

# The Welder Works™ Plan

A Preventative Maintenance Plan for Welding Equipment

Prepared for:



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# Welder Works™ A Plan For Preventative Maintenance

## Purpose

The purpose of the Welder Works™ Preventive Maintenance (PM) Plan is to set forth asset management based procedures for effective preventative maintenance and calibration program that ensures welding equipment operates at its full potential and does not present safety hazards. This Preventative Maintenance Plan can also save time and money by reducing unscheduled downtime and unexpected major repairs.

## Documentation

### Welding Equipment Inventory

A detailed Welding Equipment Inventory has been compiled jointly between XYZ Company, Dale Oxygen and Command Systems®. This Welding Equipment Inventory is found in [Appendix A](#).

The welding equipment inventory contains the following:

- Location/Operation
- Make
- Model
- Description
- Serial Number
- Last PM Performed Date/Hours

### Preventive Maintenance (PM) Schedule

Command Systems® has proposed a PM Schedule in [Appendix B](#), using the Welding Equipment Inventory. The PM Schedule has been established based upon the following:

- Manufacturer requirements
- Regulatory Agency Requirements
- Industry Standards
- Information gathered from XYZ Company about their operation schedule and availability
- Command Systems® asset management expertise

When new equipment is acquired or removed from service, the Welding Equipment Inventory and PM Schedule must be updated. XYZ Company will notify Command Systems®, through Dale Oxygen, of any equipment acquired or removed from service and provide all pertinent information so that the inventory and PM Schedule can be updated.

### Preventive Maintenance Checklist/Calibration Certificate

A PM Checklist/Calibration Certificate will be provided to XYZ Company upon completion of scheduled PM. This checklist will detail the inspections and actions to be included in the PM Plan. Example in [Appendix C](#).

All documentation shall be kept with the equipment files by XYZ Company for the life of the equipment. Command Systems® will keep documentation of PM for the life of the equipment or as long as XYZ Company is taking part in the Command Systems® Welder Works Program.



# Welder Works™ A Plan For Preventative Maintenance

## Equipment Deficiencies

When equipment deficiencies are found during scheduled PM, Command Systems® will provide XYZ Company, through Dale Oxygen, with a description of deficiencies, repairs required to bring the equipment into compliance and an estimated cost of repair. Command Systems® will also offer an expert opinion upon the feasibility of Repair vs. New Replacement of the equipment in question.

Command Systems® always recommends that all equipment be operated within Manufacturer, Regulatory and Safety Requirements. As an authorized OEM repair center, Command Systems® is required any deficiencies be addressed or equipment be removed from service. To return units to their facility standards, this may require equipment to be sent to our shop rather than field serviced.

## Corrective Maintenance

If deficiencies occur during operations, XYZ Company will contact Command Systems®, through Dale Oxygen, to schedule, evaluate unit and estimate appropriate repairs to bring the equipment into compliance. All Corrective Maintenance completed will be annotated in the equipment records for review at the next scheduled PM and recorded for the life of the equipment.

## Record Maintenance

Command Systems® can provide a web-based portal for customer records access for customers interested in read only access to records. This will be offered at an additional cost.

## Welding Equipment Inventory

XYZ Company						
Location/ Operator	Make	Model	Description	Serial Number	Last PM Date/Hours	Comments
W001	Lincoln	Precision Tig 225	Tig Welder	U123456791	Unknown	
W007	Lincoln	ProCut 80	Plasma Cutter	U123456792	Unknown	
W011	Lincoln	Invertec V350-PRO	Multi-Welder	U345678912	Unknown	
W011	Lincoln	LF-72	Wire Feeder	U3456789	Unknown	
W016	Bernard	3500SS	Liquid Cooler	U3456789	Unknown	
W017	Lincoln	Ideal ARC DC 400	Multi-Welder	U3456789	9/16/2015	
W017	Lincoln	LN-7	Wire Feeder	U345678916	9/16/2015	
W017	Lincoln	Magnum SG	Spot Gun	U345678926	9/16/2015	
W018	Thermal Arc	ARC Master 501	Power Source	501-12345	Unknown	
W019	Lincoln	DC-600	Power Source	U456789123	Unknown	
W022	Lincoln	LF-72	Wire Feeder	U123456790	Unknown	
W023	Miller	Dynasty 350	Tig Welder	MA123456	Unknown	
W045	Hypertherm	PowerMax 165	Plasma Cutter	1650-123456	Unknown	
W063	Lincoln	Invertec V350-PRO	Multi-Welder	U123456789	Unknown	

## Welding Equipment PM Schedule (by Make/Model)

XYZ Company							
Location/ Operator	Make	Model	Description	Serial Number	Last PM Date/Hours	Frequency	Next PM Date/Hours
W016	Bernard	3500SS	Liquid Cooler	U345678914	Unknown	Annual	6/2016
W045	Hypertherm	PowerMax 1650	Plasma Cutter	1650-123456	Unknown	Annual	12/2016
W019	Lincoln	DC-600	Power Source	U456789123	Unknown	Annual	5/2016
W017	Lincoln	Ideal ARC DC 400	Multi-Welder	U3456789	9/16/2015	Annual	9/2016
W011	Lincoln	Invertec V350-PRO	Multi-Welder	U3456789	Unknown	Annual	6/2016
W063	Lincoln	Invertec V350-PRO	Multi-Welder	U123456789	Unknown	Annual	12/2016
W022	Lincoln	LF-72	Wire Feeder	U123456790	Unknown	Annual	6/2016
W011	Lincoln	LF-72	Wire Feeder	U345678913	Unknown	Annual	7/2016
W017	Lincoln	LN-7	Wire Feeder	U345678916	9/16/2015	Annual	9/2016
W017	Lincoln	Magnum SG	Spot Gun	1826	9/16/2015	Annual	9/2016
W001	Lincoln	Precision Tig 25	Tig Welder	U123456791	Unknown	Annual	6/2016
W007	Lincoln	ProCut 80	Plasma Cutter	U123456792	Unknown	Annual	7/2016
W023	Miller	Dynasty 350	Tig Welder	MA123456	Unknown	Annual	4/2016
W018	Thermal Arc	ARC Master 501	Power Source	501-12345	Unknown	Annual	4/2016

## Welding Equipment PM Schedule (by Description)

XYZ Company							
Location/ Operator	Make	Model	Description	Serial Number	Last PM Date/Hours	Frequency	Next PM Date/Hours
W016	Bernard	3500SS	Liquid Cooler	U345678914	Unknown	Annual	6/2016
W017	Lincoln	Ideal ARC DC 400	Multi-Welder	U345678915	9/16/2015	Annual	9/2016
W011	Lincoln	Invertec V350-PRO	Multi-Welder	U345678912	Unknown	Annual	6/2016
W063	Lincoln	Invertec V350-PRO	Multi-Welder	U1234567	Unknown	Annual	12/2016
W045	Hypertherm	PowerMax 1650	Plasma Cutter	16501234	Unknown	Annual	12/2016
W007	Lincoln	ProCut 80	Plasma Cutter	U1234567	Unknown	Annual	7/2016
W019	Lincoln	DC-600	Power Source	U456789123	Unknown	Annual	5/2016
W018	Thermal Arc	ARC Master 501	Power Source	50112345	Unknown	Annual	4/2016
W017	Lincoln	Magnum SG	Spool Gun	1826	9/16/2015	Annual	9/2016
W001	Lincoln	Precision Tig 225	Tig Welder	U123456791	Unknown	Annual	6/2016
W023	Miller	Dynasty 200	Tig Welder	MA123456	Unknown	Annual	4/2016
W022	Lincoln	LF-72	Wire Feeder	U123456790	Unknown	Annual	6/2016
W011	Lincoln	LF-72	Wire Feeder	U345678913	Unknown	Annual	7/2016
W017	Lincoln	LN-7	Wire Feeder	U345678916	9/16/2015	Annual	9/2016

## Welding Equipment PM Schedule (Next PM)

XYZ Company							
Location/ Operator	Make	Model	Description	Serial Number	Last PM Date/Hours	Frequency	Next PM Date/Hours
W018	Thermal Arc	ARC Master 501	Power Source	501-12345	Unknown	Annual	4/2016
W023	Miller	Dynasty 350	Tig Welder	MA123456	Unknown	Annual	4/2016
W019	Lincoln	DC-600	Power Source	U456789123	Unknown	Annual	5/2016
W016	Bernard	3500SS	Liquid Cooler	U34567891	Unknown	Annual	6/2016
W011	Lincoln	Invertec V350-PRO	Multi-Welder	U3456789	Unknown	Annual	6/2016
W001	Lincoln	Precision Tig 225	Tig Welder	U12345678	Unknown	Annual	6/2016
W022	Lincoln	LF-72	Wire Feeder	U123456790	Unknown	Annual	6/2016
W007	Lincoln	ProCut 80	Plasma Cutter	U123456792	Unknown	Annual	7/2016
W011	Lincoln	LF-72	Wire Feeder	U345678913	Unknown	Annual	7/2016
W017	Lincoln	Magnum SG	Power Source	1826	9/16/2015	Annual	9/2016
W017	Lincoln	LN-7	Wire Feeder	U345678916	9/16/2015	Annual	9/2016
W017	Lincoln	Ideal ARC DC 400	Multi-Welder	U345678915	9/16/2015	Annual	9/2016
W063	Lincoln	Invertec V350-PRO	Multi-Welder	U123456789	Unknown	Annual	12/2016
W045	Hypertherm	PowerMax 1650	Plasma Cutter	1650-123456	Unknown	Annual	12/2016

Date: Click or tap to enter a date.

Company: [Company]

Make: [Make]

Model: [Model]

Year: [Year]

Type: [Type]

Serial No: [Serial No.]

Location/Operator: [Loc/Op]

**Calibration**

Meters:		Analog:		Digital:	
Single:		Current:		Voltage AC/DC:	
Dual:		Current:		Voltage AC/DC:	

**Traceability**

Load Bank:

Digital Meter:

**Welder/Power Source Calibration Data**

Load Setting	Standard		WELDING MACHINE METER			
	Current	Voltage	Current	Error %	Voltage	% Error





# Welder Works™ A Plan For Preventative Maintenance

**Continued:**

Company: [Company]

Make: [Make]

Type: [Type]

Location/Operator: [Loc/Op]

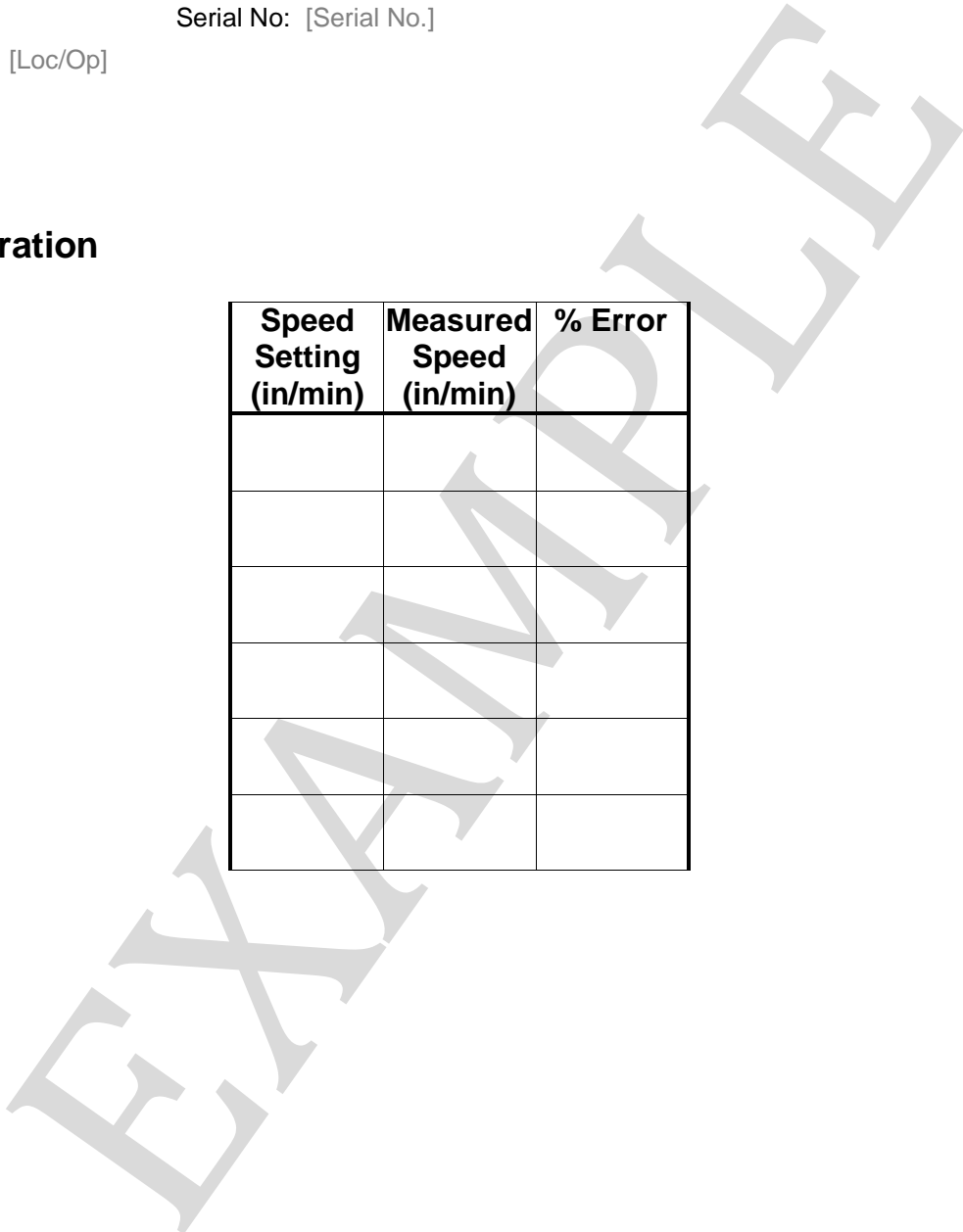
Model: [Model]

Serial No: [Serial No.]

Year: [Year]

**Feeder Calibration**

Speed Setting (in/min)	Measured Speed (in/min)	% Error



**Continued:**

Company: [Company]

Make: [Make]

Model: [Model]

Year: [Year]

Type: [Type]

Serial No: [Serial No.]

Location/Operator: [Loc/Op]

**Preventative Maintenance**

All Units

- Note Any Physical Damage to the Unit
- Clean Exterior of Unit
- Remove Cover and Clean Dirt and Debris from Interior of Unit
- Verify output studs are clean and free of corrosion
- Clean and Inspect Power Cords for Physical Damage
- Inspect Power Plug for Signs of Overheating or Physical Abuse
- Verify Ground Strap is Not Frayed or Broken
- Verify Ground Clamp is in good Physical Condition
- Verify Contactors Pull In Correctly - No Chattering
- Inspect All Fans
- Verify Fans Are Operational
- Inspect All Switches
- Verify All Switches Are Operational

Meters/Indicators – If Applicable

- Inspect All Meters for Damage Analog/Digital
- Verify Operation of All Meters
- Inspect All Indicator Lights For Damage
- Verify Operation of All Indicator Lights

Foot Pedal – If Applicable

- Clean and Inspect Foot Pedal Cable for Physical Damage
- Verify Operation of Foot Pedal

Torch – If Applicable

- Clean and/or replace consumables
- Inspect Cable Jacket for visible damage
- Verify Wire Feeds as Properly

Remote Control – If Applicable

- Clean and Inspect Cable for physical damage
- Visually Inspect Connectors

Wire Feeder – If Applicable

- Verify Wire Feeds Smoothly
- Verify Speed adjusts properly
- Inspect Drive Rolls and Guides - If Applicable
- Inspect Gas Flow lines for Physical Damage – If Applicable
- Visually Inspect Cooling Unit - If Applicable
- Check High Frequency Spark Gap - If Applicable



# Welder Works™ A Plan For Preventative Maintenance

**Continued:**

Company: [Company]

Make: [Make]

Model: [Model]

Year: [Year]

Type: [Type]

Serial No: [Serial No.]

Location/Operator: [Loc/Op]

Engine Driven

- Inspect Physical Condition of Engine For Signs of Corrosion or Damage
- Inspect Physical Condition of Exhaust/Muffler For Signs of Corrosion or Damage
- Inspect Physical Condition of Housing For Signs of Corrosion or Damage
- Verify Operation of All Switches
- Verify Operation of Gauges and Indicators
- Verify Operation of Fans
- Check for proper Oil Level
- Check for proper Anti Freeze level
- Check Gas Tank for corrosion
- Verify Hi/Lo Speed Idle function properly
- Measure Battery Voltage - \_\_\_\_\_
- Verify Generator Operation - If Applicable

Comments:

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Technician: \_\_\_\_\_

Date: Click or tap to enter a date.