

“Save  
Your  
Breath  
With

**MST**<sup>®</sup>  
MODERN SAFETY TECHNIQUES



**APPROVED**  
LR6319

**INSTRUCTION MANUAL  
MST AFTERCOOLER SYSTEM  
MODEL 8059601**



To be used with MST Model 8050502 Ambient Air Pump

*Distributed By:*



2717 Tobey • Indianapolis, IN 46219  
(317) 545-0665 • FAX (317) 545-0670 • (800) 800-0665  
[www.idsblast.com](http://www.idsblast.com)

7/12/05

## TABLE OF CONTENTS

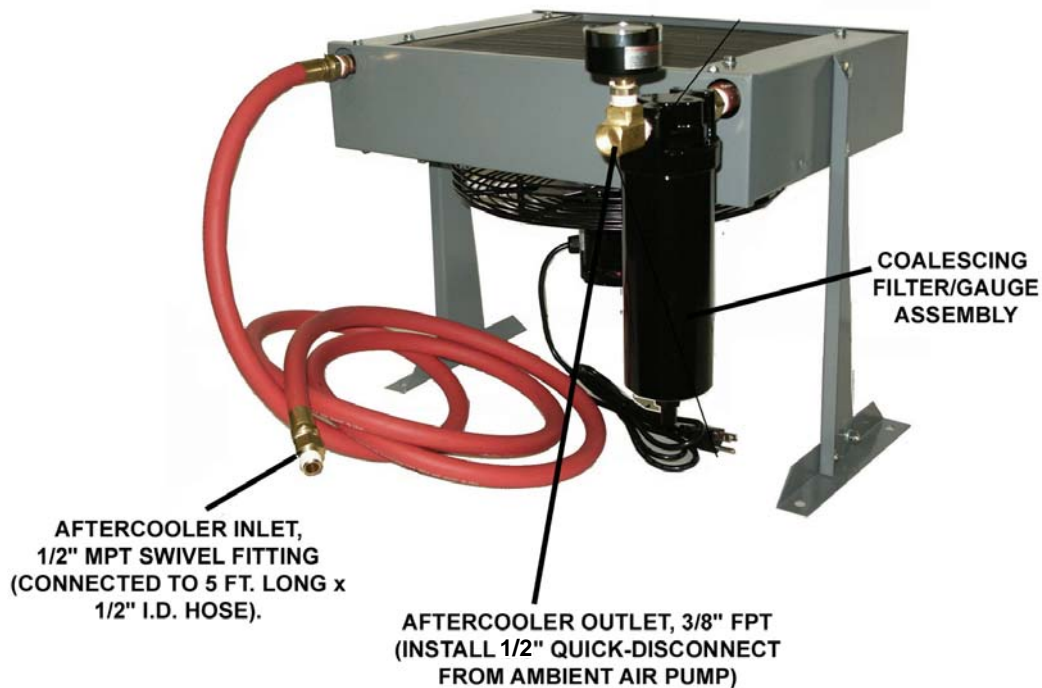
GENERAL INFORMATION.....	3
WARNING .....	4,5
UNPACKING AND AFTERCOOLER ASSEMBLY	
UNPACKING .....	6
ASSEMBLY.....	6
AMBIENT AIR PUMP-AFTERCOOLER SET-UP	
SET-UP .....	7,8
ELECTRICAL .....	8
MAINTENANCE	
HEAT TRANSFER SURFACE .....	8
INTERNAL CLEANING .....	8
COALESCING FILTER CHANGE .....	9
MOTOR .....	10
SPECIFICATIONS .....	10
PARTS LIST .....	11
RECORD KEEPING .....	12

## GENERAL INFORMATION

The MST Model 8059601 Aftercooler System is designed to be used with the MST Model 8050502 Ambient Air Pump to provide cooler air to the continuous flow supplied air respirator. The Aftercooler will reduce the air temperature produced by the Ambient Air Pump by up to 43 percent.

The Aftercooler is connected to the outlet of the Ambient Air Pump via a 1/2" I.D. x 5 ft. long hose. The customer's continuous flow supplied air respirator hose assembly is attached to the Aftercooler's 3/8" FPT outlet.

The Aftercooler is supplied with a 1/2" I.D. x 5 ft. inlet hose connection and an outlet Coalescing Filter-Gauge Assembly. The hose connection to the Ambient Air Pump outlet is a 1/2" MPT swivel connector and the outlet of the Aftercooler is 3/8" FPT. The coalescing filter has an efficiency rating of 95% (D.O.P. .3 to .6 micron particles).



## WARNING

READ ALL INSTRUCTIONS IN THIS MANUAL BEFORE USING THIS AFTERCOOLER SYSTEM, MODEL 8059601.

FAILURE TO OPERATE THIS AFTERCOOLER IN ACCORDANCE WITH THE INSTRUCTIONS CONTAINED IN THIS MANUAL AND ACCOMPANYING INFORMATION MAY RESULT IN DEATH OR SERIOUS INJURY TO THE RESPIRATOR USER.

DO NOT OPERATE THIS AFTERCOOLER IN AN EXPLOSIVE OR CORROSIVE ATMOSPHERE.

DO NOT OPERATE THIS AFTERCOOLER WHERE IT CAN BE EXPOSED TO ANY LIQUID OR DUSTY MATERIAL. THIS AFTERCOOLER MUST BE PROTECTED FROM THE ELEMENTS IF USED OUTSIDE.

DO NOT OPERATE AFTERCOOLER AT A PRESSURE GREATER THAN 250 PSI (17.3 bar), OR A TEMPERATURE GREATER THAN 350° F (177° C).

DO NOT TOUCH HOT COMPRESSOR (AMBIENT AIR PUMP) DISCHARGE LINE OR AFTERCOOLER INLET MANIFOLD WHILE IN OPERATION.

Be sure that the Aftercooler's outlet pressure, measured by the pressure gauge on the Aftercooler is maintained above the minimum pressure setting required by the Respirator Manufacturer. REFER TO YOUR RESPIRATOR MANUAL FOR CORRECT PRESSURE REQUIREMENTS, PERMISSIBLE HOSE LENGTHS AND FITTING TYPES. FAILURE TO COMPLY WITH THE RESPIRATOR MANUFACTURER'S REQUIREMENTS WILL VOID THE MSHA/NIOSH APPROVAL(S) AND COULD RESULT IN DEATH OR SEVERE INJURY.

SUPPLIED AIR RESPIRATORS USED WITH THIS AFTERCOOLER MUST NOT BE WORN IN ANY ATMOSPHERE IMMEDIATELY DANGEROUS TO LIFE OR HEALTH OR FROM WHICH THE WEARER CANNOT ESCAPE WITHOUT THE USE OF THE RESPIRATOR.

When connecting your respirator to this device, use only the air supply hose and couplers required by the Respirator Manufacturer and approved by MSHA/NIOSH.

Use of non-approved hose or couplers will void the respirator's MSHA/NIOSH Approval and could reduce the air flow to the respirator, resulting in possible death or serious injury to the respirator wearer.

Release all pressure from the system before servicing after installation.

Do not operate the aftercooler with fan guard(s) removed or remove fan guard(s) without first disconnecting the power supply.

All wiring must comply with all local codes. Unit must be grounded with appropriately sized ground wire.

DO NOT modify or alter this Aftercooler in any manner. Use only approved MST replacement parts and components. Failure to use approved MST components and replacement parts invalidates all MST warranties, and may result in death or serious injury to the respirator wearer.

Consult your supervisor if you have any questions concerning the use of this Aftercooler or your respirator.

For technical assistance or additional copies of this manual, call or write:

### **Technical Assistance**

MST, Inc.  
11388 Breininger Rd.  
Hicksville, OH 43526

Phone:	Toll Free	800-542-6646
Fax:	Local	419-542-6475

## UNPACKING AND AFTERCOOLER ASSEMBLY

### UNPACKING

After unpacking Air-Cooled Aftercooler, legs, hardware, hose and filter assembly from box, carefully inspect all components for damage that may have occurred in transit.

Parts included:

- |                                            |                                       |
|--------------------------------------------|---------------------------------------|
| 1- Aftercooler cooling coil-motor assembly | 8- 5/16-18 Hex nuts                   |
| 2- Leg gusset brackets                     | 2- 3/8" x 1/2" Reducing Adapter       |
| 2- Floor bases for legs                    | 1- Coalescing Filter - Gauge Assembly |
| 8- 5/16-18 x 5/8" LG machine bolts         | 1- 1/2" I.D. x 5 ft. Hose Assembly    |
| 8- 5/16" Locking washers                   |                                       |

### ASSEMBLY

Assemble legs to the Aftercooler with the hardware kit provided, (see Figure 1). Be careful not to damage the finned coil surface during assembly and installation of the Aftercooler.

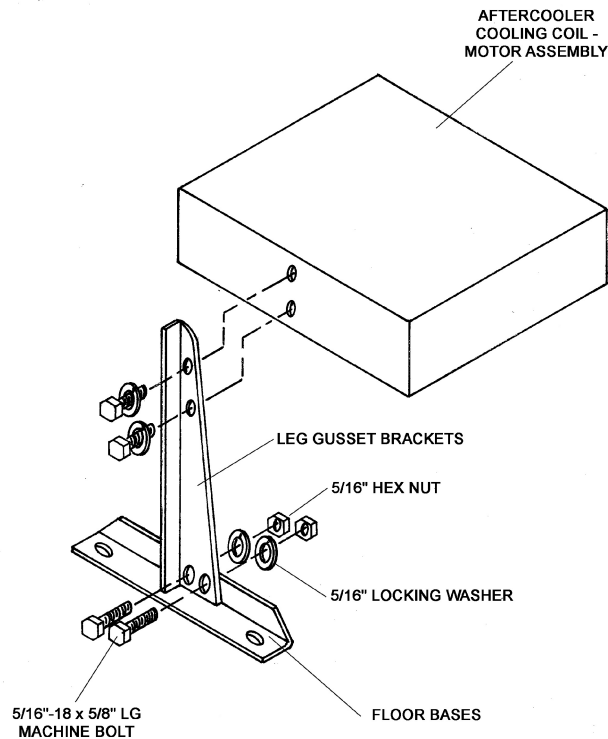


Figure 1

## AMBIENT AIR PUMP-AFTERCOOLER SET-UP

**CAUTION:** Use back up wrench on air fitting connections to prevent twisting manifolds and damage to Aftercooler.

1. Aftercooler may be installed indoors or in sheltered outdoor locations.
2. Do not locate in corrosive atmosphere or in confined spaces. Units should be installed a minimum of 12" (305 mm) from walls or other obstructions to air flow.

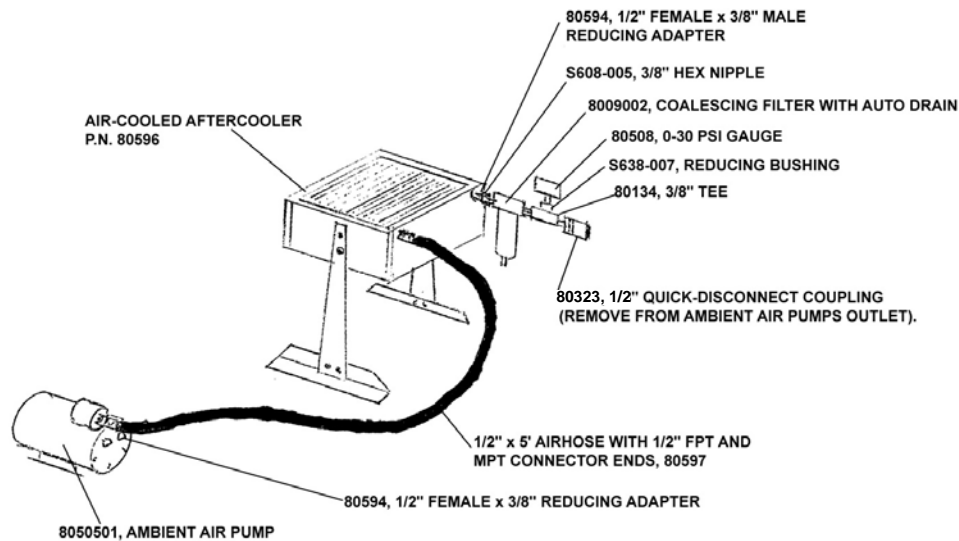


Figure 2

### SET-UP (See Figure 2)

1. Remove the Quick Disconnect, (p.n. 80323) from the outlet of the MST Ambient Air Pump, Model No. 8050502 and retain for use at the outlet point of connection of Aftercooler.
2. Attach the 1/2" female (FPT) x 3/8" male (MPT) Reducing Adapter (p.n. 80594) to the outlet side of the MST Ambient Air Pump.
3. Attach the outlet end of the 1/2" I.D. x 5 ft. Hose Assembly (p.n. 80597) to the inlet of the Aftercooler. Use a back up wrench when connecting the hose to the Aftercooler to avoid damage.
4. Attach the inlet end of the 1/2" I.D. x 5 ft. Hose Assembly to the Ambient Air Pump's outlet.
5. Attach the second 1/2" x 3/8" Reducing Adapter, (p.n. 80594), to the 1/2" MPT outlet of the Aftercooler, (use a back up wrench).
6. Attach the Coalescing Filter-Gauge Assembly, (includes p.n.'s S608-005,8009002,80508,S638-007 and 80134), to the outlet of the Aftercooler, (use a back up wrench).

7. Attach the Quick Disconnect, (p.n. 80323), from the outlet of the Ambient Air Pump), to the end of the Coalescing Filter-Gauge Assembly, (use a back up wrench). This has now become the point-of-attachment for the respiratory system.

ELECTRICAL

**CAUTION:** To prevent possible shock, it is important to use a properly grounded electrical outlet.

1. Connect Aftercooler motor only to a power supply of the same characteristics as shown on the motor nameplate. Be sure to provide proper fusing to prevent motor burnout.

MAINTENANCE

Inspect the unit regularly for loose bolts and connections, rust and corrosion and dirty or clogged heat transfer surface (cooling coil).

- 1. HEAT TRANSFER SURFACE  
Dirt and dust should be removed by brushing the fans and tubes and blowing loose dirt off with an air hose.
- 2. INTERNAL CLEANING  
Once a year, the Aftercooler’s internal tube surfaces should be cleaned to remove excessive dirt, sand, particles, moisture or oil and to return the unit to full capacity. Flush system with Loctite ODC-Free Cleaner Degreaser (p/n 22355). A thorough cleaning of the entire system is desired to maintain the Aftercooler’s performance. The coalescing filter should be removed and inspected/replaced at this time.

\*\*\*\*\*  
**WARNING:** Always turn off air supply and bleed air pressure before disassembling unit or  
**SERIOUS INJURY COULD RESULT.**  
 \*\*\*\*\*



### 3. COALESCING FILTER ELEMENT REPLACEMENT

- A) Unscrew Prefilter bowl Assembly **1** and clean in mild soap and water and blow dry with low pressure air.
- B) Remove Element **3** by unscrewing End Cap Retaining Nut **2**.
- C) Inspect the Prefilter Manifold **4** for dirt/contaminates and clean as required. Inspect "O"-Ring **5** for cuts, etc. and replace if required.
- D) Install new Element and tighten End Cap Retaining Nut. Be sure Element is seated squarely on Manifold boss and End Cap.
- E) Apply light film of petroleum jell on Bowl's beveled edge to provide good seal between Bowl and "O"-Ring.
- F) Dispose of used Element according to local, state and federal regulations.

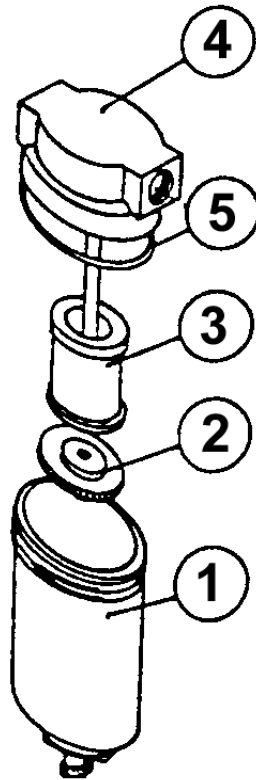


Figure 3

#### 4. MOTOR

Keep outside surface free of dirt and grease so motor will cool properly. Make sure cooling air over motor is not obstructed. Blow out any dirt that has collected on motor winds and on cooling fan blade.

#### SPECIFICATIONS

Maximum Aftercooler Operating Pressure	250 psi (17.3 bar)
Maximum Aftercooler Operating Temperature	350° F (177° C)
Motor Size	1/12 HP
Volts/60 HZ	115/230
Inlet & Outlet Aftercooler Connections	½" MPT
Height x Width x Depth	21.89" x 20.35" x 9.58" (556 mm x 517mm x 243mm)
Approximate Shipping Weight	30 lbs. (13.6 kg)

PARTS LIST

<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
8050501	Ambient Air Pump	1
80594	1/2" Female and 3/8" Male Reducing Adapter	2
80596	Air-Cooled Aftercooler	1
80508	0-30 PSI Gauge	1
S638-007	3/8" Male x 1/4" Female Reducing Bushing	1
80134	3/8" Tee	1
80323	1/2" Quick - Disconnect	1
8009002	Coalescing Filter with Auto Drain	1
80310	Coalescing Filter Element	1
80597	1/2" x 5 Ft. Hose Assembly	1

## **RECORD KEEPING**

Record all periodical air quality checks, filter cartridge change intervals and any other service performed on the MST AFTERCOOLER SYSTEM.

**MST INC. SHALL NOT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, (DIRECT OR CONSEQUENTIAL), ARISING OUT OF THE USE OF OR THE INABILITY TO USE THIS PRODUCT, BEYOND THE REPLACEMENT OF DEFECTIVE MATERIALS OR WORKMANSHIP. USER OF SUPPLIED AIR RESPIRATORS SHOULD EVALUATE THEIR OWN PARTICULAR APPLICATION AND PERFORM THEIR OWN TESTS FOR AIR QUALITY TO DETERMINE THE SUITABILITY FOR USE OF THIS PRODUCT.**

For further information, or questions about service or maintenance care of this unit, contact your local distributor or MST, Inc. at (800) 542-6646.