

# The “Cyclone”

## Tire Deflation & Inflation Tool



A I R W



R K S

COMPRESSORS CORP

# How it works;

- This tool operates on compressed air that activates our patent pending venturi that creates a ultra-high vacuum, that draws the air from inside the tire at a much higher volume than regular flow rates.
- It operates most effectively using a minimum of 150-175 cfm or 100-120 psi at the input gauge, as the venturi requires this amount of air to function at 100% efficiency.
- Tests have shown between a 30% and 55% savings in deflation times. Times will vary depending on the type of deflation method that is currently being used, the contained air temperature and the valve stem size.
- Testing has also shown a significant decrease with inflation times, this is achieved by minimizing the air restrictions between the Deflation / inflation tool and the tires valve stem.



# The benefits of the Cyclone air evacuation tool:

- It is very Safe, quiet and easy to use
- It is the most efficient method of exhausting air from most giant OTR tire assemblies.
- Short term ROI
- Quiet, the tool operates at approximately 75 dB
- Rugged design for years of maintenance free service
  - Only the Muffler to be serviced when required
- The 30' exhaust / inflation air line, replaces the industries standard 15-20' safety deflation / inflation air lines.
- The tool can be easily removed from the cart and relocated to a fixed position either vertical or horizontal.
  - It is recommended that the 1" ID deflation / inflation hose not exceed 40' in length. If a hose longer than 40' is required, it is recommended to increase the inside diameter of the hose.



# The Gauges



Compressed air gauge.  
This should read a minimum of 100  
psi when operating. The tool will  
operate more effective using  
maximum air volume.

# The Gauges




**Tire pressure gauge.**



# Tire Inflation /deflation operating instructions

1<sup>st</sup> - close all three ball valves. Blue, Yellow and Red.



Compressed air inlet.  
"Use only high volume  
air fittings or attach  
direct to air source".

# Tire Inflation /deflation operating instructions

2<sup>nd</sup> - connect the inflation/deflation adaptor to the tire valve stem and remove core housing.





# Tire Inflation /deflation operating instructions



3<sup>rd</sup> – open the yellow valve and air will flow through the tool and out the muffler.

4<sup>th</sup> - open the blue valve to activate the venturi tool.

5<sup>th</sup> – To refill the tire, close the yellow and blue valves and open/close the black valve to control air flow into the tire.



The following tests were conducted under controlled conditions.

All of the following tests were completed on 53/80R63 tires that were fitted with the Haltec, Super Large Bore “SLB” valve assemblies.

The following slides are:

1. A common method of deflation
2. Deflation times/psi using the deflation tool with the compressed air assist (120 psi most effective)
3. Deflation by removing the core housing and venting into the atmosphere
4. Inflation time using the deflation tool

Note: there are variables that will have a direct effect on any deflation / inflation times:

- Initial tire air pressure
- Chamber air temperature
- Valve stem size
- Valve stem length (longer valve stems will be have slightly slower deflation /inflation times)

# Deflation

1 ) Standard method  
using the M-07 muffler

**LF tire – starting deflation was 110  
psi**

Time / minutes	Air Psi
5	92
10	75
12	68
17	56
22	45
27	32
32	24
37	12
40	0



# Deflation

2 ) Using the Cyclone tool with 120 psi of compressed air

RRO tire – starting deflation was 114 psi	
Time / minutes	Air Psi
5	52
10	22
12	15
15	5

## Deflation

3 ) Removing the core housing and releasing air into the atmosphere without any inflator adaptors or restrictions

<b>RRO – starting deflation was 113 psi</b>	
Time / minutes	Air Psi
0	114
20	5



# Inflation

4 ) using the “Cyclone tool

**RRO – starting deflation was 0 psi  
170 cfm Screw compressor / no holding tank**

Time / minutes	Final air pressure
15:30	108

# Deflation Time savings

(example based on actual testing)

Deflation time using current method	# of deflations per / year	Total time of deflations	
40 min	500	20,000 minutes or 333 hours	
Deflation time using "Cyclone" tool	# of deflations per / year	Total time of deflations	Savings
16 min	500	8,000 minutes or 133 hours	200 hours