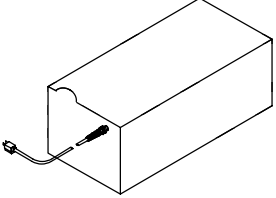




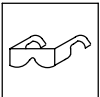



### Cool Runner 3X™

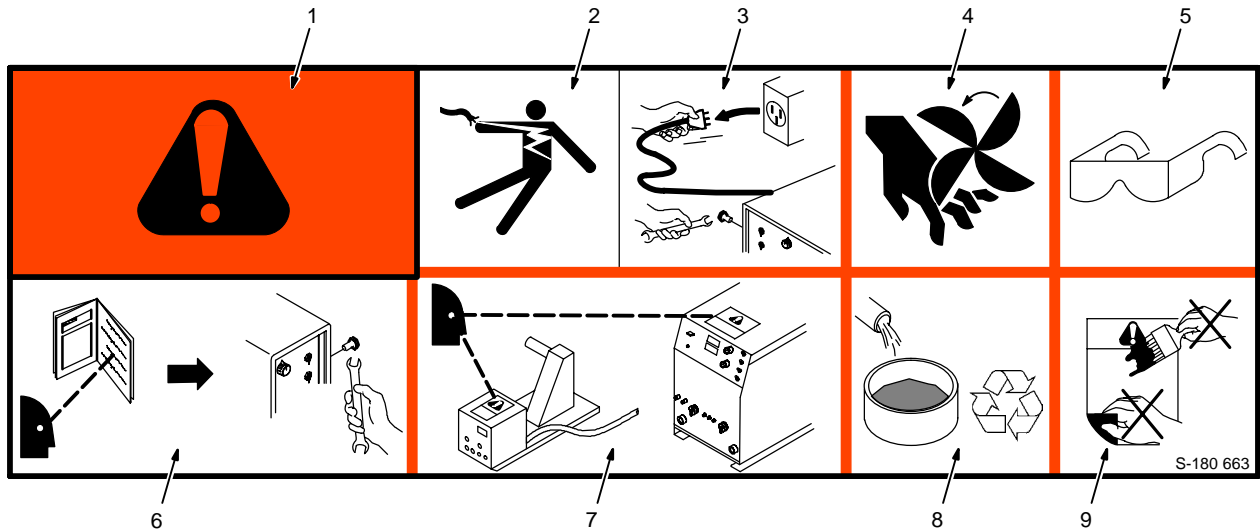
#### 1. Specifications

	Recirculating Coolant System For Water-Cooled GTAW Torches And GMAW Guns
	Use With Guns/Torches Rated Up To 600 Amperes
	3 gal (11.4 L) Coolant Tank Capacity
	Cooling Unit Dimensions: 25 in (635 mm) Long, 17-7/8 in (454 mm) Wide, 8-1/4 in (235 mm) High
	Housing Dimensions: 28-1/2 in (714 mm) Long, 22-1/4 in (565 mm) Wide, 11-1/8 in (283 mm) High; Weight, 92.5 lb (42 kg)
	115 Volt Models Use 5.9 Amperes, 50/60 Hertz, Single-Phase Input Power
	IP Rating: 23

#### 2. Safety Symbol Definitions

	<p>Means Warning! Watch Out! There are possible hazards with this procedure! The possible hazards are shown in the adjoining symbols.</p> <p>Symbole graphique d'avertissement! Attention! Cette procédure comporte des risques possibles! Les dangers éventuels sont représentés par les symboles graphiques joints.</p>		<p>Have only trained and qualified persons install, operate, or service this unit. Call your distributor if you do not understand the directions. For WELDING SAFETY and EMF information, read wire feeder and welding power source manuals.</p> <p>L'installation, l'exploitation et l'entretien de cet appareil doivent être confiés uniquement à des personnes qualifiées et convenablement formées. S'adresser à un distributeur si l'on ne comprend pas les directives. Pour des renseignements ayant trait à la SÉCURITÉ lors du soudage et aux champs électromagnétiques, consulter les manuels traitant les dévidoirs et les sources de courant pour le soudage.</p>
	<p>Beware of electric shock from wiring.</p> <p>Attention! Risque d'électrocution due au contact avec des fils.</p>		<p>Beware of moving parts.</p> <p>Attention! Pièces en mouvement.</p>
	<p>Wear safety glasses with side shields.</p> <p>Porter des lunettes de sécurité avec protections latérales.</p>		<p>Recycle or dispose of used coolant in an environmentally safe way.</p> <p>Recycler ou éliminer tout liquide de refroidissement utilisé conformément aux méthodes prescrites pour assurer la protection de l'environnement.</p>

### 3. Warning Label Definitions For CE Products



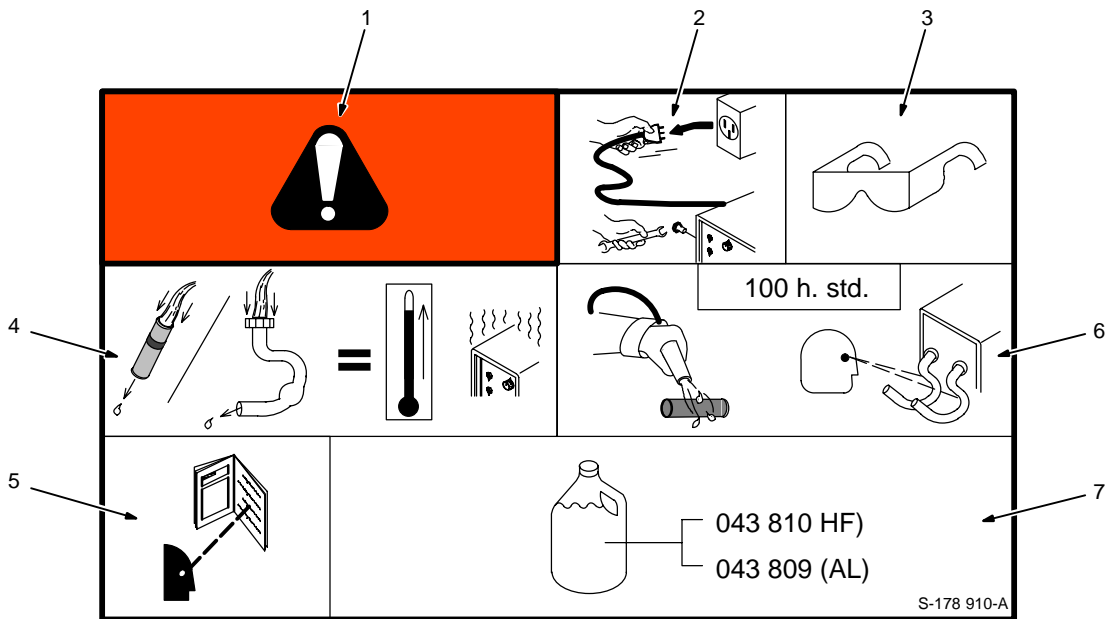
- 1 Warning! Watch Out! There are possible hazards as shown by the symbols.
- 2 Electric shock from wiring can kill.
- 3 Disconnect input plug or power before working on machine.

- 4 Moving parts, such as fans, can cut fingers and hands and cause injury. Keep away from moving parts.
- 5 Wear safety glasses with side shields.
- 6 Read the Owner's Manual before working on this machine.
- 7 Read the labels on the welding power source, wire feeder, or other major equipment for welding safety information.

- 8 Recycle or dispose of used coolant in an environmentally safe way.
- 9 Do not remove or paint over (cover) the label.

S-180 663

4/96



- 1 Warning! Watch Out! There are possible hazards as shown by the symbols.
- 2 Disconnect input plug or power before working on machine.
- 3 Wear safety glasses with side shields.
- 4 Plugged filter or hoses cause

- overheating and damage.
- 5 Read Owner's Manual.
- 6 Check and clean filter every 100 hours; also check condition of hoses.
- 7 Use Low Conductivity Coolant No. 043 810 for High-Frequency assisted or

Gas Tungsten Arc Welding applications. Use Aluminum Protecting Coolant No. 043 810 where coolant contacts aluminum parts or for Gas Metal Arc Welding applications or where High Frequency is not used.

S-178 910-A


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#### 4. Rating Label



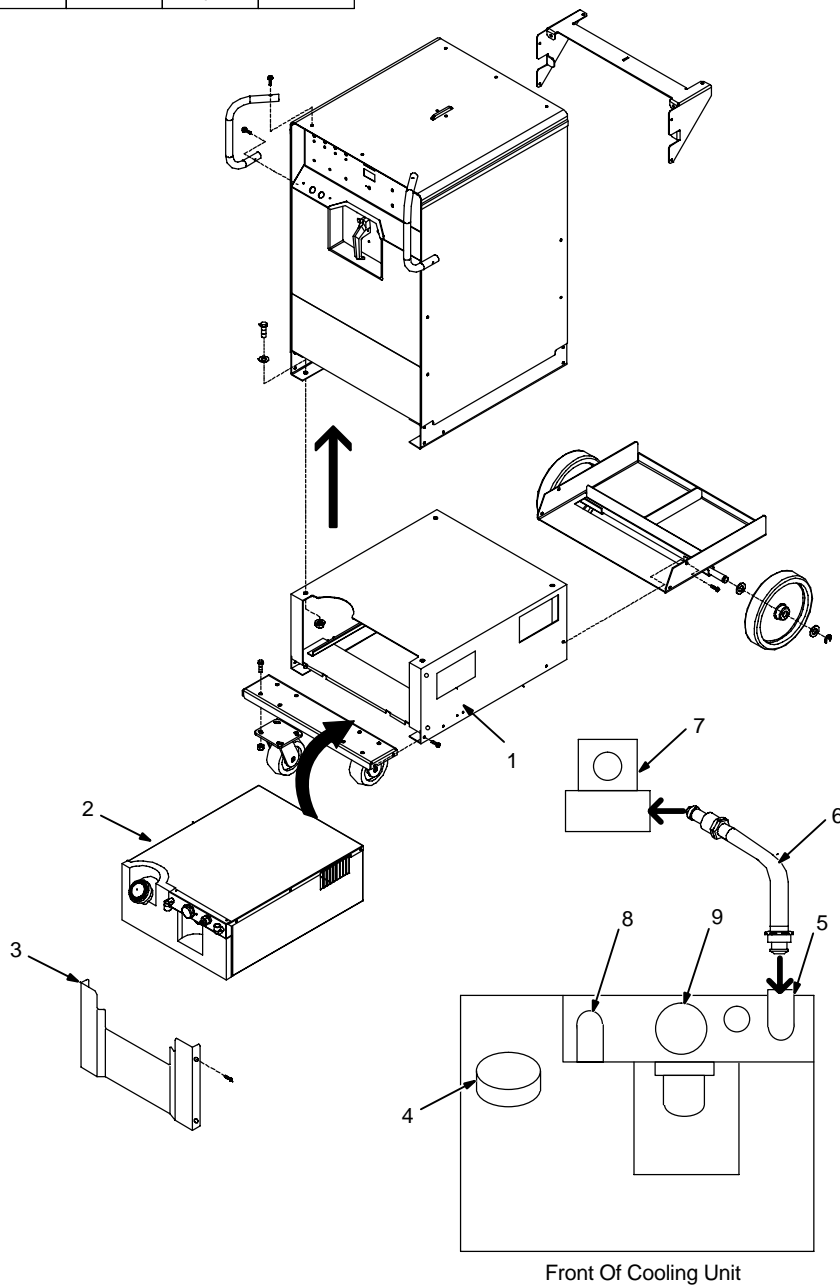
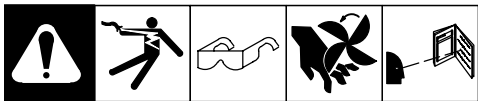
S-165 371

#### 5. Symbols And Definitions

**NOTE**  Some symbols are found only on CE products.

<b>A</b>	Amperes		Alternating Current	<b>U<sub>1</sub></b>	Primary Voltage	<b>1</b> 	Single Phase
<b>V</b>	Volts		Water (Coolant) In-put		Water (Coolant) Output		Line Connection
<b>Hz</b>	Hertz	<b>IP</b>	Degree Of Protection	<b>I<sub>1</sub></b>	Primary Current		

## 6. Installation And Operation



- 1 Housing
- 2 Cooling Unit
- 3 Front Panel

Install housing between welding power source base and running gear.

Slide cooling unit into housing and attach front panel. To remove cooling unit, remove front panel, lift cooling unit slightly and pull.

To prevent overheating, make sure cooling unit is positioned so airflow is not restricted.

- 4 Coolant Tank Cap
- 5 Coolant In Fitting
- 6 Coolant Hose

- 7 TIG Block (Customer Supplied)

Connect coolant hose between Coolant In fitting and TIG block located on welding power source Electrode weld output terminal.

- 8 Coolant Out Fitting

Connect hoses between cooling unit and torch cable/TIG block coolant fittings.

**▲ If welding power source has a water valve, do not connect hoses to water valve.**

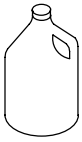
Use table to select proper coolant, and fill tank. Keep coolant level full.

Operation:

- 9 Flowmeter

To turn cooling unit On, connect power cord to welding power source 115 volts ac receptacle. Unplug to turn unit Off.

Flow indicator spins to indicate that at least 0.53 qt/min (0.5 L/min) of coolant is flowing.

Application	GTAW Or Where HF* Is Used	GMAW Or Where HF* Is Not Used	Where Coolant Contacts Aluminum Parts
 Coolant	MILLER Low Conductivity Coolant No. 043 810**; Distilled Or Deionized Water OK Above 32° F (0° C)	MILLER Low Conductivity Coolant No. 043 810**; Or MILLER Aluminum Protecting Coolant No. 043 809**; Distilled Or Deionized Water OK Above 32° F (0° C)	MILLER Aluminum Protecting Coolant No. 043 809**

\*HF: High Frequency Current

\*\*MILLER coolants protect to -37° F (-38° C) and resist algae growth.

**▲ Use of any coolant other than those listed in the table voids the warranty on any parts that come in contact with the coolant (pump, radiator, etc.).**

ST-802 409-A

## 7. Routine Maintenance

					<p>▲ Disconnect power before maintaining.</p>
<b>1 Month</b>					
<p>▲ <b>Clean coolant strainer.</b> Severe conditions may require more frequent cleaning (continuous use, high/low temperatures, dirty environment, etc.). <b>Failure to properly clean coolant strainer voids pump warranty.</b></p>	<p>Blow Out Heat Exchanger Fins</p>				
<b>6 Months</b>					
<p>Replace Cracked Hoses</p>	<p>Change Coolant (If Using Water)</p>	<p>Replace Damaged Or Unreadable Labels</p>			
<b>12 Months</b>					
<p>Oil Motor</p>	<p>Change Coolant (If Using MILLER Coolant)</p>				

## 8. Coolant Maintenance And Oiling Motor

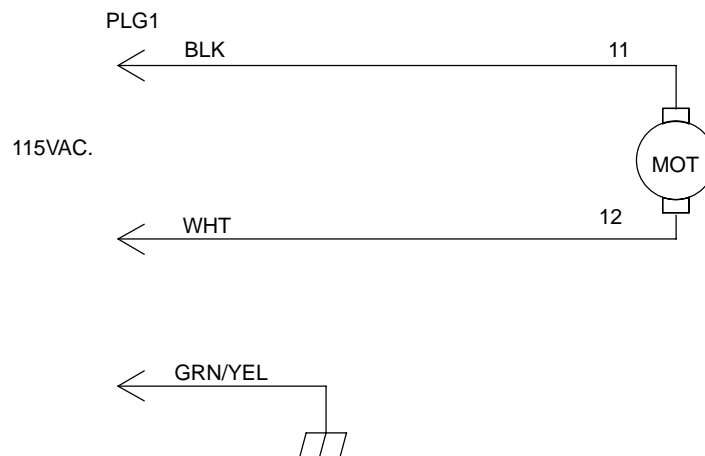
					<p>1 Coolant Filter Unscrew housing to clean filter.</p> <p>Changing coolant: Drain coolant by tipping unit forward. Fill with clean water and run for 10 minutes. Drain and refill.</p> <p>2 Motor Remove top cover to access motor. Remove plugs and put about 15 drops of SAE 20 motor oil into each oil port. Replace plugs.</p> <p> <i>If replacing hoses, use hoses compatible with ethylene glycol, such as Buna-n, Neoprene, or Hypalon. NOTE: Oxy-acetylene hoses are not compatible with any product containing ethylene glycol.</i></p>
					<p>Tools Needed:</p> 3/8 in

## 9. Troubleshooting

Trouble		Remedy		
Coolant system does not work.	Be sure input power cord is plugged in to energized receptacle.			
	Check line fuses or circuit breaker, and replace or reset if necessary.			
	Motor overheated. Unit starts running when motor has cooled.			
	Have Factory Authorized Service Agent check motor.			
Decreased or no coolant flow.	Add coolant.			
	Check for clogged hoses or coolant filter.			
	Disconnect pump, and check for sheared coupling. Replace coupling if necessary.			

## 10. Electrical Diagram

	<b>WARNING</b>	<ul style="list-style-type: none"> <li>Do not touch live electrical parts.</li> <li>Disconnect input power or stop engine before servicing.</li> <li>Do not operate with covers removed.</li> <li>Have only qualified persons install, use, or service this unit.</li> </ul>
	<b>ELECTRIC SHOCK HAZARD</b>	



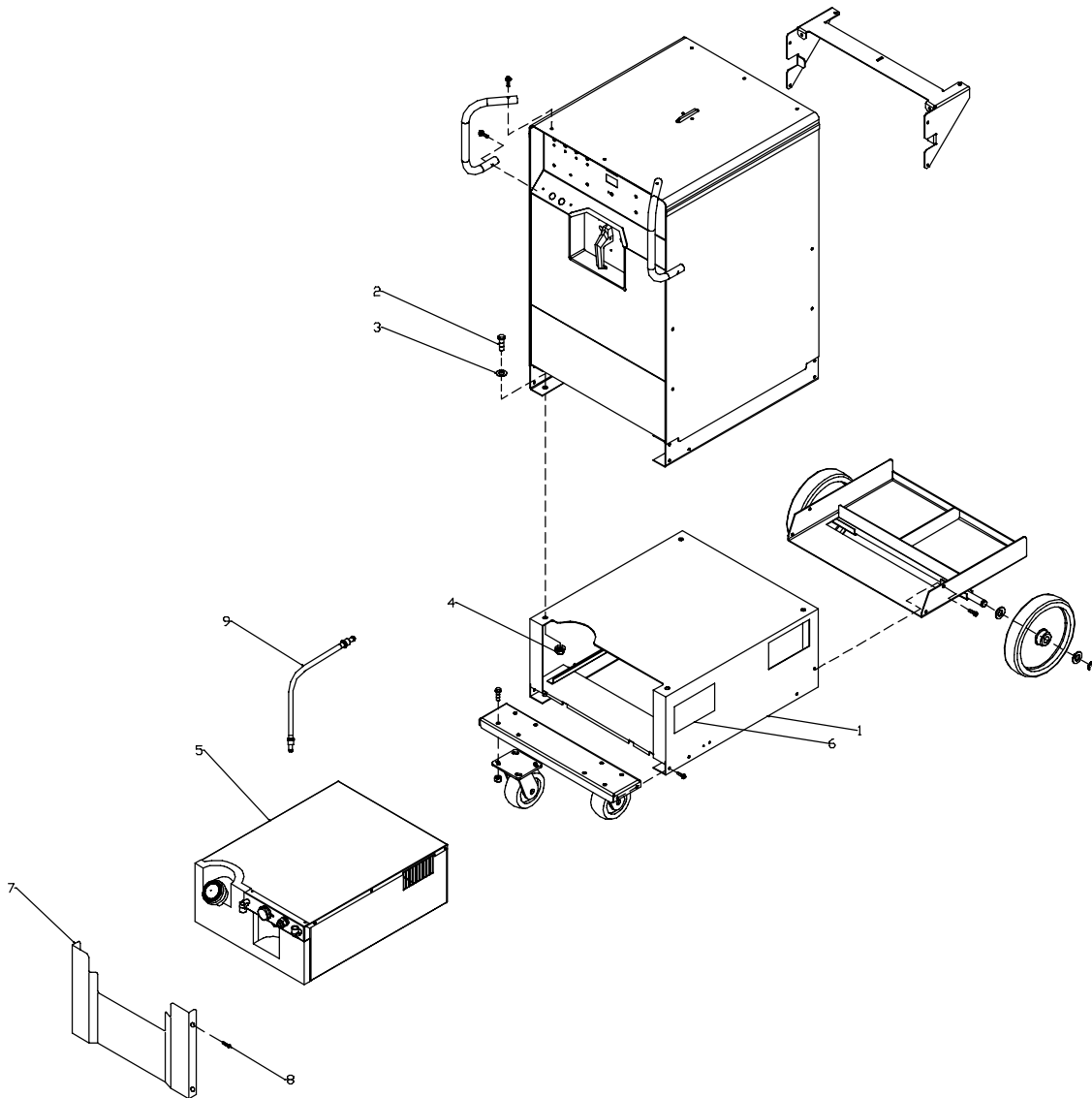
SA-177 324-A

# 11. Parts

Item No.	Part No.	Description	Quantity
<b>Figure 11-1. Cool Runner Assembly</b>			
1	195 819	HOUSING	1
2	601 965	SCREW, .375-16 x 1.000	4
3	010 910	WASHER, flat	4
4	167 788	NUT, .375-16 .56hex x .34H stl pld sem cone wshr .88D	4
5	Figure 11-2	COOLING UNIT	1
6	192 449	LABEL, WARNING	2
7	196 440	PANEL, front	1
8	602 154	SCREW, 250-20 x .50 hexwhd	4
9	195 841	HOSE, water	1

**NOTE** 

To install running gear, or for a listing of running gear parts, see Owner's manual that is provided with the running gear.



ST-802 409-B

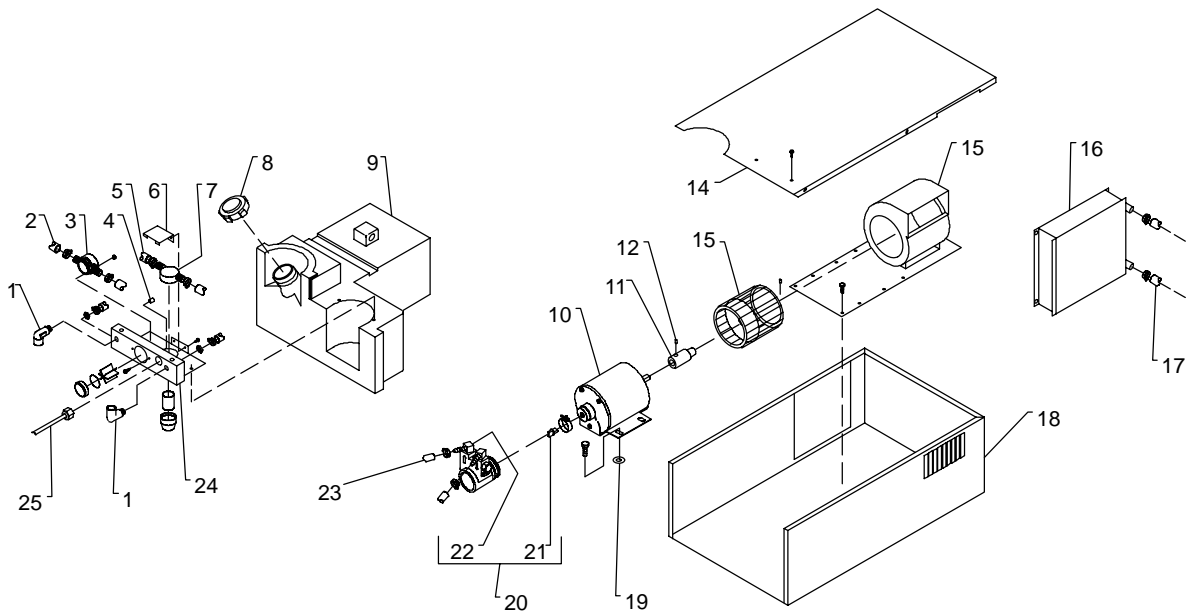
BE SURE TO PROVIDE MODEL AND SERIAL NUMBER WHEN ORDERING REPLACEMENT PARTS.

**Figure 11-1. Cool Runner 3X Assembly**

Item No.	Part No.	Description	Quantity
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**Figure 11-2. Cooling Unit Main Assembly**

1	149 356	FITTING, hose brs barbed elb	2
2	177 166	TUBING, PVC .375 ID x .625 OD x 8.000	2
3	215 279	INDICATOR, flow	1
4	143 797	NYLON SPACER	2
5	136 370	TUBING, PVC .375 ID x .625 OD x 21.000	1
6	178 461	FILTER, bracket	1
7	166 564	FILTER, in-line	1
8	166 608	CAP, tank	1
9	195 804	TANK, water	1
10	173 263	MOTOR, 1/4hp 115VAC	1
11	173 963	EXTENSION, shaft motor	1
12	176 798	SCREW, set .312-24 x .375	1
14	195 813	COVER	1
15	199 195	BLOWER HOUSING W/BRACKET & BLOWER WHEEL	1
16	196 515	RADIATOR	1
17	177 167	TUBING, PVC .375 ID x .625 OD x 31.000	2
18	195 818	ENCLOSURE, radiator	1
19	602 212	WASHER, tooth	4
20	174 042	PUMP, coolant (consisting of)	1
21	134 795	COUPLER, drive pump	1
22	5523	FITTING, hose brs barbed elbow m 3/8 tbg x 3/8 npt	2
23	099 354	HOSE, nprn brd No. 1 X .375 ID X 8.000	1
24	195 814	PANEL, front	1
25	188 082	CABLE, power	1



Ref. ST-801 676

BE SURE TO PROVIDE MODEL AND SERIAL NUMBER WHEN ORDERING REPLACEMENT PARTS.

**Figure 11-2. Cooling Unit Main Assembly**