



GC32TSi CRIMPER

SAFETY AND OPERATION MANUAL



DRIVEN BY POSSIBILITY™

GC32TSI

Product Number: 7480-7004

Part Number: 78827

CRIMPER DETAILS

YOUR CRIMPER DETAILS

SERIAL NUMBER

[LOCATED ON REAR RESERVOIR BASE] _____

DATE OF PURCHASE

CRIMPER SPECIFICATIONS

DYNAMIC	Nom. Size [Hydraulic Hose Size]	2 inches
	Die Set Type	32 series
	Crimping Range [inch with Std. Die Set]	1/4 to 2 inches
	Crimping Range [inch with Optional Dies]	3/16 to 2½ inches
	Radial Swaging Force	4100 kN / 418 tonne
	Cycle Speed [Full Stroke-Complete Cycle]	16 seconds
PHYSICAL	Dimensions [Plan inch x inch x Height inch]	27 x 20 x 30
	Weight [Without Dies & Oil lbs]	660 lbs / 295 kg
	Shipping Space	47,120 cubic inches
	Shipping Weight	787 lbs / 358 kg
	Crate Size [Plan in x in x Height in].	40 x 31 x 38
ELECTRICAL	Supply [Voltage / Current / Frequency]	230 V 16 A 50 Hz to 60 Hz
	Plug Type [North America]	NEMA L6 20
	Phase	Single Phase
	Power	4.0 kW / 6.0 HP
HYDRAULIC	Rated Pressure	4300 PSI
	Reservoir Capacity	8 US Gallons
	Filtration	10 µm
MAINTENANCE	Grease Specification	Tungsten Disulphide

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CRIMPER SAFETY

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.

Hose Assembly Fabrication.

- › **Component Inspection:** Before creating an assembly be sure to inspect all components to be sure they are correct product, cut correctly, and do not have any visually identifiable defects.
- › **Couplings (compatibility):** Hose fitting components from one manufacturer are not usually compatible with fitting components supplied by another manufacturer. Never mix and match hose couplings from different manufacturers unless approved by both parties.
- › **Hose assembly equipment (crimpers):** Hoses and fittings from one manufacturer should not generally be assembled with the equipment of another manufacturer.

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.



WARNING

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

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 GC32TSi crimper.
3. Use only **NEW [UNUSED GATES]** hose and fittings.
4. Wear **SAFETY GLASSES**.
5. Keep hands clear of moving parts.

LOCATION PREPARATION



SELECT LOCATION

Before you unpack the crimper, decide where it will go. Choose a location where the operator can have access to the front, rear and left side. Bent [e.g. 90 degree] couplings must be loaded from the rear of the crimper head. Note there is an indentation in the front flange is designed to accommodate these couplings during crimping.



UNPACK OPTIONAL STAND CARTON (if purchased)

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.

Position stand to allow front, left side, and rear access to the crimper. Stand should be bolted to floor.



ERGONOMIC STAND ADJUSTMENT

Adjust height of stand to suit hose feed method [i.e. bench fed or hand fed].

If hose is hand fed, the bottom of the hose should be level with the operator's elbows when standing upright. Operator should have a straight back during crimping to avoid injury from handling heavy hose assemblies. 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.



If using the stand, bolt crimper using the four 6mm [1/4"] Allen head bolts [included] through predrilled holes. If mounting to a bench, drill four 1/2" holes aligning with holes in crimper and bolt together. Proper crimping height is approximately 32".

BOX CONTENTS



GC32-TSi crimper

Tube of Tungsten Disulphide grease with brush

Calipers

Calibration tool

Foot Pedal

Quick Change Tool

Hydraulic Oil [in reservoir]

Air Breather [must be fitted at customers location]

Stand, dies and rack are ordered separately.



CRIMPER INSTALLATION

The crimper is top heavy and weighs 660 lbs (300kg)

- › Follow the correct set-up procedure as shown in this manual
- › Failure to follow proper procedures can create risk of severe injury and/or damage to the crimper
- › **DO NOT** lift crimper by head. Use lifting anchors on crimper base.



Assemble the optional crimper stand, if using. The crimper stand **MUST** be secured to the floor.

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.



Remove the plastic wrapping from the outside of the box.



Remove the staples from the bottom and top of carton with a screwdriver and pliers.



Slit the tape on the top of the carton with a sharp knife, then open the lid and remove the wooden side supports.

INSTALLATION: SAFELY MOVING CRIMPER



Lift off the carton.

Model No. GC32TSI	Recommended Oil: SHELL TELLUS T46
Serial No. TSI 113 D14	Supply: 220 VAC
Build Date Apr 2014	1ph 15.0 amp.

Note voltage and frequency on the name plate located on the back of the tank. Ensure it is suitable for this location.



Using a 5/8 [16mm] wrench remove the four mounting bolts



Adjust the ratchet handle to rotate the control box out approx 15 degrees, retighten the handle. Remove control box power cord. Position the first sling between the control box and the electric motor as per the photo so that the straps clear the control box. Ensure the other half of the sling does not cause excessive pressure on the motor junction box.



Position the second sling in front and behind the crimper head as per the photo.

INSTALLATION: SAFELY MOVING CRIMPER



INCORRECT LIFTING

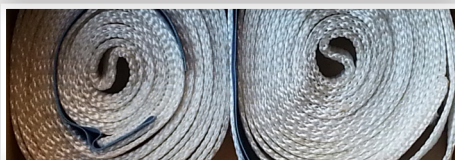
DO NOT lift crimper by head as this will cause damage to the crimper.
Use lifting anchors on crimper base.



Position the lifting device over the center of the crimper and attach the slings then slowly raise the crimper and place it on a suitable table.



Fit 5/8" [M10] bolts, nut and washers into pre-drilled holes and tighten.



Remove the slings and store.



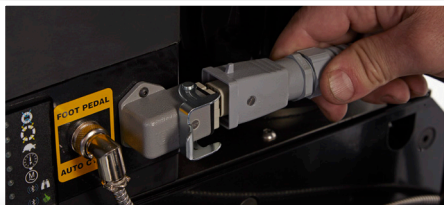
Oil reservoir is shipped full. Remove plug and replace with breather cap, store plug. Always ship crimper with plug installed to avoid spillage of hydraulic fluid or contamination of breather element. Check the sight glass to make sure oil level is half way with the head fully retracted [open].



CRIMPER INSTALLATION

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. The crimper is shipped with a NEMA L6 20 cable; modifying this cable voids your warranty.

ELECTRICAL



Connect the provided 220 VCA single phase cord assembly with HBL 2321 250 HVAC 20 amp twist lock plug to your crimping machine.



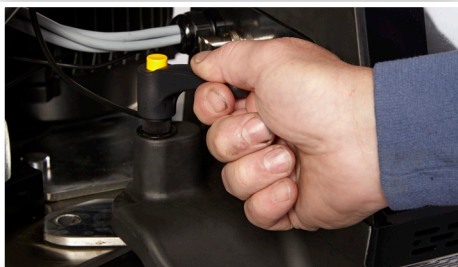
Connect your region specific electric cable to a suitable power supply socket of at least 16A.

ERGONOMICS



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.



CONFIGURE 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 box will allow the box panel to pivot approximately 30 degrees left. The control panel can then be pivoted by loosening its locking handle, located above the control box and below the control panel, on the right hand side.



Connect panel power cable to control panel.

OPERATING INSTRUCTIONS

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.
- › Do not operate crimper with hand, fingers, or any body part in crimper mouth.
- › Keep additional personnel away from crimper while operating.

POWER UP



TURN POWER SWITCH ON

Ensure the crimper is properly connected to correct power supply. Turn the power switch. The power switch can be found on the right of the control box.



TURN CONTROL PANEL ON

The switch is located at the top left corner of the panel.
NOTE: Power must be turned on on both the crimper and the panel. Turning power off on crimper will not turn power off on panel. The panel will continue to charge when main switch is off. Remove plug from wall outlet to remove power from panel.

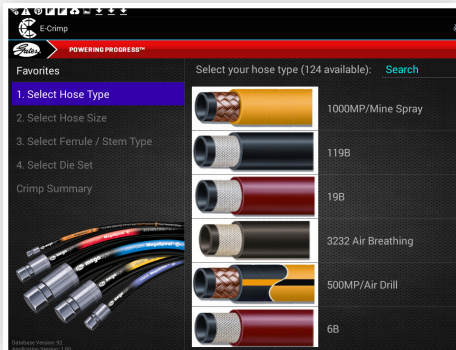


When you have power to machine and panel, the main menu screen will appear. An assembly must be selected for the machine to function.

QUICK START: Press E-Crimp

OPERATING INSTRUCTIONS

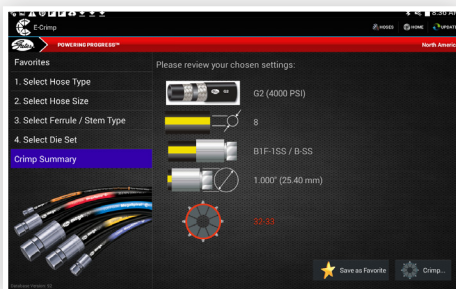
ECRIMP



You will be directed to 'Favorites' each time you open E-Crimp. Favorites is an area where you can save a collection of your most popular hose assemblies. A special folder will be created for each hose type you save. The 8G2-8G was added to 'Favorites' at the factory and is used for the example below.

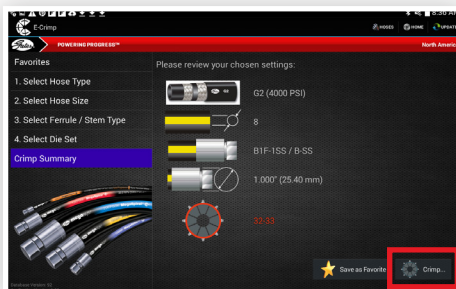
There are tutorials in the Operator Help area to guide you through more advanced operation. Here we will show you how to set-up for your first assembly. The screen will automatically go to 'Favorites', there is a 'G2' assembly folder.

Under 'Favorites', select the saved E-Crimp favorite folder 'G2'.



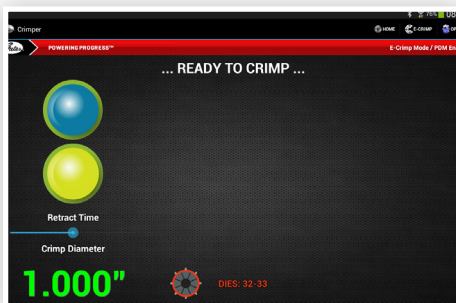
In the G2 folder we have loaded 8G2-8G hose assembly. This assembly will also be used to qualify the calibration of the machine. This selection has a final COD of 1.050".

Select the G2 assembly to proceed to the Crimp Summary. This will load the specific hose assembly components, hose type, hose size, ferrule/stem type and specify the die set to be used. NOTE the die set displayed as you will need to load this die set in the machine.



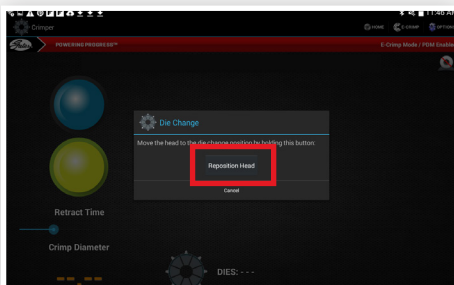
You can compare the summary with the details provided.

Once you have confirmed this assembly details, press 'CRIMP' to load the settings to the Crimper app.

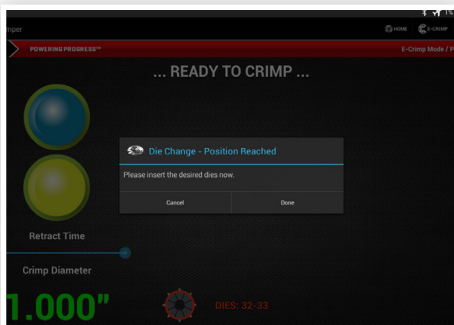


The new setting will be loaded to the crimper app. If the correct Die Set is already loaded, 'Ready to Crimp' will be displayed.

OPERATING INSTRUCTIONS



If a new Die Set needs to be loaded, the E-Crimp application will advise that you that a Die Change is required. Press and hold 'Reposition Head' until the crimper head reaches the die change position.



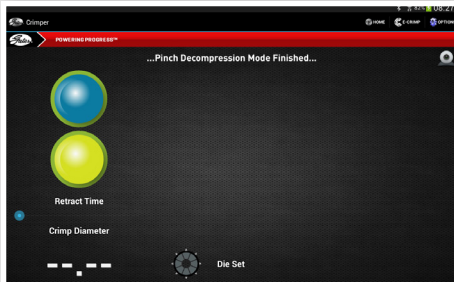
E-Crimp will advise when the 'Die Change Position' has been reached and the new die set can be inserted.



Load correct Die Set in the machine using the QCT, then press 'Done'. 'Ready to Crimp' will be displayed.

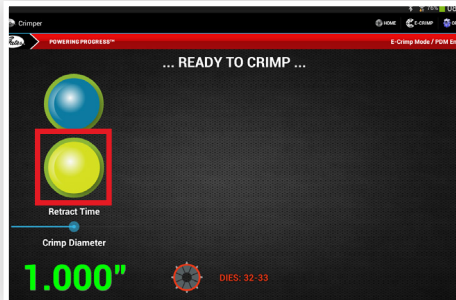


Place the G2 assembly as detailed in the Crimper to make your first hose, or place just the ferrule to qualify calibration, then press the blue 'Crimp' button or use the Foot Pedal.



When you see the message 'Pinch Decompression Mode Finished', the crimping process is complete.

OPERATING INSTRUCTIONS



Press the yellow 'Retract' button and remove the ferrule.

VERIFY CRIMP



Measure the ferrule using a digital caliper to confirm the crimp is within tolerance

When measuring the crimp outer-diameter, always measure 3 times around the fitting, avoiding the ridges. Take an average of the 3 measurements.

- › The measured crimp diameter must be within ± 0.010 " of the published crimp diameter . NOTE: DO NOT measure on top of part number stamps or ridges.
- › Should the actual crimp diameter not be within specified crimp tolerance, the assembly MUST be discarded. If the machine is not crimping product accurately, it may need to be recalibrated. Refer to the calibration procedure.

Multiple Crimps

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

Protect the safety of people using your assemblies! Your measured crimp diameters MUST be in tolerance range as listed in eCrimp.

Improperly made assemblies could result in coupling blow off at high pressure, risk of fire and/or serious injury or death.

OPERATING INSTRUCTIONS

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, death or property damage.

HOSE PREPARATION



Cut Hose

Cut hose to required length. Ensure hose is clean of debris to avoid contamination of a hydraulic circuit.

The assembly process is different for two piece couplings versus one piece couplings:



IF ASSEMBLY REQUIRES GLOBALSPIRAL™ (GS) TWO PIECE COUPLINGS

1. Slide ferrule over hose end
2. Lubricate the first two or three serrations on stem with lightweight oil.
3. Clamp stem in vise jaws on hex portion and push hose onto stem until locking collar bottoms out against hose. Hose should be flush against stem shoulder.
4. Hose and coupling are now ready for crimping.



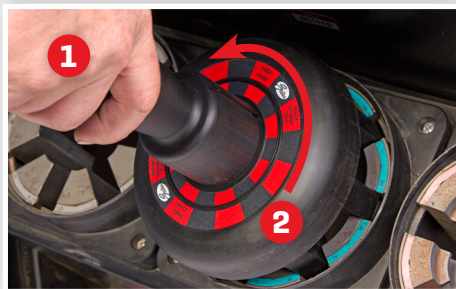
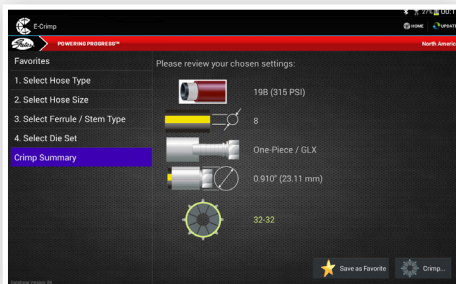
IF ASSEMBLY REQUIRES MEGACRIMP® PRE-ASSEMBLED (ONE PIECE) COUPLINGS

1. 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.
2. Insert coupling into hose until the mark lines up with coupling ferrule end.
3. Hose and coupling are now ready for crimping.

Gates designed MegaCrimp couplings for easy insertion. You can feel them "hit bottom" when the hose is fully inserted. Once the hose is inserted it stays put, so MegaCrimp couplings won't fall off during the crimping process.

OPERATING INSTRUCTIONS

LOAD CRIMPER DIES



Review eCrimp Summary

The eCrimp application indicated the correct die set to be used for the specified hose/coupling combination.

Locate Correct Die Set

This may be in the optional stand, or in the die container.

Load Die Set

Load Die Set with Gates Quick Change Tool (QCT).

Align Dies

Align die finger dovetails, between the die retention plates, with die shoe receptacles in crimper head.

Insert QCT

Insert the QCT until it bottoms out on the die shoe surface. The die is then set [red aligns with black on decal].

Twist QCT

Release the QCT by pushing the handle in to disengage dies, then twisting to the left, or counterclockwise, until die fingers are disengaged. [Red aligns with red on decal]

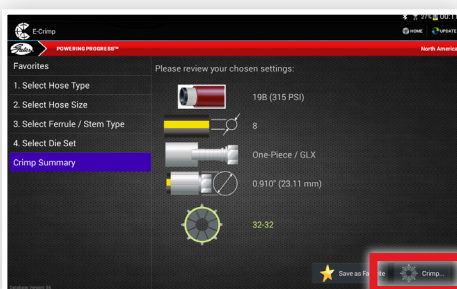
Withdraw QCT

OPERATING INSTRUCTIONS

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 head.**
- › **Keep additional personnel away from crimper while operating.**

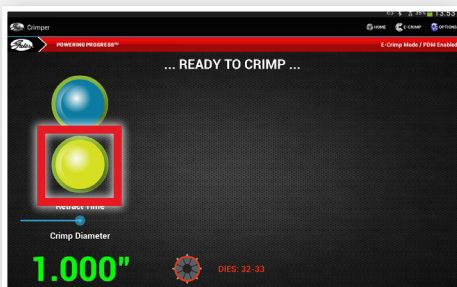
CRIMP ASSEMBLY



Precursors

The hose has been prepared, the machine is set, and the correct dies are loaded in the crimper.

Select Crimper Application.

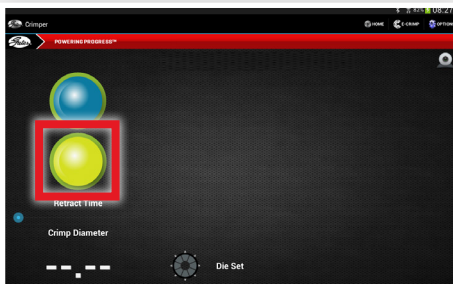
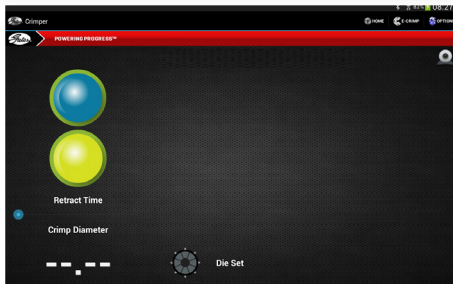
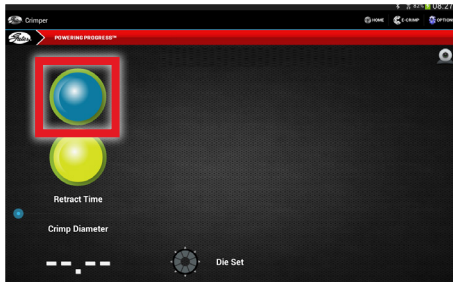


Insert Assembly Into Crimper Head

- › You may need to press and hold the yellow retract button to ensure sufficient clearance for assembly.
- › 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.

OPERATING INSTRUCTIONS

CRIMP ASSEMBLY



BEGIN the CRIMP. Push the Blue Crimp Button, or depress foot pedal.

NOTE: CRIMP button and foot pedal operate on a "dead man" control while in crimp mode. It only operates as long as you press 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 before automatically retracting.

Note: When crimping a two-piece coupling [e.g., GS, GSP] 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 collar.

Crimper will close to the position corresponding to the settings chosen. Once it reaches that position, the crimper stops automatically as part of the pinch decompression feature.

To remove crimped assembly, press and hold yellow retract button until crimper stops. The Crimper will automatically retract with foot pedal. Note: Crimper will fully retract every 10th crimp as part of automatic greasing.

Crimp is now complete. Remove assembly and verify that crimp is within tolerance.

Set the retract timer by sliding the button with your finger.

OPERATING INSTRUCTIONS

UNLOAD DIE SET



Retract Head

Fully retract crimper head, using yellow retract button within crimper application.



Insert QCT

Insert the Quick Change Tool [QCT] until it bottoms out on the die shoe surface.



Twist QCT

Twist the QCT clockwise until die fingers are engaged and withdraw QCT. This will pull the die fingers out of the crimper head



Place Dies

Place die fingers back into storage receptacle and press downward.



Twist QCT

Twist the QCT handle counterclockwise to unload die fingers.

Withdraw QCT

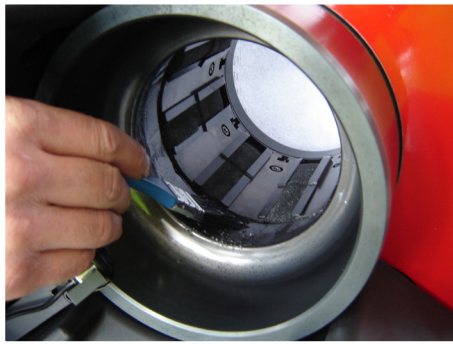
CALIBRATION PROCEDURE

Refer to calibration procedure included on the tablet and GC32TSi support website.

PERIODIC MAINTENANCE

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

LUBRICATION



Periodically Redistribute grease build up.

The crimper is designed to automatically redistribute some grease around the cone.

Grease will also build up over time as some is pushed out. This can be redistributed with a brush periodically.

At the rear of the crimper, use a grease brush to distribute grease inward that has been pushed out by crimping action. To properly care for your machine this should be done every 100 crimps, or whenever a significant amount of grease has been pushed out of circulation.



Periodically apply fresh Tungsten Disulphide grease.

If cone becomes shiny, use a brush to apply a tablespoon of fresh Tungsten Disulphide grease around the cone. The machine comes with Tungsten Disulphide grease, which is far more effective than alternatives. Do not use alternative grease, as this will contaminate the grease on your machine. Using alternatives will void warranty.

TORQUE BOLTS



Periodically check torque bolts.

Check torque on flange bolts every 6 months. Torque settings is 330 Nm, or 243 ftlb.

FOAM FILLER PADS



Periodically inspect filler pads.

The crimper will not retract if foam filler pads are clogged with grease, in which case the foam filler pads need to be replaced. Inspect filler pads every 1000 crimp cycles. Foam should return to original shape after compression. If foam pad does not fill space between die shoes, order new set and install. [product number]

PERIODIC MAINTENANCE

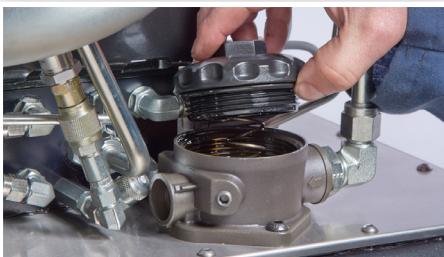
CHECK OIL LEVEL



Periodically inspect oil level.

Check oil level in pump reservoir after every 10 hours of use. Hydraulic oil should be visible in sight glass when head is fully open.

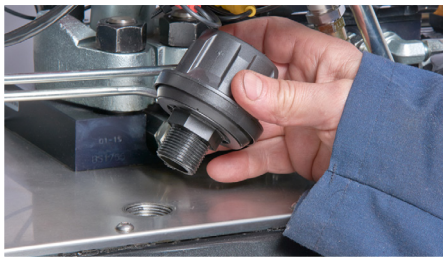
ADD OIL



Add oil when required.

If the oil level inspection indicates oil is required, remove 2-part cap [air filter on top]. Add Tellus AW 46 [SAE Grade 46] or equivalent.

OIL AND FILTER CHANGE



Periodically replace oil.

For general shop conditions, change oil every 300 hours of use. Change the filter every time you change the oil [PN 7482-7196]. Remove cap using a wrench to loosen. Drain, clean and refill reservoir per pump operating instructions with Tellus AW 46 [SAE Grade 46] or equivalent.

REPLACE OR ADD OIL



Remove the small rear cover and unscrew the complete breather element

Add 8 gallons [29.5 lt] of Shell TELLUS T46 hydraulic oil or equivalent and check to see the oil is half way up the sight gauge: Note: care must be taken to ensure zero contamination enters the tank.



Replace the breather and rear cover.



TOOLING

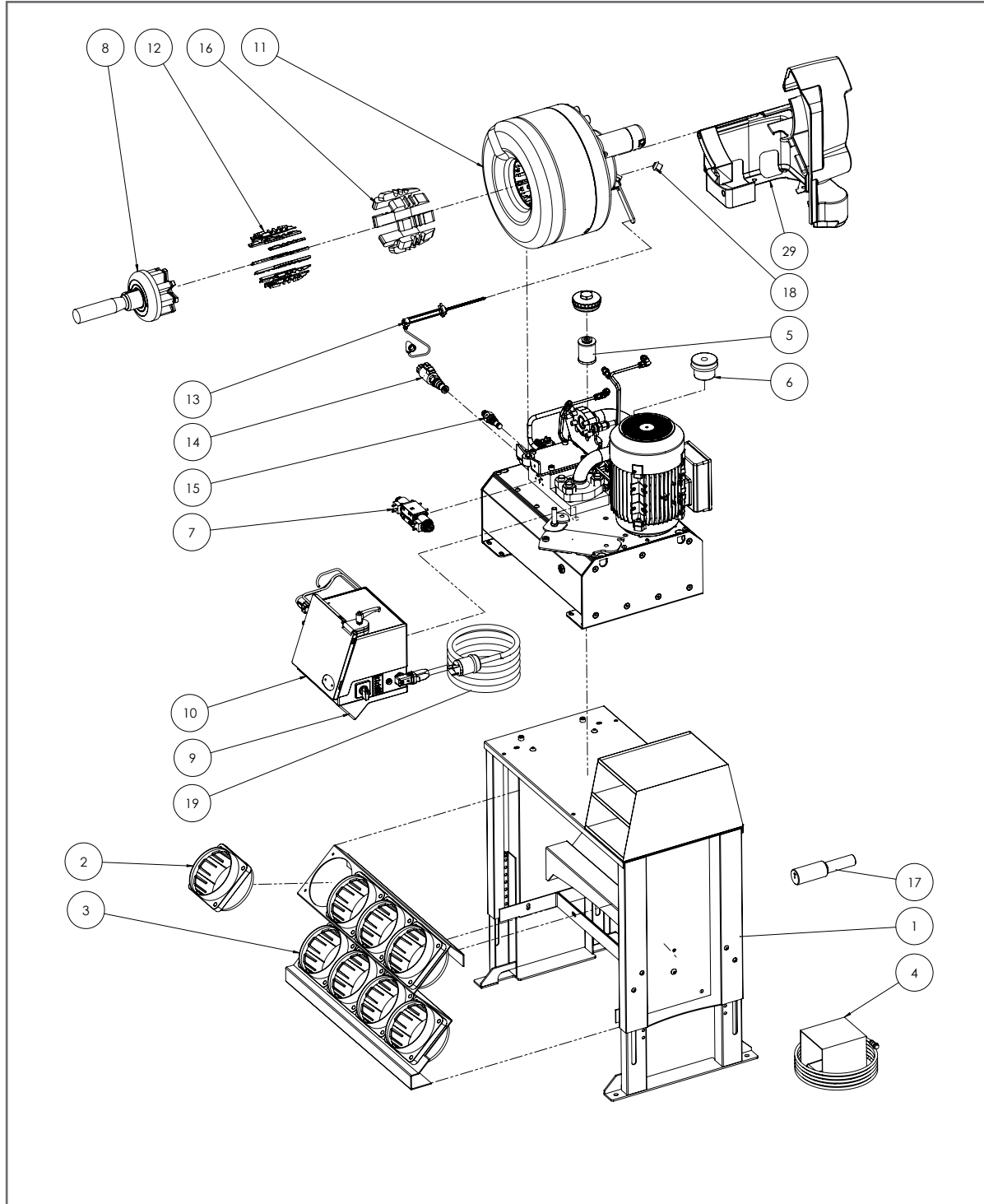


Figure 4: Exploded View items in table below



TOOLING

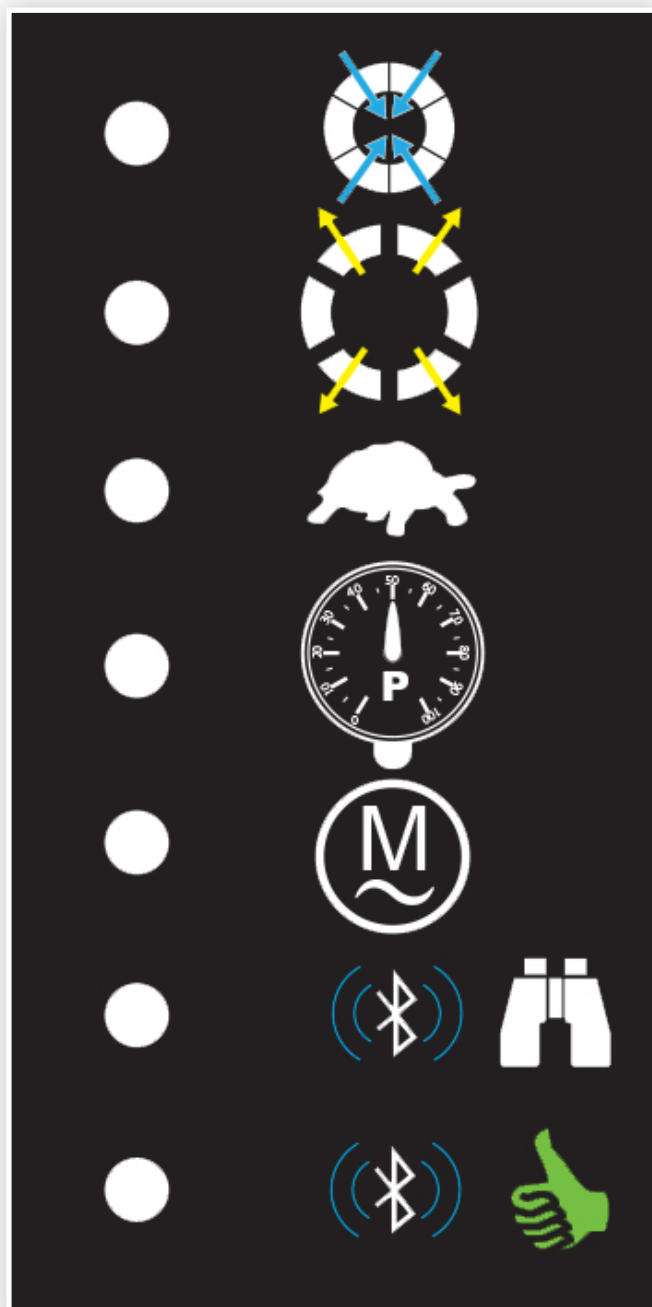
NO.	ITEM	PRODUCT NO.	PART NO.
1	Stand - Die Rack [Optional] not included	7480-7002	78829
2	Die Tubs	7482-7124	78856
3	Die Rack - [Optional]	7480-7003	78830
4	Foot Pedal	7482-7111	78843
5	Oil Filter Element	7482-7196	78927
6	Breather Cap with Element	7482-7175	78907
7	2 Position 3 Way Solenoid Valve	7482-7180	78910
8	Quick Change Tool [QCT]	7482-7104	78836
9	Control Box Assembly	7482-7234	78994
10	Touch Screen	7482-7235	78995
11	Head Replacement	7482-7236	78996
12	Die Retention Kit	7482-7237	78997
13	Linear Potentiometer [75MM]	7482-7238	78998
14	Proportional Relief Valve	7482-7239	78999
15	Sequence Valve	7482-7240	79000
16	Foam Fillers	7482-7241	79001
17	Calibration Tool	7482-7242	79002
18	Camera	7482-7243	79003
19	Power Cable Set	7482-7244	79004
20	QCT Repair Kit	7485-7246	79006
21	Start Up Kit		
22	Kicker Body Assembly		
29	Rear Cover	7482-7245	79005

TROUBLESHOOTING

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

Refer to troubleshooting guide. This is included on the panel, and also available from the Gates website.

CONTROL INDICATOR



Crimp

Retract

Slow [machine protection feature]

Pressure protection feature

Motor supply active

Bluetooth searching

Bluetooth connected

OPERATING INSTRUCTIONS

USING THE GATES COUPLING INSERTION TOOL



The Gates MegaCrimp® coupling insertion tool [7482-1342] offers an easy way to confirm the right insertion depth for all Gates wire-braid hydraulic hoses.

- Convenient side or top mount to your workbench.
- Useful slot for holding marking pen or grease pencil.
- Verifies the squareness of cut.



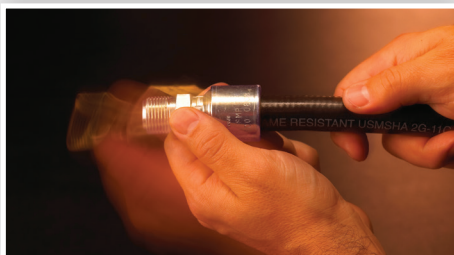
Insert the hose into its proper slot indicated by dash size, push it all the way in.



Check for square cut [maximum allowable angle of cut is five degrees].



Mark the insertion depth on the hose.



Using proper hose insertion techniques, check for full coupling seat then crimp the hose assembly.

The stem must be fully inserted into the hose. A stem not fully inserted an blow off under pressure, which could result in death, serious injury or property damage.



WARRANTY

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

Gates Corporation
330 Inverness Drive South
Englewood, CO 80112
Attn: Marty Bauer
303.618.0043
marty.k.bauer@gates.com

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
Denver CO 80202
1.800.366.3128



GC32TSi SAFETY AND OPERATION MANUAL



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GC32TSI
Product Number: 7480-7004
Part Number: 78827