



# Compressor Aftercooler

## OPERATION & MAINTENANCE MANUAL



### Model 89009

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# **1. SAFETY INSTRUCTIONS**

**THIS EQUIPMENT MUST ONLY BE USED BY AUTHORISED PERSONNEL, WHO HAVE BEEN SUITABLY TRAINED AND COMPETENT TO DO SO.**

**THESE INSTRUCTIONS ARE TO BE MADE AVAILABLE TO OPERATORS OF THIS EQUIPMENT AT ALL TIMES, FAILURE TO OBSERVE THESE SAFETY INSTRUCTIONS COULD RESULT IN SERIOUS PERSONAL INJURY AND / OR PROPERTY DAMAGE.**

## **WORK AREA AND GENERAL SAFETY**

- 1) Read and understand the operation and maintenance manual supplied with this equipment. Keep it in a convenient place for future reference.
- 2) Keep children and untrained personnel away from this equipment while in operation.
- 3) Keep all guards and safety devices in place. Do not operate this equipment with guards removed or damaged.
- 4) Keep hands, feet and loose clothing away from moving parts.
- 5) Always stop the machine to carry out lubrication and servicing.
- 6) Check machine before starting for worn or damaged parts. Check that all nuts and bolts are tight.
- 7) If machine is left unattended, ensure that unauthorized use is prevented.
- 8) Never leave the machine unattended while in use.
- 9) Consider the use of safety barriers, especially when used in public places.
- 10) Beware of hot surfaces.
- 11) Some component and assembly parts are in excess of 25kg (55lb). When lifting care must be taken, ensure sufficient man power/lifting gear is available, to prevent personal injury and damage to the machine.
- 12) Waste oils/water are to be disposed of via an environmentally acceptable method – e.g.: passed on for recycling.

- 13) Wear ear defenders if noise levels are considered high to prevent ear damage
- 14) The machine must be operated on firm ground.
- 15) Stay clear of pipes under pressure and cables or lines under tension.
- 16) Only use the machine for its intended purpose.
- 17) Avoid using the machine in air born dust environments.
- 18) Ensure that the compressed air hoses are connected correctly, hot air from the compressor entering the pipe marked **input**, the cool air to the blowing machine to the pipe marked **output**.
- 19) Ensure that Air Hoses are laid out as straight as possible to avoid problems when pressurized.
- 20) Personnel should only approach the aftercooler when in operation wearing suitable eye and body protection.
- 21) Check that all the cam and groove air hose couplings are fully locked, and the securing clips are fitted before pressurizing the air hoses.
- 22) Do not unlock the hose cam couplings while the aftercooler is pressurized.
- 23) The air pressure should not exceed 12 bar (175 P.S.I.)
- 24) No servicing or maintenance work is to be carried out while the aftercooler is pressurized.
- 25) Before carrying out any servicing or maintenance work it is advisable to allow the Aftercooler to cool down.

## **GENERAL PNEUMATIC SAFETY INSTRUCTIONS**

The GMP Compressor Aftercooler is a pneumatic device, using pressurized air to project cable at high velocities. Please observe the following precautions when operating the aftercooler: -

- 1) Compressed air can cause flying debris. This could cause personal injury. Always wear personal protective equipment.
- 2) Do not disconnect air hoses when under pressure.
- 3) Only authorized, fully trained personnel should operate the air compressor.

## **2. GENERAL DESCRIPTION**

This Compressor Aftercooler has been designed to cool compressed air and remove water droplets prior to the air entering a GMP Tornado Cable Blowing Machine.

The Cooler unit is horizontally mounted on a tubular steel frame and is complete with pneumatic wheels and transit handle for easy maneuverability.

An air motor driven fan forces cooling air through the Compressor Aftercooler and reduces the temperature of the compressed air. The air motor is driven by compressed air taken from the down stream side of the water separator and passes through a filter-regulator-lubricator assembly prior to entering the air motor.

The Compressor Aftercooler is fitted with cam action quick release air hose couplings. Waste oil/water mixtures are collected in a frame mounted drain can for environmentally acceptable disposal. The water separator protector bar doubles as a carrying handle to assist with moving the aftercooler over very soft terrain or loading it into a vehicle.



### 3. SPECIFICATIONS

Serial No:

#### OPERATING CAPACITIES

**Max. Working Pressure** 12 BAR (175 P.S.I.)

**Max. Air Compressor flow Rate** 12 Cubic Meters / Minute (425 cubic fpm)

**Max. Air Inlet Temperature** 65 Deg. C (150 F)

**Max. Air Outlet Temperature** 50 Deg. C (122 F)

**Max. Ambient Air Temperature** 45 Deg. C (113 F)

#### DIMENSIONS

**Length:** 1135 mm (44.7")

**Height:** 1000 mm (39.4")

**Width:** 640 mm (25.2")

**Weight:** 74 kg (163 lbs.)

**Tire Size:** 3.00 - 4 4ply tube tire

**Tire Pressure** 1.72 Bar (25 P.S.I.)

#### AIR HOSE CONNECTIONS

**TYPE** 1½" Cam and groove quick couplings

**Air from Compressor** Marked input

**Air to Cable Blowing Machine** Marked output

**Air Motor Max. working Pressure** 7 Bar (100 p.s.i.)

**Air Motor Oil** High quality air tool lubrication oil (1 drop per minute)

## 4. OPERATING PROCEDURE

**IT IS IMPERATIVE THAT ALL PERSONS USING, OPERATING OR MAINTAINING THIS AFTERCOOLER BE FULLY TRAINED AND COMPETENT TO DO SO, AND HAVE READ THE ENTIRE OPERATING MANUAL. GMP CANNOT BE HELD RESPONSIBLE FOR MISUSE OF THIS EQUIPMENT.**

### 4.1

Refer to section 5.1 for pre-usage checks.

### 4.2

Connect the air supply hose from the Air compressor to the aftercooler inlet using the cam and groove quick action release hose couplings, check that all the cam and groove air hose couplings are fully locked, and the securing clips are fitted before pressurizing the air hoses. The inlet connection on the aftercooler from the compressor is marked **input** (an arrow gives the direction of compressed air flow). The hose should be laid out as straight as possible to avoid problems when pressurized. Note: Do not unlock the hose cam couplings while the Aftercooler is pressurized.

### 4.3

Connect the air supply hose from the Aftercooler outlet to the cable Blowing Machine inlet using the cam and groove quick action release hose couplings, check that all the cam and groove air hose couplings are fully locked, and the securing clips are fitted before pressurizing the air hoses. The outlet connection on the aftercooler to the blowing Machine is marked with **output**, (an arrow gives the direction of compressed air flow). The hose should be laid out as straight as possible to avoid problems when pressurized. Note do not unlock the hose cam couplings while the Aftercooler is pressurized.

### 4.4

With the compressor running at a pressure not exceeding 12 BAR (175 P.S.I.) in a safe condition, make sure that the pressure gauge on the filter-lubricator is reading 7 BAR (100 P.S.I.) If it is not, adjust the knob on top of the regulator. The regulator can be locked into position by raising the knob after adjustment. For maximum reliability the 7 BAR (100 P.S.I.) setting should be maintained during the blowing operation. Refer to the operator manual supplied with the air motor for further details.



#### 4.5

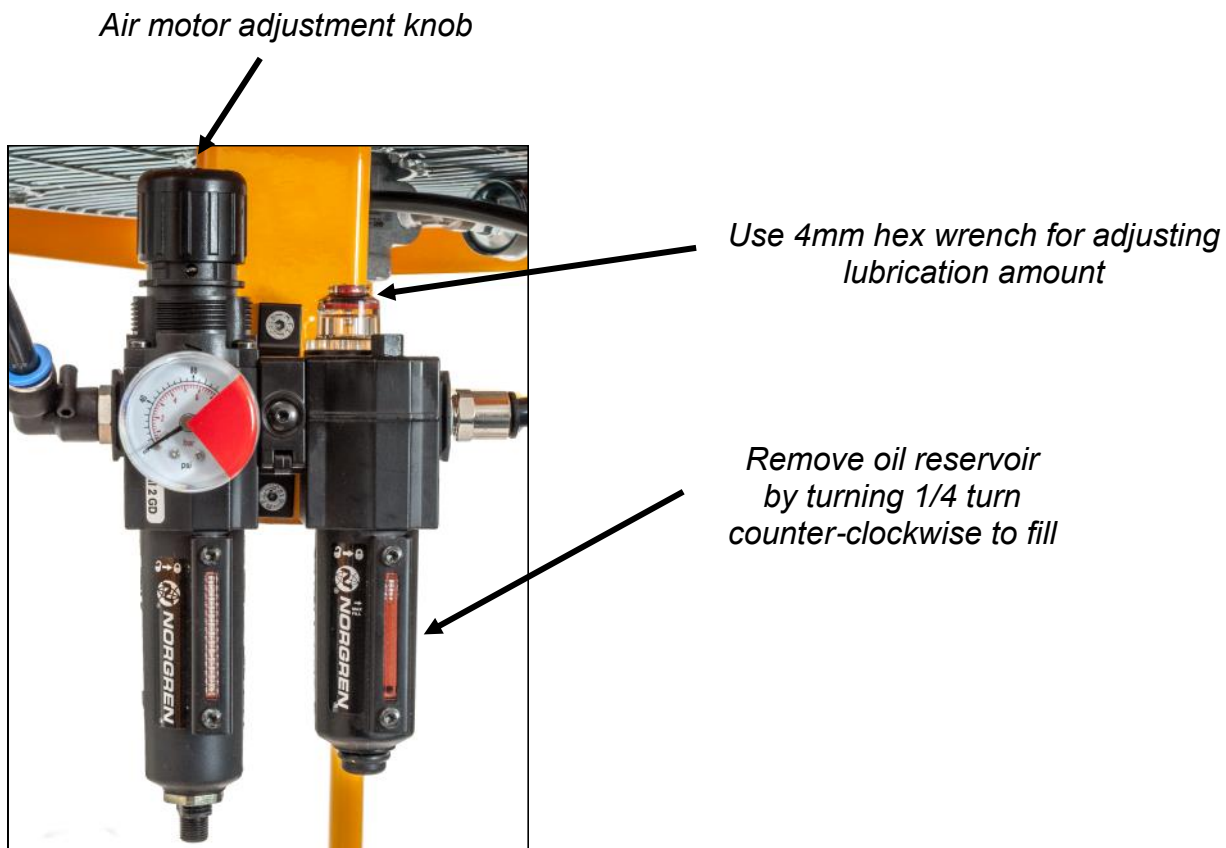
Adjust the red screw adjuster on the air motor lubricator using a 4mm hex wrench to allow one drip of oil per minute as viewed in the oiler site dome. Air must be on and driving fan for this adjustment. This will be almost closed. (When set, this will not require frequent adjustment)

#### 4.6

The aftercooler system is now available for use.

#### 4.7

Condensate from the filters will be collected in the plastic container. Dispose of the contents in an environmentally acceptable way for oil contaminated waste. The can should be emptied when approximately three quarters full.



## 5.0 MAINTENANCE

**IT IS IMPERATIVE THAT ALL PERSONS USING, OPERATING OR MAINTAINING THIS COMPRESSOR AFTERCOOLER BE FULLY TRAINED AND COMPETENT AND AUTHORIZED TO DO SO AND HAVE READ THE ENTIRE OPERATING MANUAL.**

**IT IS RECOMMENDED THAT THIS COMPRESSOR AFTERCOOLER IS SERVICED EVERY 12 MONTHS, REGARDLESS OF ITS CONDITION OR THE NUMBER OF OPERATING HOURS USED. THIS WILL HELP TO ENSURE RELIABLE, TROUBLE FREE SERVICE.**

**GMP, CANNOT BE HELD RESPONSIBLE FOR MISUSE OF THIS EQUIPMENT.**

### 5.1 PRE-USAGE CHECKS

- Check that the oil reservoir on the air motor lubricator is full of a high quality air tool lubrication oil.
- Check that the drain bowls on both the air motor filter/regulator and the after-cooler separator are emptying correctly.
- Check that the aftercooler grill is free from dirt and leaves, if necessary blow the debris outwards with a low pressure airline, (Max. 2 Bar 30 P.S.I.). Note, this should be undertaken with due consideration to personnel safety. Correct cooling depends upon an uninterrupted flow of air through the finned tubes of the cooler. If the spaces between the fins are allowed to become clogged with dirt, the performance of the aftercooler will deteriorate.
- Check that the cam and groove air hose coupling faces are clean and free from debris.
- Check the tire pressure, adjust if necessary.
- Check that all screws are tight, especially the fan mounting bracket and guard.
- Check for air leakage, rectify before commencing.

### 5.2 WEEKLY MAINTENANCE

- Carry out all the Pre-usage checks as per 5.1
- Open the manual discharge valve on the Condensate Separator (screw carefully) and let water flow out air until the compressed air will blow through for a few seconds (into a suitable container for environmentally friendly disposal). If a significant amount of water (more than 0.5 liters) exits the valve then the drain must be thoroughly cleaned.

## **5.3 MONTHLY MAINTENANCE**

- Carry out all the weekly checks as per 5.2
- Refer to Operator Manual supplied for the following :-  
Air Motor  
Aftercooler  
Condensate Separator  
Filter –regulator –lubricator

## **5.4 YEARLY MAINTENANCE**

- Carry out all the monthly checks as per 5.3
- Dismantle the Condensate Separator drain

## **6. SPARE PARTS**

For spare parts always provide the part number and serial number.

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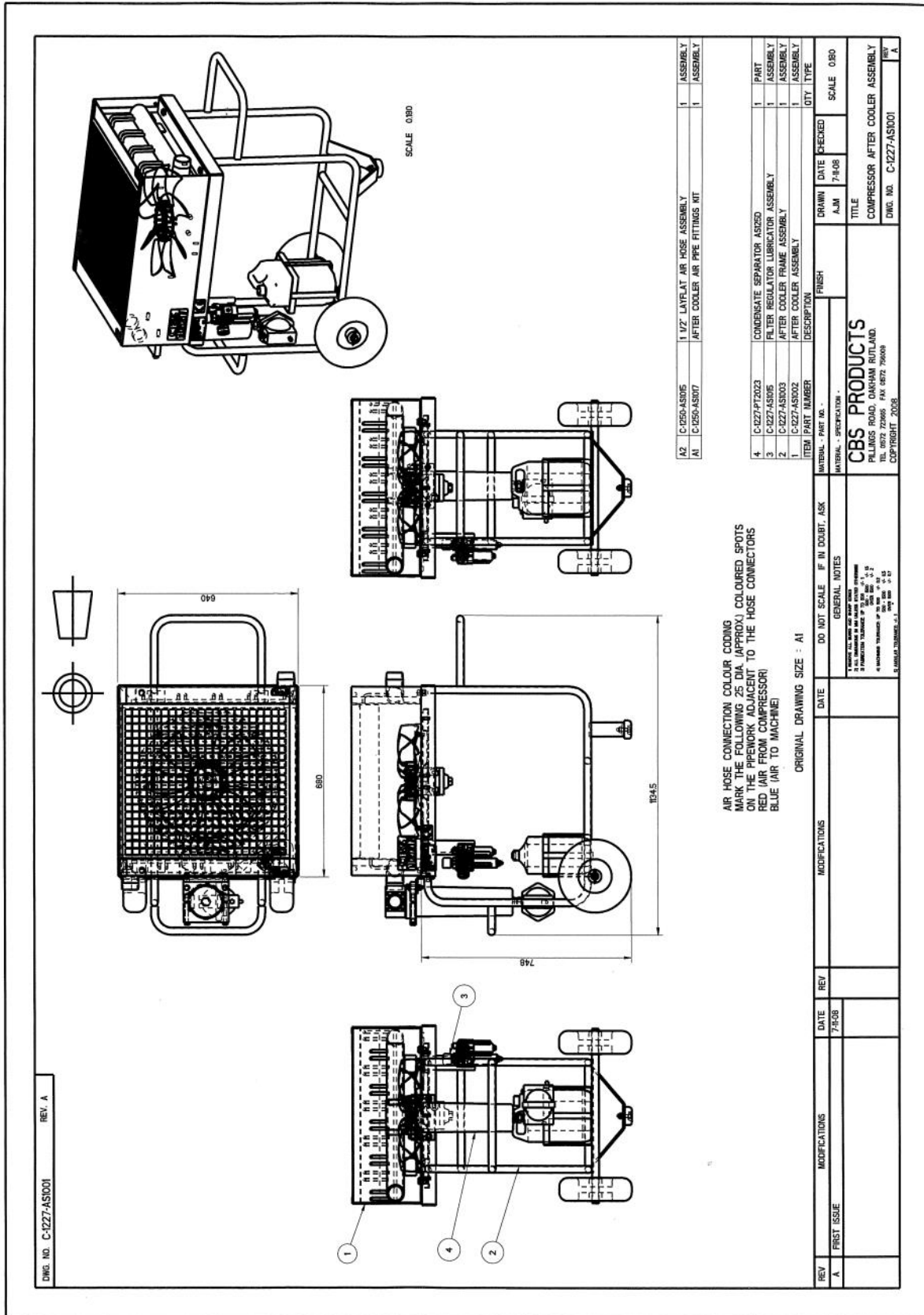
Please give as much information as possible to ensure correct identification and supply of spare parts.

## 7.0 LAYOUT OF EQUIPMENT

- 1 AFTERCOOLER
- 2 FILTER-REGULATOR-LUBRICATOR ASSEMBLY
- 3 WATER SEPARATOR
- 4 DRAIN CAN
- 5 PNEUMATIC WHEEL
- 6 RUBBER BUFFER PAD
- 7 AIRCOOLER OUTPUT
- 8 AIRCOOLER INPUT—NOT SHOWN



# APPENDIX 1



## **GMP Limited Warranty**

**1a.** General Machine Products Co., Inc. ("GMP") warrants to the purchaser and/or end user:

(1) that a new product sold and manufactured by GMP will be free from original defects in material and workmanship for one year from the date the product was delivered to the purchaser and/or end user, or for the lifetime of the Modular Plug Presser;

(2) that a new product sold and not manufactured by GMP will be covered exclusively by the manufacturer's warranty. However, if that warranty coverage shall provide less coverage than the GMP Warranty for its manufactured products, then the warranty set forth in Paragraph 1(a)(1) above shall apply instead;

(3) that a reconditioned used GMP product sold by GMP, or a non-owned product repaired by GMP, or a new part sold by GMP, will be free from original defects in material and workmanship for ninety days from the date the product was delivered to the purchaser and/or end user.

**1b.** The above warranties are contingent upon and subject to the condition that: (1) the end user substantiates the date it purchased and received delivery of the product or part, and (2) the product or part shall have been installed, maintained and used in accordance with GMP's or the manufacturer's written instructions.

**2.** The end user shall determine the suitability of GMP's product or part for intended use, and the end user assumes all risk and liability whatsoever in connection therewith except to the extent set forth in this Limited Warranty.

**3a.** GMP reserves the right to request that the product or part be returned to us for examination and cannot be responsible for user charges incurred in the replacement of any product. GMP's agreement to repair or replace is also subject to its inspection of the product and verification of the defect.

**3b.** Subject to immediate written notification of a defect or malfunction, GMP will repair or replace that product or part, at GMP's option, returned freight prepaid to Trevose, PA.

**3c.** To obtain repair or replacement service under the Limited Warranty, the purchaser must contact the factory for a Return Material Authorization (RMA). Once obtained, send the RMA along with the defective part or product, transportation prepaid to:

**General Machine Products Co., Inc.**      Tel: 215.357.5500  
3111 Old Lincoln Highway      Fax: 215.357.6216  
Trevose, PA 19053 USA

**3d.** The field labor and material charges incurred by an authorized GMP dealer or an end user to disassemble, inspect, repair and reassemble our product or part at their respective prime locations will not be reimbursed unless GMP has first reviewed and approved those charges.

**3e.** Incidental repair charges incurred by an authorized dealer or an end user for items such as labor, transportation, tolls, lodging and meals at a location remote from its prime facility, or to demount our product or part from its remote location and forward to its prime facility, are not the responsibility of GMP, and are not covered by this Warranty.

**3f.** Incidental repair charges incurred by an authorized GMP dealer or end user to remove construction hardware, modify a vehicle or otherwise gain access to GMP's product or part, is a condition beyond GMP's control, and is not covered by this Warranty.



**4a.** GMP products or parts which become part of a total assembly which has been designated and/or manufactured by others, are not covered by this Warranty unless GMP reviews the total assembly and expressly extends its warranty.

**4b.** Design, material and workmanship furnished by others to install or operate a GMP product or part are not covered by this Warranty with respect to GMP's products or parts which are used in that particular assembly.

**4c.** Hydraulic, pneumatic, electrical or mechanical control equipment which is not manufactured by GMP and which becomes a part of a GMP assembly, is not covered by this Warranty.

**4d.** This warranty does not cover a GMP product or part which others have subjected to abuse, improper installation, improper operation, alteration or negligence in storage or handling.

**5a.** THE ABOVE WARRANTIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE OR OTHER WARRANTIES OR GUARANTEES OF ANY KIND OR DESCRIPTION, EXPRESS OR IMPLIED.

**5c.** GMP'S SOLE LIABILITY AND THE PURCHASER'S SOLE REMEDY FOR A FAILURE OF A PRODUCT OR PART UNDER THIS LIMITED WARRANTY, AND FOR ANY AND ALL CLAIMS ARISING OUT OF THE PURCHASE AND USE OF THE PRODUCT OR PART SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT OR PART THAT DOES NOT CONFORM TO THIS WARRANTY.

**6.** GMP reserves the right, without notice, to make changes in equipment design or components as progress in engineering or manufacturing methods may warrant.

**7.** This Warranty shall be construed in accordance with the laws of the State of Pennsylvania, of The United States of America.

**8.** This Limited Warranty may not be modified, in whole or in part, except by writing signed by an authorized officer of GMP.



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