

## **WTIA Guidance Note 7: Recommended Welding Machine Daily Inspection and Pre-Start Check List**

Version 1 – 7/05/03

ITEM	DESCRIPTION OF INSPECTIONS TO BE CARRIED OUT	STANDARD
<b>Power supply</b>	Disconnect and isolate the power supply to the welding machine prior to performing these pre-start checks.	
<b>Mains Supply Socket &amp; Switch</b>	Inspect for any obvious damage and defects to switch or socket. Ensure the correct size plug is fitted for the welding machine for the rated current and duty cycle of the welding machine	<b>AS/NZS 3000</b>
<b>Plug &amp; Primary Cable Supply to the Welding Machine</b>	Check the power supply cable is of the correct rating for the welding machine and for any damage to plug. Special attention should be given to any cuts, burns, abrasions, and fraying or other damage to the cable insulation, which may expose live wires. Ensure the mains supply cable is located away from welding cables and connections. Ensure the cable is securely anchored onto welding machine and plug.	<b>AS/NZS 3100</b>
<b>Welding Machine</b>	Inspect the welding machine for obvious damage to the cabinet, power switches, indicator lights or controls.	<b>AS 1966 or AS 3195</b>
<b>Welding Cable Connections</b>	Ensure that welding cable connections to the welding machine are in good condition; contact surfaces are clean and are properly tightened. If terminal posts are used ensure only brass washers and the correct insulated type brass nut is used. Any unused terminal posts shall have an insulated brass nut in place. Ensure that all connections are fully insulated and cables are firmly anchored to fittings. For a.c. welding machines check that electrode and work return cables are correctly connected to the welding machine. For d.c. welding machines check polarity and ensure electrode and work cables are correctly connected for the procedure in use and that any other d.c. welding machines in the vicinity are connected with the same polarity.	<b>AS 1674.2</b>
<b>Welding Cables (Electrode and Work Return Cables)</b>	Examine all cables (leads) for damage such as cuts or abrasions, burns, damaged insulation or frayed wires or any other damage that may expose live wires. Electrode and work return cables should be of similar length. Electrode and work return cables should be of the same current carrying capacity and rated for the maximum current rating and duty cycle of the welding activity. Building steelwork shall not be used as a work return path.	<b>AS1995 AS 1674.2</b>
<b>Welding Cable Extension Connections</b>	Check that both the male and female connections are fully insulated with clean contact surfaces and all fittings are tightened properly with no conductors exposed.	<b>AS 1674.2</b>
<b>Welding Hand Pieces</b>	Check that the welding hand piece is in good condition and is fully insulated. The hand piece must be rated for the maximum current rating and duty cycle of the welding activity. Cracked or damaged hand pieces shall be taken out of service immediately.	<b>AS 2826</b>
<b>Work Return Clamp</b>	Check that the work return clamp or connection is securely connected to the work return cable and the job close to the welding activity.	<b>AS 1674.2</b>
<b>Engine Drive Welding Machines</b>	Check that all exhaust fume emissions are dispersed away from the work area and any other personnel working in the immediate vicinity. Do not use in an enclosed area or building.	
<b>Voltage Reduction Device (VRD)</b>	If a voltage reduction device (VRD) is used ensure that the indicator lights or voltmeter are functioning and indicating low voltage (Safe ⇒ green) and high or welding voltage (Unsafe ⇒ green flashing or red) condition as the welding machine is operated in a normal welding cycle. Note: This check is done with power on.	<b>AS 1674.2</b>
<b>Electrical Inspection Tag</b>	Check that a current electrical inspection tag, traceable to your equipment maintenance register, is attached to the welding machine.	

### Notes

- If on completion of this pre-start checklist you are unsure of the safety of any part of this equipment - DO NOT USE. Isolate the equipment and notify your supervisor immediately, in order that remedial action can be taken.
- Fumes are generated by hot work. Take adequate precautions to limit exposure to fumes from welding consumables or surface coatings and contaminants.
- Ensure that you have all necessary Personal Protective Equipment in place, in good order and dry, before turning on the welding power source.



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