# **MOBILE CRIMP® 4-20** DIGITAL DIAL CONTROL SAFETY AND OPERATING MANUAL





DRIVEN BY POSSIBILITY

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

# WARNING!

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 MoblieCrimp® 4-20.
- 3. Use only NEW (UNUSED) GATES hose and fittings.
- 4. Wear SAFETY GLASSES.
- 5. **KEEP HANDS CLEAR** of moving parts.

# **DIGITAL DIAL CONTROL**

Prod. No.: 7480-0051, Part No.: 77421 Dimensions: 12 1/4" wide x 6 1/4" deep x 19 1/2" high Weight: 57 lbs. (with stand)

# **PUMP SPECIFICATIONS**

All pumps maximum rated working pressure: 10,000 psi

# Shop Air Pump

Prod. No.: 7481-0002, Part No.: 77820 Weight: 10 lbs.

**1/4 H.P. 12 Volt DC Pump** Prod. No.: 7481-0037, Part No.: 77439 Weight: 20.5 lbs.

# 1/2 H.P. 115 Volt AC Pump

Prod. No.: 7481-0034, Part No.:77441 Weight: 32 lbs.

# Hand Pump

Prod. No.: 7481-0006, Part No.: 77821 Weight: 25.6 lbs.

# 1-1/2 H.P. 115 Volt AC Pump

Prod. No. 7481-0035 Weight: 108 lbs. Date of Purchase \_\_\_\_\_

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# **IDENTIFICATION LIST**

MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL



DIE



PRESSURE PLATE



HOSE ASSEMBLY



.05 ALLEN WRENCH



CRIMPER



CALIPERS



LITERATURE PACKET



MAGNET



**MOLYKOTE AND BRUSH** 



STAND



**CLAMPS** 

# SETUP

#### MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

# **1. UNPACK CARTON**

Remove crimper, pressure plate, nylon-covered hose assembly. literature envelope, magnet, .05 Allen wrench, and Molykote lubricant from shipping carton.

Locate the serial number assigned to the crimper on the top front of the cylinder and record on page one for future reference.

# 2. ATTACH CRIMPER TO THE STAND

Place crimper on flat, well- supported surface (such as the top of a workbench or the bed of a service vehicle) with the handle to the right.

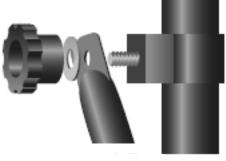
Remove two knobs, flat washers, and spacer from the crimper pivot bolts.



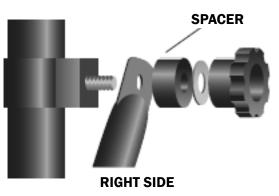
Slide the two halves of the stand together and attach to the crimper at the pivot bolts.



Replace spacer, flat washer, and knobs. Do no tighten knobs.







Lift crimper and allow stand to swing down onto the surface. Tighten knobs.



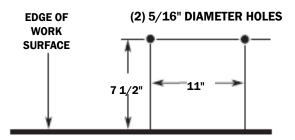
## SETUP

#### MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

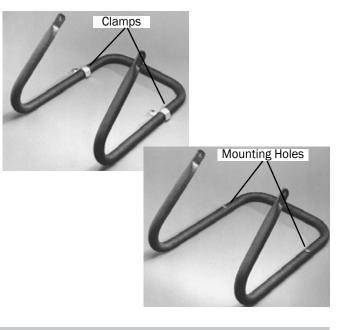
3. FASTEN CRIMPER TO WORK SURFACE STATION BEFORE USE (to avoid damage to machine or personal injury because an unsecured machine can fall).

Position crimper so that mounting holes are approximately 7" to 8" from the edge of the work surface.

Mark the drilling location using the mounting holes as a guide (see illustration below).



Drill two 5/16" diameter holes then use mountig holes or clamps to fasten stand to work surface.



# THINK SAFETY!

To avoid damage to the machine ALWAYS fasten the crimper to the work surface before you attempt to crimp.

# 4. ATTACH PUMP TO CRIMPER

Place pump near crimper and connect hose assembly to the pump port (3/8" NPT threads). Pipesealant may be used to seal connection. (Forbest connection, use Gates' Quick Disconnect couplings, G95311-0606 and G95321-0606, sold separately.)

Connect opposite end to the adapter or crimper.



#### 5. CHECK PUMP OIL LEVEL

Pump comes with oil in reservoir. Check proper oil level per pump operating manual instructions or the Maintenance section of this manual.

#### 6. CONNECT PUMP TO POWER OUTLET

For 115V connection, plug power cord into a properly grounded and rated circuit. For vehicle battery connection, see pump operating manual.



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# 7. BLEED AIR FROM SYSTEM

Tilt crimper forward so adapter is at its highest point.



Turn the knob on the controller to a setting of **400**, which allows the ram to extend approximately 1".



Turn pump on by pressing and holding the power "on" switch, (see pump operating manual for switc location) which extends the ram.



# CAUTION

Keep away from all moving parts! If bodily contact with a moving part occurs, immediately release the pump power "on" switch.

When the light comes on and buzzer sounds, immediately release "on" switch allowing ram to fully retract. **NOTE**: If light and buzzer are faint do not work, the controller batteries may need replacement. See "Maintenance" section of this manual. Repeat a minimum of five (5) times to bleed air completely.

# 8. PLACE CRIMPER IN COMFORTABLE WORKING POSITION

See photo below for suggested working



# **IMPORTANT**

Do not operate crimper in horizontal position because dies will become unstable.

# **THINK SAFETY**

NOTE: It's a good idea to place a rubber mat on the floor near the crimper to reduce the chance of damaging a die if dropped and improve operator comfort.

# **CALIBRATION PROCEDURE**

#### MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

- **1.** 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, possibly weekly or daily, if crimper has been used heavily or abused. Mark the drilling location using the mounting holes as a guide (see illustration below).
- **2.** Place the MC33 die set into the die cone and install pressure plate.



3. Turn the knob to a setting of 245.



Note: Rotating the knob on front of switch box clockwise will increase the number; counter clockwise will decrease the number. When changing the setting, always moveto a higher number then down to the desired setting. (Ex: To change from 200- 245, move dial up to 300 then down to 245.)

4. Insert an 8G MegaCrimp® coupling into the die set.



5. Complete the crimp.

6. Remove the coupling and measure the crimp diameter, which should measure 1000" +/- .003" To properly measure crimp diameter, refer to the Measuring and Adjustment Diameter sections of this manual.

If diameter is within range, no adjustment is necessary. If the crimp diameter is **<u>not</u>** within this ranger the crimper must be calibrated.

To get a larger or smaller number adjust accordingly

For every .001" change in crimp diameter, change the setting by .002. For example, to increase the crimp diameter by .002", increase your setting from 245-247.

**7.** Turn the knob to this new setting and crimp a new coupling. After the correct diameter is achieved, pull the plastic cap from the



**8.** Loosen the two set screws in the brass knob 1/4 to 1/2 turn using a .05" Allen wrench.



**9.** Turn the brass knob either clockwise or counter clockwise to get the setting back to 245.



**10.**Tighten the set screws and replace the plastic cap. Crimper is now calibrated.

# **HOSE PREPARATION**



# **MEGACRIMP® PRE-ASSEMBLED COUPLINGS**

# CAUTION

A new hose and end fittings must be used when building a hose assembly. Re-using any components will seriously affect performance and could result in serious injury or property damage.

- **1.** Cut hose to desired length.
- 2. Using Gates Crimp Data Chart (#35019 (Ind), 428 7365 (Auto)), select the correct coupling or visit our website to download our electronic program at ecrimp.gates.com.
- **3.** Place a visible mark on hose cover at the insertion length shown on the crimp data chart

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



5. Hose and coupling are now ready for crimping.



# **HOSE PREPARATION**



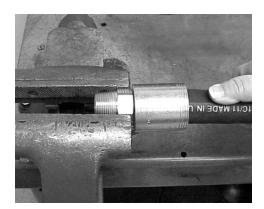
# **GLOBAL SPIRAL™ TWO-PIECE COUPLINGS**

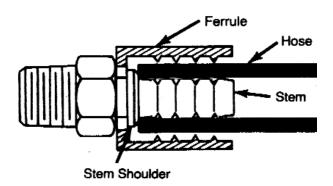
# CAUTION

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

- **1.** Cut hose to desired length.
- Using Gates crimp data chart (#35019 (Ind), 428-7365 (Auto)), select the correct coupling or visit our website to download our electronic program at ecrimp.gates.com.
- **3.** Place ferrule over the end of the hose.
- **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.

Hose should be flush against stem shoulder (see cutaway drawing below).





6. Hose and coupling are now ready for crimping.



#### MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

# **1. SELECT CORRECT DIE SET**

Using Gates Crimp Data Chart (#35019 (Ind), 428 7365 (Auto)) or ECrimp, select correct die set for the hose and coupling being crimped.

Hydraulic Hose Crimp Data MC4-20 Digital Dial and Positive Stop Crimpers

Hose Stem		Stern	Ferrule		SkiveBuff		Crimp			Crimper			
nt/ofon	Star (in.)	Type	Description	Partilio.	Length +4-23 (m.)	Dia. (In.)	Insetor Langth +L 03 (In.)	Crimp Leigh	Grimp 00 +l- 010 (Jn.)	Die Set	Digital Dis Setting	Users Actual Setting	Positive Scio Spece Ring
3	1	1655	15GS1F-4	G20995-0416				FUEL	1.792	10237	230	0.027	3/3
2	3/16	380	4PC2F-2	80415		-		FULL	0.620	MC31	193		115
	14	440	440393	80418				FULL	0.690	UC21	206	-	. 56
2	1/4	4PC	4PC2F-2	80415				FULL	0.890	10031	12	-	83
	1.6716	6PC	EPC2F-4	80418	-	Sec.		FLAL	3.765	10221	345		13
12	5/18	SPC	SPC2F-2	80415				FULL	3,765	MC31	466		. HI
	1332	EPC.	SPC1P5	85484				7000	5.880	10022	358		85
	13/32	550	SPC IFS	00484		444444		FULL	3.860	10.55	338	\	R3

DIE SET

# 2. LUBRICATE AND LOAD DIE

Swing cylinder to "die loading" position.

Apply thin layer of Molykote\* lube to the inside surface of the die cone. Re-apply lube whenever surface become shiny.



# **THINK SAFETY**

IMPORTANT NOTE: Lubricants should be reapplied to metal-to-metal sliding surfaces whenever the surface becomes shiny. Failure to do this reduces the life of the dies and cone. Excessive wear on these components produces poorly performing hose assemblies that could blow apart and result in injury.

\*Use only Gates Molykote lube for proper operation or Gates- recommended grease.

Using the magnet, place the die set into the die cone.



Remove magnet by lifting the "T" handle, making sure the top of the die fingers are even.



Apply a thin layer of Molykote lube to the top of the die set.



MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL



# **1. SELECT CORRECT SETTING**

Using Gates Crimp Data Chart (#35019 (Ind), 428 7365 (Auto)) or ECrimp, select correct die set for the hose and coupling being crimped.

Hydraulic Hose Crimp Data MC4-20 Digital Dial and Positive Stop Crimpers

Hose		Sten	78	Ferrule		SkiveBuff		Orimp			Crimper			
noration	Szr (n.)	Type	Description	Pathio.	Lings 44.00 (n.)	Dia. (in.)	Inseton Langth «L. 53 (In.)	Crimp Length	Grimp 00 +l- 010 (Jn.)	Die Set	Digital Dis Setting	Users Actual Setting	Positive Scoot Ring	
	1	1655	15GS1F-4	G20955-0416	-+			FULL	1.792	10037	230		342	
2	316	380	490264	80415		-		FULL	0.620	MC34	198		115	
	1/4	440	440393	80416				FULL	3.690	UC.11	206	_	. 86	
2	1/4	4PC	4PC2F-2	80415				FULL	0.890	0031	12		R3	
<u> </u>	1111	6PC	SPCSF-0	80418	-	-	Correct .	FULL	5.765	10221	345	-	13	
12	5/15	500	EPC2F-2	80418				FULL	3.765	MC31	485		· #1	
	1332	EPC.	5FC1F5	85484				70001	5.885	10022	352		85	
	15/32	550	SPC IFS	00484		410000		FULL	3.840	10.35	338	\	#5 R3	

SETTING

Settings are appropriate and may need to be ajusted. See Measuring and Adjusting the Crimp Diameter.

**4. DIAL IN SETTING AND INSTALL PRESSURE PLATE** Turn the knob on the controller to the selected timing.



LOCKING SWITCH

If crimping multiple assemblies, move the locking switch to the right to hold the setting. Moving switch to the left allows the setting to be changed.

Place the pressure plate onto the die set.

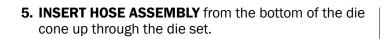


# **THINK SAFETY**

IMPORTANT NOTE: All setting are approximate! Matching tolerances exist for each crimper, die set and supporting piece of equipment which will affect your actual setting. Always check the crimp diameter to ensure that it is within the published limits. Record your actual crimper setting to achieve the specified crimp diameter for future use. Failure to heed this message could result in improperly made assemblies, blowing the hose out of the fittings at high pressure, and risk of fire or serious injury.

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MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL





Locate the top of the ferrule approximately 1/16" below the top of the die set.



# **IMPORTANT**

For GS couplings, make sure the top of the ferrule rests against the hex or round shoulder of the coupling.

When crimping bent tube and block-style couplings, keep thread end aligned with notch in pressure plate.



6. SWING CYLINDER INTO CRIMPING POSITION Using the handle, swing cylinder toward you and lock into place with lock pin.



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Make sure cylinder is locked into position by placing lock pin into hole on top of cylinder.



# **IMPORTANT**

Serious injury and/ or crimper damage can result if the cylinder is not locked in its crimp position.

#### 7. BEGIN THE CRIMP

Start by steadying hose with one hand while pressing and holding the power "on" switch withthe other hand, which extends the ram (seepump operation manual for switch location).



# CAUTION

Keep away from all moving parts! If bodily contact with a moving part occurs, immediately release the pump power "on" switch.





CORRECT

When light comes on and buzzer sounds, IMMEDIATELY release the power "on" switch.

NOTE: If light and buzzer become faint or do not work, the controller batteries may need replacement. See Maintenance Section.

#### 8. REMOVE HOSE ASSEMBLY

While holding hose, lightly lift bottom of die set to release hose assembly.

Remove hose assembly.



# **MEASURING AND ADJUSTING DIAMETER**

MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

**NOTE:** 

DO NOT measure on top of part number stamps.

#### 1. MEASURE THE CRIMP DIAMETER When using 21 and 22 dies, measure half way 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 blades DO NOT touch ridges. (See photo 1.)

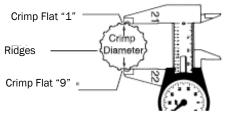
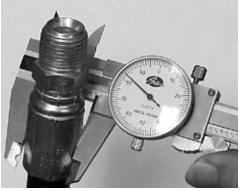


FIGURE 1



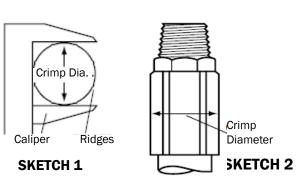
**PHOTO 1** 

Measure halfway between the ends of crimped portion of the ferrule (Fig. 2).



# When NOT using 21 and 22

**dies** use Gates dial calipers (Product No. 7369-0322, Part No. 78215) which are notched to clear ridges, measure halfway between ridges (Sketch 1). Be sure caliper fingers DO NOT touch ridges or part number stamps. (See Photo 1)



Measure halfway down the crimped portion of the ferrule (Sketch 2).

# 2. CHECK CRIMP DIAMETER

The measured crimp diameter must be within 0.010" of the published crimp diameter. If not, the hose assembly cannot be used, and adjustment will be required.

# 3. ADJUST THE CRIMP DIAMETER (IF NECESSARY

Check top of die set and the surfaces of the pressure plate for any debris (metal chips, dirt, etc.). Debris may cause some variation in crimpdiameter.

If necessary, clean the surfaces and lightly lubricate with Molykote.

If the machine is properly calibrated, a slight adjustment to the crimp setting can be made. To get a smaller crimp diameter, change the setting to a smaller number.

To get a larger crimp diameter change the setting to a larger number.

For every .001" change in crimp diameter, change the setting by 002. For example, to increase the crimp diameter by .002", increase your setting from 245 to 247.

After the correct diameter is achieved, record thisnew setting on your crimp data chart for futurereference.

# 4. MULTIPLE CRIMPS

When crimping multiple assemblies check every <u>tenth crimp</u> to ensure diameter is within acceptable range (+/- 0.010").

**NOTE:** For Crimping with the 20G and the MC38 Die Set you will need the 20G/MC38 Pressure Plate (Product No. 7482-1078, Part No. 78046)

#### MAINTENANCE

#### MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

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

#### LUBRICATE

Using the small brush and Molykote, apply a light coat to the inside surface of the die cone whenever it becomes shiny.

#### CHECK OIL LEVEL

Check the hydraulic oil level in the pump reservoir after each 10 hours of use (see pump operations manual for instructions).

The oil is more than 1/2" below the top, add a high grade hydraulic oil, such as Enerpac Oil, until within 1/2" of the top of the reservoir.

# **CHANGE THE OIL**

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. For field/mobile conditions, more frequent changes are required.

Drain, clean, and refill the reservoir per pump operating instructions with a high-grade hydraulic oil, such as Mobil DTE 25 until within 1/2" of the top of the reservoir.

# IMPACT DIE SETS AND PRESSURE PLATE

Periodically inspect the surfaces of die sets and pressure plate for debris (metal chips, dirt, etc.) or damage.

If debris is present, clean and lightly lubricate. If damaged, replacement is required (see parts list for ordering information). Inspect the die links, springs, and shoulder screws monthly to see if they are broken, cracked, or missing. These conditions may affect crimp quality Replace if necessary.

#### **INSPECT HOSE ASSEMBLY**

Inspect hose assembly connecting the crimper and pump monthly (more often with severe use).

Check nylon sleeve for cuts or abrasions. If sleeve is damaged, check hose for damage. If hose has signs of damage, replace immediately. A damaged hose may rupture and cause serious injury.

If hydraulic oil is present on the hose assembly, serious damage may exist. Replace immediately.

#### BATTERY REPLACEMENT

If light and buzzer become faint or do not work, batteries may need replacement. The controller uses AAA batteries. Remove the two screws located on the lower left side of the controller. Remove the side cover and the batteries from their holder.



Replace the batteries and position as shown on holder. Replace and secure the side cover.

# TROUBLESHOOTING

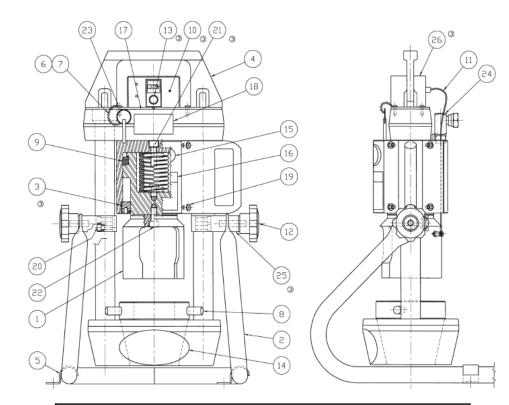
MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

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	CORRECTION
Ram will not fully extend	Check hydraulic oil level in pump reservoir. Hydraulic oil temperature must be withing +40 anD +120 degrees F.
Ram will not retract	Unplug pump from electrical outlet. (WARNING: pump must be unplugged to avoid injury.) Slowly and carefully loosen hose at pump. Be prepared to catch oil as it escapes. If ram retracts, pump valve may be stuck or need replacement.
Pump motor will not start.	Check electrical connections.
Setting will not change.	Lock switch may be engaged. Move switch to the left.
Light and buzzer do not work.	Replace the controller batteries. See maintenance section. Replace controller.

# **REPLACEMENT PARTS**

MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL



STANDARD ITEMS							
ltem No.	Prod. No.	Part No.	Description	Quantity			
1	7482-1036	78437	Pusher	1			
2	7482-1005	78455	Stand	1			
3	7482-1190	78425	Retaining Ring Kit	1			
4	7482-1163	78420	Handle	1			
5	7482-1109	78459	Stand Clamp	2			
6	7482-1064	78421	Lock Pin	1			
7	7482-1165	78422	Chain, Lock Pin	1			
8	7482-1015	78465	Pressure Plate	1			
9	7482-1041	78440	Seal Kit	1			
10	7482-1171	78397	Digital Dial Controller Assembly	1			
12	7482-1012	78462	Pivot Knob	2			
13	7482-1097	78442	Knob, Digital Dial	1			
14	-	35032-D	Cone Plate Decal	1			
15	-	35032-G	Gates Decal	1			
16	-	35032-DA	Cylinder Warning Label	1			
17	-	35032-DB	Top Plate Warning Label	1			
18	-	35032-W	Machine Damage Warning Label	1			
19	-	-	Button Head Cap Screw, 1/4-20 x 3/8	4			
20	-	-	Socket Head Cap Screw, 1/4-20 x 3/4	4			

# **REPLACEMENT PARTS**

#### MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL

	STANDARD ITEMS								
Item No.	Prod. No. Part No.		No. Description						
21	-	-	Socket Head Cap Screw 3/8-16 x 1-1/4	1					
22	-	-	Socket Head Cap Screw 3/8-16 x 3/4	2					
23	-	-	Button Head Cap Screw, 10-32UNF x 3/8	1					
24	7253-0216	86319	Adapter, 6MP-6FPX90, Gates	1					
25	7482-1006	78456	Pivot Spacer	1					
26	7482-1172	78398	Cover, DD Controller	1					
*	7482-1017	78467	Hose Assembly, 4 ft.	1					
*	7482-1155	78429	Hose Assembly, 8 ft.	1					

OPTIONAL ITEMS								
Prod. No.	Part No.	Description	Quantity					
7482-1131	78468	MC 31 Die Set Assembly	-					
7482-1132	78469	MC 32 Die Set Assembly	-					
7482-1133	78470	MC 33 Die Set Assembly	-					
7482-1134	78471	MC 34 Die Set Assembly	-					
7482-1135	78472	MC 35 Die Set Assembly	-					
7482-1036	78473	MC 36 Die Set Assembly	-					
7482-1137	78474	MC 37 Die Set Assembly	-					
7482-1138	78475	MC 38 Die Set Assembly	-					
7482-1139	78476	MC 39 Die Set Assembly	-					
7482-1140	78431	MC40 (-6AC) Die Set Assembly	-					
7482-1141	78432	MC41 (-8AC) Die Set Assembly	-					
7482-1142	78433	MC42 (-10AC) Die Set Assembly	-					
7482-1143	78434	MC43 (-12AC) Die Set Assembly	-					
7482-1144	78452	MC44 (PS) Die Set Assembly	-					
7482-1145	78497	MC45 (GF) Die Set Assembly	-					
7483-1147	78396	Die Set, Spring	8					
7483-1148	78397	Die Set, Link	8					
7483-1149	78398	Die Set, Shoulder Screw	8					
7482-1220	78558	Die Set 21	-					
7482-1221	78559	Die Set 22	-					
7252-8831-5	G95311-0606	Male Quick Connect Coupler	-					

NOTES

MOBILE CRIMP 4-20 SAFETY AND OPERATING MANUAL



# **TWO-YEAR LIMITED WARRANTY ON EQUIPMENT**

For two years from the date of shipment of the equipment to the original user, Gates Corporation will, as 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 limitations on how long an implied warranty lasts, so the above limitations and exclusion 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 Customer Solution Center, 330 Inverness Dr. S, Englewood, CO 80112.

# HOW TO ORDER REPAIR PARTS

All Parts for MobileCrimp 4-20 machine listed in current replacement parts price sheets can be ordered directly from Gates Corporation, Iola Distribution Center, 999 Michigan Ave., P.O. Box 606, Iola, KS 66749, Phone (316) 365-6961.

When ordering, be sure to include the following information:

- 1. Name of unit shown on front.
- 2. Product number of parts needed.
- 3. Description of parts needed.
- 4. Quantity of parts needed.
- 5. Serial number of machine.

For selling prices on inventoried parts, refer to Hydraulic Power Crimp 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 Sales Customer Service.

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

Gates Corporation ATTN: Service Department Gates Customer Solution Center, 330 Inverness Dr. S, Englewood, CO 80112.



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