

SUPPLEMENTARY DATA

2018-05

FORM: S269503F

Use above FORM number when ordering extra manuals.

Tracking Software Revisions In Dynasty®280 And Maxstar® 280 Models

The data contained in this supplement is either in addition to or takes exception to data appearing later in this manual.

Changes to Remote 14 Receptacle Information

1. Remote 14 Receptacle Information (Eff /w 2016-01-19 Software Update 301153R)

REMOTE 14

15 VOLTS DC

OUTPUT CONTACTOR

REMOTE OUTPUT CONTROL

Output Signals

COMMON


CHASSIS

Serial Communication Bus

Socket	Socket Information
A	Contact control +15 volts DC, referenced to G.
B	Contact closure to A completes 15 volts DC contact control circuit and enables output.
C	Output to remote control; +10 volts DC output to remote control.
D	Remote control circuit common.
E	0 to +10 volts DC input command signal from remote control. *Reconfigurable as input for Output Enable (Weld Stop) – used to remotely stop the weld outside the normal welding cycle. Connection to the D socket must be maintained at all times. If the connection is broken, output stops, and Auto Stop is displayed.
F	Current feedback; +1 volt DC per 100 amperes.
H	Voltage feedback; +1 volt DC per 10 volts output.
I*	Valid arc indication closed to socket G with valid arc. Electrical specifications: open collector transistor (see Simple Automation Application Section in Owner's Manual for connection example).
J*	Arc length control lockout closed to socket G during Initial and Final Amperage and Slope, and during the background time of a <=10 Hz pulse waveform. Electrical specifications: open collector transistor (see Simple Automation Application Section in Owner's Manual for connection example).
**	Touch Sense Detection closed to Socket G, with Modbus's Touch Sense enabled and machine not triggered for weld output.
G	Return for all output signals: F, H, I, J and A.
K	Chassis
L**	Modbus Common (RS485 Common)
M**	Modbus D1 (RS485 B+)
N**	Modbus D0 (RS485 A-)

805 497-A

Sockets G and K are electrically isolated from each other.

 If a remote hand control, like the RHC-14, is connected to the Remote 14 receptacle, some current value above min. must be set on the remote control before the Panel or Remote contactor is turned on. Failure to do so will cause current to be controlled by the panel control, and the remote hand control will not function.

**Available with optional Automation Expansion memory card.*

****Available with optional Modbus Expansion memory card. Modbus serial communication provides access to all front panel parameters and machine functionality. See Owner's Manual 265415 for a list of Modbus registers. Modbus expansion also includes functionality of Automation, and AC Independent Amplitude (Dynasty only), Hot Wire and Hot Start Adjust Expansions.**

2. AC Amperage Control (Eff /w 2014-07-08)

										<p>Amperage Control</p> <p>Controls the welding amperage output. Limits the maximum output of a remote amperage device.</p> <p>In AC, the user will be setting the rectified average value of the AC current, ([AC AV] will be displayed).</p>
<div>AC AV</div> <div>150A</div>										

3. Cooler Power (Eff /w 2014-08-11)

										<p>[COOL] Cooler Power (Optional): Selects between [OFF] and [AUTO]. [OFF] disables the power supply to the receptacle. [AUTO] provides power to the receptacle when the TIG process is active.</p>
<div>COOL</div> <div>AUTO</div>										

4. Software Number and Revision (Eff /w 2014-10-06, Software Update 301153J)

										<p>[SOFT] [WARE] Software number: Software number and revision will be displayed.</p>
<div>SOFT</div> <div>WARE</div>										

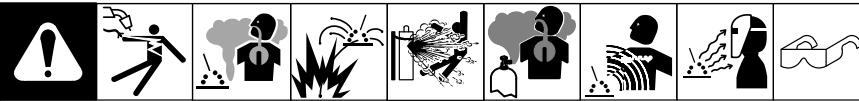
5. Software Not Valid (Eff /w 2014-10-06, Software Update 301153J)

										<p>[SOFT] [WARE] [NOT] [VALD] Software Not Valid: A software compatibility error has been detected. A Software Update is required (see Section Software Updates). If display shows after a software update is performed, see Factory Authorized Service Agent.</p>
<div>SOFT</div> <div>WARE</div> <div>NOT</div> <div>VALD</div>										

6. Troubleshooting Table - Blank Display

Trouble					Remedy				
Blank Display					Verify Power to machine.				
					A Software Update may be required (see Section Software Updates). If display remains blank after a software update is performed, see Factory Authorized Service Agent.				


7. 4T, 4Tm And 4TL Specific Trigger Method (Eff /w 2017-02-21 Software Update 301153S)



4T and 4Tm Application:

Use 4T and 4Tm (modified) trigger methods when the functions of a remote current control are desired, but only a remote on/off control is available.


4T* allows the operator to toggle between weld current and final current.

 When a remote switch is connected to the welding power source, use the remote switch to control the weld cycle. Amperage is controlled by the welding power source.

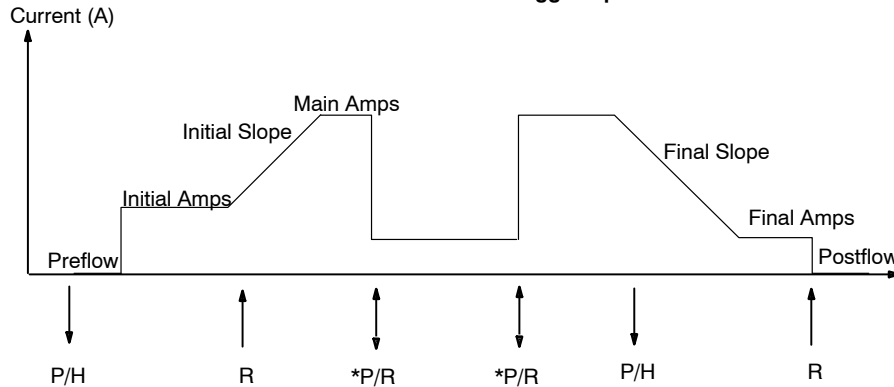
4TL Application:

The ability to change current levels without either initial slope or final slope, gives the operator the opportunity to adjust filler metal without breaking the arc.

4TL (mini logic) allows the operator to toggle between initial slope or main amps and initial amps. Final Amperage is not available. Final slope always slopes to minimum amperage and ends the cycle.

 When a remote switch is connected to the welding power source, use the remote switch to control the weld cycle. Amperage is controlled by the welding power source.

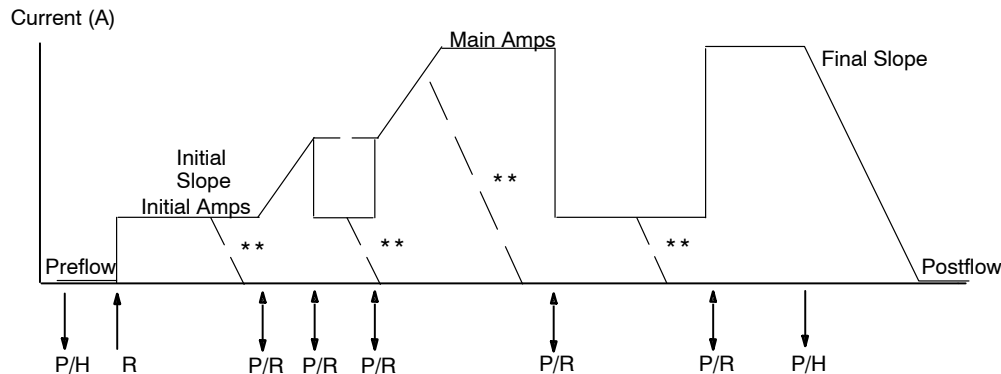
4T and 4Tm Torch Trigger Operation



P/H = Push and hold trigger; R = Release trigger;

*4T only: P/R = Push trigger and release in less than 0.75 seconds










4TL Torch Trigger Operation



P/H = Push and hold trigger; R = Release trigger; P/R = Push trigger and release in less than 0.75 seconds

** = Arc can be extinguished at final slope rate at any time by pushing and holding trigger

8. Control Panel Menu: AC And DC Stick's DIG selection
(Eff /w 2017-04-27 Software Update 301153U)












DIG30%

[DIG]* Arc Force Control:

Controls the amount of additional amperage at low voltage (short arc length) conditions. Adjust the force of the arc for different joint configurations and electrodes. Range is OFF to 100% PRO-Set values available for both 6010 and 7018 electrodes.

CARBon ARC Gouging can be selected at one step above DIG's 100%.

9. Voltmeter/Ammeter Display Messages
(Eff /w 2017-04-27 Software Update 301153U)



WELDCABL

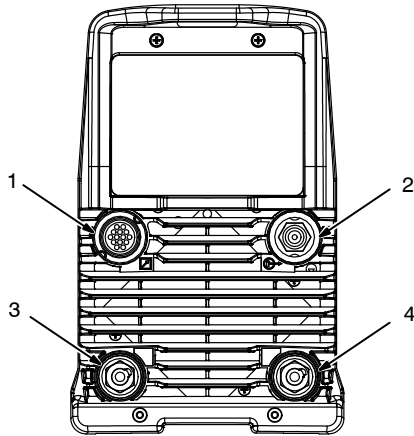
[WELD] [CABL] Weld Cable: An error related to the weld cables has been sensed. Straighten out or shorten weld cables. If carbon arc gouging, adjust DIG setting to CARBOn ARC.

Notes

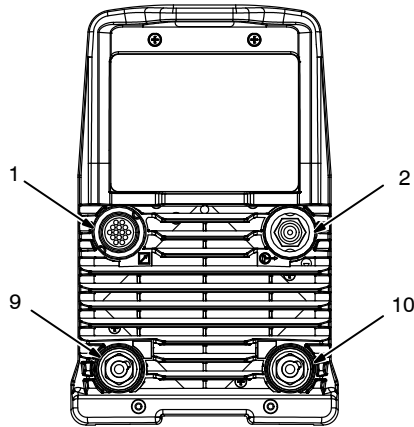
10. Connections (Eff /w 2018-05-31 Software Update 281090H)



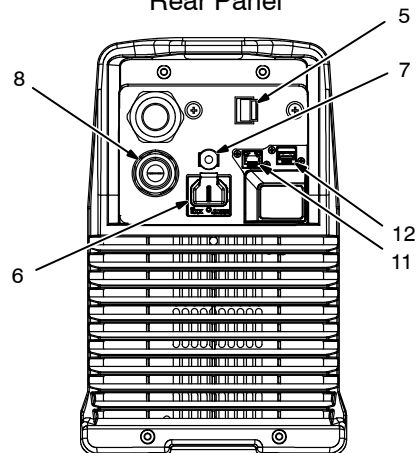
Dynasty Front Panel



Maxstar Front Panel



Rear Panel



⚠ Turn off power before making connections.

- 1 Remote Control Receptacle (See Section 1)
- 2 Gas Out To Torch Connection
Requires an 11/16 in. wrench.
- 3 Work Weld Output Terminal
- 4 Electrode Weld Output Terminal

TIG Torch
Stick Electrode Holder
Volt Sense Feeder (Multiprocess Models)

- 5 Main Power Switch

Use switch to energize/de-energize machine.

- 6 Optional Coolmate 1.3 Dedicated Power Supply Receptacle

- 7 Supplementary Protector For Coolmate 1.3 Dedicated Power Supply

Included with optional dedicated Coolmate 1.3 power supply receptacle.

- 8 Gas In Connection

Fitting has 5/8-18 in. right hand threads, and usually requires an 11/16 in. wrench. Maximum psi is 125.

- 9 Positive (+) Weld Output Connection

Work Lead Connection For TIG Welding. Stick Electrode Holder Connection For Stick Welding.

- 10 Negative (-) Weld Output Connection

TIG Torch Connection For TIG Welding / Work Lead Connection For Stick Welding

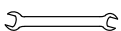
- 11 Ethernet (Insight models only)

RJ-45 port is for installation to a wired Internet via DHCP, or static IP settings as selected during setup configuration of the unit.

- 12 USB A (Insight Models only)

Use this port for installation of firmware.

Tools Needed:



11. Dynasty 280 DX Controls (Eff /w 2018-05-31 Software Update 281090H)

1 Standby Button

Use to put machine into low power consumption mode.

This button can also be used to clear some errors.

2 Encoder Control

Use encoder control in conjunction with applicable front panel function switch pads to change values for that function.

3 Memory Card Port And Indicator

This port is used to add features to the machine and update software to the boards within the machine. Indicator is lit while card is being accessed.

4 Volt Meter

Stick and TIG - Displays actual rectified average voltage when voltage is present at the weld output terminals.

MIG/V-Sense (Multiprocess Models) - Displays output polarity while idle or adjusting and actual voltage while welding.

While in the menu it is used to display parameter descriptions.

5 Ammeter / Parameter

Stick and TIG - Displays preset amperage while idle and actual rectified average amperage while welding.

MIG/V-Sense (Multiprocess Models) - Displays preset voltage while idle or actual rectified amperage while welding.

While in the menu it is used to display parameter selection options.

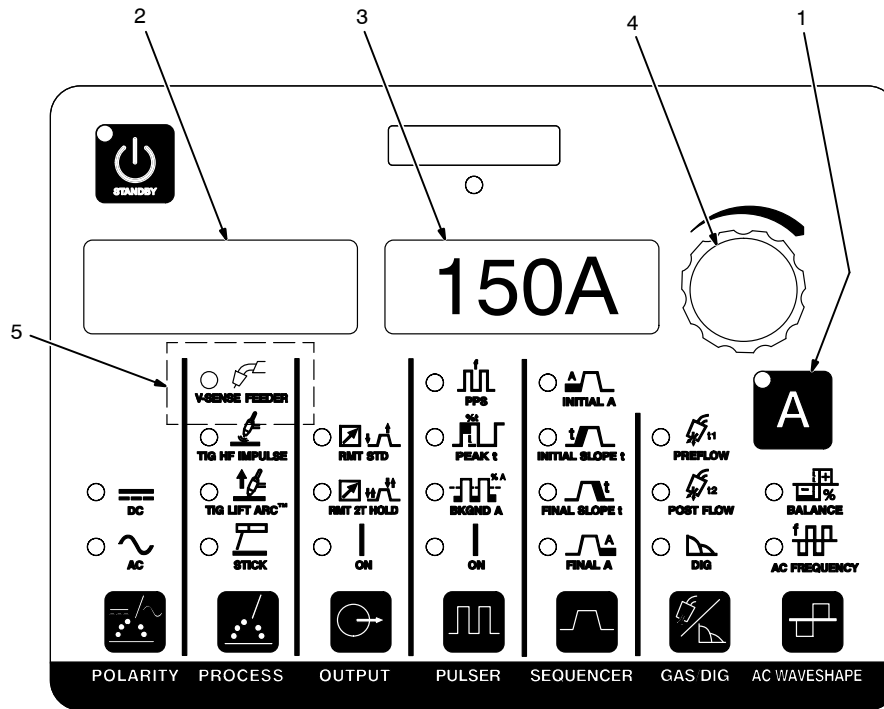
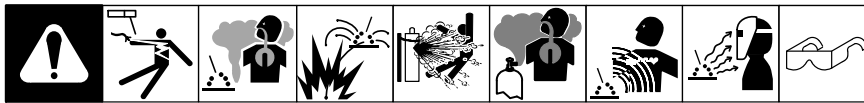
6 Amperage

Use this control in conjunction with the encoder to set the average weld amperage or peak amperage if the Pulser is active.

7 V-Sense Feeder (Multiprocess Models)

Use item 6 and 2 to set constant voltage when the V-Sense Feeder - DC MIG (GMAW/FCAW) process is selected.

12. Accessing Control Panel Menu (Eff /w 2018-05-31 Software Update 281090H)



- 1 Amperage
- 2 Parameter Display
- 3 Setting Display
- 4 Encoder

Rotate Encoder to adjust parameter setting.

Amperage (CC Mode)

Controls the welding amperage output. Limits the maximum output of a remote amperage device.

In AC, the user will be setting the rectified average value of the AC current, ([AC AV] will be displayed).

Voltage (CV Mode)

- 5 V-Sense Feeder (Multiprocess Models)

Optional - Set polarity to DC to be able to select the V-Sense Feeder process. Output is set to constant voltage for DC MIG (GMAW) or Flux Core (FCAW). Output selection is set to ON.



280589-A

Polarity Selection

Select output type AC or DC. With DC selected, the electrode will be negative (DCEN) for TIG, and positive (DCEP) for Stick.

With V-Sense selected (Multiprocess Models) - Electrode will be positive (DCEP) when INDuctance is 0-99% and electrode will be negative (DCEN) when INDuctance is turned to Flux Core.

Process Selection

V-Sense Feeder (Multiprocess Models) (DC Only) MIG/Flux Core (GMAW/FCAW) welding. With additional V-Sense Feeder.

TIG HF Impulse – is a non-contact arc starting method for AC and DC TIG welding.

TIG Lift-Arc – Is a contact arc starting method for AC and DC TIG welding.

Stick – Select AC or DC Stick (SMAW) welding.

Trigger Mode Selection

[RMT] [STD]

Typical setting for a remote foot or hand control. RMT STD requires a maintained contact closure to enable weld output. Amperage can be controlled with a remote potentiometer, or it can be set at the control panel.

[RMT] 2T [HOLD] (TIG Only)

Remote control required. Allows the operator to weld without holding the trigger closed. To start the weld, operator presses and releases trigger. To stop the weld, the operator again presses and releases the trigger. In this mode, only the output contactor is controlled by the remote control. Amperage must be set on the control panel.


[OUT] [ON]

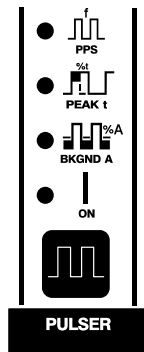
Output on. (Stick and TIG Lift Only)

⚠ Weld output terminals are energized at all times when displays read [OUT] [ON].

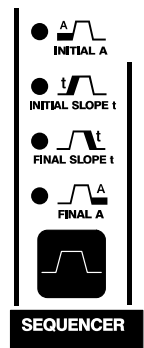
No remote control or trigger required. Amperage can be controlled at the control panel or with a remote potentiometer. Blue output on LED illuminates to indicate output is on.

12. Accessing Control Panel Menu (Cont.) (Eff /w 2018-05-31 Software Update 281090H)

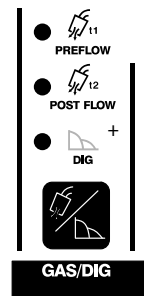
 ***PRO-SET** provides PROfessionally developed SETtings for the weld process
PRO-SET flashes one time and reveals the professional setting for the parameter.



PPS	100
PK T	40%
BK A	25%

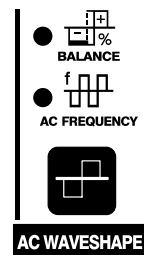


INTL	20A
ISLP	OFF
FSLP	OFF
FNL	10A



PRE	0.2T
POST	AUTO
DIG	30%
IND	30%

Selectable with Process V-Sense Feeder



BAL	75%
FREQ	120H

Pulse Control

Pulsing is available in the TIG process. Controls can be adjusted while welding.

Reduces heat input to minimize distortion and increase travel speed. Range is 01. to 500 (pulses per second).

Press switch pad to enable pulser.

[PPS]* Pulses Per Second: Range is 0.1 – 500.

[PK T]* Peak Amperage Time: Range is 5–95%

[BK A]* Background Amperage Time: Range is 5– 95% of peak amperage value.

 For additional Pulser information, visit
<http://www.millerwelds.com/resources/welding-resources/>

Sequencer Control

The welding output can be programmed to specific amperages and durations for repetitive applications. Sequencer is only available in the TIG process. Sequencer is disabled if a remote control with variable amperage is connected to the machine.

[INTL] Initial Amperage: Range is min – 280 amps.

[ISLP] Initial Slope Time: Range is OFF – 50.0T (seconds).

[FSLP] Final Slope Time: Range is OFF – 50.0T (seconds).

[FNL] Final Amperage: Range is min – 280 amps.

Gas/DIG Control

[PRE] Preflow Time:

Controls length of time gas flows prior to arc start.

Range is OFF–25T (seconds).

[POST] Post Flow Time:

Increasing setting increases length of time gas flows after welding stops. Range is OFF – 50T (seconds). AUTO calculates the time based on the maximum amperage of each welding cycle. The minimum time is 8 seconds. Auto = maximum amperage/10.


[DIG]* Arc Force Control:

Controls the amount of additional amperage at low voltage (short arc length) conditions. Adjust the force of the arc for different joint configurations and electrodes. Range is OFF – 100%. PRO-Set values available for both 6010 and 7018 electrodes

CARBon ARC Gouging can be selected at one step above DIG's 100%.

[IND] Arc Control (Inductance) (Multiprocess Models)

Controls the dynamic properties of the arc to control the puddle. The 0% setting gives a minimum inductance, that is a stiff, fast responding arc, and a small, fast freezing puddle. The 99% gives maximum inductance, that is a soft, slow responding, low-spatter arc, and high puddle fluidity. Use FLUXCORE setting for Self Shielded Flux Core. Range: Solid wire 0-99% or FLUXCORE Select a setting best suited for the application.

 Inductance adjustment may change polarity refer to polarity selection above.

AC Waveshape Control

[BAL] Balance Control (%EN) TIG Only:

Controls oxide cleaning. Increasing the setting reduces cleaning. Range is BALL, 50 – 99%. Stick is fixed at 50%. "BALL" sets the Balance to 30%. This is to allow the operator to form a ball on the tip of the tungsten. It is not for normal welding operation.

[FREQ] AC Frequency (Hz):

Controls arc width. Increasing the setting narrows the arc width. Range is 20 to 400 Hz.