED TO THE EXTENT EXCLUSION IS PERMITTED BY LAW. Some states do not allow the exclusion of incidental or consequential damages, and some states do not allow limitation on how long an implied warranty lasts, so the above limitation and exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. For warranty service, contact Service Department, Gates Corporation, 1551 Wewatta Street, P.O. Box 5887, Denver, CO 80217.

For selling prices on inventoried parts, refer to Hydraulic Equipment and Parts List Price Schedule. Selling prices for parts not shown in these lists will be furnished on request, or parts will be shipped at prevailing prices and you will be billed accordingly. For information regarding prices, contact your local Gates representative or Gates Corporation, 1551 Wewatta Street, P.O. Box 5887, Denver, CO 80217.

When returning inoperable equipment, contact your Gates sales representative and request a return goods authorization form. Fill out and send to:

Gates Corporation
Attention: Service Department
1551 Wewatta Street
P.O. Box 5887
Denver, Colorado 80217-5887
www.gates.com



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