Donaldson
FILTRATION SOLUTIONS

# Exhaust Product Guide

for Medium- & Heavy-duty Vehicles and Equipment

Mufflers • Clamps • Tubing / Connectors • Stacks / Tailpipes • Elbows • Hangers / Brackets • Shields














This publication contains a wide selection of standard mufflers and exhaust components for diesel-powered vehicles and equipment that operate in a variety of conditions. For assistance, contact Donaldson or your local Donaldson distributor.

Distributed by:

Donaldson
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## MEDIUM- AND HEAVY-DUTY EXHAUST PRODUCTS
## CATALOG NO. F116080



Our innovative products solve complex filtration and exhaust system challenges that improve people's lives, enhance engine and equipment performance and protect our environment.

Donaldson has the technical expertise, superior customer support and vast network of locations around the world to meet your toughest needs – from initial system design through replacement products.



**Improve**







**Enhance**



**Protect**

This publication contains a wide selection of standard exhaust components for both original equipment manufacturers and replacement parts for existing diesel-powered vehicles and equipment that operate in a variety of conditions. For assistance with muffler or accessory selection, contact your local Donaldson distributor or dealer.


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Donaldson FILTRATION SOLUTIONS



## Features and Benefits of Donaldson Mufflers

**Low Backpressure**
Better fuel economy and efficient engine performance

**Aluminized Steel**
Delivers long service life and is corrosion resistant

**Lightweight Construction**
Minimizes stress and vibration on mounting system

**High Temperature Paint**
Available on select product. Paint adds corrosion resistance and enhanced finish



## Donaldson Mufflers

Donaldson exhaust systems are original equipment on most pre-2007 medium- and heavy-duty trucks manufactured in North America. Donaldson engineers work with many OE truck and off-road equipment manufacturers to design and build quality exhaust systems based on the specific performance.

## Truck Mufflers for Every Budget

**BEST** (Part No. M101158 & M101181)



- 1 million mile warranty on M101158 – stainless steel Silent Partner™
- 500,000 mile warranty on M101181 – aluminized steel Silent Partner
- Superior acoustic performance – specifically addresses engine brake noise by silencing engine brake "bark"

**BETTER** (Part No. M100580)



- M100580 Donaldson muffler
- Meets all OEM back pressure, strength and life requirements
- Exhaust noise level is 4.5 - 7.5 dB(A) quieter than M100465 muffler

**GOOD** (Part No. M100465)



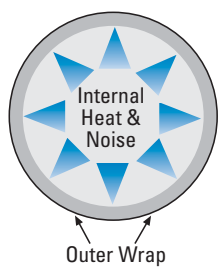
- The M100465 is the most common, most popular service muffler in the industry
- Low back pressure provides good fuel economy and efficient engine performance

### What external characteristics differentiate mufflers?

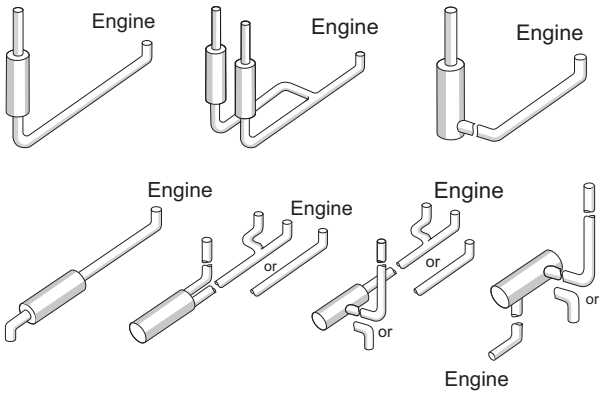
- Shape of muffler (generally round or oval)
- Style (inlet/outlet configurations on the muffler)
- Materials

### What internal characteristics differentiate mufflers?

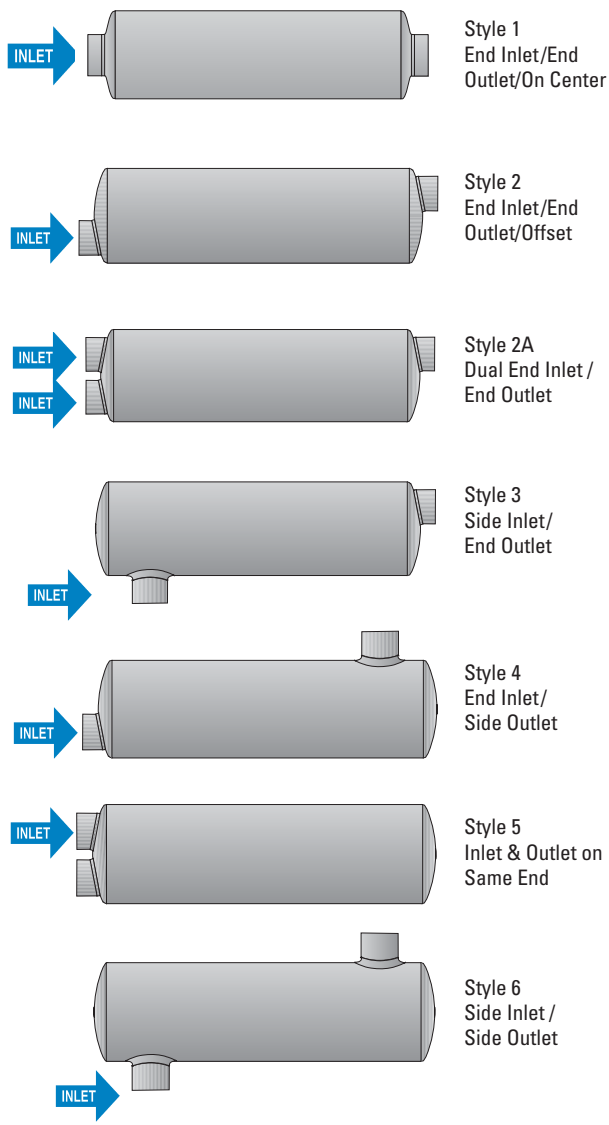
- Wrapped (with insulation) or unwrapped
- Insulation sandwiched between an inner and an outer body
  - Reduces noise/high frequency
  - Lowers outer shell temperature
  - Reduces radiated heat
- Quantity, size, and position of internal baffles and tubes



## Exhaust System Configurations




## Muffler Styles






## Exhaust Product Materials

A number of different materials are found in exhaust systems. Often different options are available for use in a single application. Since materials vary in strength, corrosion resistance, and price, a particular material may be preferred in individual applications and components. Some of the most common materials, their qualities, and their typical uses are listed in the following table.

| Materials* | Used in | Qualities |
|---|---|---|
| Aluminized Mild Steel | Mufflers | Good Corrosion Resistance |
| | Exhaust Components | |
| Stainless Steel (with and without aluminized coating) | Flexible Tubing | Stronger<br>Excellent Corrosion Resistance |
| | Mufflers | |
| | Exhaust components | |
| | Emissions Products | |
| Chrome | Accessories | Bright Mirror Finish |
| Galvanized | Flexible Tubing | Low Material Cost<br>Temperature Limit 600°F (316°C) |
| Cold Rolled | Accessories | Poor Corrosion Resistance<br>Low Cost |

* See pg 69 for more further descriptions of materials used by Donaldson in exhaust system products.

# Expanded Catalog Content & Where to Buy

## New & Expanded Catalog Content

This edition of the Donaldson exhaust catalog includes the following additional information:

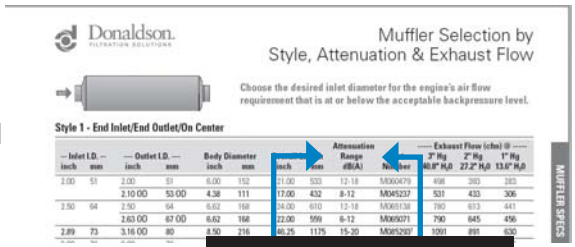



### New Heavy-Duty Accessories

Newer and/or retrofit emissions systems weigh considerably more than the traditional OE exhaust system and require new mounting hardware to accommodate the extra weight. Our more popular heavy-duty brackets and clamps have been added.

### Muffler Dimensions & Specs

The estimated sound reduction (attenuation range in dbA) for all Donaldson mufflers has been added to the muffler selection tables starting page 47. We have also expanded the dimensional section by muffler style to include all muffler dimensions and muffler illustrations.




Muffler Sound Reduction

### Cross Reference

Compared to our previous publication, this section include hundreds of new cross references. We do encourage you to use the Donaldson on-line cross reference for the latest information.

### Shoptalk Section

Shoptalk is all about sharing helpful information to become more informed about Donaldson exhaust products and systems. This section includes installation tips for and fact sheets for many exhaust/ emissions products and technologies.

## Confused About Which Exhaust Clamp To Select or What Clamp Should be Used?

Depending on your exhaust joint and what you're connecting to, it's not always so easy to determine which one of our exhaust clamps is best for your needs.

Take a look at this new information on page 10 of our accessories section the next time you need a replacement clamp.




## Where To Buy Donaldson Products?

Donaldson products are available through a variety of distribution outlets: OE dealers, independent warehouse distributors and exhaust-only distributors. Each of these distribution channels have their unique methods of servicing your needs to meet your business requirements.

To find the closest outlet in your region, visit www.donaldson-filters.com. Look in the Where to Buy section of our web site.

## From Silencing to Emissions Reduction

### 1950s

When exhaust was about silencing -- we led the way! Frank Donaldson sold enough mufflers in 1951 to open our first exhaust manufacturing facility in Grinnell, Iowa in 1952.

### 1960s

In the 1960s, sound meters were used to measure noise levels (see image on right). Donaldson is one of the first manufacturers to introduce the use of aluminized steel in exhaust systems.




### 1970s

Donaldson introduces mufflers with integrated ejectors and wrapped mufflers. Wrapped mufflers reduced the overall exhaust system noise and the exterior body temperature. Donaldson SealClamp™ band-style exhaust clamp launched into the marketplace. Donaldson expands to Japan. In 1973, U.S. noise regulations went into effect for on-road vehicles – Donaldson offers a muffler line that was effective at noise reduction without loss of horsepower.



### 1980s

In 1981, Donaldson opens a new technical center. The center included two anechoic chambers which expanded our technical capabilities. Mufflers meet 1988 U.S. EPA truck noise regulations (sonic chokes and floating baffles).

### 1990s

When engine manufacturers needed help to meet the first U.S. Emissions regulations, innovations continued. In the early 1990s, we pioneered the design of integrated catalytic converter mufflers and diesel particulate solutions for three major U.S. engine and truck manufacturers. In the late 1990s, Silent Partner™ was the first muffler that effectively reduced engine brake noise without loss of power or fuel economy. During this decade, Donaldson expands exhaust manufacturing in Europe (France); Mexico (Guadalajara); and the United States (Alabama).






### 2000s

2001 Donaldson forms a group dedicated to emissions reduction efforts for diesel engines; begins retrofit projects; Spiracle™ crankcase filtration introduced to eliminate emissions from open crankcase vents. Mass production of CCMs for on-road OEs begins.

2002 First of many CARB and EPA verifications for Donaldson retrofit emissions solutions; first company to verify tailpipe and crankcase solution (patented).



Since the early 1990s, Donaldson has sold more than a million DOC Mufflers.

2003 Donaldson expands exhaust manufacturing in Aguascalientes, Mexico.

2004 Donaldson upgrades and expands heavy-duty engine test cell capabilities; U.S. MSHA accepts Donaldson high temp exhaust filter. New web-based Emissions Resource Center (www.donaldson.com/en/erc) established.

2005 DPF Cleaning System and DMF Muffler launched for emissions retrofit market. Donaldson introduces an active, smart DPF emissions solution for the most difficult duty cycles; low temperature, transient and extended idling.

2006 Donaldson expands European emissions staff and Mexico exhaust manufacturing to Monterrey; Donaldson improves Stepped SealClamp™.

2007 Donaldson expands OE emissions support with production of active and passive exhaust aftertreatment systems to meet U.S. EPA 2007 on-road emissions regulations.

2009 Donaldson produces urea and non-urea based NOx reduction systems for OE 2010 and retrofit for in-use vehicles.

**Acronym Reference: See Shoptalk Section**

# Diesel Retrofit Emissions Solutions

www.donaldson.com/emissions

OVERVIEW

Governmental regulations across the globe are being implemented that reduce diesel emissions. These regulations affect both OE manufacturers and end users. Donaldson works with both OE manufacturers and fleets to design innovative, customized solutions. (See Shoptalk section for Diesel PM limits and global emissions regulations.)

In order to meet retrofit emissions regulations, diesel-powered vehicle owners around the world will be faced with major business decisions to become compliant with current regulations; choices include retrofit, refuel, rebuild, repower or replace.

For older vehicles that have five or more years of useful life available, fleet owners are electing to retrofit their vehicles to extend the life of their current equipment.

Donaldson takes a "total system approach" to retrofit – delivering patented solutions that reduce not just what comes out of your tailpipe, we also offer a solution that eliminates emissions generated from the engine crankcase (Spiracle™ crankcase filtration technology).

Donaldson has California ARB and U.S. EPA-verified solutions, an installation service network, and local Donaldson representatives that are ready to help you select the best solution for your fleet.

## Choices for Diesel Retrofit

**Retrofit** – new emission control devices on existing engines (filters, catalysts)

**Refuel** – cleaner diesel fuel (ULSD), emulsions or additives

**Rebuild** – repair/upgrade key components or engine reprogramming

**Repower** – put new or newer engine in existing equipment or chassis

**Replace** – vehicle/equipment condition less than the value of new engine

### Do you have questions about meeting retrofit emissions regulations?

We have a specialized team of emissions experts that can help determine your emission reduction targets and then specify the right Donaldson solution, keeping in mind regulations, budgets and fleet size.

## Internet Resource:

**Emissions Resource Center** **www.donaldsonoemfiltration.com/technologies/emission**




## Emissions Retrofit Products

Retrofit solutions include cost-effective and high efficiency tailpipe and Spiracle™ crankcase filtration technologies plus our DPF cleaning system (DPF pulse cleaner and DPF Thermal Regenerator).



The calculations on the right are provided as a reference and may be helpful as you validate and select Donaldson mufflers and components.

For the most accurate engine airflow and exhaust flow rates, Donaldson recommends using the information supplied by your engine manufacturer.

## European Engine Flow Rate Calculation Formula :

Exhaust flow rate may be calculated using the following formula. Exhaust temperature and intake airflow rate must be determined to calculate the exhaust flow rate. Exhaust temperature and manufacturers maximum backpressure may be approximated using the chart on the right.

$$\left(\frac{\text{Exhaust Temp. (°F)} + 460}{540}\right) \text{ X } \text{Intake Airflow (CFM)} = \text{Exhaust Flow}$$

$$\frac{(\text{Exhaust Temp. (°C)} \times 1{,}8 - 32) + 460}{540} \text{ X Intake flow (m}^3\text{/mn)} = \text{Exhaust flow (m}^3\text{/mn)}$$

| Engine Type | Engine Temperature | Maximum Backpressure | Engine Temperature | Maximum Backpressure |
|---|---|---|---|---|
| Diesel 2-Cycle Naturally Aspirated | = 900° F | 4" Hg | 480°C : | 13,5 kPa |
| Diesel 2-Cycle Turbo | = 750° F | 3" Hg | 400°C : | 10,2 kPa |
| Diesel 4-Cycle Naturally Aspirated | = 1000° F | 3" Hg | 540°C : | 10,2 kPa |
| Diesel 4-Cycle Turbo | = 900° F | 3" Hg | 480°C : | 10,2 kPa |
| Gasoline (all types) | = 1200° F | >4" Hg | 650°C : | >13,5 kPa |

Note: If you are spec'ing a dual muffler system, remember to divide engine's exhaust flow (CFM) by two

**The information below is the exhaust portion of our Engine Aftermarket Filtration & Exhaust Warranty Document: F110064 (February 2006)**

Donaldson warrants its Aftermarket products against failure due to defects in materials and workmanship for the period specified under Terms and Conditions for the particular product. Donaldson's obligation under this warranty covers replacing the failed product, including transportation charges, only. If the Donaldson product failure is the sole and direct cause of damage to the equipment on which the product was properly installed, Donaldson will reimburse reasonable costs to restore the equipment to the condition it was in immediately before the failure. This warranty does not cover failure due to misapplication, misuse, abuse, neglect, rust through and corrosion (mufflers), improper service practices or non-Donaldson approved modifications. Engine and equipment manufacturers warranties remain in effect when Donaldson products are used.

Donaldson must be notified in writing of any claims covered by this warranty within one year of the date of failure. Donaldson, at its discretion, will either physically visit the site where the alleged failure has been found; or, request that all parts, Donaldson and other relevant parts, be shipped prepaid to its General Office, in care of the Product Lab or as otherwise specified.

## Terms & Conditions

Warranty coverage begins on the date and mileage the product is purchased by the user and expires when the specified number of years or miles has passed, whichever occurs first.

The length of warranty for replacement products provided under warranty coverage is the balance of the warranty period remaining on the product being replaced.

### Warranty Length by Product

| Exhaust Products | Warranty from Date of Delivery to User |
|---|---|
| Diesel Mufflers | |
| Vertical Installation | 4 Years or 500,000 miles (800,000 km) |
| Horizontal Installation | 3 Years or 500,000 miles (800,000 km) |
| Gas Mufflers | 1 Year |
| Silent Partner™, Exhaust Silencer | |
| Stainless Steel | 8 Years or 1,000,000 miles (1,600,000 km) |
| Aluminized Steel | 4 Years or 500,000 miles (800,000 km) |
| Exhaust Accessories | 1 Year |
| Chrome Parts | 1 Year or 100,000 miles (160,000 km) (peeling & blistering only) |
| Flex Pipe | 90 Days |
| Long-Life Flex Pipe | 1 Year or120,000 mile (200,000 km) (on-highway vehicles only) |

# EXHAUST ACCESSORIES





Donaldson offers and extensive line of accessories available in a variety of materials for both vertical and horizontal exhaust systems.




Heavy-Duty V-bands, Muffler Bands, Straps and Hangers

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ACCESSORIES

## Common Components Of Heavy Duty Exhaust Systems

NEW

### Bent Tubes & Elbows



For directional changes of exhaust flow in exhaust systems. Available in common angles (90°, 67° and 45°) for both O.D. and I.D. tube connections.

### Wye Connector



For joining legs of dual manifold outlet to form a single exhaust system. Wye connectors can provide an additional 3 to 7 dbA exhaust noise reduction over that of the primary muffler and may also be used to replace conventional wye pipe.

### Resonator



Secondary noise reduction component that generally provides 2 to 3 dbA additional noise reduction.

### Tubing (Straight or Flexible)

Straight or flexible tubing for connection to muffler or resonator. Purchased in standard lengths and cut to size if needed.

### Muffler

The primary component in an exhaust system for engine noise reduction.

### Exhaust Filter or Emissions Device



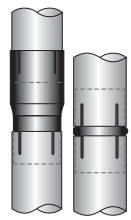
Traditional exhaust systems with mufflers are transitioning from noise reduction devices to emissions reduction devices to meet federal and state regulations. The primary component in the emissions device converts or captures exhaust emissions to reduce overall engine emissions. An emissions reduction device can be an add-on installed into the existing system or a retrofit muffler replacing the original muffler.

### Hanger



Secures the muffler or pipe horizontally or vertically to chassis or side of cab.

### Reducers, Connectors & Expanders



Shorter length tubes used for connecting two other exhaust pipes of different diameters or the same diameter.

### Spark Arrestor



An exhaust system add-on used to capture sparks emitted from internal combustion engines through the exhaust system. All Donaldson models are U.S. Forest Service approved.

### Splitter Tee Adapter



An adapter pipe with one inlet and two outlet tubes used to convert a single exhaust system to a dual exhaust system.

### Stack or Tail Pipes



Vertically mounted outlet pipe; available in curved outlet or straight squared configuration.

Note: Super stacks also available that can offer an additional 2 to 3 dbA noise reduction with no back-pressure penalty.

### Stack Cap



Moisture protector used on vertically mounted mufflers or stack pipes.

### Clamps

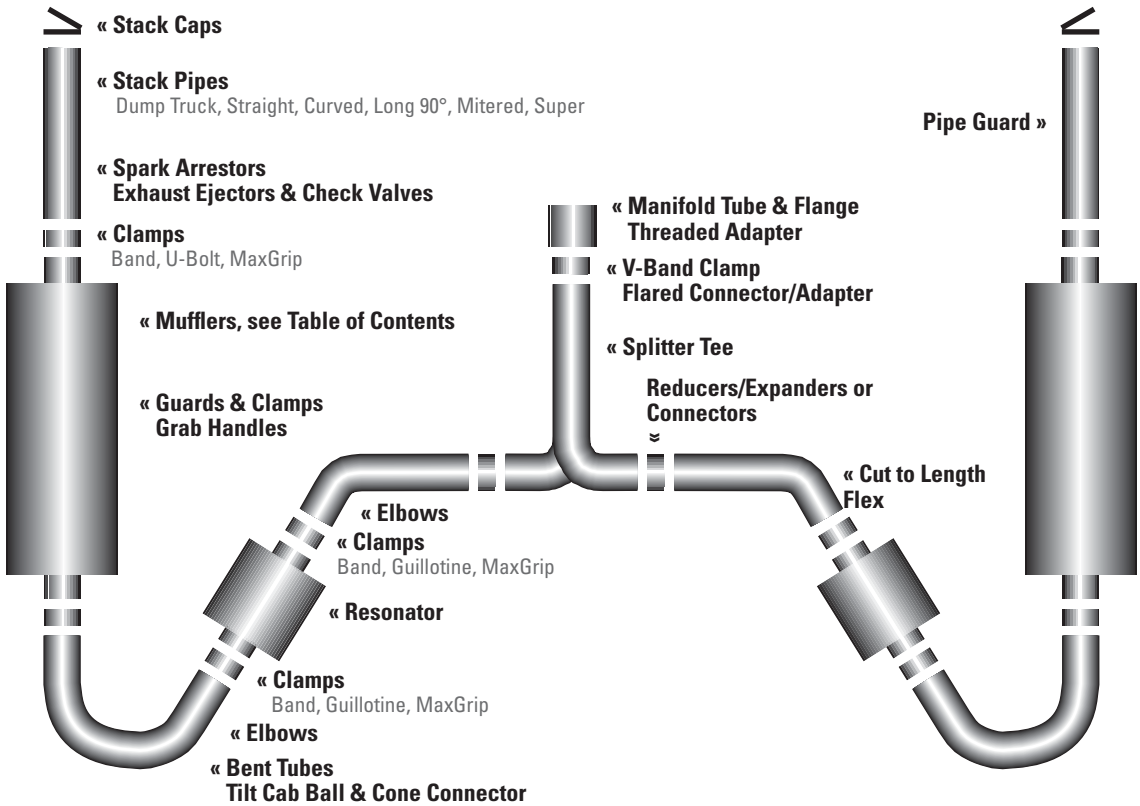


Exhaust systems use a variety of exhaust clamps. Selecting the proper clamp for the job is critical to a strong, reliable joint connection. Common types include u-bolt, band Clamps, bent bolt clamps and v-band clamps.

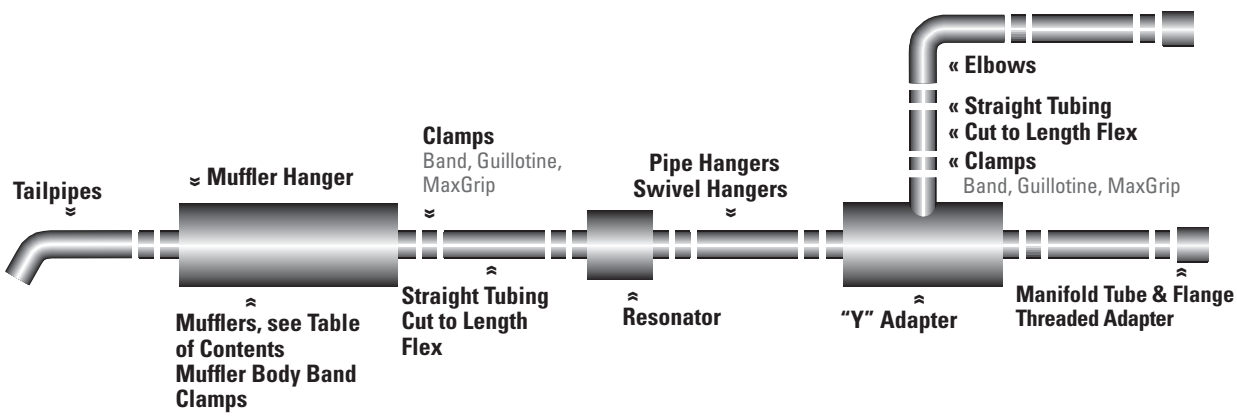
From the manifold to the exhaust stack, you'll find Donaldson can be the best source for your exhaust system accessories. The system diagrams below represent typical components found on exhaust systems.



## Vertical System Components (cab or stanchion mounted)

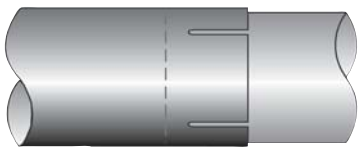
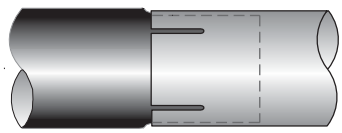
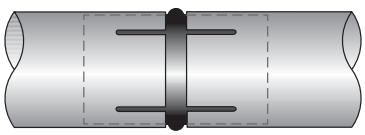
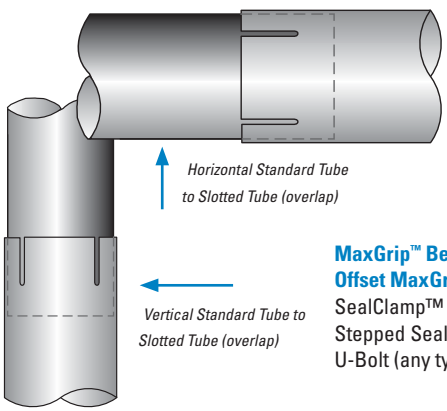
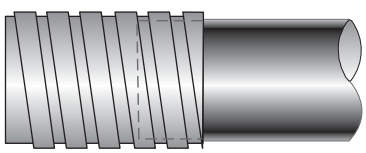
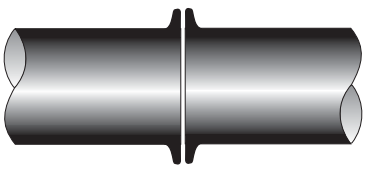



## Horizontal System Components (Chassis mounted)



# Exhaust Joint/Connections
## Guide to Selecting the Best Clamp for the Exhaust Joint Connection

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| Type of Joint/Connection | Type of Clamp to Apply (blue text = primary clamp recommendation) |
|---|---|
|  Exhaust - tube to tube Standard OD | **MaxGrip™ Bent Bolt**<br>**Stepped SealClamp (Aluminized or Stainless)**<br>Offset MaxGrip™ Bent Bolt<br>SealClamp™ Flat Band (Aluminized or Stainless)<br>Narrow Band (Aluminized)<br>U-Bolt (any type, any material) |
|  Slotted Tube to Shrunk OD | **MaxGrip™ Bent Bolt**<br>SealClamp™ Flat Band (Aluminized or Stainless)<br>Narrow Band (Aluminized)<br>U-Bolt (any type, any material) |
|  Slotted Tube to Slotted Tube (butt with internal connector) | **MaxGrip™ Bent Bolt (2 required per connection)**<br>SealClamp™ Flat Band (Aluminized or Stainless)<br>U-Bolt (any type, any material, 2 required per connection) |
|  *Horizontal Standard Tube to Slotted Tube (overlap)* *Vertical Standard Tube to Slotted Tube (overlap)* | **MaxGrip™ Bent Bolt**<br>**Stepped SealClamp (Aluminized or Stainless)**<br>Offset MaxGrip™ Bent Bolt<br>SealClamp™ Flat Band (Aluminized or Stainless)<br>Narrow Band (Aluminized)<br>U-Bolt (any type, any material)<br><br>**MaxGrip™ Bent Bolt**<br>**Offset MaxGrip™ Bent Bolt**<br>SealClamp™ Flat Band (Aluminized or Stainless)<br>Stepped SealClamp™ (Aluminized or Stainless)<br>U-Bolt (any type, any material) |
|  Standard Tube to Flex Tube | **Stepped SealClamp™ (Aluminized or Stainless)**<br>**Offset MaxGrip™ Bent Bolt (with chevron)** |
|  Flared, Lipped or Flange Connection | **V-Band Clamps**  |

MaxGrip™ Bent Bolt


Offset MaxGrip™ Bent Bolt


Offset MaxGrip™ Bent Bolt (chevron design)


Flat Band SealClamp™


Stepped SealClamp™


U-Bolt Single, Round Band


U-Bolt Double, Flat Band


Narrow Band Accuseal®


Based on the type of exhaust joint, your choice of clamp to apply may be limited. But, when you're looking to purchase a clamp based on specific performance features, the information below may be helpful as you try to select the proper clamp for the application.

# Clamp Performance Rankings (10 high - 1 low)

## Holding Force

**10 Offset MaxGrip™ Bent Bolt**
**10 V-band Clamp**
**8 MaxGrip™ Bent Bolt**
7 U-bolt (any style or material)
5 SealClamp™ (any style or material)
3 Narrow Band (aluminized)

## Ease of Assembly

**9 MaxGrip Bent Bolt**
**9 Narrow Band (aluminized)**
**8 Offset MaxGrip Bent Bolt**
**8 Stepped SealClamp (aluminized or stainless)**
6 U-bolt (any style or material)
5 V-band Clamp
3 SealClamp Flat Band (aluminized or stainless)

## Sealing Properties

**10 Stepped SealClamp (aluminized or stainless)**
**9 V-band Clamp**
**8 SealClamp Flat Band (aluminized or stainless)**
6 MaxGrip Bent Bolt
6 Offset MaxGrip Bent Bolt
5 Narrow Band (aluminized)
3 U-bolt (any style or material)

## Appearance

**10 Stepped SealClamp (stainless)**
**10 V-band Clamp**
**9 Stepped SealClamp (aluminized)**
7 Offset MaxGrip Bent Bolt
7 Narrow Band (aluminized)
7 SealClamp Flat Band (stainless)
6 SealClamp Flat Band (aluminized)
5 MaxGrip Bent Bolt
5 U-bolt (double, flat band, chrome)
4 U-bolt (double, flat band, zinc)
4 U-Bolt (single, round band, chrome)
2 U-Bolt (double, round band, steel)
1 U-Bolt (single, round band, steel)

## Tube Deformation

**10 V-band Clamp**
**9 Stepped SealClamp (aluminized or stainless)**
**8 Offset MaxGrip Bent Bolt**
**8 SealClamp Flat Band (aluminized or stainless)**
7 MaxGrip Bent Bolt
7 Narrow Band (aluminized)
2 U-bolt (double, flat band, chrome or zinc)
2 U-Bolt (double, round band, steel)
1 U-Bolt (single, round band, chrome or steel)

## Price

**10 U-Bolt (single, round band, steel)**
**9 U-Bolt (double, round band, steel)**
**8 Narrow Band (aluminized)**
**8 SealClamp Flat Band (aluminized)**
**8 U-bolt (double, flat band, zinc)**
7 MaxGrip Bent Bolt
7 Offset MaxGrip Bent Bolt
7 SealClamp (other than aluminized)
6 U-Bolt (single, round band, chrome)
3 U-bolt (double, flat band, chrome)
1 V-band Clamp

## What Features Are Most Important to You?

_____ Holding Force
_____ Ease of Assembly
_____ Sealing Properties
_____ Tube Deformation
_____ Appearance
_____ Price

ACCESSORIES

## Offset MaxGrip™ Bent Bolt Clamp

Donaldson introduces a new series of bent bolt clamps for use on exhaust systems. The clamps are manufactured in heavy duty aluminized steel to minimize corrosion.

- Clamps are reusable
- Aluminized band, stainless steel welds, deburred strap edges and finished with a heat resistance silver paint
- Self positioning for easy installation
- Protected by patents, both issued and pending



### Offset MaxGrip Bent Bolt

**For Muffler to Stack Connections**

| Nominal I.D. in | mm | Functional I.D. Range inches | mm | Part Number |
|---|---|---|---|---|
| 4.00 | 102 | 4.04-4.21 | 103-107 | M002164 |
| 5.00 | 127 | 5.04-5.21 | 128-132 | M001865 |



### Offset MaxGrip Bent Bolt

**For Tube to Flex Connections**

| Nominal I.D. in | mm | Functional I.D. Range inches | mm | Part Number |
|---|---|---|---|---|
| 4.00 | 102 | 4.04-4.21 | 103-107 | M002134 |
| 5.00 | 127 | 5.04-5.21 | 128-132 | M002135 |

## MaxGrip™ Bent Bolt Clamp

- More holding power than any other clamp tested
- Donaldson patented technology
- Clamps are reusable
- Aluminized band, stainless steel welds, and deburred strap edges finished with heat resistant black paint
- Use these clamps on slotted, lapped tube connections and manifold connections
- Ideal for use on Donaldson "captured" slots for maximum sealing
- Coated bolts and threads
- Hardened flange nuts





### MaxGrip Bent Bolt Clamp

| Nominal I.D. in | mm | Functional I.D. Range inches | mm | Part Number |
|---|---|---|---|---|
| 1.75 | 44 | 1.79-1.96 | 45-50 | M001866 |
| 2.00 | 51 | 2.04-2.21 | 52-56 | M001867 |
| 2.32 | 59 | 2.36-2.56 | 60-65 | M002016 |
| 2.50 | 65 | 2.54-2.71 | 65-69 | M001756 |
| 2.68 | 68 | 2.71-3.00 | 69-76 | M002050 |
| 3.00 | 76 | 3.04-3.21 | 77-82 | M001702 |
| 3.50 | 89 | 3.54-3.71 | 90-94 | M001502 |
| 3.75 | 95 | 3.73-3.90 | 95-99 | M001593 |
| 3.88 | 99 | 3.89-4.06 | 99-103 | M001432 |
| 4.00 | 102 | 4.04-4.21 | 103-107 | M001503 |
| 4.25 | 108 | 4.21-4.38 | 107-111 | M001566 |
| 4.33 | 110 | 4.37-4.53 | 111-115 | M002068 |
| 4.50 | 114 | 4.54-4.71 | 115-120 | M001703 |
| 5.00 | 127 | 5.04-5.21 | 128-132 | M001668 |
| 5.25 | 133 | 5.21-5.38 | 132-137 | M001504 |
| 5.25 | 133 | 5.28-5.47 | 134-139 | M002057 |
| 5.47 | 139 | 5.51-5.71 | 140-145 | M002070 |
| 6.00 | 152 | 6.04-6.21 | 153-158 | M001505 |
| 6.25 | 159 | 6.21-6.38 | 158-162 | M001799 |
| 6.75 | 171 | 6.83-7.00 | 173-178 | M001506 |
| 7.50 | 198 | 7.83-8.07 | 199-205 | M002063 |

# SealClamp™ – The Original Band Clamp

## Preformed & Flat Styles

Used to seal muffler inlets, outlets, elbow joints, flex pipes, and other system connections. Also minimizes noise and exhaust gas leaks.

SealClamps are easy to install! There's no need to weld or disconnect your exhaust system.

When installed, the wide band conforms to the shape of straight or flex pipe, and seals without distorting the pipe.

- For overlapping I.D. to O.D. slotted joints and flex tube
- Flat band style may be used for butt-style joints in light duty applications
- Nuts and bolts fit both 9/16" and 14mm wrenches
- Reduces noise and exhaust leaks
- Installs easily – no disconnecting or welding necessary
- Available in aluminized and stainless steel
- Stainless models have improved corrosion resistance and high temperature strength compared to aluminized



Stepped Preformed SealClamp




Stepped Preformed SealClamp is Individually packaged with installation instructions



Flat Band SealClamp

May be used for butt-style joints in light duty applications




Donaldson Flat Band SealClamps are Individually packaged. Loose parts inside the shrink wrapped package.

### Stepped Preformed SealClamp

- Full 360° clamping area
- No flex pipe pinching
- Available in stainless and aluminized

| O.D. Pipe in | O.D. Pipe mm | Stainless | Aluminized |
|---|---|---|---|
| 2.50 | 64 | X007829 | |
| 3.00 | 76 | X007830 | X007833 |
| 3.50 | 89 | X007831 | X007834 |
| 4.00 | 102 | X007784 | X007824 |
| 5.00 | 127 | X007785 | X007805 |
| 6.00 | 152 | X009076 | |

U.S. Patent Nos. 6,116,659; 6,634,607 B2; 6,796,004 B2

### Flat Band SealClamp

| O.D. Pipe in | O.D. Pipe mm | Stainless | Aluminized |
|---|---|---|---|
| 2.00 | 51 | X004536 | |
| 2.25 | 57 | X004537 | |
| 2.50 | 64 | X004476 | |
| 2.75 | 70 | X004538 | |
| 3.00 | 76 | X004478 | |
| 3.50 | 89 | X004480 | X006204 |
| 4.00 | 102 | X004482 | X006203 |
| 4.50 | 114 | X004962 | |
| 5.00 | 127 | X004484 | X006202 |
| 6.00 | 152 | X004539 | |

## Torctite®



Torctite® Lap Joint

| O.D. Pipe in | mm | Aluminized | Stainless | Polished Stainless |
|---|---|---|---|---|
| 2.00 | 51 | | J190056 | |
| 2.25 | 57 | | J190057 | |
| 2.50 | 64 | | J190058 | |
| 2.75 | 70 | | J190059 | |
| 3.00 | 76 | J009604 | J190060 | |
| 3.50 | 89 | J009605 | J190061 | |
| 4.00 | 102 | J009606 [1] | J009623 [3] | P222740 |
| 4.50 | 114 | J190054 | J190062 | |
| 5.00 | 127 | J190054 [2] | J009624 [4] | P222741 |
| 6.00 | 152 | J190055 | J190063 | P222742 |

1 - Consider X007824 as an alternative
2 - Consider X007805 as an alternative
3 - Consider X007784 as an alternative
4 - Consider X007785 as an alternative

## Accuseal®



Accuseal® is a registered trademark of Torca Co.

| O.D. Pipe in | mm | Aluminized |
|---|---|---|
| 2.00 | 51 | J000204 |
| 2.25 | 57 | J000205 |
| 2.50 | 64 | J000206 |
| 2.75 | 70 | J000207 |
| 3.00 | 76 | J000200 |
| 3.50 | 89 | J000201 |
| 4.00 | 102 | J000202 |
| 4.50 | 114 | J000208 |
| 5.00 | 127 | J000203 |
| 6.00 | 152 | J000209 |

## Easyseal®



May be used for lap and butt-style joints

| O.D. Pipe in | mm | 304 Bright Stainless |
|---|---|---|
| 2.00 | 51 | J000210 |
| 2.25 | 57 | J000212 |
| 2.50 | 64 | J000211 |
| 2.75 | 70 | J000213 |
| 3.00 | 76 | J000214 |
| 3.50 | 89 | J000215 |
| 4.00 | 102 | J000216 |
| 4.50 | 114 | J000219 |
| 5.00 | 127 | J000217 |
| 6.00 | 152 | J000218 |

Easyseal® is a registered trademark of Torca Co.

## Standard U-Bolt Clamps (All models 3/8-16" UNC-2A)



- Single, round band
- Cold rolled steel or Chrome

| O.D. Pipe in | mm | Steel | Chrome |
|---|---|---|---|
| 2.00 | 51 | P206403 | |
| 2.25 | 57 | P206404 | |
| 2.50 | 64 | P206405 | |
| 2.75 | 70 | P206406 | |
| 3.00 | 76 | P206407 | |
| 3.25 | 83 | P206408 | |
| 3.50 | 89 | P206409 | |
| 4.00 | 102 | P206410 | J009486 |
| 5.00 | 127 | P206411 | J009487 |
| 6.00 | 152 | P207667 | |



- Double, round band

| O.D. Pipe in | mm | Steel |
|---|---|---|
| 2.00 | 51 | J000220 |
| 2.25 | 57 | J000222 |
| 2.50 | 64 | J000221 |
| 2.75 | 70 | J000224 |
| 3.00 | 76 | J000227 |
| 3.50 | 89 | J000228 |
| 4.00 | 102 | J000230 |
| 4.50 | 114 | J000231 |
| 5.00 | 127 | J000232 |
| 6.00 | 152 | J000233 |



- Double, flat band

| O.D. Pipe in | mm | Zinc | Chrome |
|---|---|---|---|
| 3.00 | 76 | P206600 | P206608 |
| 3.50 | 89 | P206601 | P206609 |
| 4.00 | 102 | P206602 | P206610 |
| 5.00 | 127 | P206603 | P206611 |
| 6.00 | 152 | P207596 | P207598 |

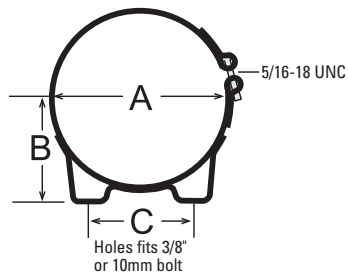
## Muffler Body Band Clamps for Traditional Mufflers



- High temperature black finish (matches finish on new off-road mufflers)
- Band width 1.25" (32mm)

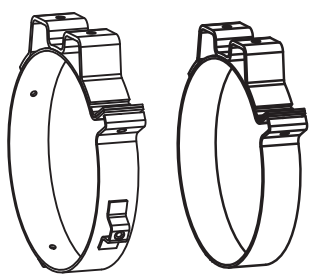
### Muffler Body Band Clamps

| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ---- in | mm | Part Number |
|---|---|---|---|---|---|---|
| 6.00 | 152 | 3.75 | 95 | 3.75 | 95 | M002117 |
| 6.62 | 168 | 4.00 | 102 | 4.00 | 102 | M002118 |
| 8.50 | 216 | 5.00 | 127 | 5.00 | 127 | M002119 |
| 9.00 | 229 | 5.50 | 140 | 5.50 | 140 | M002120 |
| 10.08 | 256 | 6.00 | 152 | 6.00 | 152 | M002121 |
| 11.06 | 281 | 6.50 | 165 | 6.50 | 165 | M002122 |
| 11.84 | 301 | 7.00 | 178 | 7.00 | 178 | M002123 |



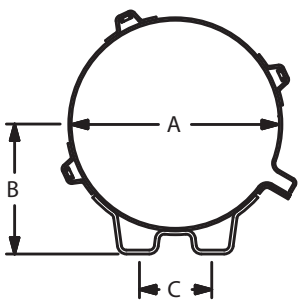

## Heavy-Duty Muffler Body Band Clamps

Clamp Notes:
- Pinch bolts are not included
- Most use 3/8-1-1/2" (51mm) long grade 5 or 8 grade bolts
- Band width 1.25"(32mm) (unless noted)
- Reuse existing frame mounting bolts
- Materials are either zinc-plated or aluminized mild steel.



P227803

P230281
No heat shield
stand off




### W-Foot Body Bands

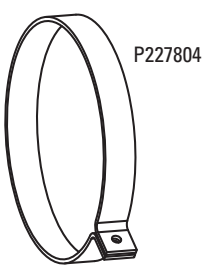
- Use for vertical or horizontal mounting
- Bolts not included

#### for Heat Shield Applications

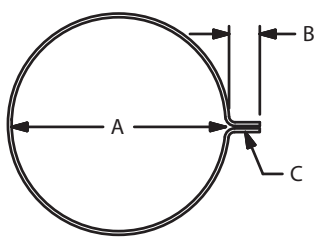
| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ---- in | mm | Part Number |
|---|---|---|---|---|---|---|
| 10.00 | 254 | 6.28 | 160 | 3.5 | 89 | P227803 |
| 11.00 | 269 | 6.50 | 165 | 6.5 | 165 | P229513 |
| 13.00 | 330 | 7.75 | 197 | 6.5 | 165 | P230283 |

#### No Heat Shield Applications

| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ---- in | mm | Part Number |
|---|---|---|---|---|---|---|
| 10.00 | 254 | 6.28 | 160 | 3.5 | 89 | P230282 |
| 11.00 | 269 | 6.50 | 165 | 6.5 | 165 | P230281 |
| 13.00 | 330 | 7.75 | 197 | 6.5 | 165 | P230045 |



P227804




Band width 1.5" (38mm)

### Muffler Body Bands for Schools Buses

| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ----. in | mm | Part Number |
|---|---|---|---|---|---|---|
| 10.00 | 256 | 1.75 | 44 | .40 | 10 | P228241 (1) |
| 11.00 | 279 | 1.75 | 44 | .40 | 10 | P227804 (2) |

1. Bluebird conventional bus with Cat Engine Works
2. Bluebird rear engine bus

# Heat Sleeves & Heat Wrap

Heat sleeves or heat wrap could reduce the outside temperature of a bare pipe by up to 300°F (149) to 400°F.(204)

## Heat Sleeves

Slips onto 3" (76mm) to 5" (127mm) dia. pipe



| Length | Part Number |
|---|---|
| 12" (305mm) | P235764 |
| 18" (457mm) | P235765 |
| 24" (610mm) | P235766 |

## Heat Wrap

2" (50,8mm) wide roll, easy to install on any pipe



| Length | Part Number |
|---|---|
| 2"(51mm) X50'(15,24m) Roll | P235767 |

## Sleeve & Wrap Clamps

Wrap clamps make installation easy! No tools needed.



| Length | Part Number |
|---|---|
| 2 PC of 18" (457mm) Long Clamp | P235768 |
| 12 PC of 18" (457mm) Long Clamp | P235769 |

# Flex Tubing & Cut to Length Flex

## Flex Tubing

- Flex tubing (and cut lengths) should be installed in a half extended state. Donaldson flex tubing ships in the half extended state.
- Material thickness for stainless and galvanized is 0.015" (0,38mm)
- Sized by flex I.D.
- Material thickness







### Flex Tubing

| --- I.D. --- in | mm | 10 ft. (3 m) Lengths Stainless | Galvanized | 25 ft (7.6 m) Lengths [1] Stainless | Galvanized |
|---|---|---|---|---|---|
| 2.00 | 51 | P226151 | P226148 | | |
| 2.50 | 64 | P226152 | P226149 | | |
| 3.00 | 76 | P226144 | P226140 | P226132 | P226129 |
| 3.50 | 89 | P226145 | P226141 | P226133 | P226154 |
| 4.00 | 102 | P226146 | P226142 | P226156 [2] | P226155 [2] |
| 5.00 | 127 | P226147 | P226143 | P226158 [2] | P226157 [2] |
| 6.00 | 152 | P226153 [1] | P226150 [1] | | |

1 - Size exceeds shipping limits by North American small package carriers. This item must ship by truck.
2 - Shipped on pallet, product is not boxed.

**Cutting & Installation Instructions for Flex Tubing - Please see page 74**

## Standard Cut to Length Flex



- Deburred ends
- Sized by flex I.D.
- Stainless and galvanized material thickness - 0.015" (0,38mm)
- Measured fully extended



Close-up of deburred edge

### Standard Cut to Length Flex

| --- I.D. --- in | mm | Overall Length in | mm | Stainless | Galvanized |
|---|---|---|---|---|---|
| 3.00 | 76 | 12.00 | 305 | J240003 | |
| | | 18.00 | 457 | P206552 | |
| | | 24.00 | 610 | J240004 | |
| 3.50 | 89 | 12.00 | 305 | J240005 | |
| | | 18.00 | 457 | P206553 | |
| | | 24.00 | 610 | J024850 | |
| 4.00 | 102 | 12.00 | 305 | J240006 | P224479 |
| | | 18.00 | 457 | P206554 | J024754 |
| | | 24.00 | 610 | J024836 | J024835 |
| | | 36.00 | 914 | J034673 | J034743 |
| 5.00 | 127 | 12.00 | 305 | J240007 | P224481 |
| | | 18.00 | 457 | P206555 | J024755 |
| | | 24.00 | 610 | J024838 | J024837 |
| | | 36.00 | 914 | J034674 | J034744 |
| 6.00 | 152 | 18.00 | 457 | P206556 | |
| | | 30.00 | 762 | P206559 | |

## Flex Cut Lengths with Finished Ends



- Flex tubing (and cut lengths) should be installed in a half extended state. Donaldson flex tubing ships in the half extended state.
- One end O.D., one end I.D. slotted
- Sized by flex I.D.
- Overall length includes finished ends
- Welded tube ends

### Cut-to-Length Flex - Finished Ends

| --- I.D. --- in | mm | Overall Length in | mm | Galvanized |
|---|---|---|---|---|
| 3.00 | 76 | 18.00 | 457 | P206544 |
| 4.00 | 102 | 18.00 | 457 | P206546 |
| 5.00 | 127 | 18.00 | 457 | P206547 |

## Long-Life Cut to Length Flex



- Improved flexibility
- Consistent product quality–optimized material choice/consistency
- Heavier gauge stainless material over standard flex (0.018" (0,46mm) gauge)
- Up to 8 times longer life than conventional flex
- Less leakage and lower emissions during truck start up
- Simplified installation–installation strip and flow direction
- Ends square cut and deburred
- Installation length indicator
- 12 month/120,000 mile/200,000 km warranty (on-highway vehicles only)

Donaldson patented technology

### Long-Life Flex

| --- I.D. --- in | mm | Mid Length[1] in | mm | Stainless |
|---|---|---|---|---|
| 4.00 | 102 | 12.00 | 305 | P224412 |
| | | 15.00 | 381 | P224415 |
| | | 18.00 | 457 | P224418 |
| | | 21.00 | 533 | P224421 |
| 5.00 | 127 | 15.00 | 381 | P224515 |
| | | 18.00 | 457 | P224518 |
| | | 21.00 | 533 | P224521 |

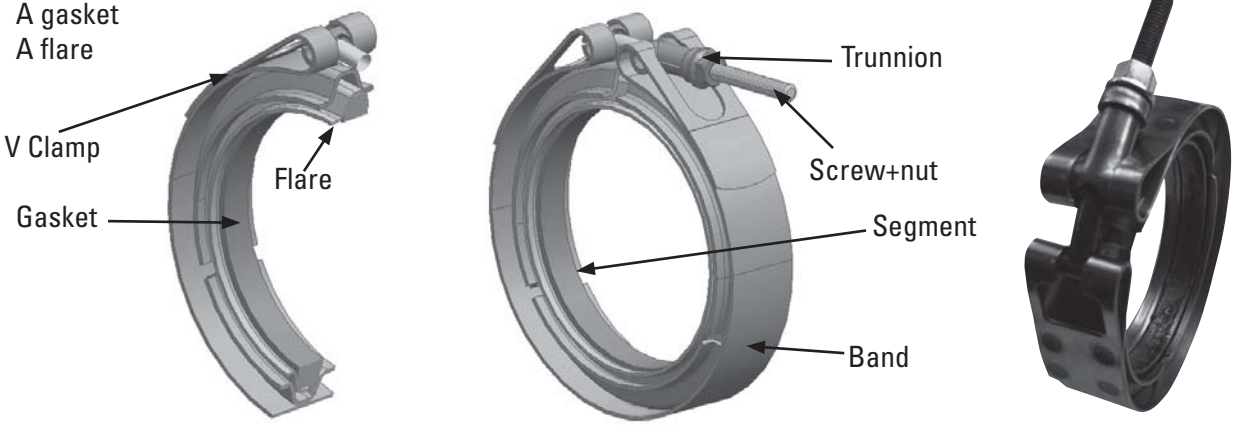
1 - Length measured in half compressed state

**Recommended clamps:**
Preformed SealClamp or Offset MaxGrip Bent Bolt

# Sliding Clamps

Sliding clamps joints are typically used for male to female connection with flared tube where leak rate is critical (ex: EAT systems). This connection allows longitudinal and radial compensation.

A sliding clamp is composed by 3 parts:
A V-Clamp composed by a band, a segment, a trunnion, a screw and a nut
A gasket
A flare




## Material

Sliding clamp is in stainless steel 441. Gasket is a wire mesh with graphite.

## Range of sliding clamps

| Sliding clamp Dia in | mm | Kit Part number |
|---|---|---|
| 2.50 | 63.5 | X770810 |
| 3.00 | 76.2 | X770783 |
| 3.50 | 88.9 | X770780 |
| 4.00 | 101.6 | X770746 |
| 4.50 | 114.3 | X770801 |
| 5.00 | 127 | X770748 |

## Recommended Torque Specifications

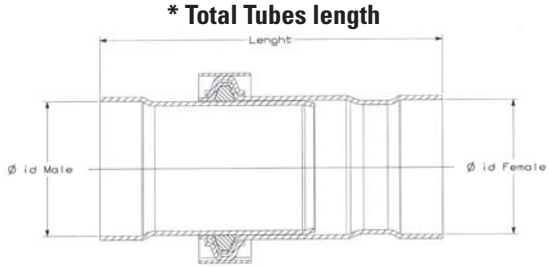
| Diameter | Recommended torque | Maximum torque |
|---|---|---|
| Diameter < 101.6 mm | 14 +/-1 Nm | 16 |
| Diameter ≥ 101.6 mm | 20 +/-1 Nm | 25 |



## Range of Connection Sliding V-Clamp

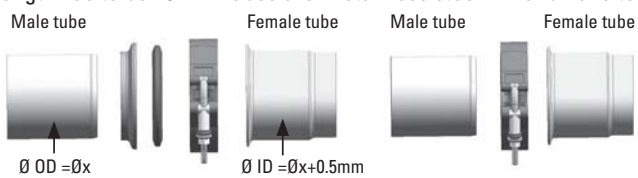
| Male Tubes Ø ID in | mm | Female Tubes Ø ID in | mm | Tubes Length * in | mm | Tubes Kit Part number |
|---|---|---|---|---|---|---|
| 2.52 | 64 | 2.52 | 64 | 5.91 | 150 | X770862 |
| 3.02 | 76.7 | 3.02 | 76.7 | 5.91 | 150 | X770863 |
| 3.52 | 89.4 | 3.52 | 89.4 | 6.50 | 165 | X770864 |
| 4.04 | 102.6 | 4.04 | 102.6 | 6.50 | 165 | X770865 |
| 4.54 | 115.3 | 4.54 | 115.3 | 6.50 | 165 | X770866 |
| 5.04 | 128 | 5.04 | 128 | 6.50 | 165 | X770867 |

*** Total Tubes length**




## Mounting specifications

The fitting value of the smallest tube in the other tube is 35 +/- 15mm. The minimum insertion length has to be 20mm. Tubes are in stainless steel 441 and have to be welded.




Siding clamp can compensate few degrees of misalignment (depending on insertion length).

## Leak tests

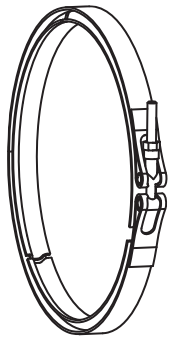
One of the advantages of the sliding clamp is that it provides a low leak rate.
Every clamp assembly meets a maximum leak rate value of 0.5 L/min @ 0.3 bar once they are assembled with the recommended torque.

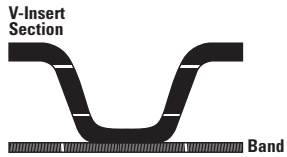
# V-Band Clamps

## V-Band Clamps for Large Diameter Mufflers



- The V-band clamp is a common clamp for Donaldson retrofit mufflers
- The unique design reduces service time creates a reliable, leak-free seal between components
- Piloted v-insert section, facilitates reassembly and alignment for clamping






| - Body Dia. - in | mm | Part Number |
|---|---|---|
| 10.0 | 254 | P227750 |
| 11.0 | 279 | P212925 |
| 13.0 | 330 | P229851 |

## V-Band Clamps for Pipes and Turbo Housing Flanges



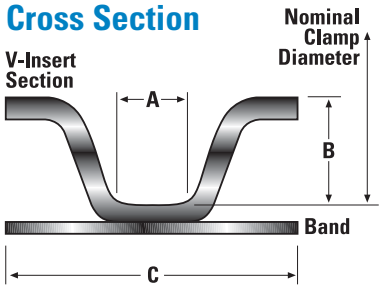
- Used to connect vehicle exhaust pipe flange to turbo or engine manifold
- May also hold the turbo housing flanges
- Built to withstand high temperatures produced by heavy-duty engines/turbos
- Manufactured to the highest tolerances and meet or exceed OEM specifications for material and quality standards

| Cat | Part Number | Nominal Diameter in | mm | V-Insert Sections --- A --- in | mm | --- B --- in | mm | --- C --- in | mm |
|---|---|---|---|---|---|---|---|---|---|
| 3406, 3406B, 3176 | P206607 | 5.88 | 149 | 0.40 | 10 | 0.28 | 7 | 0.88 | 22 |
| 3176T | P222018 | 4.75 | 121 | 0.40 | 10 | 0.28 | 7 | 0.88 | 22 |

| Cummins | Part Number | Nominal Diameter in | mm | V-Insert Sections -- A -- in | mm | -- B -- in | mm | -- C -- in | mm |
|---|---|---|---|---|---|---|---|---|---|
| B Series, #3903652 | J009618 | 3.21 | 82 | 0.26 | 7 | 0.14 | 4 | 0.75 | 19 |
| C Series | P222017 | 4.13 | 105 | 0.26 | 7 | 0.14 | 4 | 0.75 | 19 |
| L10, M11 | P222018 | 4.75 | 121 | 0.40 | 10 | 0.28 | 7 | 0.88 | 22 |
| V555, V902, V903 | J009612 | 3.88 | 99 | 0.40 | 10 | 0.28 | 7 | 0.88 | 22 |

| Detroit Diesel | Part Number | Nominal Diameter in | mm | V-Insert Sections -- A -- in | mm | -- B -- in | mm | -- C -- in | mm |
|---|---|---|---|---|---|---|---|---|---|
| 6-71T, 12V71, 8.2N, 8.2T | P206606 | 4.81 | 122 | 0.21 | 5 | 0.28 | 7 | 0.88 | 22 |
| 6V53, 6V71, 6V92, 8V92 | P206604 | 3.82 | 97 | 0.21 | 5 | 0.28 | 7 | 0.88 | 22 |
| 8.2 N, #2069773 | J009611 | 4.06 | 103 | 0.24 | 6 | 0.28 | 7 | 0.88 | 22 |
| 8V71T | P213191 | 5.81 | 148 | 0.21 | 5 | 0.28 | 7 | 0.88 | 22 |
| 8V71T, 16V-71, 16V92T, 6V92, 8V92 | P210110 | 5.25 | 133 | 0.21 | 7 | 0.14 | 4 | 0.75 | 19 |
| 8V92, 8V71, 4-53, 6-71 | P206605 | 4.5 | 114 | 0.21 | 5 | 0.28 | 7 | 0.88 | 22 |
| Series 60 | P206607 | 5.88 | 149 | 0.40 | 10 | 0.28 | 7 | 0.88 | 22 |

### Cross Section




| IH | Part Number | Nominal Diameter in | mm | V-Insert Sections -- A -- in | mm | -- B -- in | mm | -- C -- in | mm |
|---|---|---|---|---|---|---|---|---|---|
| DT466 | J009613 | 4.33 | 110 | 0.21 | 5 | 0.28 | 7 | 0.88 | 22 |

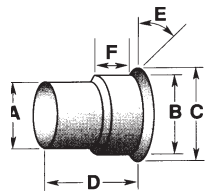
| Mack | Part Number | Nominal Diameter in | mm | V-Insert Sections -- A -- in | mm | -- B -- in | mm | -- C -- in | mm |
|---|---|---|---|---|---|---|---|---|---|
| 48RU2341, 4ME21409 | J009614 | 4.61 | 117 | 0.16 | 4 | 0.28 | 7 | 0.75 | 19 |

## Flared Connectors - All16 ga. Aluminized Steel

| O.D. -- A -- in (mm) | I.D. -- B -- in (mm) | O.D. -- C -- in (mm) | -- D -- in (mm) | E | -- F -- in (mm) | Flared Connector | V-Band Clamp | Application |
|---|---|---|---|---|---|---|---|---|
| 3.00 (76) | 3.02 (77) | 3.62 (92) | 4.00 (102) | 22° | 0.75 (19) | P207619 | P206604 | DD 6V 71 |
| 3.50 (89) | 3.63 (92) | 4.25 (108) | 4.00 (102) | 22° | 0.75 (19) | P207581 | P206605 | 8V-71-VT-555 |
| 4.00 (102) | 4.02 (102) | 4.75 (121) | 4.00 (102) | 22° | 0.75 (19) | P207620 | P206606 | 6 71-12V 71 |



P207619



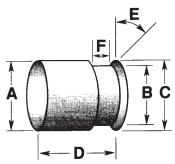

| O.D. -- A -- in (mm) | I.D. -- B -- in (mm) | O.D. -- C -- in (mm) | -- D -- in (mm) | E | -- F -- in (mm) | Flared Connector | V-Band Clamp |
|---|---|---|---|---|---|---|---|
| 3.50 (89) | 3.52 (89) | 4.19 (106) | 4.75 (121) | 45° | 2.12 (54) | P207568 | P206605 |
| 4.00 (102) | 4.02 (102) | 4.70 (119) | 4.75 (121) | 45° | 2.50 (64) | P207567 | P206606 |
| 5.00 (127) | 5.02 (128) | 5.70 (145) | 4.75 (121) | 45° | 3.00 (76) | P207566 | P206607 |



P207568, P207567, or P207566



P207582



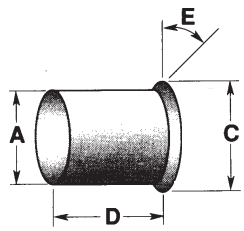

| O.D. -- A -- in (mm) | I.D. -- B -- in (mm) | O.D. -- C -- in (mm) | -- D -- in (mm) | E | -- F -- in (mm) | Flared Connector | V-Band Clamp | Application |
|---|---|---|---|---|---|---|---|---|
| 4.00 (102) | 3.63 (92) | 4.25 (108) | 3.81 (97) | 22° | 0.75 (19) | P207582 | P206605 | 8V 71 |

| I.D. / O.D. -- A -- in (mm) | O.D. -- C -- in (mm) | -- D -- in (mm) | E | Flared Connector | V-Band Clamp |
|---|---|---|---|---|---|
| 3.00 (76)[1] | 3.75 (95) | 1.50 (38) | 20° | P206612 | P206604 |
| | 3.92 (100) | 2.25 (57) | 20° | J009479 | J009611 |
| 3.50 (89)[1] | 4.19 (106) | 1.50 (38) | 22° | P206613 | |
| 3.50 (89)[2] | 4.29 (109) | 1.50 (38) | 22° | J009391 | P206605 |
| 4.00 (102)[1] | 4.75 (121) | 1.50 (38) | 22° | P206614 | P206606 |
| 5.00 (127)[2] | 5.50 (140) | 5.25 (133) | 45° | J009393 | |
| | 5.69 (145) | 3.00 (76) | 22° | P206615 | P206607 |
| | 5.86 (149) | 5.00 (127) | 20° | J009629[3] | |

1 - I.D. Dimension
2 - O.D. Dimension
3 - Adapter has pyrometer fitting



P206614

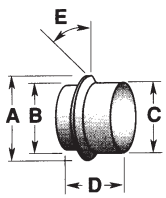





**J009629**
Adapter with Pyrometer Fitting (1/4" NPT)



P207584

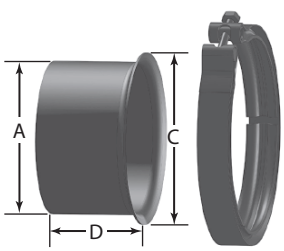



### Lipped Flange

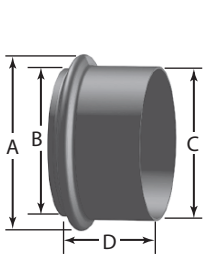
| O.D. -- A -- in (mm) | I.D. -- B -- in (mm) | O.D. -- C -- in (mm) | -- D -- in (mm) | E | Flange | V-Band Clamp | Application |
|---|---|---|---|---|---|---|---|
| 5.01 (127) | 4.25 (108) | 4.80 (122) | 1.94 (49) | 20° | P207584 | P210110 | Air Research Turbo |

## Marmon Flanges & Flares

NEW




**Marmon Flare**
**P235792**
**P235793**




**Marmon Flange**
**P235796**
**P235797**

Join parts together for leakproof and serviceable connections with a V-Band Clamp. All components made from 304 SS.

| | O.D. -- A -- in (mm) | I.D. -- B -- in (mm) | O.D. -- C -- in (mm) | -- D -- in (mm) | Part No. | V-Band Clamp |
|---|---|---|---|---|---|---|
| Marmon Flare | 4.00 (102) | – | 4.63 (118) | 3.00 (76) | P235792 | P206606 |
| | 5.00 (127) | – | 5.63 (143) | 3.00 (76) | P235793 | P206607 |
| Marmon Flange | 4.72 (120) | 3.80 (97) | 4.00 (102) | 3.00 (76) | P235796 | P206606 |
| | 5.79 (147) | 4.96 (126) | 5.00 (127) | 3.00 (76) | P235797 | P206607 |

## I.D. - I.D.

Reduces O.D. pipe of different sizes. 16 gauge aluminized steel.



| -- I.D. -- in | mm | -- I.D. -- in | mm | Length in | mm | Part Number |
|---|---|---|---|---|---|---|
| 2.50 | 64 | 2.00 | 51 | 6.00 | 152 | P207382 |
| 2.75 | 70 | 2.50 | 64 | 6.00 | 152 | P207385 |
| 3.00 | 76 | 2.50 | 64 | 6.00 | 152 | P206313 |
| | | 2.75 | 70 | 6.00 | 152 | P207386 |
| 3.50 | 89 | 3.00 | 76 | 6.00 | 152 | P206314 |
| 4.00 | 102 | 3.00 | 76 | 6.00 | 152 | P206315 |
| | | 3.50 | 89 | 8.00 | 203 | P206316 |
| 5.00 | 127 | 4.00 | 102 | 6.00 | 152 | P206317 |
| 6.00 | 152 | 5.00 | 127 | 8.00 | 203 | P206318 |




## I.D. - O.D.

Reduces larger O.D. pipe to smaller I.D. pipe. Also used as muffler bushing or manifold outlet. 16 gauge aluminized steel.



| -- I.D. -- in | mm | -- O.D. -- in | mm | Length in | mm | Part Number |
|---|---|---|---|---|---|---|
| 2.50 | 64 | 2.00 | 51 | 6.00 | 152 | P207397 |
| 3.00 | 76 | 2.50 | 64 | 6.00 | 152 | P206319 |
| | | 2.75 | 70 | 6.00 | 152 | P207401 |
| 3.50 | 89 | 3.00 | 76 | 6.00 | 152 | P206320 |
| 4.00 | 102 | 3.00 | 76 | 6.00 | 152 | P206321 |
| | | 3.50 | 89 | 6.00 | 152 | P206322 |
| 4.50 | 114 | 4.00 | 102 | 6.00 | 152 | J190046 |
| 5.00 | 127 | 4.00 | 102 | 6.00 | 152 | P206323 |
| 6.00 | 152 | 5.00 | 127 | 6.00 | 152 | P207402 |




## O.D. - I.D.

Reduces larger I.D. pipe to smaller O.D. pipe. 16 gauge aluminized steel.



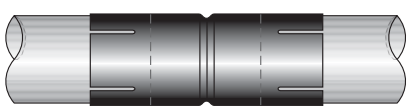
| -- O.D. -- in | mm | -- I.D. -- in | mm | Length in | mm | Part Number |
|---|---|---|---|---|---|---|
| 2.50 | 64 | 2.00 | 51 | 6.00 | 152 | P207389 |
| 2.50 | 64 | 2.25 | 57 | 4.00 | 102 | J008942 |
| 3.00 | 76 | 2.50 | 64 | 6.00 | 152 | P206324 |
| 3.50 | 89 | 3.00 | 76 | 6.00 | 152 | P206325 |
| 4.00 | 102 | 3.00 | 76 | 6.00 | 152 | P206326 |
| | | 3.50 | 89 | 6.00 | 152 | P206327 |
| 4.50 | 114 | 4.00 | 102 | 6.00 | 152 | J190041 |
| 5.00 | 127 | 4.00 | 102 | 6.00 | 152 | P206328 |
| 6.00 | 152 | 5.00 | 127 | 6.00 | 152 | P207394 |




# Connectors

## I.D. - I.D.

Connects O.D. pipes of the same size. 16 gauge aluminized steel.



| --- I.D. --- in | mm | -- Length -- in | mm | Part Number |
|---|---|---|---|---|
| 2.00 | 51 | 6.00 | 152 | P207405 |
| 2.50 | 64 | 6.00 | 152 | P206371 |
| 3.00 | 76 | 6.00 | 152 | P206372 |
| 3.50 | 89 | 6.00 | 152 | P206373 |
| 4.00 | 102 | 6.00 | 152 | P206374 |
| 5.00 | 127 | 6.00 | 152 | P206375 |
| 6.00 | 152 | 6.00 | 152 | P207408 |




## I.D. - O.D.

Connects O.D. and I.D. pipes of the same size. 16 gauge aluminized steel.

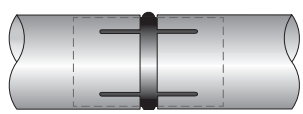


| I.D.-O.D. in | mm | -- Length -- in | mm | Part Number |
|---|---|---|---|---|
| 2.00 | 51 | 6.00 | 152 | P207411 |
| 2.50 | 64 | 6.00 | 152 | P206366 |
| 2.75 | 70 | 6.00 | 152 | P207413 |
| 3.00 | 76 | 6.00 | 152 | P206367 |
| 3.50 | 89 | 6.00 | 152 | P206368 |
| 4.00 | 102 | 8.00 | 203 | P206369 |
| 5.00 | 127 | 8.00 | 203 | P206370 |
| 6.00 | 152 | 6.00 | 152 | P207414 |




## O.D. - O.D.

Connects I.D. pipes of the same size. Also used on manifold outlet. Connector has tube stop. 16 gauge aluminized steel.

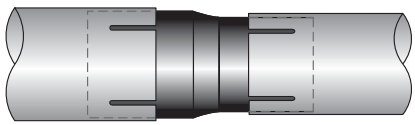


| O.D.-O.D. in | mm | -- Length -- in | mm | Part Number |
|---|---|---|---|---|
| 2.50 | 64 | 6.00 | 152 | P206361 |
| 3.00 | 76 | 6.00 | 152 | P206362 |
| 3.50 | 89 | 6.00 | 152 | P206363 |
| 4.00 | 102 | 8.00 | 203 | P206364 |
| 5.00 | 127 | 8.00 | 203 | P206365 |



## O.D. - O.D.

Reduces I.D. pipe of different sizes. 16 gauge aluminized steel.



| -- O.D. -- in | mm | -- O.D. -- in | mm | Length in | mm | Part Number |
|---|---|---|---|---|---|---|
| 3.00 | 76 | 2.50 | 64 | 6.00 | 152 | J190042 |
| 3.50 | 89 | 3.00 | 76 | 6.00 | 152 | J190044 |
| 4.00 | 102 | 3.00 | 76 | 6.00 | 152 | J009648 |
| | | 3.50 | 89 | 6.00 | 152 | J190045 |
| 5.00 | 127 | 4.00 | 102 | 8.00 | 203 | J009649 |
| 6.00 | 152 | 5.00 | 127 | 8.00 | 203 | J009650 |




## Tilt Cab Ball & Cone Connectors

- 16 gauge aluminized steel construction



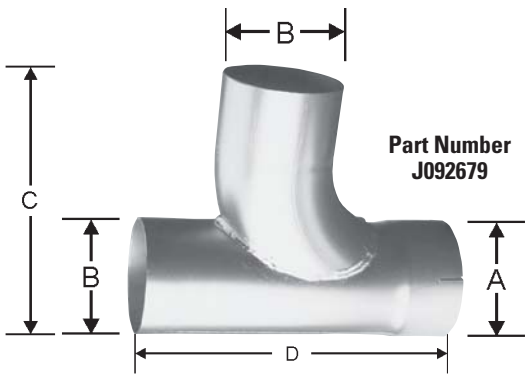

**Ball Connector**
**P205976 - 4" (102mm) Pipe I.D.**
**P206300 - 5" (127mm) Pipe I.D.**




**Cone Connector**
**P205979 - 4" (102mm) Pipe O.D.**
**P206299 - 5" (127mm) Pipe O.D.**

## Standard "Y" Adapter Pipe

- 16 gauge aluminized steel construction

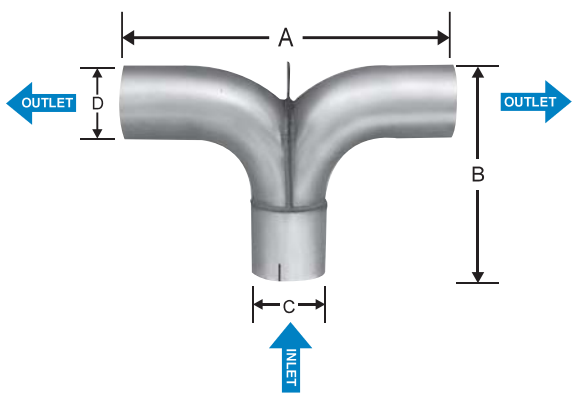



**Part Number J092679**

| - A (I.D.) - in | mm | - B (O.D.) - in | mm | ----- C ----- in | mm | ----- D ----- in | mm | Part Number |
|---|---|---|---|---|---|---|---|---|
| 4.00 | 102 | 4.00 | 102 | 9.00 | 229 | 14.00 | 356 | J092679 |
| 5.00 | 127 | 5.00 | 127 | 10.50 | 267 | 15.00 | 381 | J092689 |

## Splitter Tee Adapter

- Converts single exhaust pipe to dual exhaust system
- 16 gauge aluminized steel




| (A) in | mm | (B) in | mm | Truck ID (C) in | mm | Leg OD (D) in | mm | Part Number |
|---|---|---|---|---|---|---|---|---|
| 17.50 | 445 | 12.00 | 305 | 4.00 | 102 | 4.00 | 102 | P206297 |
| 26.00 | 660 | 14.00 | 356 | 5.00 | 127 | 5.00 | 127 | P206298 |

Band width 1.5" (38mm)

## Stack Caps

The exhaust stack cap is designed to be mounted on top of a vertical straight exhaust stack pipe and prevents water and debris from entering the stack. The stack cap is not water-tight during pressure washes or under strong wind conditions. Use where exhaust gas temperatures are less than 1000° F / 537° C.

For proper installation, the exhaust cap needs clearance for counterweight rotation and should be installed at a point that allows for this without interference.

The exhaust cap should be placed on the outer diameter of the stack pipe. Allow approximately ¼" of clearance between cap and top of stack.

| O.D. Pipe Size in | mm | Zinc Plated | Chrome |
|---|---|---|---|
| 1.50 | 38 | P270530 | |
| 1.75 | 44 | P270531 | |
| 2.00 | 51 | P270532 | |
| 2.25 | 57 | P270533 | |
| 2.50 | 64 | P270534 | |
| 2.75 | 70 | P270535 | |
| 3.00 | 76 | P270536 | P271507 |
| 3.50 | 89 | P270538 | P271508 |
| 4.00 | 102 | P270539 | P270837 |
| 4.50 | 114 | P270540 | |
| 5.00 | 127 | P270541 | P270838 |
| 5.50 | 140 | P270542 | |
| 6.00 | 152 | P270543 | P271511 |

P270539 - Zinc Plated



P270837 - Chrome



- High temperature corrosion-resistant finish
- Single bolt mount
- Nylon stop for quiet operation
- Metal bushing for high temperature use

## Universal Swivel Hanger

- Heavy reinforced rubber pad
- Double pivot design improves flexibility and installation
- One piece construction installs in seconds
- 11 gauge cold rolled steel construction



P206507 - 9" (229mm))length
J008167 - 13"(330mm) length

## Universal Mounting Bracket

- For 4" (102 mm) and 5" (127 mm) pipes
- 3/8"-16 UNC-2A(4)
- Heavy gauge hot rolled steel construction
- Expands to 10" (254mm)




P207784

## Pipe Hangers

- Pre-punched holes (0.41" (10,4mm) dia.) for easy installation
- 12 gauge hot rolled steel construction
- 12" (305mm) overall bar length, width 0.88"(22,35mm)
- 3/8"-16 UNC bolts/nuts included

**Pipe Hangers**

| Pipe Dia. in | mm | Part Number |
|---|---|---|
| 3.00 | 76 | P206523 |
| 3.50 | 89 | P206524 |
| 4.00 | 102 | P206525 |
| 5.00 | 127 | P206526 |



## Universal Pipe Guards & Clamps

- 180º F (82°C) wrap coverage
- 48" (1219mm) length
- Polished stainless steel
- Shipped with protective film on one side
- Clamps must be ordered separately

### Pipe Guard Clamp Kits

- Two clamps per kit
- Chrome plated
- 12 gauge cold rolled steel construction

### Universal Pipe Guards & Clamps

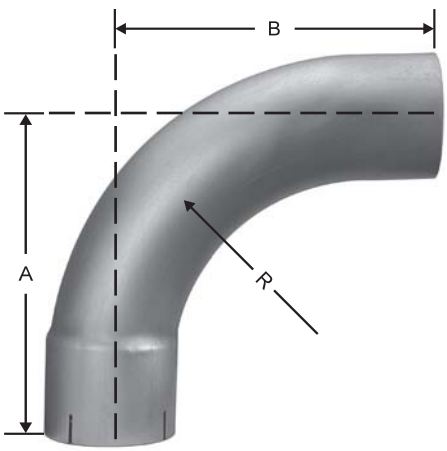
| Pipe Dia. in | Pipe Dia. mm | Stainless[1] | Clamp Kit |
|---|---|---|---|
| 4.00 | 102 | P206543 | P206508 |
| 5.00 | 127 | P206543 | P206509 |
| 6.00 | 152 | P206543 | P224492 |

1 - Requires clamp kit for installation



## 90° O.D. - I.D.

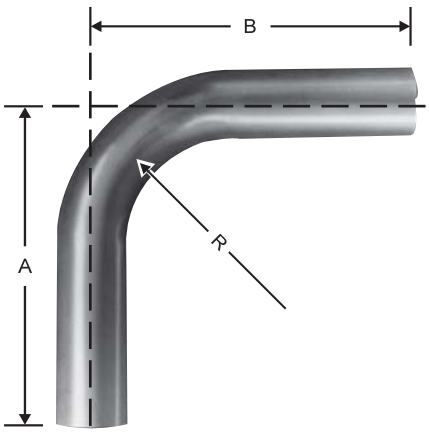
- 16 gauge aluminized or chrome plated steel
- One end O.D., one end I.D. slotted

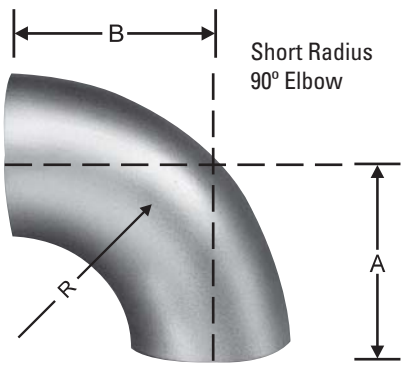



| Diameter O.D.-I.D. in | Diameter O.D.-I.D. mm | Leg Length (A) in | Leg Length (A) mm | Leg Length (B) in | Leg Length (B) mm | Center Line Radius (R) in | Center Line Radius (R) mm | Aluminized | Chrome |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 51 | 9.00 | 229 | 9.00 | 229 | 5.00 | 127 | P207333 | |
| | | 6.38 | 162 | 6.38 | 162 | 4.00 | 102 | J008671 | |
| 2.50 | 64 | 6.25 | 159 | 6.25 | 159 | 4.00 | 102 | P206339 | |
| | | 12.00 | 305 | 12.00 | 305 | 5.00 | 127 | P207335 | |
| 2.75 | 70 | 6.38 | 162 | 6.38 | 162 | 5.00 | 127 | P216172 | |
| 3.00 | 76 | 8.00 | 203 | 8.00 | 203 | 5.00 | 127 | P206340 | |
| | | 14.00 | 356 | 14.00 | 356 | 5.00 | 127 | P206341 | |
| 3.50 | 89 | 9.00 | 229 | 9.00 | 229 | 5.00 | 127 | P206342 | |
| | | 12.00 | 305 | 12.00 | 305 | 5.00 | 127 | P224669 | |
| | | 16.00 | 406 | 16.00 | 406 | 5.00 | 127 | P206343 | |
| 4.00 | 102 | 8.00 | 203 | 8.00 | 203 | 4.50 | 114 | | P224671 |
| | | 8.00 | 203 | 8.00 | 203 | 5.00 | 127 | J008681 | |
| | | 10.00 | 254 | 10.00 | 254 | 4.50 | 114 | | P207345 |
| | | 10.00 | 254 | 10.00 | 254 | 7.00 | 178 | P206344 | |
| | | 18.00 | 457 | 18.00 | 457 | 4.50 | 114 | | P206353 |
| | | 18.00 | 457 | 18.00 | 457 | 7.00 | 178 | P206345 | |
| | | 25.00 | 635 | 32.00 | 813 | 7.00 | 178 | P207338 | |
| 4.50 | 114 | 12.00 | 305 | 12.00 | 305 | 7.00 | 178 | J190002 | |
| 5.00 | 127 | 8.50 | 216 | 8.50 | 216 | 5.50 | 140 | J190003 | J190004 |
| | | 11.00 | 279 | 11.00 | 279 | 5.50 | 140 | P207339 | J009547 |
| | | 15.00 | 381 | 15.00 | 381 | 7.50 | 191 | | P207346 |
| | | | | | | 10.00 | 254 | P206347 | |
| | | 18.00 | 457 | 18.00 | 457 | 7.50 | 191 | | P206354 |
| | | | | | | 10.00 | 254 | P206348 | |
| | | 25.00 | 635 | 32.00 | 813 | 10.00 | 254 | P207340 | |
| 6.00 | 152 | 15.00 | 381 | 15.00 | 381 | 10.00 | 254 | P207341 | |
| | | 26.00 | 660 | 26.00 | 660 | 10.00 | 254 | P206350 | |

## 90° O.D. - O.D.

- 16 gauge aluminized or chrome plated steel
- Both ends O.D.



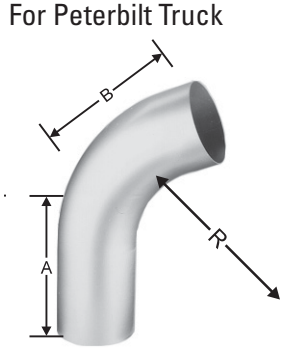




| Diameter O.D.-O.D. in | mm | Leg Length (A) in | mm | Leg Length (B) in | mm | Center Line Radius (R) in | mm | Aluminized | Chrome | Stainless |
|---|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 51 | 9.00 | 229 | 9.00 | 229 | 5.00 | 127 | P207322 | | |
| 2.25 | 57 | 10.00 | 254 | 10.00 | 254 | 4.00 | 102 | P216174 | | |
| 2.50 | 64 | 12.00 | 305 | 12.00 | 305 | 5.00 | 127 | P207324 | | |
| 2.75 | 70 | 12.00 | 305 | 12.00 | 305 | 5.00 | 127 | P207325 | | |
| 3.00 | 76 | 3.50 | 89 | 3.50 | 89 | 3.00 | 76 | P206397 | | |
| | | 6.00 | 152 | 6.00 | 152 | 4.00 | 102 | P207362 | | |
| | | 10.00 | 254 | 10.00 | 254 | 5.00 | 127 | P207326 | | |
| | | 14.00 | 356 | 14.00 | 356 | 5.00 | 127 | J190013 | | |
| 3.50 | 89 | 4.00 | 102 | 4.00 | 102 | 4.00 | 102 | P206398 | | P235770[1] |
| | | 8.00 | 203 | 8.00 | 203 | 4.00 | 102 | P207363 | | |
| | | 9.00 | 229 | 9.00 | 229 | 5.00 | 127 | J190014 | | |
| | | 12.00 | 305 | 12.00 | 305 | 5.00 | 127 | P207327 | | |
| | | 16.00 | 406 | 16.00 | 406 | 5.00 | 127 | P207328 | | |
| 4.00 | 102 | 4.50 | 114 | 4.50 | 114 | 4.00 | 102 | P206399 | | |
| | | 4.50 | 114 | 4.50 | 114 | 4.50 | 102 | | | P235771[2] |
| | | 8.00 | 203 | 8.00 | 203 | 4.00 | 102 | P207364 | | |
| | | 9.00 | 229 | 15.00 | 381 | 4.00 | 102 | P207330 | | |
| | | 12.00 | 305 | 12.00 | 305 | 4.00 | 102 | P206346 | | |
| | | 18.00 | 457 | 18.00 | 457 | 4.50 | 114 | | J190016 | |
| | | | | | | 7.00 | 178 | P207329 | | |
| | | 25.00 | 635 | 25.00 | 635 | 5.00 | 127 | J190017 | | |
| 5.00 | 127 | 5.50 | 140 | 5.50 | 140 | 5.50 | 140 | P206400 | | P235772[2] |
| | | 10.00 | 254 | 10.00 | 254 | 5.50 | 140 | P207365 | | |
| | | 11.00 | 279 | 16.00 | 406 | 5.50 | 140 | P207332 | | |
| | | 15.00 | 381 | 15.00 | 381 | 7.50 | 191 | | J190019 | |
| | | | | | | 10.00 | 254 | P207331 | | |
| | | 20.00 | 508 | 20.00 | 508 | 10.00 | 254 | P206349 | | |
| | | 25.00 | 635 | 25.00 | 635 | 8.00 | 203 | J190020 | | |
| 6.00 | 152 | 6.50 | 165 | 6.50 | 165 | 6.00 | 152 | P207361 | | |
| | | 10.00 | 254 | 10.00 | 254 | 6.00 | 152 | P207366 | | |
| | | 23.00 | 584 | 23.00 | 584 | 10.00 | 254 | P216175 | | |

1- 409 Stainless Steel
2 - 439 Stainless Steel

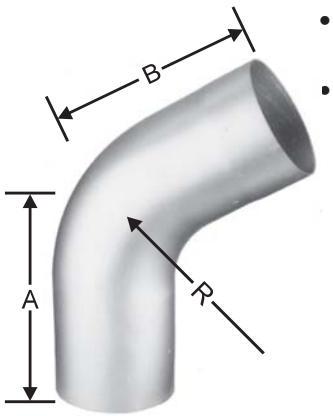
## 67° O.D. - O.D

- 16 gauge aluminized steel
- Both ends O.D.
- For Peterbilt Truck




| Diameter O.D.-O.D. in | mm | Leg Length (A) in | mm | Leg Length (B) in | mm | Center Line Radius (R) in | mm | Part Number |
|---|---|---|---|---|---|---|---|---|
| 5.00 | 127 | 7.50 | 191 | 11.00 | 279 | 8.00 | 203 | J009560 |

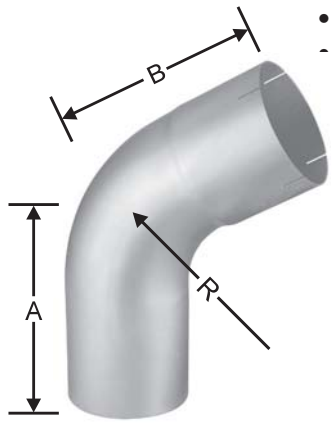
## 60° O.D. - O.D.




- 16 gauge aluminized steel
- Both ends O.D.

| Diameter O.D.-O.D. in | mm | Leg Length (A & B) in | mm | Center Line Radius (R) in | mm | Part Number |
|---|---|---|---|---|---|---|
| 4.00 | 102 | 8.00 | 203 | 5.00 | 127 | J009644 |
| 5.00 | 127 | 8.00 | 203 | 5.50 | 140 | J009645 |

## 60° O.D. - I.D.

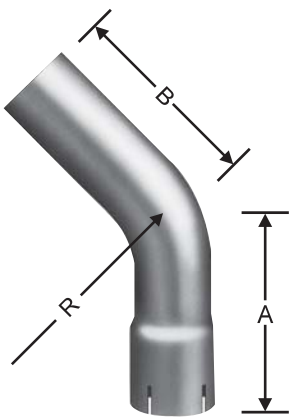



- 16 gauge aluminized steel
- One end O.D., one end I.D. slotted

| Diameter O.D.-I.D. in | mm | Leg Length (A & B) in | mm | Center Line Radius (R) in | mm | Part Number |
|---|---|---|---|---|---|---|
| 3.50 | 89 | 8.00 | 203 | 5.00 | 127 | J009639 |
| 4.00 | 102 | 8.00 | 203 | 5.00 | 127 | J009640 |
| 5.00 | 127 | 8.00 | 203 | 5.50 | 152 | J009641 |

## 45° O.D. - I.D.

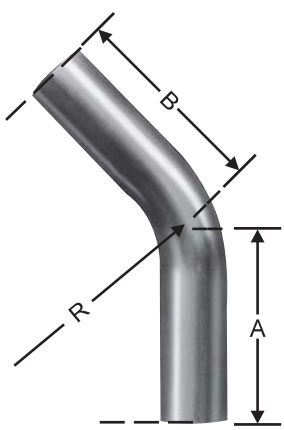
- 16 gauge aluminized or chrome plated steel
- One end O.D., one end I.D. slotted




| Diameter O.D.-I.D. in | mm | Leg Length (A & B) in | mm | Center Line Radius (R) in | mm | Aluminized | Chrome |
|---|---|---|---|---|---|---|---|
| 2.50 | 64 | 6.00 | 152 | 4.00 | 102 | P206279 | |
| 3.00 | 76 | 7.00 | 178 | 5.00 | 127 | P206280 | |
| 3.50 | 89 | 8.00 | 203 | 5.00 | 127 | P206281 | |
| 4.00 | 102 | 8.00 | 203 | 4.50 | 114 | | P206285 |
| | | 9.25 | 235 | 7.00 | 178 | P206282 | |
| | | 12.00 | 305 | 5.00 | 127 | J190023 | |
| 5.00 | 127 | 8.00 | 203 | 8.00 | 203 | J190025 | |
| | | 8.00 | 203 | 7.50 | 191 | | P206286 |
| | | 12.00 | 305 | 8.00 | 203 | P206283 | |
| | | 15.00 | 381 | 5.50 | 140 | J190027 | |
| 6.00 | 152 | 8.00 | 203 | 6.00 | 152 | P207359 | |

## 45° O.D. - O.D.

- 16 gauge aluminized or chrome plated steel
- Both ends O.D.

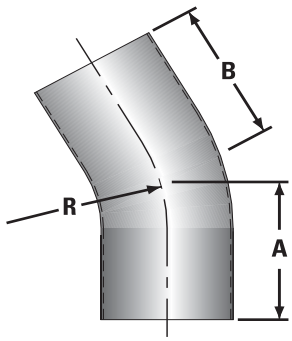



| Diameter O.D.-O.D. in | mm | Leg Length (A) in | mm | Leg Length (B) in | mm | Center Line Radius (R) in | mm | Aluminized | Chrome | Stainless |
|---|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 51 | 6.00 | 152 | 6.00 | 152 | 5.00 | 127 | P207347 | | |
| 2.50 | 64 | 6.00 | 152 | 6.00 | 152 | 5.00 | 127 | P207349 | | |
| 2.75 | 70 | 6.00 | 152 | 6.00 | 152 | 5.00 | 127 | P207350 | | |
| 3.00 | 76 | 7.00 | 178 | 7.00 | 178 | 5.00 | 127 | P207351 | | |
| 3.50 | 89 | 8.00 | 203 | 8.00 | 203 | 4.00 | 127 | | | P235787[1] |
| 3.50 | 89 | 8.00 | 203 | 8.00 | 203 | 5.00 | 127 | P207352 | | |
| 4.00 | 102 | 8.00 | 203 | 8.00 | 203 | 4.00 | 102 | P207353 | | |
| 4.00 | 102 | 8.00 | 203 | 8.00 | 203 | 4.50 | 102 | | | P235788[2] |
| 5.00 | 127 | 8.00 | 203 | 8.00 | 203 | 5.50 | 140 | P207354 | P216169 | P235789[2] |
| 6.00 | 152 | 8.00 | 203 | 8.00 | 203 | 6.00 | 152 | P207355 | | |

1- 409 Stainless Steel
2 - 439 Stainless Steel

## 30° O.D. - O.D.

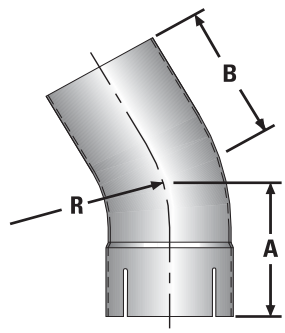
- 16 gauge aluminized steel
- Both ends O.D.




| Diameter O.D.-O.D. in | mm | Leg Length (A & B) in | mm | Center Line Radius (R) in | mm | Part Number |
|---|---|---|---|---|---|---|
| 3.50 | 89 | 4.00 | 102 | 5.00 | 127 | J009635 |
| 4.00 | 102 | 4.00 | 102 | 5.00 | 127 | J009636 |
| 5.00 | 127 | 4.00 | 102 | 5.50 | 140 | J009637 |

## 30° O.D. - I.D.

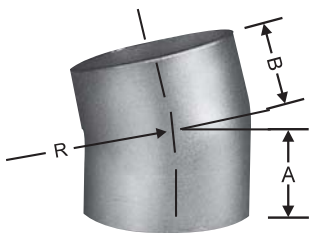
- 16 gauge aluminized steel
- One end O.D., one end I.D. slotted




| Diameter O.D.-I.D. in | mm | Leg Length (A & B) in | mm | Center Line Radius (R) in | mm | Part Number |
|---|---|---|---|---|---|---|
| 3.50 | 89 | 4.00 | 102 | 5.00 | 127 | J009631 |
| 4.00 | 102 | 4.00 | 102 | 5.00 | 127 | J009632 |
| 5.00 | 127 | 4.00 | 102 | 5.50 | 140 | J009633 |

## 15° O.D. - O.D

- 16 gauge aluminized steel
- For use where clearance is a problem

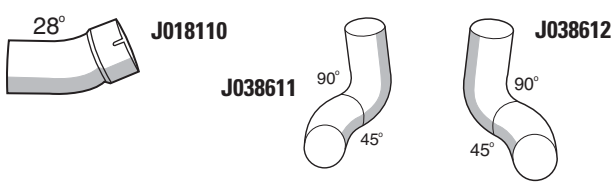



| Diameter O.D.-O.D. in | mm | Leg Length (A & B) in | mm | Center Line Radius (R) in | mm | Part Number |
|---|---|---|---|---|---|---|
| 3.00 | 76 | 1.75 | 44 | 5.00 | 127 | P206393 |
| 3.50 | 89 | 1.75 | 44 | 5.00 | 127 | P206394 |
| 4.00 | 102 | 2..50 | 64 | 4.00 | 102 | P206395 |
| 5.00 | 127 | 4.00 | 102 | 5.50 | 140 | P206396 |

## Bent Tubes for Trucks

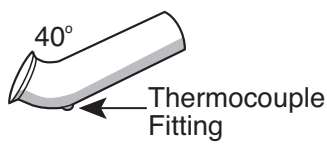
### Kenworth Truck Bent Tubes

| Kenworth Part No. | Donaldson Part No. | Dia. O.D. in | mm | Application |
|---|---|---|---|---|
| K180-5419 | J018110 | 5.00 | 127 | 28° Elbow |
| K180-14764L | J038611 | 5.00 | 127 | Left Hand Elbow |
| K180-14764R | J038612 | 5.00 | 127 | Right Hand Elbow |




### Mack Truck Bent Tubes

| Mack Part No. | Donaldson Part No. | - Dia. O.D. - in | mm | Application |
|---|---|---|---|---|
| 4ME21698 | J028528 | 4.00 | 102 | R & RD Models |



## Straight Tubing - Exhaust & Intake

- 16 gauge, unless footnoted



### Exhaust Straight Tubing -10 ft (3m) length

| -- O.D. -- in | mm | Aluminized | Stainless Steel |
|---|---|---|---|
| 2.00 | 51 | P206331 | |
| 2.50 | 64 | P206333 | |
| 2.75 | 70 | J000127 | |
| 3.00 | 76 | P206334 | P224685[2] |
| 3.50 | 89 | P206335 | P235790[2] |
| 4.00 | 102 | P206336 | P224686[2] |
| 5.00 | 127 | P206337 | P224687[1] |
| 6.00 | 152 | P206338 | |

1- 304 Stainless Steel
2 - 409 Stainless Steel

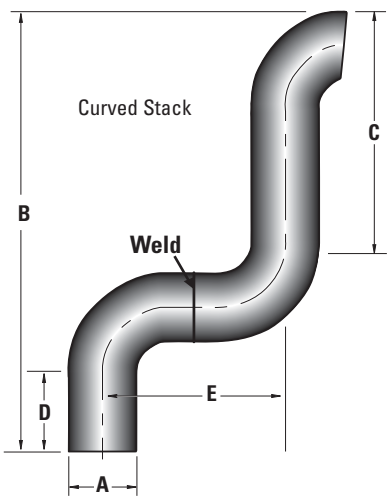


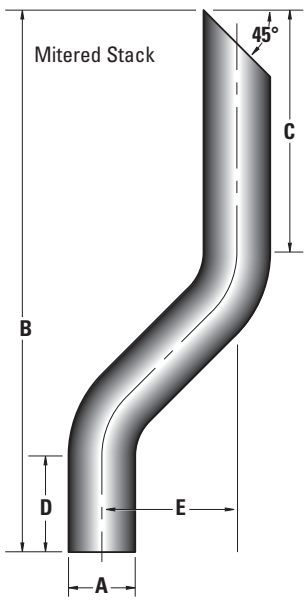
### Intake Straight Tubing -10 ft (3m) length

| -- O.D. -- in | mm | Aluminum for Intake |
|---|---|---|
| 3.00 | 76 | P224684 |
| 4.00 | 102 | P207367 |
| 5.00 | 127 | P206849 |
| 5.50 | 140 | P207368 |
| 6.00 | 152 | P206850 |
| 7.00 | 178 | P206851 |
| 8.00 | 203 | P207369 |

## Dump Truck Stack Pipes

- 16 gauge aluminized steel




### Dump Truck Stack Pipes

| - O.D. Dia. - (A) in | mm | Overall Length (B) in | mm | Leg Length (C) in | mm | Leg Length (D) in | mm | -- Offset -- (E) in | mm | Curved Aluminized | Mitered Chrome |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.00 | 102 | 38.00 | 965 | 19.50 | 495 | 10.50 | 267 | 12.10 | 307 | P224581 | |
| | | 51.00 | 1295 | 32.28 | 820 | 7.67 | 195 | 8.20 | 208 | | P224692 |
| 5.00 | 127 | 38.00 | 965 | 18.00 | 457 | 9.00 | 229 | 12.10 | 307 | P224582 | |
| | | 51.00 | 1295 | 31.70 | 805 | 7.11 | 181 | 7.04 | 179 | | P224693 |

## Super Stack

- Aluminized
- Packing inside stack will reduce exhaust noise by 2 to 3 dBA
- Mounts directly into existing system replacing the conventional stack

Part Number: M001327

| O.D. Dia. in | mm | Length in | mm |
|---|---|---|---|
| 5.00 | 127 | 35.50 | 902 |



## Straight Stack Pipes

- Keeps exhaust smoke and fumes from damaging cargos or blackening van bodies
- 16 gauge aluminized steel or chrome



### O.D. Style - Straight Stacks

| O.D. Dia. in | O.D. Dia. mm | -- Length -- in | -- Length -- mm | Aluminized | Chrome |
|---|---|---|---|---|---|
| 3.00 | 76 | 24.00 | 610 | P208328 | |
| | | 48.00 | 1219 | P206376 | |
| 3.50 | 89 | 24.00 | 610 | P208336 | |
| | | 48.00 | 1219 | P206377 | |
| 4.00 | 102 | 18.00 | 457 | | P208385 |
| | | 24.00 | 610 | J240012 | |
| | | 48.00 | 1219 | P206378 | P206388 |
| | | 60.00 | 1524 | J640001 | P206390 |
| 5.00 | 127 | 24.00 | 610 | P224589 | P224590 |
| | | 48.00 | 1219 | P206379 | P206389 |
| | | 60.00 | 1524 | P208393 | P206391 |



### I.D. Style - Straight Stacks

| I.D. Dia. in | I.D. Dia. mm | -- Length -- in | -- Length -- mm | Aluminized | Chrome |
|---|---|---|---|---|---|
| 3.00 | 76 | 24.00 | 610 | P216191 | |
| | | 36.00 | 914 | P208324 | |
| | | 48.00 | 1219 | P207285 | P207314 |
| 3.50 | 89 | 18.00 | 457 | P207281 | |
| | | 24.00 | 610 | J024735 | |
| | | 36.00 | 914 | P208348 | |
| | | 48.00 | 1219 | P207286 | |
| 4.00 | 102 | 18.00 | 457 | P207282 | |
| | | 24.00 | 610 | J024737 | P224627 |
| | | 36.00 | 914 | P208364 | P224628 |
| | | 48.00 | 1219 | P207287 | |
| | | 60.00 | 1524 | P207288 | P207299 |
| 5.00 | 127 | 18.00 | 457 | P207283 | |
| | | 24.00 | 610 | J024739 | J240024 |
| | | 36.00 | 914 | P208380 | J340023 |
| | | 48.00 | 1219 | P207292 | |
| | | 60.00 | 1524 | P207289 | P207300 |
| 6.00 | 152 | 48.00 | 1219 | P216197 | |

## 45° Mitered Chrome Stack Pipes

- Keeps exhaust smoke and fumes from damaging cargos or blackening van bodies
- 16 gauge



### O.D. Style - 45° Mitered Stacks

| O.D. Dia. in | O.D. Dia. mm | -- Length -- in | -- Length -- mm | Chrome |
|---|---|---|---|---|
| 4.00 | 102 | 18.00 | 457 | P224696 |
| | | 36.00 | 914 | P224698 |
| | | 48.00 | 1219 | P224701 |
| 5.00 | 127 | 18.00 | 457 | P224703 |
| | | 36.00 | 914 | P216227 |
| | | 48.00 | 1219 | P216228 |
| | | 60.00 | 1524 | J540008 |
| | | 72.00 | 1829 | P224609 |



### I.D. Style - 45° Mitered Stacks

| - I.D. Dia. - in | - I.D. Dia. - mm | -- Length -- in | -- Length -- mm | Chrome |
|---|---|---|---|---|
| 4.00 | 102 | 18.00 | 457 | P224604 |
| | | 36.00 | 914 | P224699 |
| | | 48.00 | 1219 | P224605 |
| 5.00 | 127 | 18.00 | 457 | P224607 |
| | | 36.00 | 914 | P224614 |
| | | 48.00 | 1219 | P224616 |
| | | 60.00 | 1524 | P224608 |
| | | 72.00 | 1829 | P224706 |
| | | 84.00 | 2134 | P224611 |
| | | 96.00 | 2438 | P224707 |

## Curved & Long 90° Stack Pipes

- Keeps exhaust smoke and fumes from damaging cargos or blackening van bodies
- 16 gauge aluminized steel or chrome



### O.D. Style - Curved Stacks

| O.D. Dia. | | --- Length --- | | -------- Curved -------- | |
|---|---|---|---|---|---|
| in | mm | in | mm | Aluminized | Chrome |
| 3.00 | 76 | 24.00 | 610 | P208330 | J240016 |
| | | 48.00 | 1219 | P206380 | P207312 |
| 3.50 | 89 | 24.00 | 610 | P208338 | |
| | | 48.00 | 1219 | P206381 | |
| 4.00 | 102 | 24.00 | 610 | J024748 | J024749 |
| | | 36.00 | 914 | P208358 | P208359 |
| | | 48.00 | 1219 | P206382 | P206386 |
| | | 60.00 | 1524 | P208388 | P208389 |
| | | 72.00 | 1829 | | J640005 |
| | | 96.00 | 2438 | | P209913 |
| 5.00 | 127 | 24.00 | 610 | J024750 | J024751 |
| | | 36.00 | 914 | P208374 | P208375 |
| | | 48.00 | 1219 | P206383 | P206387 |
| | | 60.00 | 1524 | P208394 | P208395 |
| | | 72.00 | 1829 | | P224600 |
| | | 96.00 | 2438 | | P209912 |



### I.D. Style - Long 90°

| I.D. Dia. | | -- Length -- | | | |
|---|---|---|---|---|---|
| in | mm | in | mm | Aluminized | Chrome |
| 4.00 | 102 | 60.00 | 1524 | P224710 | P224641 |
| 5.00 | 127 | 60.00 | 1524 | P224711 | |



### I.D. Style - Curved Stacks

| I.D. Dia. | | -- Length -- | | -------- Curved -------- | |
|---|---|---|---|---|---|
| in | mm | in | mm | Aluminized | Chrome |
| 3.00 | 76 | 36.00 | 914 | P208326 | |
| | | 48.00 | 1219 | P207293 | P207318 |
| 3.50 | 89 | 24.00 | 610 | P224633 | |
| | | 36.00 | 914 | P208350 | P216200 |
| | | 48.00 | 1219 | | P207319 |
| 4.00 | 102 | 24.00 | 610 | J024746 | J024757 |
| | | 36.00 | 914 | P208366 | J034746 |
| | | 48.00 | 1219 | P207295 | P207320 |
| | | 60.00 | 1524 | P207290 | P207301 |
| | | 72.00 | 1829 | | P216202 |
| | | 84.00 | 2134 | | P224635 |
| | | 96.00 | 2438 | | P224636 |
| 5.00 | 127 | 24.00 | 610 | J024747 | J024758 |
| | | 36.00 | 914 | P208382 | P216204 |
| | | 48.00 | 1219 | P207296 | P207321 |
| | | 60.00 | 1524 | P224709 | P207302 |
| | | 72.00 | 1829 | | P216205 |
| | | 84.00 | 2134 | | P224638 |
| | | 96.00 | 2438 | | P209910 |
| 6.00 | 152 | 36.00 | 914 | P216206 | |

## Tailpipes - O.D. & I.D Styles



I.D. Style



O.D. Style

### Tailpipes O.D. & I.D. Styles

| -- Dia. -- | | -- Length -- | | ------- O.D. Style ------ | | ------- I.D. Style ------- | |
|---|---|---|---|---|---|---|---|
| in | mm | in | mm | Aluminized | Chrome | Aluminized | Chrome |
| 2.00 | 51 | 9.00 | 229 | P206306 | | P207415 | |
| 2.50 | 64 | 12.00 | 305 | P206308 | | P206301 | |
| 2.75 | 70 | 12.00 | 305 | | | P206927 | |
| 3.00 | 76 | 12.00 | 305 | P206309 | | P206302 | J014621 |
| 3.50 | 89 | 12.00 | 305 | P206310 | | P206303 | J014622 |
| 4.00 | 102 | 12.00 | 305 | P206311 | | P206304 | J014623 |
| | | 18.00 | 457 | P208386 | P206384 | P207297 | P207308 |
| 5.00 | 127 | 12.00 | 305 | | | P224617 | P224618 |
| | | 18.00 | 457 | P208392 | P206385 | P207298 | P207309 |
| | | 20.00 | 508 | P206312 | | P206305 | |
| 6.00 | 152 | 20.00 | 508 | P207419 | | P207559 | |

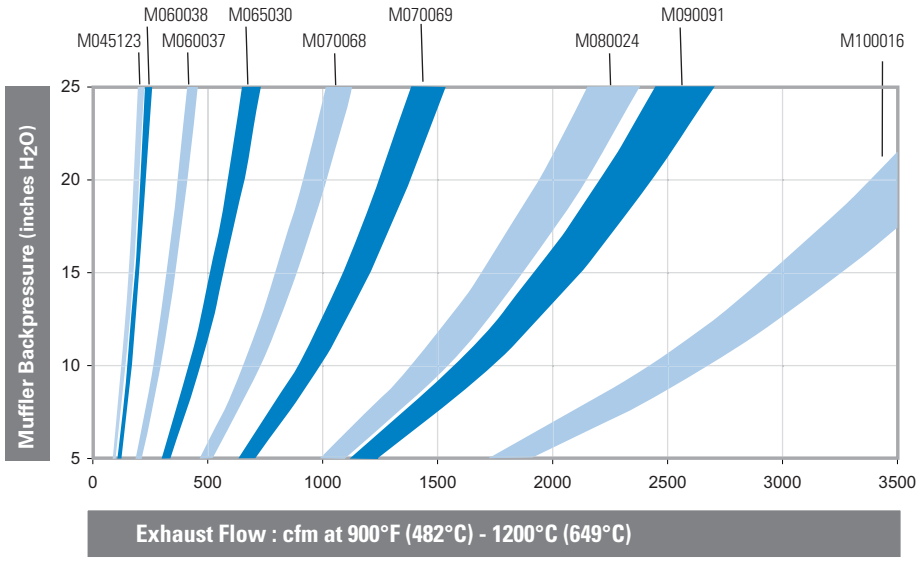
## Spark Arrestors

- U.S. Forest Service approved (80% efficiency on incendiary sparks)
- Reduces fire hazard
- Centrifugal force separates solids from exhaust gas
- Aluminized steel with stainless steel critical parts
- Can be installed vertically or horizontally (If possible, the clean out should face away from all fuel tanks, the vehicle operator's position and the air cleaner inlet.)




### Selecting a Spark Arrestor

Generally, if a spark arrestor will fit on the exhaust pipe of an engine, it will also have acceptable backpressure for that engine. In some cases, a larger size spark arrestor will be required to stay within backpressure limits, and in those cases adapters will have to be used.




### Spark Arrestor Service Tip

The spark arrestor should be inspected and cleaned out every 1,000 operating hours or three times per season. Visually inspect for holes, cracks and metal corrosion. Check the mounting clamp to make sure the spark arrestor is securely mounted. Replace the spark arrestor if your inspection reveals any of the above unsafe conditions.

| Inlet I.D. in | Inlet I.D. mm | Outlet I.D. in | Outlet I.D. mm | Body Dia. in | Body Dia. mm | Body Length in | Body Length mm | Overall Length in | Overall Length mm | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.50 | 38 | 1.25[1] | 32 | 4.38 | 111 | 4.75 | 121 | 8.38 | 213 | M045123 |
| | | 1.50 | 38 | 6.00 | 152 | 3.75 | 95 | 9.36 | 241 | M060038 |
| 2.00 | 51 | 2.00 | 51 | 6.00 | 152 | 5.00 | 127 | 11.10 | 283 | M060037 |
| 2.50 | 64 | 2.50 | 64 | 6.61 | 168 | 6.25 | 159 | 13.00 | 330 | M065030 |
| 3.00 | 76 | 3.00 | 76 | 7.00 | 178 | 7.56 | 194 | 14.63 | 372 | M070068 |
| 3.50 | 89 | 3.50 | 89 | 7.00 | 178 | 9.00 | 229 | 16.50 | 419 | M070069 |
| 4.00 | 102 | 4.00 | 102 | 8.00 | 203 | 10.63 | 270 | 18.19 | 461 | M080024 |
| 5.00 | 127 | 5.00 | 127 | 9.00 | 229 | 11.75 | 298 | 20.75 | 527 | M090091 |
| 6.00 | 152 | 6.00 | 152 | 10.00 | 254 | 13.38 | 340 | 23.50 | 597 | M100016 |

1 - 1.25" (32mm) is an outer diameter, not inner diameter.

## Resonators

- Provides an additional 2 to 3 dBA exhaust noise reduction
- Installs in the exhaust system
- Straight-through design does not increase backpressure
- Aluminized steel
- Both ends I.D. slotted
- Common dimensions for both models:
  - Body Dia. 9" (229 mm)
  - Body Length 10" (254 mm)
  - Overall Length 16.5" (419 mm)



**5" (125mm) I.D. and O.D. - Part No. M090072**
**4" (102 mm) I.D. and O.D. - Part No. M090362**

## Muffler Guards

- Bright stainless shipped with protective film on one side
- Order clamps separately, unless noted otherwise



Style 1 Style 2 Style 3

### Muffler Guards

| -- Muffler Diameter -- in | mm | Style | -- Length -- in | mm | Wrap | Bright Stainless | 409 Stainless |
|---|---|---|---|---|---|---|---|
| 8.50 - 9.00 | 216-229 | 2 | 51.00 | 1295 | 180° | P206540 | |
| 8.50 -10.00 | 216-254 | 1 | 45.00 | 1143 | 270° | X005207[1] | |
| | | 2 | 51.00 | 1295 | 180° | J009429 | |
| 10.00-10.50 | 254-267 | 2 | 51.00 | 1295 | 180° | P206542 | |
| 11-00-11.50 | 279-292 | 3 | 34.00 | 863 | 180° | | P230761 |
| 13.00-13.50 | 330-343 | 3 | 34.00 | 863 | 180° | | P230762 |

1 - Includes two (2) clamps

## Muffler Guard Clamps

- Two clamps required for installation
- Chrome plated (except * are zinc plated)



### Muffler Guard Clamps

| Muffler Dia. in | mm | Part Number |
|---|---|---|
| 8.50 | 216 | P206510 |
| 9.00 | 229 | P206511 |
| 10.00 | 254 | P206512 |
| 11.00 | 281 | P233422* |
| 13.00 | 332 | P233421* |

## Muffler Hangers

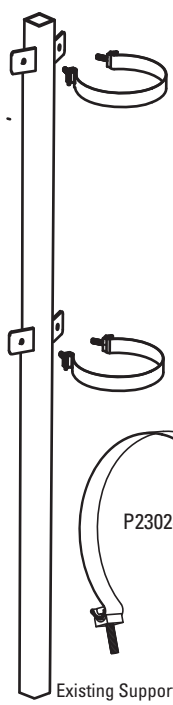
- For vertical and horizontal installations
- 11 gauge steel construction
- 12" (305mm) overall bar length
- 3/8"-16 UNC bolts/nuts included

### Muffler Hangers

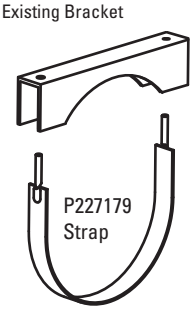
| -- Muffler Dia. -- in | mm | Part Number |
|---|---|---|
| 6.00 | 152 | P206515 |
| 7.00 | 178 | P206516 |
| 8.50 | 216 | P206517 |
| 9.00 | 229 | P206518 |
| 10.00 | 254 | P206519 |
| 8.25x11.50 | 210x292 | P206520 |
| 10.00x15.00 | 254x381 | P206521 |
| 11.00 | 279 | P224841 |

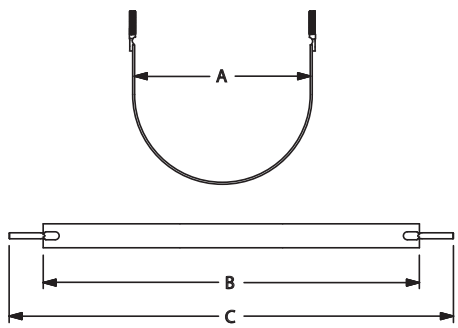


## Heavy Duty Muffler Mounting Straps




Existing Bracket



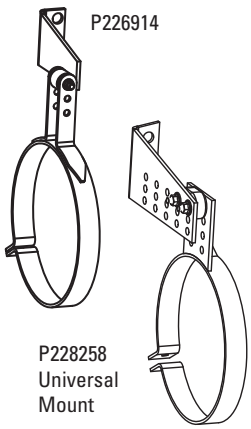

- Works with RE Bluebird buses with Cummins or Cat Engines

| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ---- in | mm | Part Number |
|---|---|---|---|---|---|---|
| 11.00 | 279 | 23.50 | 597 | 27.75 | 705 | P227179 |

- Works with vertical mount Mack trucks when converting to a 10" diameter muffler.

| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ---- in | mm | Part Number |
|---|---|---|---|---|---|---|
| 10.00 | 256 | 20.00 | 508 | 23.50 | 597 | P230241 |

## Horizontal Hangers for Round Mufflers

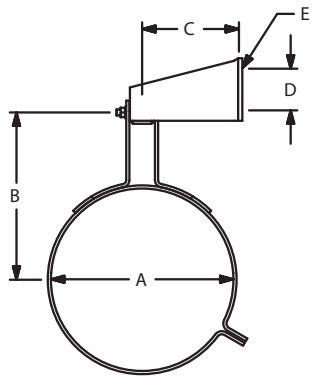


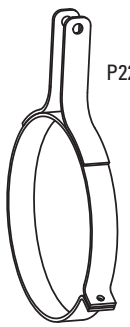
P226914

P228258
Universal
Mount

| ---- A ----. in | mm | ---- B ---- in | mm | ---- C ---- in | mm | ---- D ---- in | mm | ---- E ---- in | mm | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| 10.00 | 256 | 9.31 | 236 | 5.75 | 146 | 1.75 | 44 | .38 | 10 | P227728 |
| 11.00 | 279 | 10.16 | 258 | 6.00 | 152 | 2.50 | 66 | .75 | 19 | P226914 (4) |
| 11.00 | 279 | 10.03 | 255 | 6.50 | 165 | 2.00 | 51 | .56 | 14 | P227167 (5) |
| 11.00 | 279 | 10.03 | 255 | 6.50 | 165 | 2.00 | 51 | .56 | 14 | P227175 (6) |
| 11.00 | 279 | 6.50-10.5 | 165-268 | 5.5-9.0 | 140-229 | 1.00/2.50 | 25/66 | .50/.75 | 13/19 | P228258 (7) |
| 13.00 | 330 | 6.50-10.5 | 165-268 | 5.5-9.0 | 140-229 | 1.00/2.50 | 25/66 | .50/.75 | 13/19 | P230046 (7) |

4. Works with International School bus when converting to round muffler
5. Works with conventional Thomas/Freightliner buses with Cat or Cummins engines
6. Works with conventional Thomas/Freightliner buses with Mercedes Benz engine up to 2003
7. Universal mount

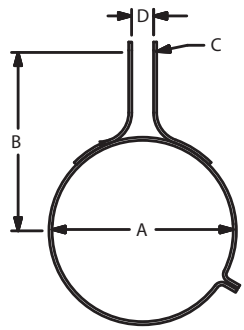


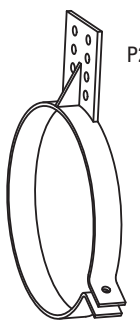



P227170

| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ---- in | mm | ---- D ---- in | mm | Part Number |
|---|---|---|---|---|---|---|---|---|
| 10.00 | 256 | 10.78 | 274 | .56 | 14 | 1.31 | 33 | P230284 |
| 11.00 | 279 | 10.78 | 274 | .56 | 14 | 1.31 | 33 | P227170 (8) |

8. Works with 2004 Thomas Conventional with Mercedes Benz Engine

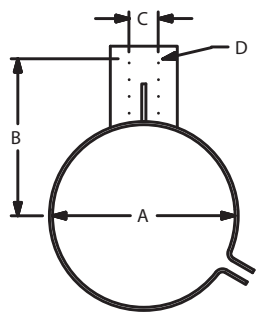


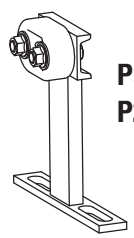



P227215

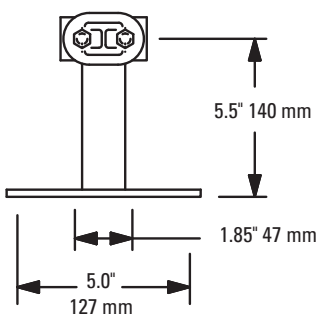
- Universal application

| ---- A ---- in | mm | ---- B ---- in | mm | ---- C ---- in | mm | ---- D ---- in | mm | Part Number |
|---|---|---|---|---|---|---|---|---|
| 11.00 | 279 | 6.25 / 9.25 | | 1.75 | 44 | .50 | 13 | P227215 |
| 13.00 | 330 | 7.25 / 10.25 | | 1.75 | 44 | .50 | 13 | P230047 |



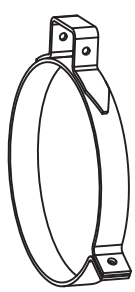



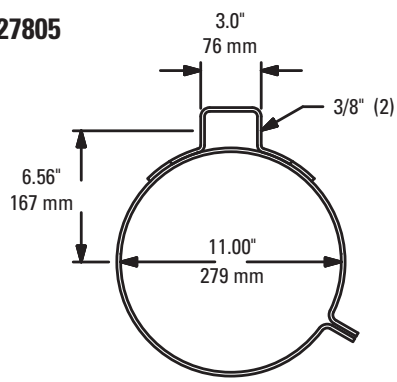
**Part No.**
**P227178**



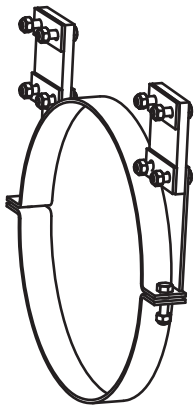

- Works great with u-bolt and w-foot body bands, and P228260 or P227839 hangers
- Black paint finish
- Used on Bluebird FE/FC Bus

**Part No. P227805**



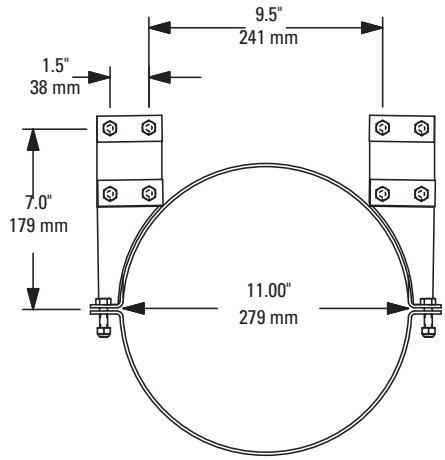


## School Bus Hangers

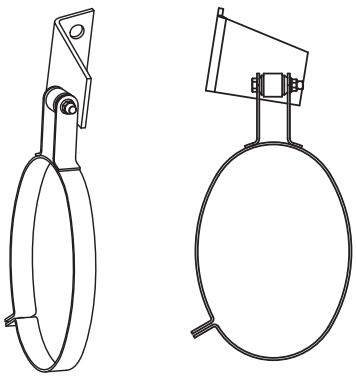


**Part No. P227182**

- Used for rear engine Thomas buses
- Horizontal mount
- All bolts shown are included



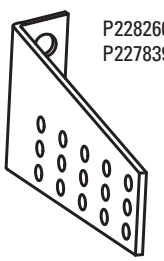

## Horizontal Hanger for Oval Mufflers



**Part No. P229114**

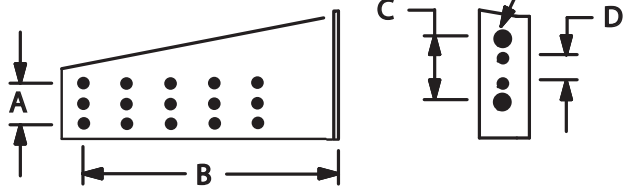
- Unique for Front Engine International School Bus with Oval DOC muffler
- Direct replacement to OE hanger
- Works with oval muffler diameter of 8.25" (210mm) x 11.5" (292mm)

## Universal Horizontal Hangers



P228260 &
P227839

- Schools buses retrofits
- Corner mount with two bolts




| ---- A ----. | | ---- B ---- | | ---- C ---- | | ---- D ---- | | ---- E ---- | | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | in | mm | in | mm | in | mm | in | mm | |
| 1.30 | 33 | 5.31/9.94 | 135/252 | 2.50 | 64 | 1.26 | 32 | .50 | .13 | P227839 [3] |
| 1.62 | 41 | 2.94/9.94 | 75/252 | 2.50 | 64 | 1.00 | 25 | 50/.75 | 13/19 | P228260 |

3. Bracket holes are .62"(16mm) x .35"(9mm)slots

## Grab Handles

- For use with muffler and pipe guards
- Chrome plated




## Manifold Tube

- For manifold connections
- Size: 4" (102 mm) O.D.
- Basic application: Cummins NH series engines
- 16 gauge cold rolled steel



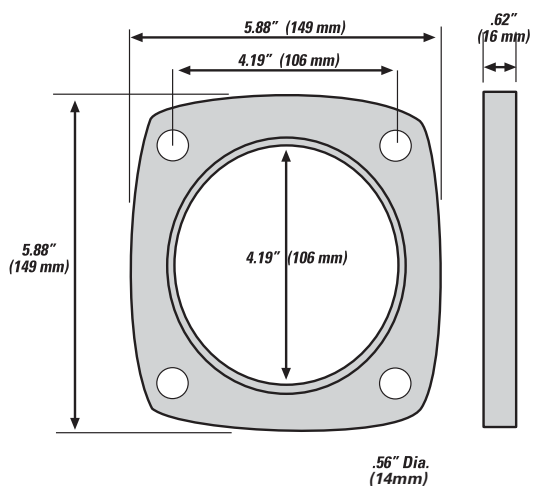
**Manifold Tube Part Number P206617**

## Manifold Flange

- 16 gauge cold rolled steel



**Manifold Flange Part Number P206616**




## Threaded Adapter




| --- O.D. --- inch | mm | Thread (NPT) inch | mm | Part Number |
|---|---|---|---|---|
| 3.00 | 76 | 3.00 | 76 | J009514 |
| 3.50 | 89 | 3.50 | 89 | J009516 |
| 4.00 | 102 | 4.00 | 102 | J009518 |

NPT - National Pipe Thread

ACCESSORIES

## Exhaust Ejectors

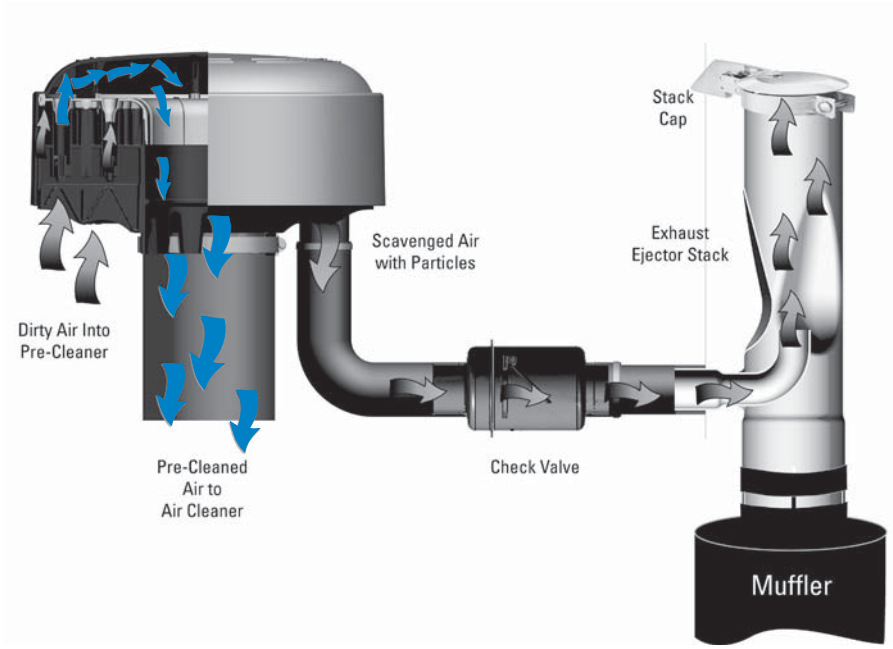
# Components For Scavenged Air Systems - Exhaust Ejectors & Check Valves

A Donaldson exhaust ejectors and check valves are a key components to create a scavenged or aspirated air system. The ejector is used with Donaldson Donaspin™ or Strata™ Cap pre-cleaners, Strata™ systems, or PowerCore® PSD air cleaners.

A scavenged air system is typically used in off-highway equipment to extend air filter life. The exhaust ejector mounts as a stack at the end of exhaust system. It is recommended that the stack be covered with a curved exhaust stack or rain cap.

The redesigned ejector line offers a shorter length tube than our original standard and expanded ID offerings. With less space to work with, the new offering may work in applications where the previous models did not fit.

**------- Basic Scavenged Air System -------**




### Exhaust Ejectors

- Can be used with any pre-cleaner that has scavenge tube connection.
- Adds only 4" (102 mm) to 8" (203 mm) $H_20$ (.3" (76mm) to .6" (152mm) Hg.) to exhaust backpressure
- Models all fit up to a muffler outlet tube outer diameter
- All models have a nominal OD outlet end for proper fit of stack caps and other accessories
- For proper structural support, muffler outlet tube length and stack engagement must be a minimum length of 1.5-2.0" / 38-51 mm
- Finish on all models is high temperature, black, semi-gloss finish




### Compact Style

| Part Number | Engine Intake CFM | -- Inlet I.D. -- inch | mm | Scavenge Tube O.D. inch | mm | Ejector --- Length --- inch | mm | Exhaust Flow Rate (CFM) Min.[1] | Max.[2] |
|---|---|---|---|---|---|---|---|---|---|
| H001278[5] | 165-215 | 2.77 | 70 | 1.25 | 32 | 9.75 | 248 | 415 | 545 |
| H001279[5] | 300-390 | 3.02 | 77 | 1.25 | 32 | 10.80 | 274 | 760 | 990 |
| H001284[5] | 450-590 | 4.02 | 102 | 1.25 | 32 | 14.38 | 365 | 1140 | 1500 |

1 - Minimum exhaust flow based on 20" (508mm) of water dead head vacuum
2 - Maximum exhaust flow based on 40" (1016mm) of water dead head vacuum
3 - Use 3-ply Silicone Scavenge Hose (1.50" (38mm) I.D., 3 ft. (914mm) length) P171378 and Lined Hose Clamp P115200
4 - Use 3-ply Silicone Scavenge Hose (2.00" (51mm) I.D., 3 ft. (914mm) length) P171381 and Lined Hose Clamp P115200
5 - Use 3-ply Silicone Scavenge Hose (1.25" (32mm) I.D., 3 ft. (914mm) length) P171376 and Lined Hose Clamp P532924

Exhaust Gas Temperature of 900° F (482° C)assumed

# Exhaust Ejectors & Check Valves

### Exhaust Ejectors for Scavenged or Aspirated Air System

All exhaust ejectors are constructed heavy-gauge, aluminized steel, and painted with a high-temperature black paint. Select the appropriate ejector by the intake airflow or exhaust flow (CFM) of your engine.

NEW

| Engine Intake CFM | | Exhaust CFM @ 900° F (482°C) | | Standard Ejectors | | | Expanded I.D. Ejectors | | | Length | | Scavenge Tube O.D. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Inlet Dia.* | | Part | Inlet Dia.* | | Part | | | | |
| Low | High | Low | High | inches | mm | Number | inches | mm | Number | inches | mm | inches | mm |
| 220 | 365 | 554 | 919 | 3.02 | 77.0 | H002612 | 3.16 | 80.3 | H002762 | 12.00 | 304.8 | 1.25 | 32 |
| 315 | 450 | 793 | 1133 | 4.02 | 102.0 | H002613 | 4.17 | 105.9 | H002763 | 18.00 | 457.2 | 1.25 | 32 |
| 425 | 600 | 1070 | 1511 | 4.02 | 102.0 | H002614 | 4.17 | 105.9 | H002764 | 18.00 | 457.2 | 1.50 | 38 |
| 500 | 740 | 1259 | 1864 | 5.03 | 127.8 | H002615 | 5.17 | 131.0 | H002765 | 22.00 | 558.8 | 1.50 | 38 |
| 660 | 950 | 1662 | 2393 | 5.03 | 127.8 | H002616 | 5.17 | 131.0 | H002766 | 22.00 | 558.8 | 1.75 | 44 |
| 800 | 1150 | 2015 | 2896 | 6.04 | 153.4 | H002617 | 6.19 | 157.0 | H002767 | 24.00 | 609.6 | 2.00 | 51 |
| 950 | 1350 | 2393 | 3400 | 6.04 | 153.4 | H002618 | 6.19 | 157.0 | H002768 | 24.00 | 609.6 | 2.00 | 51 |
| 1100 | 1500 | 2770 | 3778 | 6.04 | 153.4 | H002619 | 6.19 | 157.0 | H002769 | 24.00 | 609.6 | 2.00 | 51 |

* This dimension only applies to 2.5" /64mm of length – not the full length of the ejector.

### 3 ft. / .91 m Silicone Scavenge Hose & Lined Hose Clamp for:

1.25" / 32 mm Scavenge Tube: Hose: P171376 and Lined Hose Clamp P532924
1.50" / 38 mm Scavenge Tube: Hose: P171378 and Lined Hose Clamp P115200
2.00" / 51 mm Scavenge Tube: Hose: P171381 and Lined Hose Clamp P115200

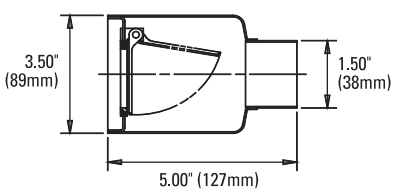
## Ejector Check Valve Prevents Exhaust Backflow

The exhaust ejector check valve prevents backflow of damaging exhaust gases by way of an internal hinge flap. Add an ejector check valve when configuring the intake system to expel filtered contaminant through the exhaust system.

- Mounts horizontally (see installation diagrams)
- Durable, non-corrosive metal construction
- No servicing required

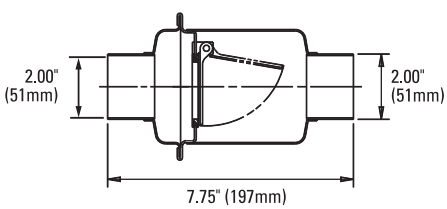


H001023





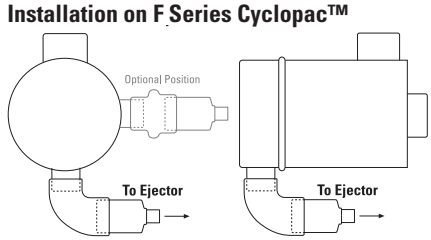

H000722



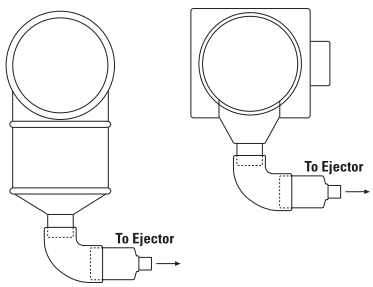

### Check Valve Installation

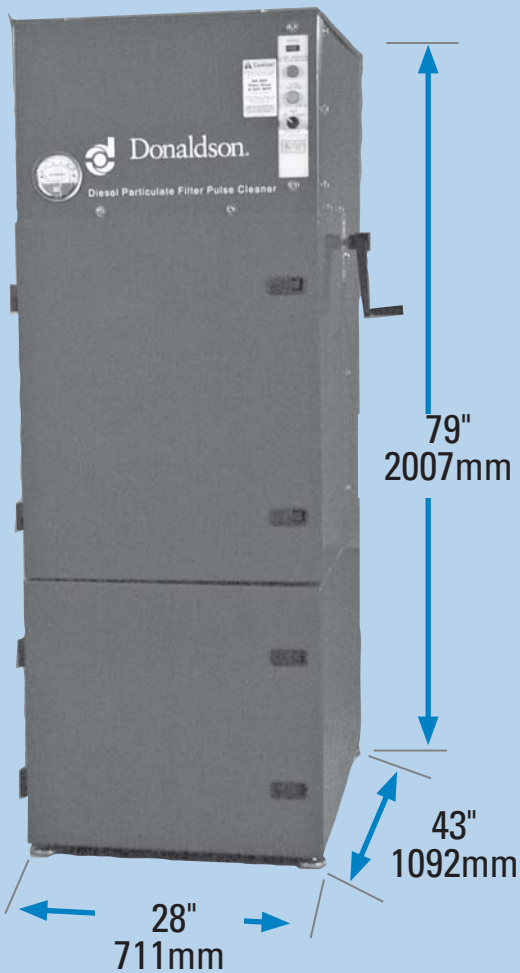
The illustrations are side views of two-stage air cleaners, showing the position of the check valve. A 3" (76mm) inner diameter rubber reducing elbow or hump reducer is required for installation.

**Installation on F Series Cyclopac™**




**Installation on S Series Donaclone™**






## Specifications

Cabinet Dimensional Footprint:
28" W x 43" D x 79" H
711 mm W x 1092mm D x 2007 mm H
Clearance Requirement:
Right side: 12" (304,8mm)for crank handle
Back side: 12" (304,8mm) for filter service
Left side: 4" (101,6mm) Filter Limits:
(1) 11"-15" (279,4mm - 381mm)
(2) 13"-20" (330,2mm - 508mm) length
Unit Weight: 317 kg.

**Electrical and Compressed Air Requirements**
Standard connection: 23V, 7amp
Clean, dry compressed air source:
6,2 bar minimum shop air at 4 CFM

**Replacement Parts**
Ash Receptacle and Test Sleeve

**Finish (interior and exterior)**
Hi-gloss, powdered coating finish

Diesel Particulate Filters (DPF) require routine cleaning to remove ash and unburned hydrocarbons that build up over time. The Donaldson filter cleaning systems will save you the expense of an outside DPF cleaning service.
The pulse cleaner uses air pulses to clean the DPF and efficiently capture contaminant. This system is ideal for truck and bus maintenance facilities.

## Features

- Uses high-volume, low-pressure pulse* to dislodge unburned soot/ash from the DPF
- Captures soot/ash in disposable ash receptacle
- Self-contained cleaning system prevents contaminant from escaping into ambient air during operation
- Short process time - 15 minutes or less
- Unique hood design accommodates Donaldson and other DPFs (from 11" (279mm) -15" (381mm)diameter and 13" (330mm) -20" (508mm) long)



- Adapters for other DPF sizes and unique shapes are available
- Standard electrical connection
- Installation time - approximately 1 hour
- Unit ships with an installation, operation and maintenance manual and training video on DVD

## Basic Operation*

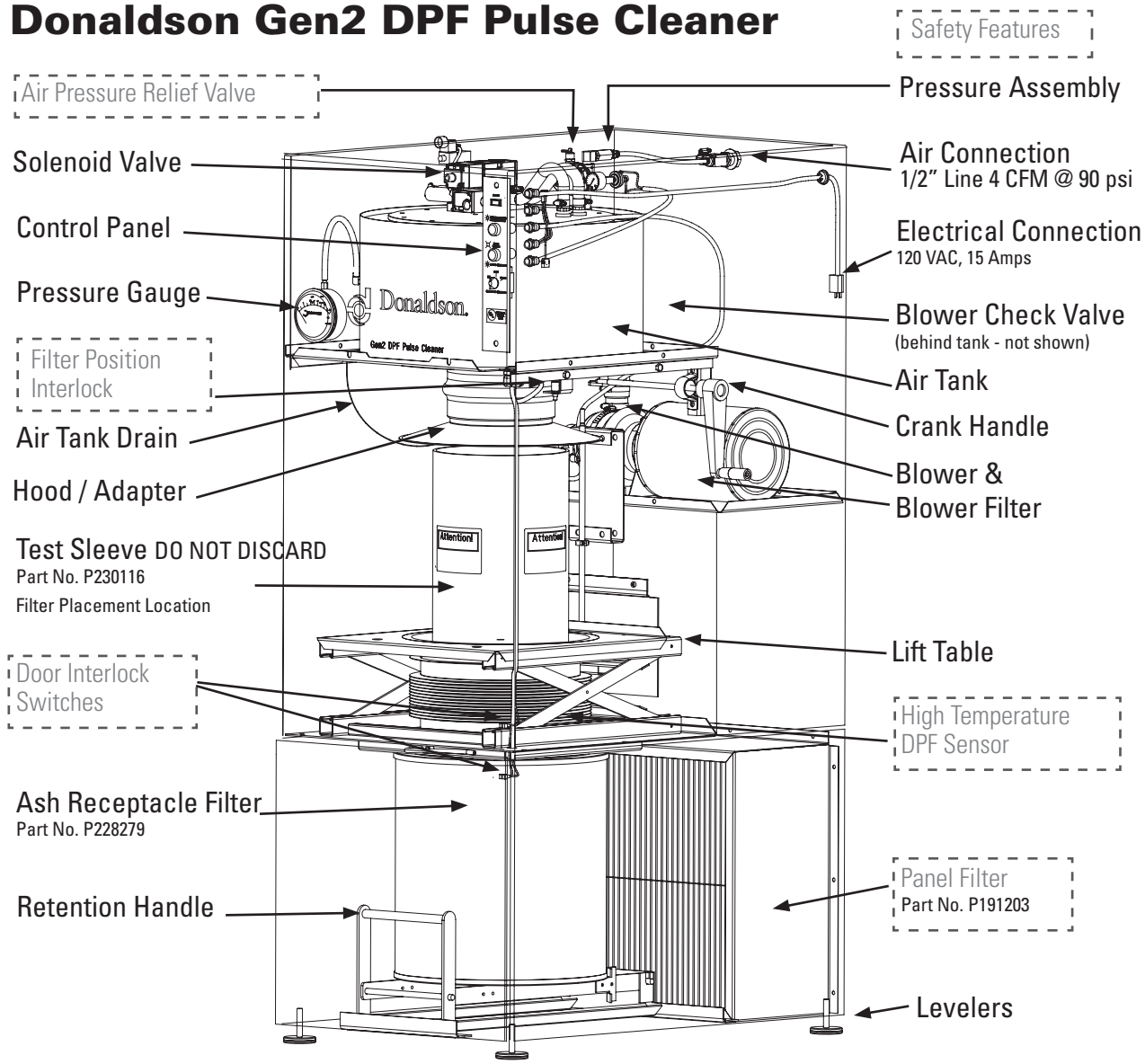
The pulse cleaner uses air pulses to clean the DPF and efficiently capture contaminant.
The diesel ash and soot removed from the DPF collects in a replaceable ash receptacle. The ash receptacle is expected to last up to 30 cleaning cycles, although actual life will depend on the amount of ash removed during the cleaning process.
Extremely plugged DPFs may need to be thermally regenerated for which we recommend the Donaldson Thermal Regenerator cleaning unit).



Ash Receptacle with Cap

* Meets noise exposure requirements per OSHA 1910.95 (b)(2), table G-16

# Donaldson Gen2 DPF Pulse Cleaner




## Control Panel




**Power Switch**
Turns Power On(Reset)/Off

**High Temperature Filter Shutdown**
Flashes when sensor detects HOT filter and shuts down.

**Filter Positioned Indicator**
Illuminates when the filter is properly positioned. The light will flash when PULSE cycle complete.

**Operation Selector Switch**
TEST - Used to determine the relative restriction of the filter and ash receptacle filter.
PULSE - Starts the pulse cleaning cycle.

## Pressure Gauge

The pressure gauge, located on the front top panel of the Donaldson Gen2 DPF Pulse Cleaner, is your primary indicator for determining filter cleanliness and the service life of the ash receptacle filter.
The pressure gauge measures restriction from 0-25" (635mm) $H_2O$.
A clean filter will measure 1-3" (76mm) $H_2O$ restriction depending its size.
The Ash Receptacle Filter should be replaced when test reading is > 2" (51mm) $H_2O$.




## DPF Pulse Cleaning Steps

1. Remove the DPF from the vehicle
2. Place DPF on lift table and secure
3. Test and record DPF pressure level
4. Initiate pulse cleaning cycle
5. Test and record DPF pressure level
6. Re-install DPF

# DPF Thermal Regenerator Cleaning System




## Specifications

**Dimensional foot print**
28" (711mm) Width x 43" (1092.2mm) Deep x 68
Clearance requirement: 12" (30.48mm) on all sides.
Unit Weight: 226.80kg
Requires and exterior vent connection to roof our outside wall.

**Electrical & Compressed**
Air Requirements
Power Supply: Single phase 30 am 208 or 240VAC with 15 amp 120VAC
Clean, dry compressed air source: 65-100 PSI shop air at 4 CFM

**Service Parts**
Thermal shields for diesel particulate filters

**Finish:**
Hi-gloss, powdered coating finish

DPF filters will plug over time and require a lengthy thorough high-temperature cleaning cycle (thermal regenerating) that bakes off the contaminant and unburned hydrocarbons.
The Donaldson Thermal Regenerator allows to integrate a routine cleaning cycle into your fleet maintenance. This system is ideal for mid to large fleets equipped with diesel particulate filters.

## Features

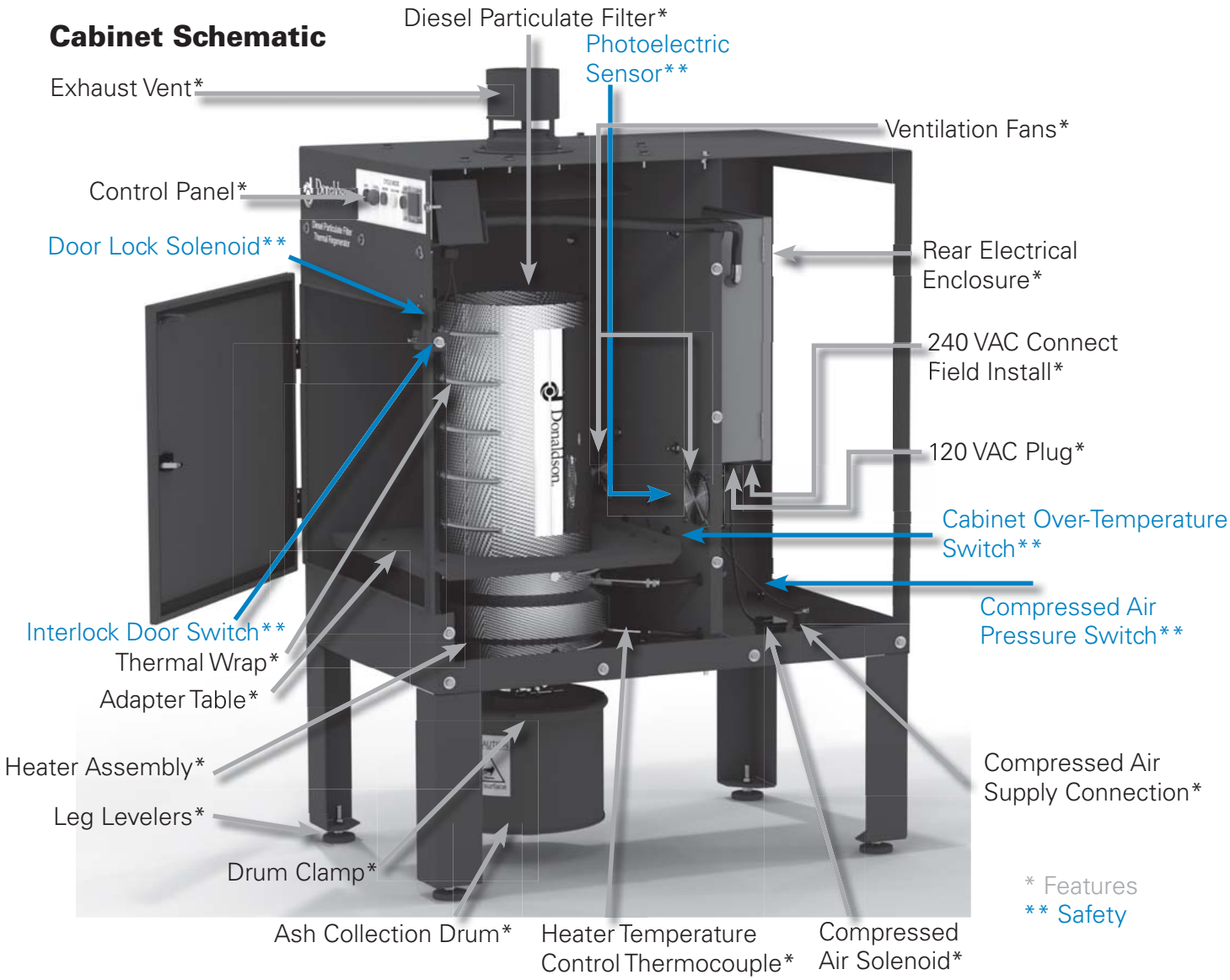
- Burns soot/hydrocarbons off filter
- Heating cycle enhanced with low-volume, low-pressure pulse
- Enclosed cleaning system
- Collection hopper for ash
- Built-in safety features
- Accommodates competitive filters and Donaldson filters (DPF sizes from 11" (279mm) to 15" (381mm) diameter and up to 20" (508mm) long).

## Basic Operation*

This operation is even more simple than our pulse cleaner system. Once the filter is in the unit and the cleaning cycle started - you turn it on and walk-away.
The cleaning cycle duration is seven (7) hours. Start it at the beginning of your day or at the end. With all the safety devices built in to the operation, you can easily leave this unit running anytime of the day.
During the cleaning process the filter goes through a pre-heating stage, a controlled combustion air pulse heating cycle, followed by a cool down cycle to slowly lower the temperature of the filter and reduce the potential of filter damage from thermal shock.
After the cool down cycle is completed, the diesel particulate filter can be removed from the Thermal Regenerator cabinet and reinstalled in the Pulse Cleaner for a final cleaning of the ash residue.

* A diesel particulate filter must be pulse cleaned before you start the process and after it's complete.

## Cabinet Schematic

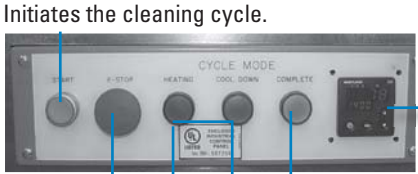



## Basic Cleaning Steps

1. Remove DPF centerbody from muffler.
2. Pulse clean the filter (requires separate unit).
3. Wrap a thermal shield (supplied) around the DPF centerbody.
4. Place on the adapter table in the cabinet and close door.
5. Press button on control panel to initiate cleaning cycle (7 hours).
6. Remove thermal shields
7. Pulse clean filter before reinstalling in vehicle.

## Cabinet Control Panel

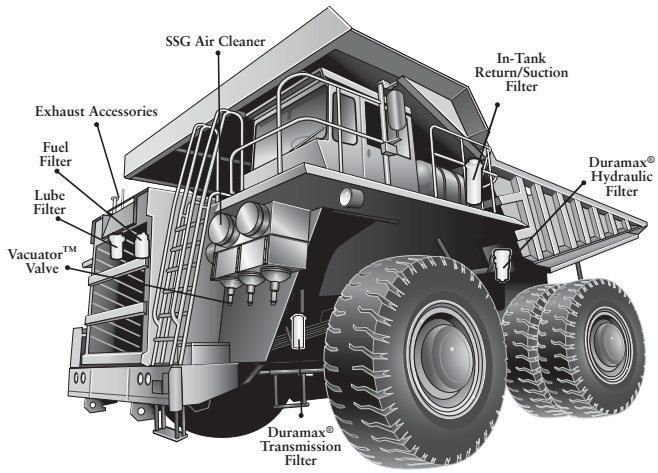
**Start Button**
Initiates the cleaning cycle.

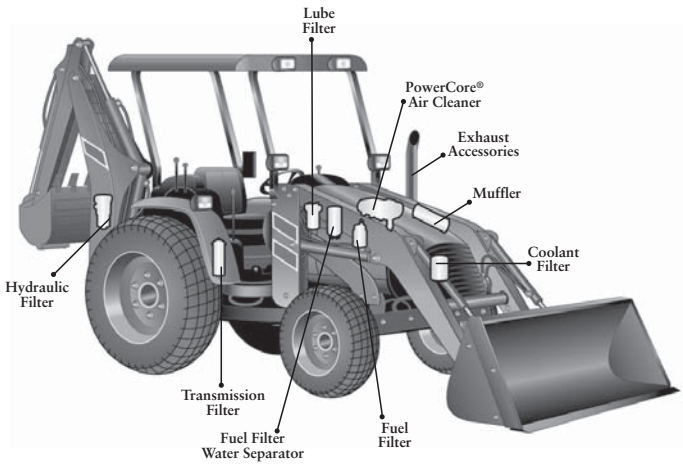


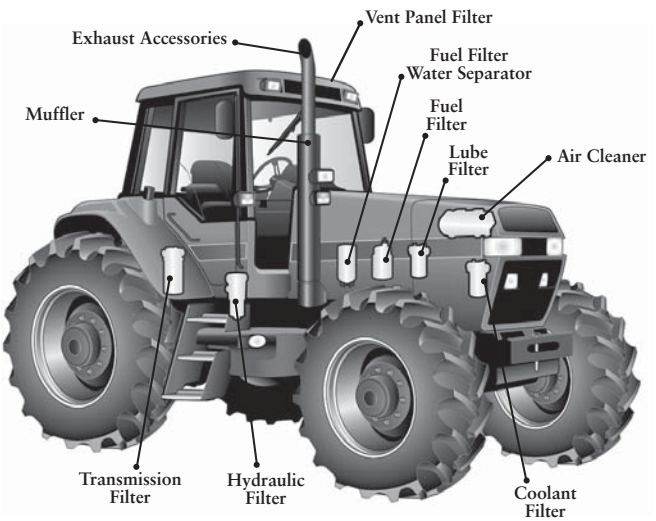

**Tamper-proof Temperature Display**
The information on this display works with built in safety sensors. Do not tamper or remove the display's protective shield. Damage to the display may void your warranty or disable the cleaning system.

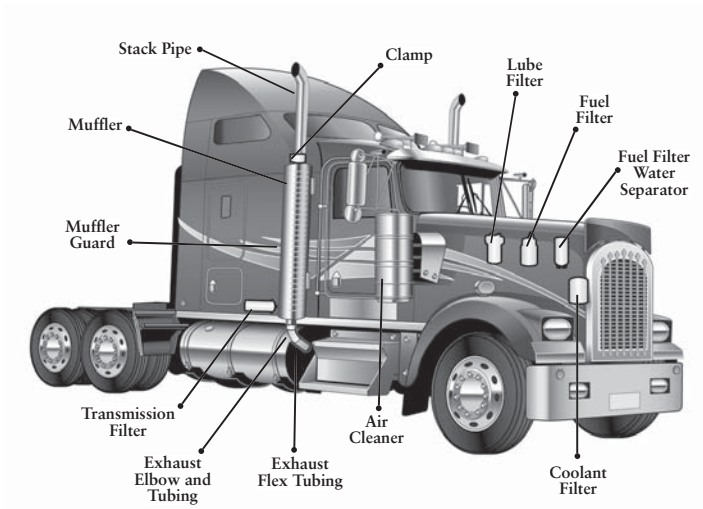
**E-Stop**
Emergency Stop button

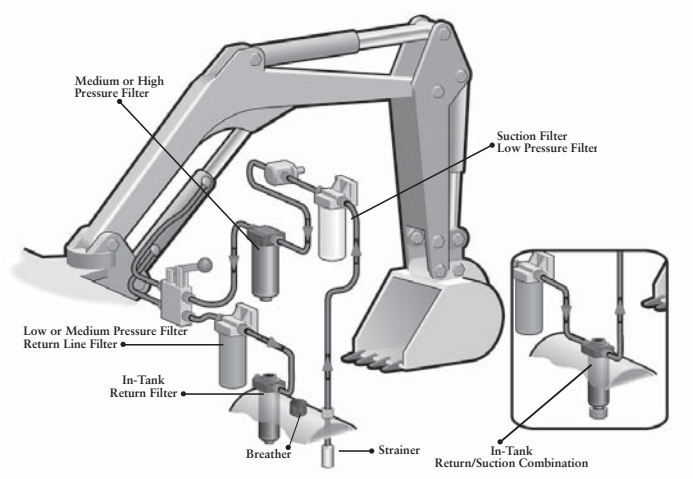
**Heating/Cool Down Cycle & Complete Indicators**
The entire process will take 7 hours.
The lights will illuminate continuously during their respective cycle or until the cleaned filter is removed from the unit.

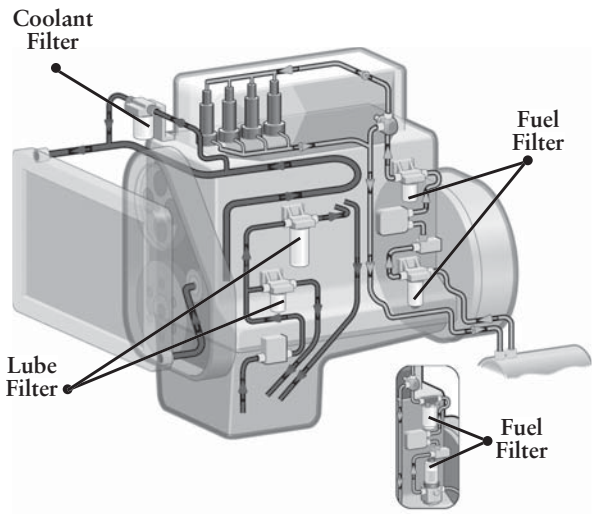

SSG Air Cleaner
In-Tank Return/Suction Filter
Exhaust Accessories
Fuel Filter
Lube Filter
Vacuator™ Valve
Duramax® Hydraulic Filter
Duramax® Transmission Filter


Lube Filter
PowerCore® Air Cleaner
Exhaust Accessories
Muffler
Coolant Filter
Hydraulic Filter
Transmission Filter
Fuel Filter Water Separator
Fuel Filter


Exhaust Accessories
Vent Panel Filter
Fuel Filter Water Separator
Muffler
Fuel Filter
Lube Filter
Air Cleaner
Transmission Filter
Hydraulic Filter
Coolant Filter


Stack Pipe
Clamp
Lube Filter
Muffler
Fuel Filter
Fuel Filter Water Separator
Muffler Guard
Transmission Filter
Air Cleaner
Exhaust Elbow and Tubing
Exhaust Flex Tubing
Coolant Filter


Medium or High Pressure Filter
Suction Filter Low Pressure Filter
Low or Medium Pressure Filter Return Line Filter
In-Tank Return Filter
Breather
Strainer
In-Tank Return/Suction Combination


Coolant Filter
Fuel Filter
Lube Filter
Fuel Filter

# MUFFLER SELECTION & SPECIFICATIONS







## Section Index


### Muffler Selection by Style with Attenuation Ranges & Exhaust Flow

Use this section to select a replacement muffler by style back pressure and attenuation range

If you're looking for a replacement for an off-road application, consider our off-road exhaust mufflers. These newer, painted, aluminized steel mufflers have some unique features as compared to our standard line. These mufflers are the ones shown in blue text.

Style 1 ..... 47
Style 2 ..... 48
Style 2A & 3 ..... 49
Style 4 & 5 ..... 50
Style 6 ..... 51

### Muffler Dimensions by Part Number ..... 52

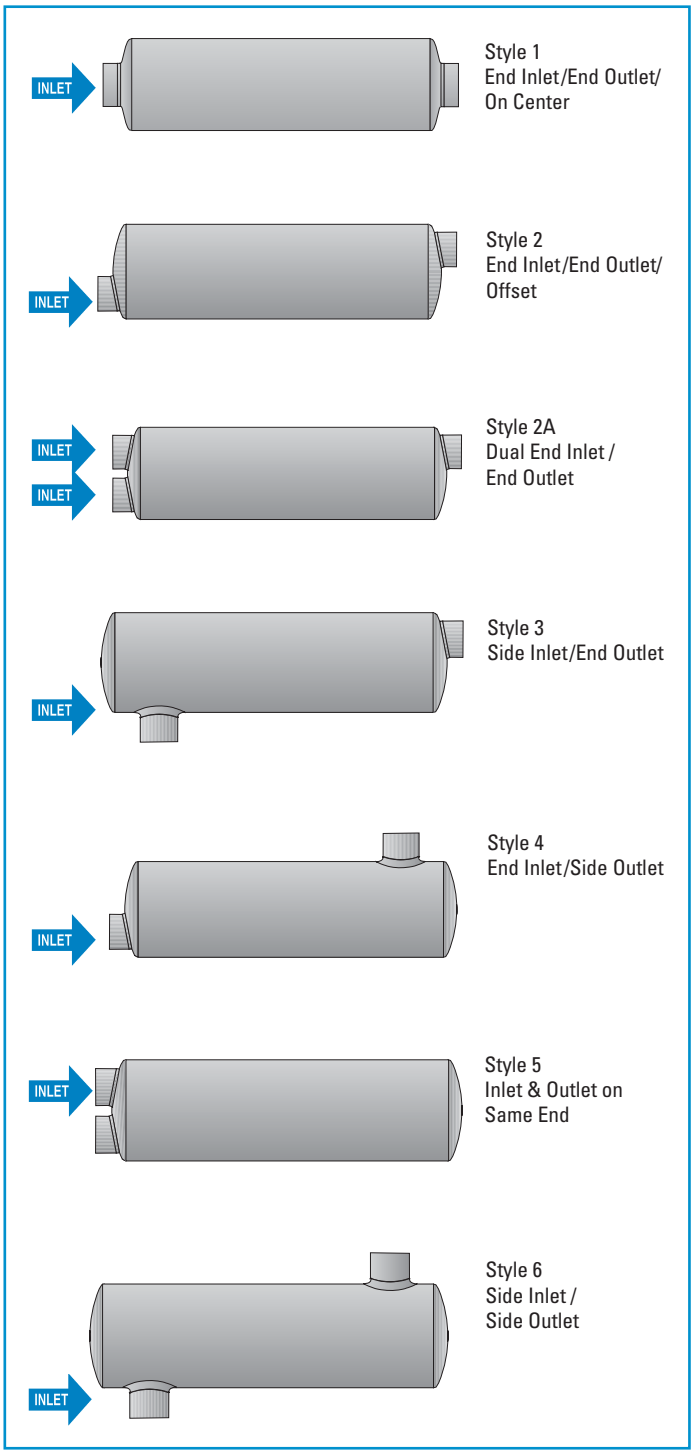
Use this section to verify the dimensional characteristics of a Donaldson muffler.

### Muffler Dimensions by Style

Use this section to verify the dimensional characteristics of a Donaldson muffler.

Style 1 ..... 59-60
Style 2 ..... 61-62
Style 3 ..... 63
Style 4 ..... 64
Style 5 ..... 65
Style 6 ..... 66

# Muffler Selection by Style & Engine Exhaust Data




## Selecting the Right Muffler for Your Engine

**NOTE: Depending on your location, some diesel engines require the use of an emissions aftertreatment device to meet emissions regulations. In the United States, federal law prohibits the replacement of an emissions device (i.e., catalytic converter, combined catalytic converter/muffler, diesel particulate filter, etc.) with a non-emissions reducing (such as a straight pipe or conventional muffler) or un-approved emissions device. If operating the vehicle outside of the United States, make sure to check with and comply with any emission regulations for your locale.**

### Step 1

Determine the exhaust flow (CFM) and acceptable exhaust system backpressure of your engine, refer to your owners manual or contact your engine manufacturer for this information. To calculate exhaust flow, see our instructions on page 7.

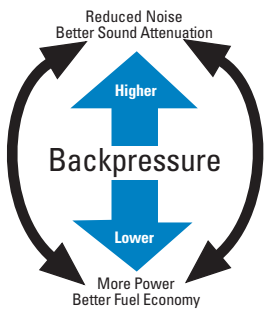
Note: If you are spec'ing a dual muffler system divide engine's exhaust flow (CFM) by two.

### Step 2

Find your muffler style (inlet/outlet positions and shape: round or oval) using the illustrations on the left. Proceed to the same style in page 45-51.

### Step 3

Within the style, choose desired inlet diameter that is at or below your exhaust flow rate AND at or below the acceptable backpressure level.




*Muffler Size May Affect Backpressure:*
Mufflers are key to vehicle and equipment performance because as the muffler decreases the sound, it may create more backpressure on exhaust flow. Typically, an increase in backpressure means decreased engine performance. A large muffler can be used to offset increased backpressure while maintaining overall acoustic performance.

## Mufflers for Off-Road Use

Many of our mufflers are specifically designed for off-road equipment. These mufflers are shown in blue type on pages 45-51 and have the following features:

- High temperature black finish
- Mount or install in any position
- Aluminized steel construction
- All have round bodies with domed ends
- Slotted inlet/outlet connections

# Muffler Selection by Style, Attenuation & Exhaust Flow




**Choose the desired inlet diameter for the engine's air flow requirement that is at or below the acceptable backpressure level.**

## Style 1 - End Inlet/End Outlet/On Center

| -- Inlet I.D. -- inch | mm | --- Outlet I.D. --- inch | mm | Body Diameter inch | mm | Body Length inch | mm | Attenuation Range dB(A) | Part Number | ----- Exhaust Flow (cfm) @ ----- 3" Hg 40.8" $H_2O$ | 2" Hg 27.2" $H_2O$ | 1" Hg 13.6" $H_2O$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 51 | 2.00 | 51 | 6.00 | 152 | 15.75 | 400 | 12-18 | M060479 | 498 | 393 | 283 |
| | | 2.10 OD | 53 OD | 4.38 | 111 | 12.50 | 318 | 8-12 | M045237 | 531 | 433 | 306 |
| 2.50 | 64 | 2.50 | 64 | 6.62 | 168 | 17.75 | 451 | 12-18 | M065138 | 780 | 613 | 441 |
| | | 2.63 OD | 67 OD | 6.62 | 168 | 15.00 | 381 | 6-12 | M065071 | 790 | 645 | 456 |
| 2.89 | 73 | 3.16 OD | 80 | 8.50 | 216 | 31.75 | 806 | 15-20 | M085293[7] | 1091 | 891 | 630 |
| 3.00 | 76 | 3.00 | 76 | 8.50 | 216 | 19.75 | 502 | 12-18 | M085407 | 1125 | 884 | 636 |
| | | 3.13 OD | 80 OD | 8.00 | 203 | 12.18 | 309 | 10-15 | M080018 | 835 | 682 | 482 |
| | | 4.00 | 102 | 11.00 | 279 | 36.00 | 914 | 13-19 | M111029 | 2193 | 1791 | 1266 |
| 3.50 | 89 | 3.50 | 89 | 7.00 | 178 | 14.00 | 356 | 10-15 | M070028 | 1245 | 1017 | 719 |
| | | 3.50 | 89 | 9.00 | 229 | 21.75 | 552 | 12-18 | M091046 | 1525 | 1203 | 865 |
| | | 3.50 | 89 | 9.00 | 229 | 44.50 | 1130 | 18-25 | M090146 | 1001 | 817 | 578 |
| 4.00 | 102 | 4.00 | 102 | 8.50 | 216 | 34.37 | 873 | 12-18 | M085421 | 2099 | 1714 | 1212 |
| | | 4.00 | 102 | 8.50 | 216 | 34.37 | 873 | 8-12 | M085171 | 3119 | 2546 | 1800 |
| | | 4.00 | 102 | 9.00 | 229 | 44.44 | 1129 | 13-18 | M090544 | 2006 | 1638 | 1158 |
| | | 4.00 | 102 | 9.00 | 229 | 20.00 | 508 | 10-15 | M090594 | 1667 | 1361 | 962 |
| | | 4.00 | 102 | 10.33 | 262 | 44.50 | 1130 | 25-35 | M100464[1] | 1420 | 1159 | 820 |
| | | 4.00 | 102 | 10.00 | 254 | 23.75 | 603 | 12-18 | M101167 | 2000 | 1570 | 1130 |
| | | 4.00 | 102 | 10.00 | 254 | 44.44 | 1129 | 12-18 | M100466 | 1948 | 1590 | 1125 |
| | | 4.00 OD | 102 OD | 9.00 | 229 | 29.31 | 744 | 10-15 | M090095[7] | 1628 | 1330 | 940 |
| | | 5.00 | 127 | 9.00 | 229 | 44.44 | 1129 | 15-20 | M090781 | 2639 | 2155 | 1524 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 19-25 | M100695 | 1543 | 1260 | 891 |
| 5.00 | 127 | 5.00 | 127 | 9.00 | 229 | 20.00 | 508 | 10-15 | M090595 | 2478 | 2023 | 1431 |
| | | 5.00 | 127 | 9.00 | 229 | 44.44 | 1129 | 13-18 | M090074 | 2887 | 2357 | 1667 |
| | | 5.00 | 127 | 9.00 | 229 | 44.44 | 1129 | 12-17 | M090535 | 3260 | 3100 | 2340 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 16-23 | M100944 | 2950 | 2494 | 1765 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 19-25 | M100582 | 1600 | 1435 | 1015 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 19-25 | M101159[4] | 1650 | 1465 | 1035 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 19-25 | M101182[3] | 1650 | 1465 | 1035 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 19-25 | M100580 | 2530 | 2215 | 1565 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 15-20 | M100465 | 2790 | 2277 | 1610 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 19-25 | M101158[4] | 2625 | 2305 | 1630 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 19-25 | M101181[3] | 2625 | 2305 | 1630 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 13-18 | M100463 | 3260 | 3100 | 2340 |
| | | 5.00 | 127 | 10.00 | 254 | 44.44 | 1129 | 16-23 | M101263 | 2530 | 2215 | 1565 |
| | | 5.00 | 127 | 10.00 | 254 | 59.95 | 1522 | 19-25 | M100807 | 2610 | 2131 | 1507 |
| | | 5.00 | 127 | 11.00 | 279 | 50.50 | 1283 | 19-25 | M110849 | 2950 | 2505 | 1775 |
| | | 5.00 | 127 | 11.84 | 301 | 25.75 | 654 | 12-18 | M120747 | 3100 | 2450 | 1762 |
| 2 NPT | | 2 NPT | | 6.00 | 152 | 14.50 | 368 | 8-12 | M060247 | 776 | 633 | 448 |
| 2.5 NPT | | 2.5NPT | | 6.00 | 152 | 15.00 | 381 | 8-12 | M060005 | 773 | 631 | 446 |
| 3 NPT | | 3 NPT | | 7.00 | 178 | 14.00 | 356 | 10-15 | M070008 | 1293 | 1056 | 747 |
| 3.5 NPT | | 3.5 NPT | | 7.00 | 178 | 18.38 | 467 | 10-15 | M070050 | 1408 | 1149 | 813 |
| 4 NPT | | 4 NPT | | 9.00 | 229 | 20.00 | 508 | 10-15 | M090009 | 1767 | 1443 | 1020 |

Mufflers in blue text have high temperature black finish and are designed for off-road applications.

1 - Wrapped muffler (reduces noise and surface temperature)
3 - Silent Partner™ Exhaust & Engine Brake Silencer-Aluminized
4 - Silent Partner™ Exhaust & Engine Brake Silencer-Stainless Steel
7 - Face flange on inlet

# Muffler Selection by Style, Attenuation & Exhaust Flow






**Stated backpressure levels include muffler, average tubing lengths, and accessories.**

## Style 2 - End Inlet/End Outlet/Offset

| -- Inlet I.D. -- | | --- Outlet I.D. --- | | Body Diameter | | Body Length | | Attenuation Range | Part | ----- Exhaust Flow (cfm) @ ----- | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | dB(A) | Number | 3" Hg 40.8" $H_2O$ | 2" Hg 27.2" $H_2O$ | 1" Hg 13.6" $H_2O$ |
| 2.00 | 51 | 2.00 | 51 | 6.00 | 152 | 15.75 | 400 | 12-18 | M060480 | 498 | 393 | 283 |
| | | 2.00 | 51 | 6.00 | 152 | 16.90 | 429 | 15-20 | M060055 | 515 | 420 | 297 |
| | | 2.00 | 51 | 6.00 | 152 | 24.00 | 610 | 15-20 | M060232 | 515 | 420 | 297 |
| 2.50 | 64 | 2.50 | 64 | 6.62 | 168 | 17.75 | 451 | 12-18 | M065139 | 780 | 613 | 441 |
| | | 2.50 | 64 | 6.62 | 168 | 18.56 | 471 | 15-20 | M065034 | 709 | 579 | 409 |
| | | 2.50 | 64 | 6.62 | 168 | 27.75 | 705 | 16-22 | M065065 | 709 | 579 | 409 |
| 3.00 | 76 | 3.00 | 76 | 8.3 x 11.5 | 211 x 292 | 26.00 | 660 | 19-25 | M090170 | 828 | 676 | 478 |
| | | 3.00 | 76 | 8.50 | 216 | 19.75 | 502 | 12-18 | M085408 | 1125 | 884 | 636 |
| | | 3.00 | 76 | 8.50 | 216 | 20.50 | 521 | 15-20 | M085056 | 1094 | 894 | 632 |
| | | 3.00 | 76 | 8.50 | 216 | 27.50 | 699 | 18-22 | M085078 | 964 | 787 | 557 |
| | | 3.00 | 76 | 8.50 | 216 | 27.75 | 705 | 18-22 | M085080 | 964 | 787 | 557 |
| | | 3.00 | 76 | 8.50 | 216 | 31.25 | 794 | 17-22 | M085023 | 1094 | 894 | 632 |
| | | 3.00 | 76 | 8.5 x 11.8 | 216 x 300 | 26.00 | 660 | 19-25 | M090159[1] | 828 | 676 | 478 |
| 3.50 | 89 | 3.00 | 76 | 8.50 | 216 | 38.00 | 965 | 15-20 | M085008 | 1124 | 918 | 649 |
| | | 3.50 | 89 | 8.3 x 11.5 | 211 x 292 | 26.00 | 660 | 15-20 | M090158 | 1325 | 1081 | 765 |
| | | 3.50 | 89 | 9.00 | 229 | 21.75 | 552 | 12-18 | M091047 | 1525 | 1203 | 865 |
| | | 3.50 | 89 | 8.5 x 11.8 | 216 x 300 | 26.00 | 660 | 15-20 | M090210[1] | 1325 | 1081 | 765 |
| | | 4.00 | 102 | 8.2 x 11.5 | 208 x 292 | 26.00 | 660 | 13-18 | M090520 | 1719 | 1403 | 992 |
| | | 4.00 | 102 | 8.2 x 11.5 | 208 x 292 | 30.00 | 762 | 13-18 | M090680 | 1719 | 1403 | 992 |
| 4.00 | 102 | 3.50 | 89 | 8.2 x 11.5 | 208 x 292 | 26.00 | 660 | 16-21 | M090538 | 1340 | 1094 | 773 |
| | | 4.00 | 102 | 10.00 | 254 | 23.75 | 603 | 12-18 | M101168 | 2000 | 1570 | 1130 |
| | | 4.00 | 102 | 8.2 x 11.5 | 208 x 292 | 26.00 | 660 | 12-18 | M090280 | 1719 | 1403 | 992 |
| | | 4.00 | 102 | 8.2 x 11.5 | 208 x 292 | 26.00 | 660 | 13-18 | M090534 | 1776 | 1450 | 1025 |
| | | 4.00 | 102 | 10.00 | 254 | 27.12 | 689 | 15-20 | M100048 | 1702 | 1390 | 983 |
| | | 4.00 | 102 | 10.00 | 254 | 35.38 | 899 | 15-20 | M100043 | 1702 | 1390 | 983 |
| | | 4.00 | 102 | 10 x 15 | 254 x 381 | 26.00 | 660 | 15-20 | M120100 | 1997 | 1631 | 1153 |
| | | 4.00 | 102 | 10.3 x 15.3 | 261 x 389 | 42.00 | 1067 | 22-28 | M120197[1] | 1386 | 1131 | 800 |
| | | 4.00 | 102 | 11.00 | 279 | 30.00 | 762 | 15-20 | M110012 | 1730 | 1412 | 999 |
| | | 4.00 | 102 | 11.00 | 279 | 36.00 | 914 | 19-25 | M110189 | 1819 | 1485 | 1050 |
| 4 OD | 102 OD | 5.00 | 127 | 11.00 | 279 | 36.00 | 914 | 13-19 | M111028 | 2393 | 1954 | 1382 |
| 5.00 | 127 | 5.00 | 127 | 10 x 15 | 254 x 381 | 26.00 | 660 | 15-20 | M120225 | 2887 | 2357 | 1667 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 26.00 | 660 | 15-20 | M120108 | 2329 | 1902 | 1345 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 36.00 | 914 | 15-20 | M120365 | 2265 | 1849 | 1307 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 44.00 | 1118 | 13-18 | M120448 | 2222 | 1814 | 1283 |
| | | 5.00 | 127 | 11.00 | 279 | 44.00 | 1118 | 13-18 | M110077 | 2205 | 1800 | 1273 |
| | | 5.00 | 127 | 11.84 | 301 | 25.75 | 654 | 12-18 | M120748 | 3100 | 2450 | 1762 |
| 6.00 | 152 | 6.00 | 152 | 10 x 15 | 254 x 381 | 31.75 | 806 | 10-15 | M122300 | 3740 | 3054 | 2159 |
| | | 6.00 | 152 | 12 x 18 | 305 x 457 | 30.00 | 762 | 11-16 | M140048 | 3765 | 3074 | 2174 |
| | | 6.00 | 152 | 14 x 21 | 357 x 533 | 35.00 | 889 | 12-18 | M170101 | 4113 | 3358 | 2375 |
| 8.00 | 203 | 8.00 | 203 | 16 x 24 | 406 x 607 | 45.00 | 1143 | 11-15 | M190002 | 6352 | 5186 | 3667 |

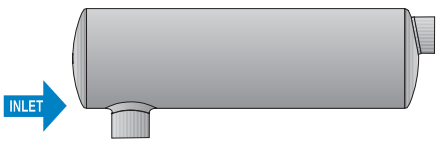
**Choose the desired inlet diameter for the engine's air flow requirement that is at or below the acceptable backpressure level.**




**Choose the desired inlet diameter for the engine's air flow requirement that is at or below the acceptable backpressure level.**

## Style 2A - Dual End Inlet/End Outlet

| -- Inlet I.D. -- | | --- Outlet I.D. --- | | Body Diameter | | Body Length | | Attenuation Range | Part | ----- Exhaust Flow (cfm) @ ----- | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | dB(A) | Number | 3" Hg 40.8" $H_2O$ | 2" Hg 27.2" $H_2O$ | 1" Hg 13.6" $H_2O$ |
| 2.5 (2) | 64 (2) | 2.75 | 70 | 8.50 | 216 | 30.00 | 762 | 15-20 | M085172 | 685 | 559 | 395 |
| | | 3.00 | 76 | 8.50 | 216 | 31.25 | 794 | 15-20 | M085189[2] | 875 | 714 | 505 |
| | | 3 OD | 76 OD | 8.75 | 222 | 30.12 | 765 | 19-25 | M085267[2,7] | 1160 | 947 | 670 |
| 2.75 (2) | 70 (2) | 4.00 | 102 | 8.2 x 11.5 | 208 x 292 | 27.00 | 686 | 15-18 | M090563 | 982 | 802 | 567 |




Mufflers in blue text have high temperature black finish and are designed for off-road applications.

## Style 3 - Side Inlet/End Outlet

| -- Inlet I.D. -- | | --- Outlet I.D. --- | | Body Diameter | | Body Length | | Attenuation Range | Part | ----- Exhaust Flow (cfm) @ ----- | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | dB(A) | Number | 3" Hg 40.8" $H_2O$ | 2" Hg 27.2" $H_2O$ | 1" Hg 13.6" $H_2O$ |
| 1.68 | 43 | 1.64 | 42 | 4.38 | 111 | 13.78 | 350 | 12-18 | M045193 | 220 | 180 | 127 |
| 2.00 | 51 | 2.00 | 51 | 6.00 | 152 | 15.75 | 400 | 12-18 | M060481 | 498 | 393 | 283 |
| | | 2.00 | 51 | 6.00 | 152 | 18.81 | 478 | 15-20 | M060158 | 383 | 313 | 221 |
| 2.50 | 64 | 2.50 | 64 | 6.62 | 168 | 17.75 | 451 | 12-18 | M065140 | 780 | 613 | 441 |
| | | 2.50 | 64 | 6.62 | 168 | 20.89 | 531 | 15-20 | M065044 | 564 | 461 | 326 |
| 3.00 | 76 | 3.00 | 76 | 8.50 | 216 | 19.75 | 502 | 12-18 | M085409 | 1125 | 884 | 636 |
| | | 3.00 | 76 | 8.80 | 224 | 27.12 | 689 | 15-20 | M085226[1] | 808 | 659 | 466 |
| 3.02 | 77 | 3.00 | 76 | 8.50 | 216 | 26.25 | 667 | 15-20 | M085090 | 808 | 659 | 466 |
| 3.50 | 89 | 3.00 | 76 | 8.50 | 216 | 27.00 | 686 | 12-18 | M085084 | 801 | 654 | 462 |
| | | 3.50 | 89 | 9.00 | 229 | 21.75 | 552 | 12-18 | M091048 | 1525 | 1203 | 865 |
| | | 3.50 | 89 | 8.3 x 11.5 | 211 x 292 | 26.13 | 664 | 15-20 | M090301 | 1114 | 910 | 643 |
| 4.00 | 102 | 4.00 | 102 | 10.00 | 254 | 23.75 | 603 | 12-18 | M101169 | 2000 | 1570 | 1130 |
| | | 4.00 | 102 | 10.00 | 254 | 28.00 | 711 | 15-20 | M100146 | 1341 | 1095 | 774 |
| | | 4.00 | 102 | 11.00 | 279 | 33.00 | 838 | 15-20 | M110674[6] | 1677 | 1369 | 968 |
| | | 4.00 | 102 | 11.00 | 279 | 36.00 | 914 | 19-25 | M110479 | 1608 | 1313 | 928 |
| | | 5.00 | 127 | 9.00 | 229 | 44.50 | 1130 | 15-20 | M090823 | 2329 | 1902 | 1345 |
| | | 5.00 | 127 | 11.84 | 301 | 32.13 | 816 | 12-18 | M120598 | 2264 | 1848 | 1307 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 21.00 | 533 | 12-17 | M120566 | 2205 | 1800 | 1273 |
| | | 3.85 OD | 98 OD | 10 x 15 | 254 x 381 | 15.00 | 381 | 12-18 | M120382 | 2265 | 1849 | 1307 |
| | | Down Spout | | 11.00 | 279 | 36.00 | 914 | 13-19 | M111024 | 1702 | 1390 | 983 |
| 5.00 | 127 | 5.00 | 127 | 10.00 | 254 | 44.50 | 1130 | 13-18 | M100213 | 2415 | 1972 | 1394 |
| | | 5.00 | 127 | 11.84 | 301 | 25.75 | 654 | 12-18 | M120749 | 3100 | 2450 | 1762 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 35.87 | 911 | 15-20 | M120235 | 2098 | 1713 | 1211 |

1 - Wrapped muffler (reduces noise and surface temperature)
2 - Stainless Steel
6 - Band clamp on inlet tube
7 - Face flange on inlet

# Muffler Selection by Style, Attenuation & Exhaust Flow




**Stated backpressure levels include muffler, average tubing lengths, and accessories.**

## Style 4 - End Inlet/Slde Outlet

| -- Inlet I.D. -- | | --- Outlet I.D. --- | | Body Diameter | | Body Length | | Attenuation Range | Part | ----- Exhaust Flow (cfm) @ ----- | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | dB(A) | Number | 3" Hg 40.8" $H_2O$ | 2" Hg 27.2" $H_2O$ | 1" Hg 13.6" $H_2O$ |
| 2.00 | 51 | 2.00 | 51 | 6.00 | 152 | 15.75 | 400 | 12-18 | M060481 | 498 | 393 | 283 |
| 2.50 | 64 | 2.50 | 64 | 6.62 | 168 | 17.75 | 451 | 12-18 | M065140 | 780 | 613 | 441 |
| 3.00 | 76 | 3.00 | 76 | 8.50 | 216 | 19.75 | 502 | 12-18 | M085409 | 1125 | 884 | 636 |
| | | 3.00 | 76 | 8.50 | 216 | 26.25 | 667 | 15-20 | M085206 | 715 | 583 | 413 |
| 3.50 | 89 | 3.50 | 89 | 9.00 | 229 | 21.75 | 552 | 12-18 | M091048 | 1525 | 1203 | 865 |
| | | 4.00 | 102 | 8.2 x 11.5 | 208 x 292 | 32.56 | 827 | 13-18 | M090547 | 1500 | 1224 | 866 |
| | | 4.00 OD | 102 OD | 8.2 x 11.5 | 208 x 292 | 32.56 | 827 | 13-18 | M090548 | 1913 | 1562 | 1105 |
| 4.00 | 102 | 4.00 | 102 | 10.00 | 254 | 23.75 | 603 | 12-18 | M101169 | 2000 | 1570 | 1130 |
| | | 4.00 | 102 | 10.00 | 254 | 27.75 | 705 | 13-18 | M100052 | 1679 | 1371 | 969 |
| | | 4.00 | 102 | 11.00 | 279 | 36.00 | 914 | 15-21 | M110112 | 1852 | 1512 | 1069 |
| | | 4.00 | 102 | 11.00 | 279 | 36.00 | 914 | 15-21 | M110148 | 1852 | 1512 | 1069 |
| | | 4.00 OD | 102 OD | 11.00 | 279 | 36.00 | 914 | 15-21 | M110311 | 1852 | 1512 | 1069 |
| | | 4.00 | 102 | 10 x 15 | 254 x 381 | 30.38 | 772 | 15-20 | M120367 | 1708 | 1394 | 986 |
| | | 4.00 | 102 | 10 x 15 | 254 x 381 | 23.88 | 556 | 14-19 | M120135 | 2100 | 1750 | 1260 |
| 4.00 OD | 102 OD | 4.00 OD | 102 OD | 11.00 | 279 | 36.00 | 914 | 15-21 | M111025 | 1976 | 1613 | 1141 |
| 5.00 | 127 | 5.00 | 127 | 11.00 | 279 | 46.00 | 1168 | 15-20 | M110014 | 2462 | 2010 | 1421 |
| | | 5.00 | 127 | 11.84 | 301 | 25.75 | 654 | 12-18 | M120749 | 3100 | 2450 | 1762 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 28.00 | 711 | 12-17 | M120417 | 1895 | 1570 | 1130 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 36.00 | 914 | 15-20 | M120366 | 2400 | 1960 | 1386 |

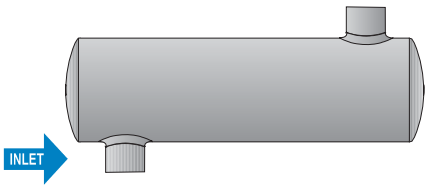



Mufflers in blue text have high temperature black finish and are designed for off-road applications.

## Style 5 - Inlet & Outlet on Same End

| -- Inlet I.D. -- | | --- Outlet I.D. --- | | Body Diameter | | Body Length | | Attenuation Range | Part | ----- Exhaust Flow (cfm) @ ----- | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | dB(A) | Number | 3" Hg 40.8" $H_2O$ | 2" Hg 27.2" $H_2O$ | 1" Hg 13.6" $H_2O$ |
| 2.00 | 51 | 2.00 | 51 | 6.00 | 152 | 15.75 | 400 | 12-18 | M060482 | 498 | 393 | 283 |
| | | 2.00 | 51 | 6.00 | 152 | 16.90 | 429 | 15-20 | M060250 | 513 | 419 | 296 |
| 2.50 | 64 | 2.50 | 64 | 6.62 | 168 | 17.75 | 451 | 12-18 | M065141 | 780 | 613 | 441 |
| | | 2.50 | 64 | 6.62 | 168 | 20.00 | 508 | 15-20 | M065073 | 718 | 586 | 414 |
| 3.00 | 76 | 3.00 | 76 | 8.50 | 216 | 22.00 | 559 | 15-20 | M085207 | 1087 | 888 | 628 |
| | | 3.00 | 76 | 8.50 | 216 | 19.75 | 502 | 12-18 | M085410 | 1125 | 884 | 636 |
| 3.50 | 89 | 3.50 | 89 | 9.00 | 229 | 21.75 | 552 | 12-18 | M091049 | 1525 | 1203 | 865 |
| 4.00 | 102 | 4.00 | 102 | 10.00 | 254 | 23.75 | 603 | 12-18 | M101170 | 2000 | 1570 | 1130 |
| | | 4.00 | 102 | 10.00 | 254 | 27.75 | 705 | 15-20 | M100049 | 1450 | 1184 | 837 |
| | | 4.00 | 102 | 10 x 15 | 254 x 381 | 26.00 | 660 | 18-20 | M120154 | 1390 | 1135 | 803 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 27.00 | 686 | 15-20 | M120713 | 2069 | 1689 | 1159 |
| 5.00 | 127 | 5.00 | 127 | 10 x 15 | 254 x 381 | 26.25 | 667 | 15-20 | M120176 | 2046 | 1670 | 1181 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 26.00 | 660 | 8-12 | M120131 | 2913 | 2378 | 1682 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 33.38 | 848 | 19-25 | M120189 | 2050 | 1674 | 1184 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 44.00 | 1118 | 13-18 | M120450 | 2679 | 2188 | 1547 |
| | | 5.00 | 127 | 11.84 | 301 | 25.75 | 654 | 12-18 | M120750 | 3100 | 2450 | 1762 |

# Muffler Selection by Style, Attenuation & Exhaust Flow




**Stated backpressure levels include muffler, average tubing lengths, and accessories.**



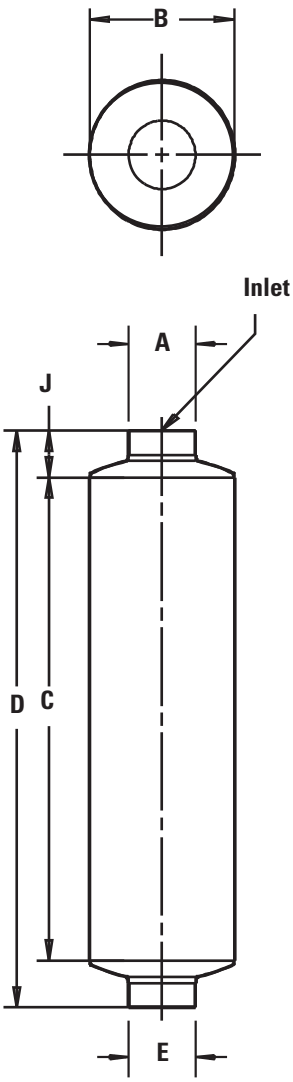
## Style 6 - Side Inlet/Side Outlet

| -- Inlet I.D. -- | | --- Outlet I.D. --- | | Body Diameter | | Body Length | | Attenuation Range | Part | ----- Exhaust Flow (cfm) @ ----- | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | dB(A) | Number | 3" Hg 40.8" $H_2O$ | 2" Hg 27.2" $H_2O$ | 1" Hg 13.6" $H_2O$ |
| 2.00 | 51 | 2.00 | 51 | 6.00 | 152 | 15.50 | 394 | 12-18 | M060483 | 498 | 393 | 283 |
| | | 2.00 | 51 | 6.00 | 152 | 18.81 | 478 | 12-18 | M060251 | 487 | 398 | 281 |
| 2.50 | 64 | 2.50 | 64 | 6.62 | 168 | 17.50 | 444 | 12-18 | M065142 | 780 | 613 | 441 |
| | | 2.50 | 64 | 6.62 | 168 | 20.81 | 529 | 15-20 | M065074 | 692 | 565 | 400 |
| 3.00 | 76 | 3.00 | 76 | 8.50 | 216 | 19.50 | 495 | 12-18 | M085411 | 1125 | 884 | 636 |
| | | 3.00 | 76 | 8.50 | 216 | 27.00 | 686 | 15-20 | M085208 | 1043 | 651 | 602 |
| 3.50 | 89 | 3.50 | 89 | 8.3 x 11.5 | 211 x 292 | 26.00 | 660 | 15-20 | M090598 | 1164 | 950 | 672 |
| | | 3.50 | 89 | 9.00 | 229 | 21.50 | 546 | 12-18 | M091050 | 1525 | 1203 | 865 |
| 4.00 | 102 | 4.00 | 102 | 10.00 | 254 | 23.50 | 597 | 12-18 | M101171 | 2000 | 1570 | 1130 |
| | | 4.00 | 102 | 10.12 | 257 | 28.00 | 711 | 15-20 | M100572 | 1659 | 1355 | 958 |
| | | 4 OD | 102 OD | 11.00 | 279 | 36.00 | 914 | 13-19 | M111026 | 1887 | 1541 | 1090 |
| 5.00 | 127 | 5.00 | 127 | 11.84 | 301 | 25.50 | 648 | 12-18 | M120751 | 3100 | 2450 | 1762 |
| | | 5.00 | 127 | 10 x 15 | 254 x 381 | 28.00 | 711 | 15-20 | M120418 | 2350 | 1919 | 1357 |

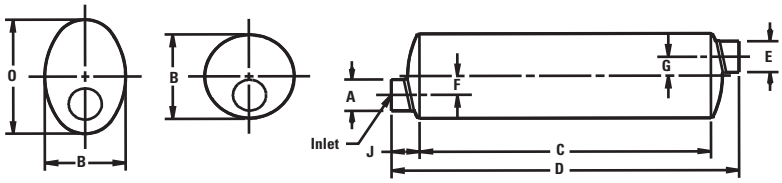
Mufflers in blue text have high temperature black finish and are designed for off-road applications.

**Choose the desired inlet diameter for the engine's air flow requirement that is at or below the acceptable backpressure level.**

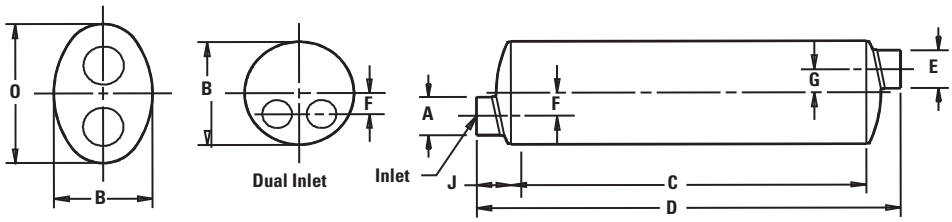
## Style 1 - End Inlet /End Outlet /On Center



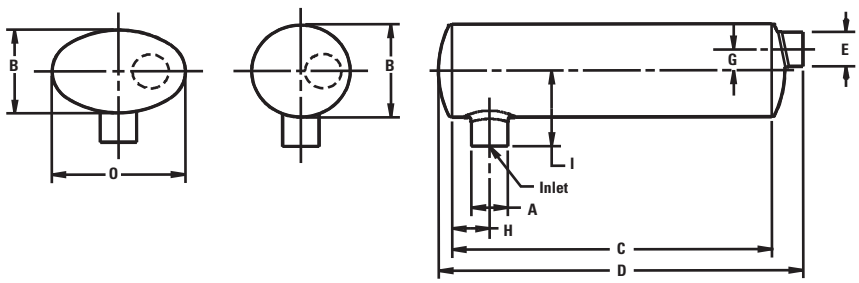

## Style 2 - End Inlet /End Outlet /Offset



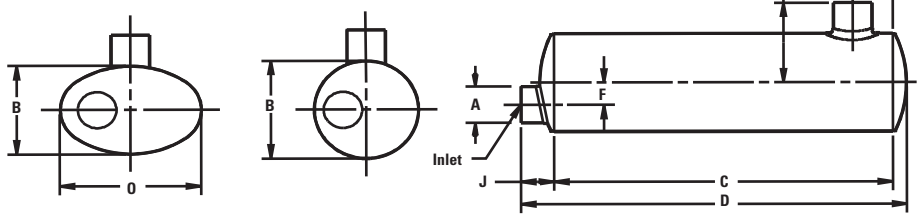

## Style 2A - Dual End Inlet /End Outlet



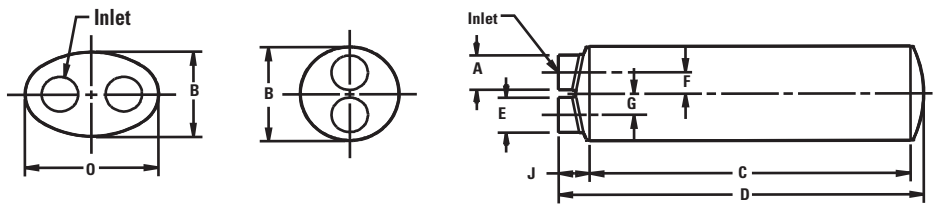

## Style 3 - Side Inlet /End Outlet



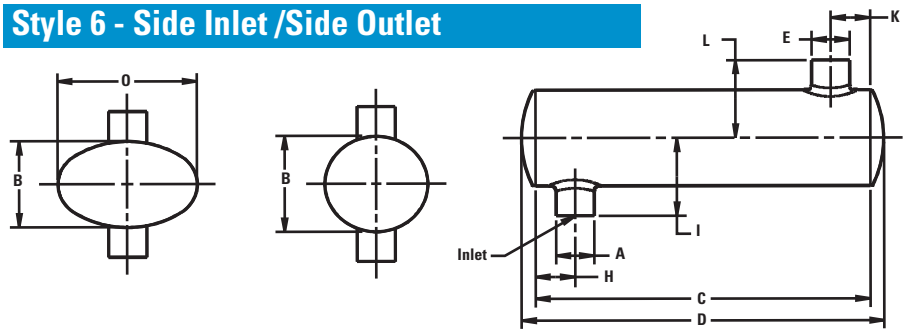

## Style 4 - End Inlet /Side Outlet




## Style 5 - Inlet & Outlet on Same End




## Style 6 - Side Inlet /Side Outlet

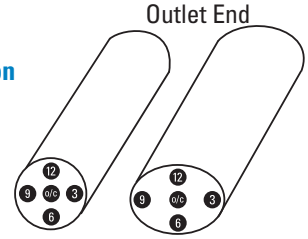


# Muffler Specifications by Part Number



| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position Inlet | Clock Position Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M045193 | 3 | 1.68<br>43 | 4.38<br>111 | 13.78<br>350 | 15.78<br>401 | 1.64<br>42 | | | 2.75<br>70 | 4.00<br>102 | | | | 12:00 | | 4<br>2 |
| M045237 | 1 | 2.00<br>51 | 4.38<br>111 | 12.50<br>318 | 17.00<br>432 | 2.10 OD<br>53 OD | | | | | 2.50<br>64 | | | | | 4<br>2 |
| M060005 | 1 | 2.5 NPT | 6.00<br>152 | 15.00<br>381 | 18.12<br>460 | 2.5NPT | | | | | 1.56<br>40 | | | | | 9<br>4 |
| M060055 | 2 | 2.00<br>51 | 6.00<br>152 | 16.90<br>429 | 21.90<br>556 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.50<br>64 | | | 6:00 | 12:00 | 7<br>3 |
| M060158 | 3 | 2.00<br>51 | 6.00<br>152 | 18.81<br>478 | 21.50<br>546 | 2.00<br>51 | | 1.50<br>38 | 3.50<br>89 | 5.00<br>127 | | | | 3:00 | 6:00 | 9<br>4 |
| M060232 | 2 | 2.00<br>51 | 6.00<br>152 | 24.00<br>610 | 29.00<br>737 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.50<br>64 | | | 6:00 | 12:00 | 9<br>4 |
| M060247 | 1 | 2 NPT | 6.00<br>152 | 14.50<br>368 | 20.00<br>508 | 2 NPT | | | | | 2.75<br>70 | | | | | 7<br>3 |
| M060250 | 5 | 2.00<br>51 | 6.00<br>152 | 16.90<br>429 | 19.40<br>493 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.50<br>64 | | | 6:00 | 12:00 | 8<br>4 |
| M060251 | 6 | 2.00<br>51 | 6.00<br>152 | 18.81<br>478 | 18.81<br>478 | 2.00<br>51 | | | 3.50<br>89 | 5.00<br>127 | | 3.50<br>89 | 5.00<br>127 | 6:00 | 12:00 | 8<br>4 |
| M060479[8] | 1 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 21.00<br>533 | 2.00<br>51 | | | | | 2.62<br>67 | | | | | 7.6<br>3.4 |
| M060480[8] | 2 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 21.00<br>533 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.62<br>67 | | | 6:00 | 12:00 | 7.6<br>3.4 |
| M060481[9] | 3/4 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 19.25<br>489 | 2.00<br>51 | | | 1.88<br>48 | 5.00<br>127 | | | | 6:00 | | 7.6<br>3.4 |
| M060482[8] | 5 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 19.25<br>489 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.62<br>67 | | | | | 8.4<br>3.8 |
| M060483[8] | 6 | 2.00<br>51 | 6.00<br>152 | 15.50<br>394 | 17.24<br>438 | 2.00<br>51 | | | 1.75<br>44 | 5.00<br>127 | | 1.75<br>44 | 5.00<br>127 | 6:00 | 12:00 | 7.4<br>3.4 |
| M060483[8] | 2 | 2.50<br>64 | 6.62<br>168 | 18.56<br>471 | 23.00<br>584 | 2.50<br>64 | 1.62<br>41 | 1.62<br>41 | | | 1.50<br>38 | | | 6:00 | 12:00 | 9<br>4 |
| M065044 | 3 | 2.50<br>64 | 6.62<br>168 | 20.89<br>531 | 23.50<br>597 | 2.50<br>64 | | 1.62<br>41 | 3.50<br>89 | 6.00<br>152 | | | | 6:00 | 9:00 | 12<br>5 |
| M065065 | 2 | 2.50<br>64 | 6.62<br>168 | 27.75<br>705 | 35.00<br>889 | 2.50<br>64 | 1.62<br>41 | 1.62<br>41 | | | 3.50<br>89 | | | 6:00 | 12:00 | 13<br>6 |
| M065071 | 1 | 2.50<br>64 | 6.62<br>168 | 15.00<br>381 | 22.00<br>559 | 2.60 OD<br>66 OD | | | | | 3.50<br>89 | | | | | 7<br>3 |
| M065073 | 5 | 2.50<br>64 | 6.62<br>168 | 20.00<br>508 | 21.50<br>546 | 2.50<br>64 | 1.62<br>41 | 1.62<br>41 | | | 1.50<br>38 | | | 6:00 | 12:00 | 10<br>5 |
| M065074 | 6 | 2.50<br>64 | 6.62<br>168 | 20.81<br>529 | 20.81<br>529 | 2.50<br>64 | | | 3.50<br>89 | 6.00<br>152 | | 3.50<br>89 | 6.00<br>152 | 6:00 | 12:00 | 10<br>5 |
| M065138[8] | 1 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 24.00<br>610 | 2.50<br>64 | | | | | 3.12<br>79 | | | | | 9.8<br>4.5 |
| M065139[8] | 2 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 24.00<br>610 | 2.50<br>64 | 1.62<br>41 | 1.62<br>41 | | | 3.12<br>79 | | | 6:00 | 12:00 | 9.8<br>4.5 |
| M065140[9] | 3/4 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 22.04<br>560 | 2.50<br>64 | | | 2.38<br>60 | 5.75<br>146 | | | | 6:00 | | 10<br>4.5 |
| M065141[8] | 5 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 22.04<br>560 | 2.50<br>64 | 1.63<br>41 | 1.63<br>41 | | | 3.12<br>79 | | | 6:00 | 12:00 | 10.6<br>4.8 |
| M065142[8] | 6 | 2.50<br>64 | 6.62<br>168 | 17.50<br>444 | 19.84<br>504 | 2.50<br>64 | | | 2.50<br>64 | 5.75<br>146 | | 2.25<br>57 | 5.75<br>146 | 6:00 | 12:00 | 9.4<br>4.2 |

**Clock Position**




Footnotes

1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

# Muffler Specifications by Part Number



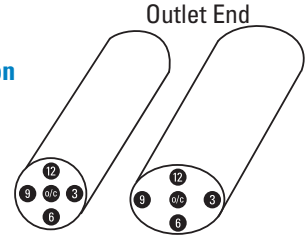
| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position: Inlet | Clock Position: Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M070008 | 1 | 3 NPT | 7.00<br>178 | 14.00<br>356 | 19.75<br>502 | 3 NPT | | | | | 2.38<br>60 | | | | | 13<br>6 |
| M070028 | 1 | 3.50<br>89 | 7.00<br>178 | 14.00<br>356 | 19.75<br>502 | 3.50<br>89 | | | | | 2.38<br>60 | | | | | 10<br>5 |
| M070050 | 1 | 3.5 NPT | 7.00<br>178 | 18.38<br>467 | 25.62<br>651 | 3.5 NPT | | | | | 3.00<br>76 | | | | | 18<br>8 |
| M080018 | 1 | 3.00<br>76 | 8.00<br>203 | 12.18<br>309 | 17.00<br>432 | 3.13 OD<br>80 OD | | | | | 1.38<br>35 | | | | | 10<br>5 |
| M085008 | 2 | 3.50<br>89 | 8.50<br>216 | 38.00<br>965 | 43.00<br>1092 | 3.00<br>76 | 1.75<br>44 | 2.00<br>51 | | | 2.50<br>64 | | | 6:00 | 12:00 | 23<br>10 |
| M085023 | 2 | 3.00<br>76 | 8.50<br>216 | 31.25<br>794 | 36.25<br>921 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 2.50<br>64 | | | 6:00 | 12:00 | 19<br>9 |
| M085056 | 2 | 3.00<br>76 | 8.50<br>216 | 20.50<br>521 | 25.00<br>635 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 1.50<br>38 | | | 6:00 | 12:00 | 14<br>6 |
| M085078 | 2 | 3.00<br>76 | 8.50<br>216 | 27.50<br>699 | 32.00<br>813 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 1.50<br>38 | | | 6:00 | 12:00 | 20<br>9 |
| M085080 | 2 | 3.00<br>76 | 8.50<br>216 | 27.75<br>705 | 33.75<br>857 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 3.50<br>89 | | | 6:00 | 6:00 | 20<br>9 |
| M085084 | 3 | 3.50<br>89 | 8.50<br>216 | 27.00<br>686 | 29.50<br>749 | 3.00<br>76 | | 2.00<br>51 | 4.50<br>114 | 7.25<br>184 | | | | 3:00 | 6:00 | 20<br>9 |
| M085090 | 3 | 3.02<br>77 | 8.50<br>216 | 26.25<br>667 | 29.50<br>749 | 3.00<br>76 | | 2.00<br>51 | 3.50<br>89 | 6.75<br>171 | | | | 3:00 | 6:00 | 20<br>9 |
| M085171 | 1 | 4.00<br>102 | 8.50<br>216 | 34.37<br>873 | 40.00<br>1016 | 4.00<br>102 | | | | | 2.50<br>64 | | | | | 21<br>10 |
| M085172 | 2A | 2.50 (2)<br>64 (2) | 8.50<br>216 | 30.00<br>762 | 39.00<br>991 | 2.75<br>70 | 1.62 (2)<br>41 (2) | 2.00<br>51 | | | 2.50 (2)<br>64 (2) | | | 6:00(2) | 6:00 | 24<br>11 |
| M085189[2] | 2A | 2.50 (2)<br>64 (2) | 8.50<br>216 | 31.25<br>794 | 36.25<br>921 | 3.00<br>76 | 1.62 (2)<br>41 (2) | 2.00<br>51 | | | 2.50 (2)<br>64 (2) | | | 6:00 (2) | 12:00 | 23<br>10 |
| M085206 | 4 | 3.00<br>76 | 8.50<br>216 | 26.25<br>667 | 29.50<br>749 | 3.00<br>76 | 2.00<br>51 | | | | 3.25<br>83 | 3.50<br>89 | 6.75<br>171 | 6:00 | 9:00 | 20<br>9 |
| M085207 | 5 | 3.00<br>76 | 8.50<br>216 | 22.00<br>559 | 23.50<br>597 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 1.50<br>38 | | | 6:00 | 12:00 | 16<br>7 |
| M085208 | 6 | 3.00<br>76 | 8.50<br>216 | 27.00<br>686 | 27.00<br>686 | 3.00<br>76 | | | 3.50<br>89 | 6.75<br>171 | | 3.50<br>89 | 6.75<br>171 | 6:00 | 12:00 | 17<br>8 |
| M085226[1] | 3 | 3.00<br>76 | 8.80<br>224 | 27.12<br>689 | 29.56<br>751 | 3.00<br>76 | | 2.00<br>51 | 4.56<br>116 | 6.75<br>171 | | | | 3:00 | 6:00 | 28<br>13 |
| M085267[1,2] | 2A | 2.50 (2)[7]<br>64 (2)[7] | 8.75<br>222 | 30.12<br>765 | 38.97<br>990 | 3 OD<br>76 OD | 1.62 (2)<br>41 (2) | 2.00<br>51 | | | 5.72/3.22<br>146/82 | | | 6:00 (2) | 12:00 | 32<br>15 |
| M085293 | 1 | 2.89[7]<br>73 [7] | 8.50<br>216 | 31.75<br>806 | 46.25<br>1175 | 3.16 OD<br>80 OD | | | | | | | | | | 28<br>12 |
| M085407[8] | 1 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 26.50<br>673 | 3.00<br>76 | | | | | 3.38<br>86 | | | | | 15.2<br>7 |
| M085408[8] | 2 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 26.50<br>673 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 3.38<br>86 | | | 6:00 | 12:00 | 15.2<br>7 |
| M085409[9] | 3/4 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 24.27<br>616 | 3.00<br>76 | | | 2.88<br>73 | 6.50<br>165 | | | | 6:00 | | 15.4<br>7 |
| M085410[8] | 5 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 24.27<br>616 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 3.38<br>86 | | | 6:00 | 12:00 | 17<br>7.7 |
| M085411[8] | 6 | 3.00<br>76 | 8.50<br>216 | 19.50<br>495 | 21.78<br>553 | 3.00<br>76 | | | 3.00<br>76 | 6.50<br>165 | | 3.00<br>76 | 6.50<br>165 | 6:00 | 12:00 | 14.2<br>6.4 |
| M085421 | 1 | 4.00<br>102 | 8.50<br>216 | 34.37<br>873 | 40.00<br>1016 | 4.00<br>102 | | | | | 2.50<br>64 | | | | | 21<br>10 |
| M090009 | 1 | 4 NPT | 9.00<br>229 | 20.00<br>508 | 26.00<br>660 | 4 NPT | | | | | 3.00<br>76 | | | | | 23<br>10 |
| M090072[5] | 1 | 5.00<br>127 | 9.00<br>229 | 10.00<br>254 | 16.50<br>419 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 9<br>4 |

# Muffler Specifications by Part Number



| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position Inlet | Clock Position Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M090074 | 1 | 5.00<br>127 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 29<br>13 |
| M090095 | 1 | 4.00[7]<br>102[7] | 9.00<br>229 | 29.31<br>744 | 73.00<br>1854 | 4 OD<br>102 OD | | | | | | | | | | 33<br>15 |
| M090146 | 1 | 3.50<br>89 | 9.00<br>229 | 44.50<br>1130 | 51.00<br>1295 | 3.50<br>89 | | | | | 3.00<br>76 | | | | | 32<br>15 |
| M090158 | 2 | 3.50<br>89 | 8.3 x11.5<br>211 x 292 | 26.00<br>660 | 32.25<br>819 | 3.50<br>89 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 24<br>11 |
| M090159[1] | 2 | 3.00<br>76 | 8.5 x11.8<br>216 x 300 | 26.00<br>660 | 33.75<br>857 | 3.00<br>76 | 2.50<br>64 | 2.50<br>64 | | | 3.88<br>99 | | | 3:00 | 3:00 | 29<br>13 |
| M090170 | 2 | 3.00<br>76 | 8.3 x11.5<br>211 x 292 | 26.00<br>660 | 33.75<br>857 | 3.00<br>76 | 2.50<br>64 | 2.50<br>64 | | | 3.88<br>99 | | | 3:00 | 3:00 | 20<br>9 |
| M090210[1] | 2 | 3.50<br>89 | 8.5 x11.8<br>216 x 300 | 26.00<br>660 | 32.25<br>819 | 3.50<br>89 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 34<br>15 |
| M090280 | 2 | 4.00<br>102 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 32.25<br>819 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 22<br>10 |
| M090301 | 3 | 3.50<br>89 | 8.3 x11.5<br>211 x 292 | 26.13<br>664 | 29.25<br>743 | 3.50<br>89 | | 2.50<br>64 | 3.25<br>83 | 7.00<br>178 | | | | 6:00 | 9:00 | 23<br>10 |
| M090362[5] | 1 | 4.00<br>102 | 9.00<br>229 | 10.00<br>254 | 16.50<br>419 | 4.00<br>102 | | | | | 3.00<br>76 | | | | | 9<br>4 |
| M090520 | 2 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 32.25<br>819 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 21<br>10 |
| M090534 | 2 | 4.00<br>102 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 33.75<br>857 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.88<br>99 | | | 3:00 | 9:00 | 26<br>12 |
| M090535 | 1 | 5.00<br>127 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 30<br>14 |
| M090538 | 2 | 4.00<br>102 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 32.25<br>819 | 3.50<br>89 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 12:00 | 26<br>12 |
| M090544 | 1 | 4.00<br>102 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 4.00<br>102 | | | | | 3.00<br>76 | | | | | 27<br>12 |
| M090547 | 4 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 32.56<br>827 | 35.16<br>893 | 4.00<br>102 | 2.50<br>64 | | | | 2.60<br>66 | 20.48<br>520 | 6.00<br>152 | 9:00 | 7:00 | 22<br>10 |
| M090548 | 4 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 32.56<br>827 | 35.16<br>893 | 4 OD<br>102 OD | 2.50<br>64 | | | | 2.60<br>66 | 20.48<br>520 | 8.70<br>221 | 3:00 | 7:30 | 21<br>10 |
| M090563 | 2A | 2.75 (2)<br>70 (2) | 8.2 x11.5<br>208 x 292 | 27.00<br>686 | 32.75<br>832 | 4.00<br>102 | 0.15/4.00<br>9/102 | 2.50<br>64 | | | 2.63 (2)<br>67 (2) | | | 9:00-3:00 | 3:00 | 22<br>10 |
| M090594 | 1 | 4.00<br>102 | 9.00<br>229 | 20.00<br>508 | 26.50<br>673 | 4.00<br>102 | | | | | 3.00<br>76 | | | | | 14<br>6 |
| M090595 | 1 | 5.00<br>127 | 9.00<br>229 | 20.00<br>508 | 26.50<br>673 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 15<br>7 |
| M090598 | 6 | 3.50<br>89 | 8.3 x11.5<br>211 x 292 | 26.00<br>660 | 26.00<br>660 | 3.50<br>89 | | | 3.38<br>86 | 7.00<br>178 | | 3.38<br>86 | 7.00<br>178 | 6:00 | 12:00 | 20<br>9 |
| M090680 | 2 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 30.00<br>762 | 36.25<br>921 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 25<br>11 |
| M090781 | 1 | 4.00<br>102 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 30<br>14 |
| M090823 | 3 | 4.00<br>102 | 9.00<br>229 | 44.50<br>1130 | 48.00<br>1219 | 5.00<br>127 | | | 3.81<br>97 | 6.69<br>170 | | | | 6:00 | | 30<br>13 |
| M091046[8] | 1 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 29.00<br>737 | 3.50<br>89 | | | | | 3.62<br>89 | | | | | 15.8<br>7.2 |

**Clock Position**




Footnotes

1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

# Muffler Specifications by Part Number



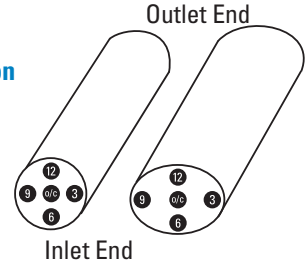
| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position: Inlet | Clock Position: Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M091047[8] | 2 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 29.00<br>737 | 3.50<br>89 | 2.10<br>53 | 2.10<br>53 | | | 3.62<br>89 | | | 6:00 | 12:00 | 15.8<br>7.2 |
| M091048[9] | 3/4 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 26.38<br>670 | 3.50<br>89 | | | 3.38<br>86 | 7.25<br>184 | | | | 6:00 | | 15.9<br>7.2 |
| M091049[8] | 5 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 26.44<br>672 | 3.50<br>89 | 2.10<br>53 | 2.10<br>53 | | | 3.62<br>89 | | | 6:00 | 12:00 | 17.3<br>7.9 |
| M091050[8] | 6 | 3.50<br>89 | 9.00<br>229 | 21.50<br>546 | 23.64<br>600 | 3.50<br>89 | | | 3.25<br>83 | 7.25<br>184 | | 3.25<br>83 | 7.25<br>184 | 6:00 | 12:00 | 15.1<br>6.9 |
| M100043 | 2 | 4.00<br>102 | 10.00<br>254 | 35.38<br>899 | 41.75<br>1060 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 2.88<br>73 | | | 6:00 | 12:00 | 32<br>15 |
| M100048 | 2 | 4.00<br>102 | 10.00<br>254 | 27.12<br>689 | 33.50<br>851 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 2.88<br>73 | | | 6:00 | 12:00 | 27<br>12 |
| M100049 | 5 | 4.00<br>102 | 10.00<br>254 | 27.75<br>705 | 30.62<br>778 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 2.88<br>73 | | | 12:00 | 6:00 | 23<br>10 |
| M100052 | 4 | 4.00<br>102 | 10.00<br>254 | 27.75<br>705 | 30.75<br>781 | 4.00<br>102 | 2.44<br>62 | | | | 3.00<br>76 | 24.25<br>616 | 8.75<br>222 | 6:00 | 2:00 | 25<br>11 |
| M100146 | 3 | 4.00<br>102 | 10.00<br>254 | 28.00<br>711 | 32.00<br>813 | 4.00<br>102 | | 2.44<br>62 | 4.50<br>114 | 8.00<br>203 | | | | 6:00 | 9:00 | 27<br>12 |
| M100213 | 3 | 5.00<br>127 | 10.00<br>254 | 44.50<br>1130 | 48.00<br>1219 | 5.00<br>127 | | | 5.50<br>140 | 7.50<br>191 | | | | 6:00 | | 33<br>15 |
| M100463 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 31<br>14 |
| M100464[1] | 1 | 4.00<br>102 | 10.33<br>262 | 44.50<br>1130 | 51.00<br>1295 | 4.00<br>102 | | | | | 3.00<br>76 | | | | | 52<br>24 |
| M100465 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 28<br>13 |
| M100466 | 1 | 4.00<br>102 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 4.00<br>102 | | | | | 3.00<br>76 | | | | | 27<br>12 |
| M100572 | 6 | 4.00<br>102 | 10.12<br>257 | 28.00<br>711 | 30.62<br>778 | 4.00<br>102 | | | 4.50<br>114 | 8.00<br>203 | | 4.50<br>114 | 8.00<br>203 | 6:00 | 12:00 | 22<br>10 |
| M100580 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 29<br>13 |
| M100582 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 31<br>14 |
| M100695 | 1 | 4.00<br>102 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 30<br>14 |
| M100807 | 1 | 5.00<br>127 | 10.00<br>254 | 59.94<br>1522 | 66.50<br>1689 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 48<br>22 |
| M100944 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 32<br>15 |
| M101158[4] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 43<br>20 |
| M101159[4] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 43<br>20 |
| M101167[8] | 1 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 32.00<br>813 | 4.00<br>102 | | | | | 4.12<br>105 | | | | | 19.3<br>8.8 |
| M101168[8] | 2 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 32.00<br>813 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 4.12<br>105 | | | 6:00 | 12:00 | 19.3<br>8.8 |
| M101169[9] | 3/4 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 29.24<br>743 | 4.00<br>102 | | | 3.88<br>99 | 8.00<br>203 | | | | 6:00 | | 19.8<br>9 |
| M101170[8] | 5 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 29.24<br>743 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 4.12<br>105 | | | 6:00 | 12:00 | 22<br>10 |
| M101171[8] | 6 | 4.00<br>102 | 10.00<br>254 | 23.50<br>597 | 26.24<br>666 | 4.00<br>102 | | | 3.75<br>95 | 8.00<br>203 | | 3.75<br>95 | 8.00<br>203 | 6:00 | 12:00 | 19.1<br>8.7 |
| M101181[3] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 43<br>20 |
| M101182[3] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 43<br>20 |

# Muffler Specifications by Part Number



| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position Inlet | Clock Position Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M101263 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 53.00<br>1346 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 31<br>14 |
| M110012 | 2 | 4.00<br>102 | 11.00<br>279 | 30.00<br>762 | 36.00<br>914 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.00<br>76 | | | 6:00 | 12:00 | 26<br>12 |
| M110014 | 4 | 5.00<br>127 | 11.00<br>279 | 46.00<br>1168 | 51.75<br>1314 | 5.00<br>127 | 2.50<br>64 | | | | 4.25<br>108 | 38.50<br>978 | 8.50<br>216 | 6:00 | 12:00 | 45<br>20 |
| M110077 | 2 | 5.00<br>127 | 11.00<br>279 | 44.00<br>1118 | 50.00<br>1270 | 5.00<br>127 | 2.50<br>64 | 2.50<br>64 | | | 3.00<br>76 | | | 6:00 | 12:00 | 44<br>20 |
| M110112 | 4 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 39.00<br>991 | 4.00<br>102 | 2.50<br>64 | | | | 3.00<br>76 | 15.97<br>406 | 8.64<br>219 | 6:00 | 9:00 | 29<br>13 |
| M110148 | 4 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 39.00<br>991 | 4.00<br>102 | 2.50<br>64 | | | | 3.00<br>76 | 17.25<br>438 | 8.64<br>219 | 6:00 | 12:00 | 29<br>13 |
| M110189 | 2 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 41.25<br>1048 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 2.63<br>67 | | | 6:00 | 12:00 | 34<br>15 |
| M110311 | 4 | 4.00 OD<br>102 | 11.00<br>279 | 36.00<br>914 | 41.00<br>1041 | 4.00<br>102 | 2.50<br>64 | | | | 5.00<br>127 | 27.10<br>688 | 8.64<br>219 | 6:00 | 12:00 | 27<br>12 |
| M110479 | 3 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 39.00<br>991 | 4.00<br>102 | | 2.50<br>64 | 4.25<br>108 | 8.64<br>219 | | | | 6:00 | 3:00 | 31<br>14 |
| M110674[6] | 3 | 4.00<br>102 | 11.00<br>279 | 33.00<br>838 | 36.00<br>914 | 4.00<br>102 | | | 3.75<br>95 | 8.64<br>219 | | | | 6:00 | | 27<br>12 |
| M110849 | 1 | 5.00<br>127 | 11.00<br>279 | 50.50<br>1283 | 57.00<br>1448 | 5.00<br>127 | | | | | 3.00<br>76 | | | | | 48<br>22 |
| M111024 | 3 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 44.59<br>1133 | Down<br>Spout | | | 3.75<br>95 | 8.64<br>219 | | | | 12:00 | 6:00 | 34<br>15 |
| M111025 | 4 | 4 OD<br>102 OD | 11.00<br>279 | 36.00<br>914 | 41.00<br>1041 | 4 OD<br>102 OD | | | | | 5.00<br>127 | 19.66<br>499 | 10.50<br>267 | | 6:00 | 27<br>12 |
| M111026 | 6 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 36.00<br>914 | 4 OD<br>102 OD | | | 3.75<br>95 | 8.64<br>219 | | 9.23<br>234 | 9.50<br>241 | 12:00 | 9:00 | 29<br>13 |
| M111028 | 2 | 4 OD<br>102 OD | 11.00<br>279 | 36.00<br>914 | 44.00<br>1118 | 5.00<br>127 | | 2.50<br>64 | | | 5.00<br>127 | | | | 12:00 | 36<br>16 |
| M111029 | 1 | 3.00<br>76 | 11.00<br>279 | 36.00<br>914 | 42.00<br>1067 | 4.00<br>102 | | | | | 3.00<br>76 | | | | | 34<br>15 |
| M120100 | 2 | 4.00<br>102 | 10 x15<br>254 x 381 | 26.00<br>660 | 32.50<br>826 | 4.00<br>102 | 4.25<br>108 | 4.25<br>108 | | | 3.25<br>83 | | | 3:00 | 9:00 | 30<br>14 |
| M120108 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.00<br>660 | 32.50<br>826 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>83 | | | 3:00 | 9:00 | 34<br>15 |
| M120131 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.00<br>660 | 29.39<br>747 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>83 | | | 3:00 | 9:00 | 32<br>15 |
| M120135 | 4 | 4.00<br>102 | 10 x15<br>254 x 381 | 21.88<br>556 | 24.75<br>629 | 4.00<br>102 | 4.25<br>108 | | | | 2.88<br>73 | 7.25<br>184 | 9.80<br>249 | 3:00 | 9:00 | 25<br>11 |
| M120154 | 5 | 4.00<br>102 | 10 x15<br>254 x 381 | 26.00<br>660 | 28.38<br>721 | 4.00<br>102 | 4.25<br>108 | 4.25<br>108 | | | 2.25<br>57 | | | 3:00 | 9:00 | 31<br>14 |
| M120176 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.25<br>667 | 29.38<br>746 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.00<br>76 | | | 3:00 | 9:00 | 29<br>13 |
| M120189 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 33.38<br>848 | 39.50<br>1003 | 5.00<br>127 | 3.59<br>91 | 3.59<br>91 | | | 4.44<br>113 | | | 3:00 | 9:00 | 46<br>21 |
| M120197[1] | 2 | 4.00<br>102 | 10.3 x15.3<br>261 x 389 | 36.00<br>914 | 42.00<br>1067 | 4.00<br>102 | 4.25<br>108 | 0.50<br>13 | | | 3.00<br>76 | | | 3:00 | 9:00 | 58<br>26 |
| M120225 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.00<br>660 | 32.50<br>826 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>86 | | | 3:00 | 9:00 | 31<br>14 |

**Clock Position**




Footnotes

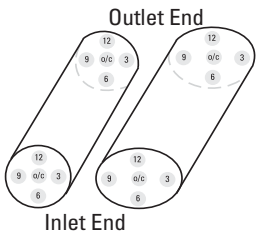
1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

# Muffler Specifications by Part Number

Donaldson FILTRATION SOLUTIONS

| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position: Inlet | Clock Position: Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M120235 | 3 | 5.00<br>127 | 10 x15<br>254 x 381 | 35.87<br>911 | 39.87<br>1013 | 5.00<br>127 | | 3.12<br>79 | 6.13<br>153 | 8.00<br>203 | | | | 6:00 | 9:00 | 39<br>18 |
| M120365 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 36.00<br>914 | 42.50<br>1080 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>83 | | | 6:00 | 12:00 | 44<br>20 |
| M120366 | 4 | 5.00<br>127 | 10 x15<br>254 x 381 | 36.00<br>914 | 39.25<br>997 | 5.00<br>127 | 3.12<br>79 | | | | 3.12<br>79 | 28.38<br>721 | 9.50<br>241 | 3:00 | 9:00 | 48<br>22 |
| M120367 | 4 | 4.00<br>102 | 10 x15<br>254 x 381 | 30.38<br>772 | 34.00<br>864 | 4.00<br>102 | 4.25<br>108 | | | | 3.50<br>89 | 22.88<br>581 | 10.50<br>267 | 3:00 | 9:00 | 32<br>15 |
| M120382 | 3 | 4.00<br>102 | 10 x15<br>254 x 381 | 15.00<br>381 | 21.57<br>548 | 3.85 OD<br>98 OD | | 4.40<br>112 | 3.25<br>83 | 10.80<br>274 | | | | 9:00 | 9:00 | 18<br>8 |
| M120147 | 4 | 5.00<br>127 | 10 x15<br>254 x 381 | 28.00<br>711 | 32.00<br>813 | 5.00<br>127 | 3.12<br>79 | | | | 4.00<br>102 | 5.00<br>127 | 8.00<br>203 | 3:00 | 12:00 | 32.4<br>15 |
| M120418 | 6 | 5.00<br>127 | 10 x15<br>254 x 381 | 28.00<br>711 | 28.25<br>718 | 5.00<br>127 | | | 5.00<br>127 | 8.00<br>203 | | 5.00<br>127 | 8.00<br>203 | 6:00 | 12:00 | 27<br>12 |
| M120448 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 44.00<br>1118 | 50.00<br>1270 | 5.00<br>127 | 3.59<br>91 | 3.59<br>91 | | | 3.00<br>76 | | | 3:00 | 9:00 | 50<br>23 |
| M120450 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 44.00<br>1118 | 47.38<br>1203 | 5.00<br>127 | 3.59<br>91 | 3.59<br>91 | | | 3.25<br>83 | | | 3:00 | 9:00 | 46<br>21 |
| M120566 | 3 | 4.00<br>102 | 10 x15<br>254 x 381 | 21.00<br>533 | 25.25<br>641 | 5.00<br>127 | | 4.25<br>108 | 3.13<br>80 | 10.80<br>274 | | | | 3:00 | 3:00 | 25<br>11 |
| M120598 | 3 | 4.00<br>102 | 11.84<br>301 | 32.13<br>816 | 35.50<br>902 | 5.00<br>127 | | | 4.50<br>114 | 11.02<br>280 | | | | 6:00 | | 30<br>14 |
| M120713 | 5 | 4.00<br>102 | 10 x15<br>254 x 381 | 27.00<br>686 | 31.13<br>791 | 5.00<br>127 | 4.40<br>112 | 4.25<br>108 | | | 4.00<br>102 | | | 3:00 | 9:00 | 31<br>14 |
| M120747[8] | 1 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 34.00<br>864 | 5.00<br>127 | | | | | 4.12<br>105 | | | | | 26.7<br>12 |
| M120748[8] | 2 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 34.00<br>864 | 5.00<br>127 | 2.81<br>71 | 2.81<br>71 | | | 4.12<br>105 | | | 6:00 | 12:00 | 26.7<br>12 |
| M120749[9] | 3/4 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 31.69<br>805 | 5.00<br>127 | | | 4.88<br>124 | 8.75<br>222 | | | | 6:00 | | 27.5<br>12.5 |
| M120750[8] | 5 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 31.69<br>805 | 5.00<br>127 | 2.81<br>71 | 2.81<br>71 | | | 4.12<br>105 | | | 6:00 | 12:00 | 28.7<br>13 |
| M120751[8] | 6 | 5.00<br>127 | 11.84<br>301 | 25.50<br>648 | 29.14<br>740 | 5.00<br>127 | | | 4.75<br>121 | 8.75<br>222 | | 4.75<br>121 | 8.75<br>222 | 6:00 | 12:00 | 26.4<br>12 |
| M122300 | 2 | 6.00<br>152 | 10 x15<br>254 x 381 | 31.75<br>806 | 42.50<br>1080 | 6.00<br>152 | 3.59<br>91 | 3.59<br>91 | | | 5.38<br>137 | | | 3:00 | 9:00 | 43<br>20 |
| M140048 | 2 | 6.00<br>152 | 12 x18<br>305 x 457 | 30.00<br>762 | 38.00<br>965 | 6.00<br>152 | 4.50<br>114 | 4.50<br>114 | | | 4.00<br>102 | | | 3:00 | 9:00 | 50<br>23 |
| M170101 | 2 | 6.00<br>152 | 14 x21<br>357 x 533 | 35.00<br>889 | 47.00<br>1194 | 6.00<br>152 | 5.25<br>133 | 5.25<br>133 | | | 6.00<br>152 | | | 3:00 | 9:00 | 89<br>40 |

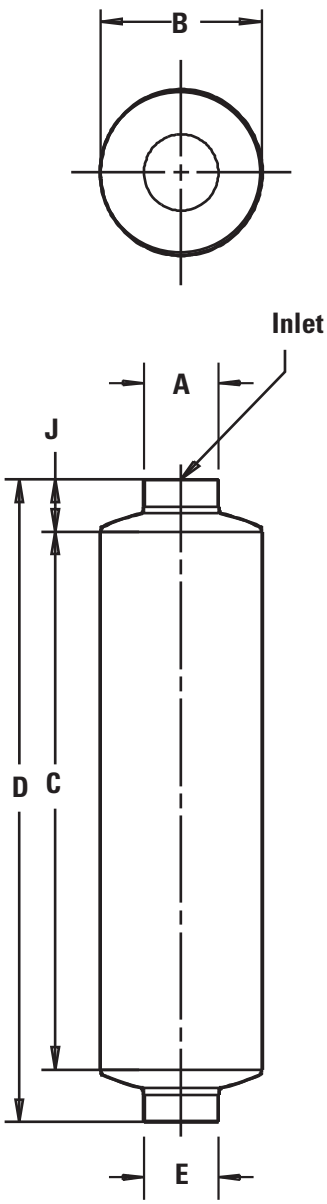
**Clock Position**




Footnotes

1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

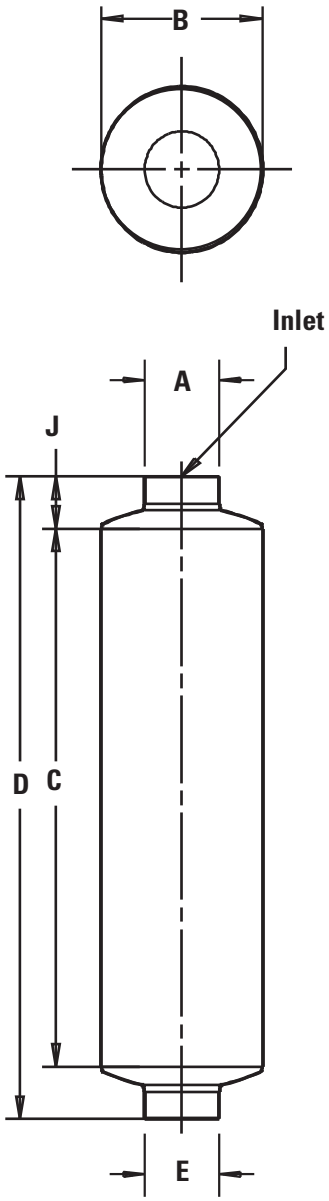
## Style 1 - End Inlet /End Outlet /On Center




| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Inlet Tube Length (J) | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|
| M060247 | 1 | 2 NPT | 6.00<br>152 | 14.50<br>368 | 20.00<br>508 | 2 NPT | 2.75<br>70 | 7<br>3 |
| M060005 | 1 | 2.5 NPT | 6.00<br>152 | 15.00<br>381 | 18.12<br>460 | 2.5 NPT | 1.56<br>40 | 9<br>4 |
| M070008 | 1 | 3 NPT | 7.00<br>178 | 14.00<br>356 | 19.75<br>502 | 3 NPT | 2.38<br>60 | 13<br>6 |
| M070050 | 1 | 3.5 NPT | 7.00<br>178 | 18.38<br>467 | 25.62<br>651 | 3.5 NPT | 3.00<br>76 | 18<br>8 |
| M090009 | 1 | 4 NPT | 9.00<br>229 | 20.00<br>508 | 26.00<br>660 | 4 NPT | 3.00<br>76 | 23<br>10 |
| M045237 | 1 | 2.00<br>51 | 4.38<br>111 | 12.50<br>318 | 17.00<br>432 | 2.10 OD<br>53 OD | 2.50<br>64 | 4<br>2 |
| M060479[8] | 1 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 21.00<br>533 | 2.00<br>51 | 2.62<br>67 | 7.6<br>3.4 |
| M065071 | 1 | 2.50<br>64 | 6.62<br>168 | 15.00<br>381 | 22.00<br>559 | 2.60 OD<br>66 OD | 3.50<br>89 | 7<br>3 |
| M065138[8] | 1 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 24.00<br>610 | 2.50<br>64 | 3.12<br>79 | 9.8<br>4.5 |
| M085293 | 1 | 2.89[7]<br>73[7] | 8.50<br>216 | 31.75<br>806 | 46.25<br>1175 | 3.16 OD<br>80 OD | | 28<br>12 |
| M085407[8] | 1 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 26.50<br>673 | 3.00<br>76 | 3.38<br>86 | 15.2<br>7 |
| M080018 | 1 | 3.00<br>76 | 8.00<br>203 | 12.18<br>309 | 17.00<br>432 | 3.13 OD<br>80 OD | 1.38<br>35 | 10<br>5 |
| M111029 | 1 | 3.00<br>76 | 11.00<br>279 | 36.00<br>914 | 42.00<br>1067 | 4.00<br>102 | 3.00<br>76 | 34<br>15 |
| M070028 | 1 | 3.50<br>89 | 7.00<br>178 | 14.00<br>356 | 19.75<br>502 | 3.50<br>89 | 2.38<br>60 | 10<br>5 |
| M090146 | 1 | 3.50<br>89 | 9.00<br>229 | 44.50<br>1130 | 51.00<br>1295 | 3.50<br>89 | 3.00<br>76 | 32<br>15 |
| M091046[8] | 1 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 29.00<br>737 | 3.50<br>89 | 3.62<br>89 | 15.8<br>7.2 |
| M085171 | 1 | 4.00<br>102 | 8.50<br>216 | 34.37<br>873 | 40.00<br>1016 | 4.00<br>102 | 2.50<br>64 | 21<br>10 |
| M085421 | 1 | 4.00<br>102 | 8.50<br>216 | 34.37<br>873 | 40.00<br>1016 | 4.00<br>102 | 2.50<br>64 | 21<br>10 |
| M090095 | 1 | 4.00[7]<br>102[7] | 9.00<br>229 | 29.31<br>744 | 73.00<br>1854 | 4 OD<br>102 OD | | 33<br>15 |
| M090362[5] | 1 | 4.00<br>102 | 9.00<br>229 | 10.00<br>254 | 16.50<br>419 | 4.00<br>102 | 3.00<br>76 | 9<br>4 |
| M090544 | 1 | 4.00<br>102 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 4.00<br>102 | 3.00<br>76 | 27<br>12 |
| M090594 | 1 | 4.00<br>102 | 9.00<br>229 | 20.00<br>508 | 26.50<br>673 | 4.00<br>102 | 3.00<br>76 | 14<br>6 |
| M090781 | 1 | 4.00<br>102 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 30<br>14 |
| M100464[1] | 1 | 4.00<br>102 | 10.33<br>262 | 44.50<br>1130 | 51.00<br>1295 | 4.00<br>102 | 3.00<br>76 | 52<br>24 |
| M100466 | 1 | 4.00<br>102 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 4.00<br>102 | 3.00<br>76 | 27<br>12 |
| M100695 | 1 | 4.00<br>102 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 30<br>14 |
| M101167[8] | 1 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 32.00<br>813 | 4.00<br>102 | 4.12<br>105 | 19.3<br>8.8 |

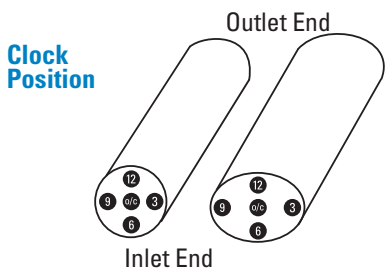
# Muffler Specifications by Style & Inlet Size

## Style 1 - End Inlet /End Outlet /On Center




| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Inlet Tube Length (J) | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|
| - | | | | | | | | |
| M090072[5] | 1 | 5.00<br>127 | 9.00<br>229 | 10.00<br>254 | 16.50<br>419 | 5.00<br>127 | 3.00<br>76 | 9<br>4 |
| M090074 | 1 | 5.00<br>127 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 29<br>13 |
| M090535 | 1 | 5.00<br>127 | 9.00<br>229 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 30<br>14 |
| M090595 | 1 | 5.00<br>127 | 9.00<br>229 | 20.00<br>508 | 26.50<br>673 | 5.00<br>127 | 3.00<br>76 | 15<br>7 |
| M100463 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 31<br>14 |
| M100465 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 28<br>13 |
| M100580 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 29<br>13 |
| M100582 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 31<br>14 |
| M100807 | 1 | 5.00<br>127 | 10.00<br>254 | 59.94<br>1522 | 66.50<br>1689 | 5.00<br>127 | 3.00<br>76 | 48<br>22 |
| M100944 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 32<br>15 |
| M101158[4] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 43<br>20 |
| M101159[4] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 43<br>20 |
| M101181[3] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 43<br>20 |
| M101182[3] | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 51.00<br>1295 | 5.00<br>127 | 3.00<br>76 | 43<br>20 |
| M101263 | 1 | 5.00<br>127 | 10.00<br>254 | 44.44<br>1129 | 53.00<br>1346 | 5.00<br>127 | 3.00<br>76 | 31<br>14 |
| M110849 | 1 | 5.00<br>127 | 11.00<br>279 | 50.50<br>1283 | 57.00<br>1448 | 5.00<br>127 | 3.00<br>76 | 48<br>22 |
| M120747[8] | 1 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 34.00<br>864 | 5.00<br>127 | 4.12<br>105 | 26.7<br>12 |

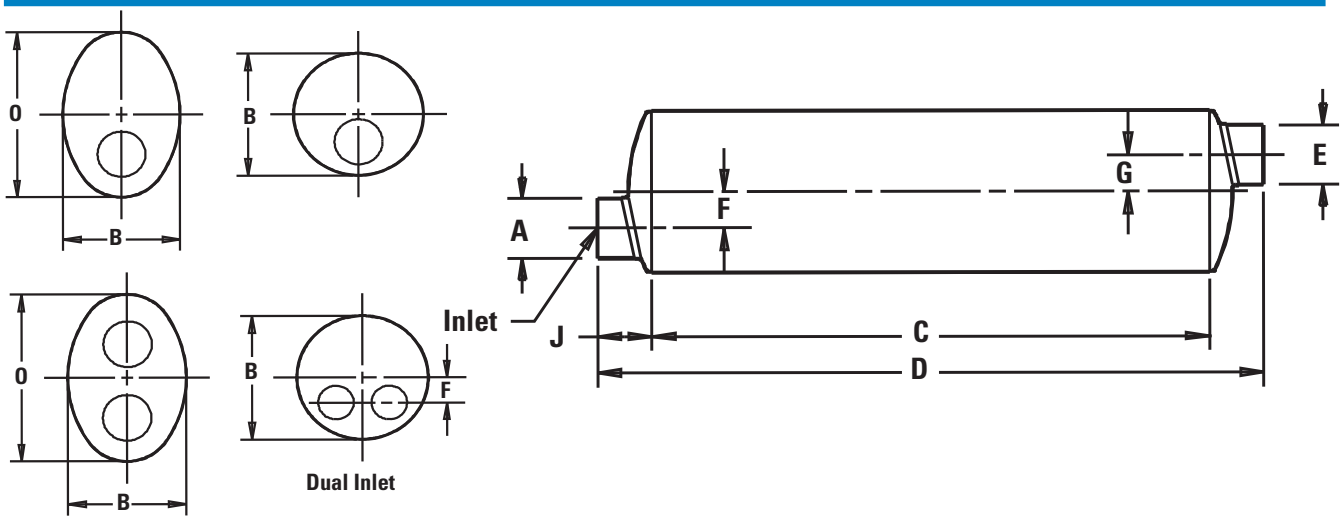
## Style 2 and 2A on pages 61 and 62




Footnotes

1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

## Style 2 - End Inlet /End Outlet /Offset and Style 2A - Dual End Inlet /End Outlet



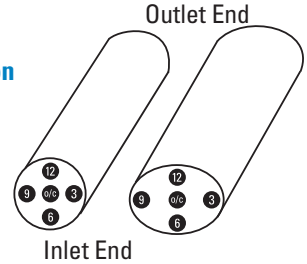

| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position: Inlet | Clock Position: Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M060055 | 2 | 2.00<br>51 | 6.00<br>152 | 16.90<br>429 | 21.90<br>556 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.50<br>64 | | | 6:00 | 12:00 | 7<br>3 |
| M060232 | 2 | 2.00<br>51 | 6.00<br>152 | 24.00<br>610 | 29.00<br>737 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.50<br>64 | | | 6:00 | 12:00 | 9<br>4 |
| M060480[8] | 2 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 21.00<br>533 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.62<br>67 | | | 6:00 | 12:00 | 7.6<br>3.4 |
| M065034 | 2 | 2.50<br>64 | 6.62<br>168 | 18.56<br>471 | 23.00<br>584 | 2.50<br>64 | 1.62<br>41 | 1.62<br>41 | | | 1.50<br>38 | | | 6:00 | 12:00 | 9<br>4 |
| M065139[8] | 2 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 24.00<br>610 | 2.50<br>64 | 1.62<br>41 | 1.62<br>41 | | | 3.12<br>79 | | | 6:00 | 12:00 | 9.8<br>4.5 |
| M085172 | 2A | 2.50 (2)<br>64 (2) | 8.50<br>216 | 30.00<br>762 | 39.00<br>991 | 2.75<br>70 | 1.62 (2)<br>41 (2) | 2.00<br>51 | | | 2.50 (2)<br>64 (2) | | | 6:00(2) | 6:00 | 24<br>11 |
| M085189[2] | 2A | 2.50 (2)<br>64 (2) | 8.50<br>216 | 31.25<br>794 | 36.25<br>921 | 3.00<br>76 | 1.62 (2)<br>41 (2) | 2.00<br>51 | | | 2.50 (2)<br>64 (2) | | | 6:00 (2) | 12:00 | 23<br>10 |
| M085267[1,2] | 2A | 2.50 (2)[7]<br>64 (2)[7] | 8.75<br>222 | 30.12<br>765 | 38.97<br>990 | 3 OD<br>76 OD | 1.62 (2)<br>41 (2) | 2.00<br>51 | | | 5.72/3.22<br>146/82 | | | 6:00 (2) | 12:00 | 32<br>15 |
| M090563 | 2A | 2.75 (2)<br>70 (2) | 8.2 x11.5<br>208 x 292 | 27.00<br>686 | 32.75<br>832 | 4.00<br>102 | 0.15/4.00<br>9/102 | 2.50<br>64 | | | 2.63 (2)<br>67 (2) | | | 9:00-3:00 | 3:00 | 22<br>10 |
| M085023 | 2 | 3.00<br>76 | 8.50<br>216 | 31.25<br>794 | 36.25<br>921 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 2.50<br>64 | | | 6:00 | 12:00 | 19<br>9 |
| M085056 | 2 | 3.00<br>76 | 8.50<br>216 | 20.50<br>521 | 25.00<br>635 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 1.50<br>38 | | | 6:00 | 12:00 | 14<br>6 |
| M085078 | 2 | 3.00<br>76 | 8.50<br>216 | 27.50<br>699 | 32.00<br>813 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 1.50<br>38 | | | 6:00 | 12:00 | 20<br>9 |
| M085080 | 2 | 3.00<br>76 | 8.50<br>216 | 27.75<br>705 | 33.75<br>857 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 3.50<br>89 | | | 6:00 | 6:00 | 20<br>9 |
| M090159[1] | 2 | 3.00<br>76 | 8.5 x11.8<br>216 x 300 | 26.00<br>660 | 33.75<br>857 | 3.00<br>76 | 2.50<br>64 | 2.50<br>64 | | | 3.88<br>99 | | | 3:00 | 3:00 | 29<br>13 |
| M090170 | 2 | 3.00<br>76 | 8.3 x11.5<br>211 x 292 | 26.00<br>660 | 33.75<br>857 | 3.00<br>76 | 2.50<br>64 | 2.50<br>64 | | | 3.88<br>99 | | | 3:00 | 3:00 | 20<br>9 |
| M085408[8] | 2 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 26.50<br>673 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 3.38<br>86 | | | 6:00 | 12:00 | 15.2<br>7 |
| M085008 | 2 | 3.50<br>89 | 8.50<br>216 | 38.00<br>965 | 43.00<br>1092 | 3.00<br>76 | 1.75<br>44 | 2.00<br>51 | | | 2.50<br>64 | | | 6:00 | 12:00 | 23<br>10 |
| M090158 | 2 | 3.50<br>89 | 8.3 x11.5<br>211 x 292 | 26.00<br>660 | 32.25<br>819 | 3.50<br>89 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 24<br>11 |
| M090210[1] | 2 | 3.50<br>89 | 8.5 x11.8<br>216 x 300 | 26.00<br>660 | 32.25<br>819 | 3.50<br>89 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 34<br>15 |

# Muffler Specifications by Style & Inlet Size



| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position: Inlet | Clock Position: Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M090520 | 2 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 32.25<br>819 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 21<br>10 |
| M090680 | 2 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 30.00<br>762 | 36.25<br>921 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 25<br>11 |
| M091047[8] | 2 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 29.00<br>737 | 3.50<br>89 | 2.10<br>53 | 2.10<br>53 | | | 3.62<br>89 | | | 6:00 | 12:00 | 15.8<br>7.2 |
| M090280 | 2 | 4.00<br>102 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 32.25<br>819 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 9:00 | 22<br>10 |
| M090534 | 2 | 4.00<br>102 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 33.75<br>857 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.88<br>99 | | | 3:00 | 9:00 | 26<br>12 |
| M090538 | 2 | 4.00<br>102 | 8.2 x11.5<br>208 x 292 | 26.00<br>660 | 32.25<br>819 | 3.50<br>89 | 2.50<br>64 | 2.50<br>64 | | | 3.12<br>79 | | | 3:00 | 12:00 | 26<br>12 |
| M100043 | 2 | 4.00<br>102 | 10.00<br>254 | 35.38<br>899 | 41.75<br>1060 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 2.88<br>73 | | | 6:00 | 12:00 | 32<br>15 |
| M100048 | 2 | 4.00<br>102 | 10.00<br>254 | 27.12<br>689 | 33.50<br>851 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 2.88<br>73 | | | 6:00 | 12:00 | 27<br>12 |
| M101168[8] | 2 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 32.00<br>813 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 4.12<br>105 | | | 6:00 | 12:00 | 19.3<br>8.8 |
| M110012 | 2 | 4.00<br>102 | 11.00<br>279 | 30.00<br>762 | 36.00<br>914 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 3.00<br>76 | | | 6:00 | 12:00 | 26<br>12 |
| M110189 | 2 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 41.25<br>1048 | 4.00<br>102 | 2.50<br>64 | 2.50<br>64 | | | 2.63<br>67 | | | 6:00 | 12:00 | 34<br>15 |
| M111028 | 2 | 4 OD<br>102 OD | 11.00<br>279 | 36.00<br>914 | 44.00<br>1118 | 5.00<br>127 | | 2.50<br>64 | | | 5.00<br>127 | | | | 12:00 | 36<br>16 |
| M120100 | 2 | 4.00<br>102 | 10 x15<br>254 x 381 | 26.00<br>660 | 32.50<br>826 | 4.00<br>102 | 4.25<br>108 | 4.25<br>108 | | | 3.25<br>83 | | | 3:00 | 9:00 | 30<br>14 |
| M120197[1] | 2 | 4.00<br>102 | 10.3 x15.3<br>261 x 389 | 36.00<br>914 | 42.00<br>1067 | 4.00<br>102 | 4.25<br>108 | 0.50<br>13 | | | 3.00<br>76 | | | 3:00 | 9:00 | 58<br>26 |
| M110077 | 2 | 5.00<br>127 | 11.00<br>279 | 44.00<br>1118 | 50.00<br>1270 | 5.00<br>127 | 2.50<br>64 | 2.50<br>64 | | | 3.00<br>76 | | | 6:00 | 12:00 | 44<br>20 |
| M120108 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.00<br>660 | 32.50<br>826 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>83 | | | 3:00 | 9:00 | 34<br>15 |
| M120225 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.00<br>660 | 32.50<br>826 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>86 | | | 3:00 | 9:00 | 31<br>14 |
| M120365 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 36.00<br>914 | 42.50<br>1080 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>83 | | | 6:00 | 12:00 | 44<br>20 |
| M120448 | 2 | 5.00<br>127 | 10 x15<br>254 x 381 | 44.00<br>1118 | 50.00<br>1270 | 5.00<br>127 | 3.59<br>91 | 3.59<br>91 | | | 3.00<br>76 | | | 3:00 | 9:00 | 50<br>23 |
| M120748[8] | 2 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 34.00<br>864 | 5.00<br>127 | 2.81<br>71 | 2.81<br>71 | | | 4.12<br>105 | | | 6:00 | 12:00 | 26.7<br>12 |
| M122300 | 2 | 6.00<br>152 | 10 x15<br>254 x 381 | 31.75<br>806 | 42.50<br>1080 | 6.00<br>152 | 3.59<br>91 | 3.59<br>91 | | | 5.38<br>137 | | | 3:00 | 9:00 | 43<br>20 |
| M140048 | 2 | 6.00<br>152 | 12 x18<br>305 x 457 | 30.00<br>762 | 38.00<br>965 | 6.00<br>152 | 4.50<br>114 | 4.50<br>114 | | | 4.00<br>102 | | | 3:00 | 9:00 | 50<br>23 |
| M170101 | 2 | 6.00<br>152 | 14 x21<br>357 x 533 | 35.00<br>889 | 47.00<br>1194 | 6.00<br>152 | 5.25<br>133 | 5.25<br>133 | | | 6.00<br>152 | | | 3:00 | 9:00 | 89<br>40 |
| M190002 | 2 | 8.00<br>203 | 16 x24<br>406 x 607 | 45.00<br>1143 | 57.00<br>1448 | 8.00<br>203 | 6.00<br>152 | 6.00<br>152 | | | 6.00<br>152 | | | 3:00 | 3:00 | 124<br>56 |

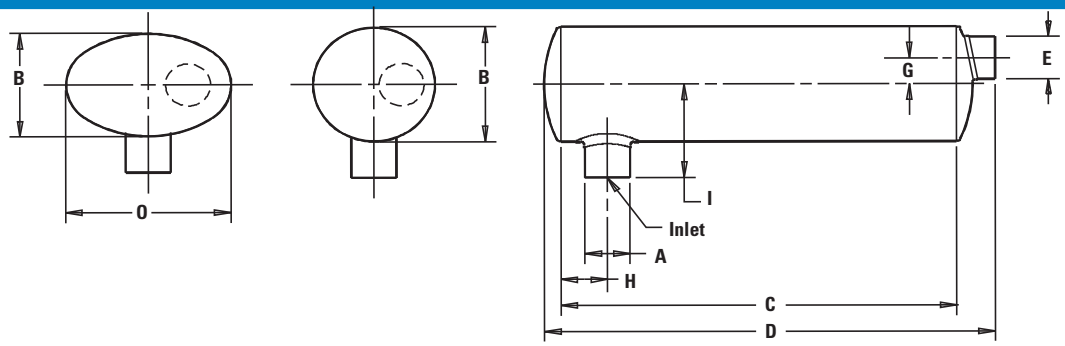
**Clock Position**




Footnotes

1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

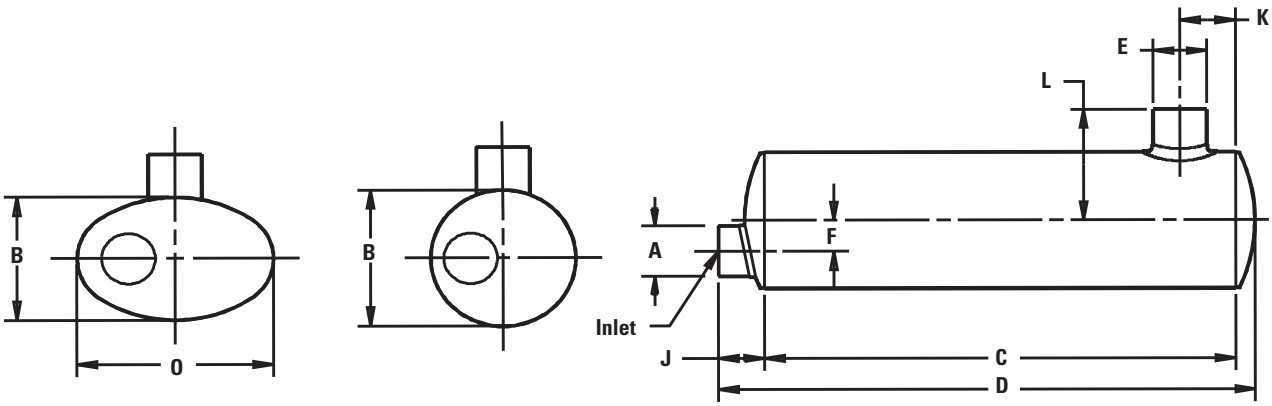
## Style 3 - Side Inlet /End Outlet




| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position: Inlet | Clock Position: Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M045193 | 3 | 1.68<br>43 | 4.38<br>111 | 13.78<br>350 | 15.78<br>401 | 1.64<br>42 | | | 2.75<br>70 | 4.00<br>102 | | | | 12:00 | | 4<br>2 |
| M060158 | 3 | 2.00<br>51 | 6.00<br>152 | 18.81<br>478 | 21.50<br>546 | 2.00<br>51 | | 1.50<br>38 | 3.50<br>89 | 5.00<br>127 | | | | 3:00 | 6:00 | 9<br>4 |
| M060481[9] | 3/4 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 19.25<br>489 | 2.00<br>51 | | | 1.88<br>48 | 5.00<br>127 | | | | 6:00 | | 7.6<br>3.4 |
| M065044 | 3 | 2.50<br>64 | 6.62<br>168 | 20.89<br>531 | 23.50<br>597 | 2.50<br>64 | | 1.62<br>41 | 3.50<br>89 | 6.00<br>152 | | | | 6:00 | 9:00 | 12<br>5 |
| M065140[9] | 3/4 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 22.04<br>560 | 2.50<br>64 | | | 2.38<br>60 | 5.75<br>146 | | | | 6:00 | | 10<br>4.5 |
| M085084 | 3 | 3.50<br>89 | 8.50<br>216 | 27.00<br>686 | 29.50<br>749 | 3.00<br>76 | | 2.00<br>51 | 4.50<br>114 | 7.25<br>184 | | | | 3:00 | 6:00 | 20<br>9 |
| M085090 | 3 | 3.02<br>77 | 8.50<br>216 | 26.25<br>667 | 29.50<br>749 | 3.00<br>76 | | 2.00<br>51 | 3.50<br>89 | 6.75<br>171 | | | | 3:00 | 6:00 | 20<br>9 |
| M085226[1] | 3 | 3.00<br>76 | 8.80<br>224 | 27.12<br>689 | 29.56<br>751 | 3.00<br>76 | | 2.00<br>51 | 4.56<br>116 | 6.75<br>171 | | | | 3:00 | 6:00 | 28<br>13 |
| M085409[9] | 3/4 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 24.27<br>616 | 3.00<br>76 | | | 2.88<br>73 | 6.50<br>165 | | | | 6:00 | | 15.4<br>7 |
| M090301 | 3 | 3.50<br>89 | 8.3 x11.5<br>211 x 292 | 26.13<br>664 | 29.25<br>743 | 3.50<br>89 | | 2.50<br>64 | 3.25<br>83 | 7.00<br>178 | | | | 6:00 | 9:00 | 23<br>10 |
| M090823 | 3 | 4.00<br>102 | 9.00<br>229 | 44.50<br>1130 | 48.00<br>1219 | 5.00<br>127 | | | 3.81<br>97 | 6.69<br>170 | | | | 6:00 | | 30<br>13 |
| M091048[9] | 3/4 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 26.38<br>670 | 3.50<br>89 | | | 3.38<br>86 | 7.25<br>184 | | | | 6:00 | | 15.9<br>7.2 |
| M100146 | 3 | 4.00<br>102 | 10.00<br>254 | 28.00<br>711 | 32.00<br>813 | 4.00<br>102 | | 2.44<br>62 | 4.50<br>114 | 8.00<br>203 | | | | 6:00 | 9:00 | 27<br>12 |
| M100213 | 3 | 5.00<br>127 | 10.00<br>254 | 44.50<br>1130 | 48.00<br>1219 | 5.00<br>127 | | | 5.50<br>140 | 7.50<br>191 | | | | 6:00 | | 33<br>15 |
| M101169[9] | 3/4 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 29.24<br>743 | 4.00<br>102 | | | 3.88<br>99 | 8.00<br>203 | | | | 6:00 | | 19.8<br>9 |
| M110479 | 3 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 39.00<br>991 | 4.00<br>102 | | 2.50<br>64 | 4.25<br>108 | 8.64<br>219 | | | | 6:00 | 3:00 | 31<br>14 |
| M110674[6] | 3 | 4.00<br>102 | 11.00<br>279 | 33.00<br>838 | 36.00<br>914 | 4.00<br>102 | | | 3.75<br>95 | 8.64<br>219 | | | | 6:00 | | 27<br>12 |
| M111024 | 3 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 44.59<br>1133 | Down<br>Spout | | | 3.75<br>95 | 8.64<br>219 | | | | 12:00 | 6:00 | 34<br>15 |
| M120235 | 3 | 5.00<br>127 | 10 x15<br>254 x 381 | 35.87<br>911 | 39.87<br>1013 | 5.00<br>127 | | 3.12<br>79 | 6.13<br>153 | 8.00<br>203 | | | | 6:00 | 9:00 | 39<br>18 |
| M120382 | 3 | 4.00<br>102 | 10 x15<br>254 x 381 | 15.00<br>381 | 21.57<br>548 | 3.85 OD<br>98 OD | | 4.40<br>112 | 3.25<br>83 | 10.80<br>274 | | | | 9:00 | 9:00 | 18<br>8 |
| M120566 | 3 | 4.00<br>102 | 10 x15<br>254 x 381 | 21.00<br>533 | 25.25<br>641 | 5.00<br>127 | | 4.25<br>108 | 3.13<br>80 | 10.80<br>274 | | | | 3:00 | 3:00 | 25<br>11 |
| M120598 | 3 | 4.00<br>102 | 11.84<br>301 | 32.13<br>816 | 35.50<br>902 | 5.00<br>127 | | | 4.50<br>114 | 11.02<br>280 | | | | 6:00 | | 30<br>14 |
| M120749[9] | 3/4 | 5.00 | 11.84 | 25.75 | 31.69 | 5.00 | | | 4.88 | 8.75 | | | | 6:00 | | 27.5 |

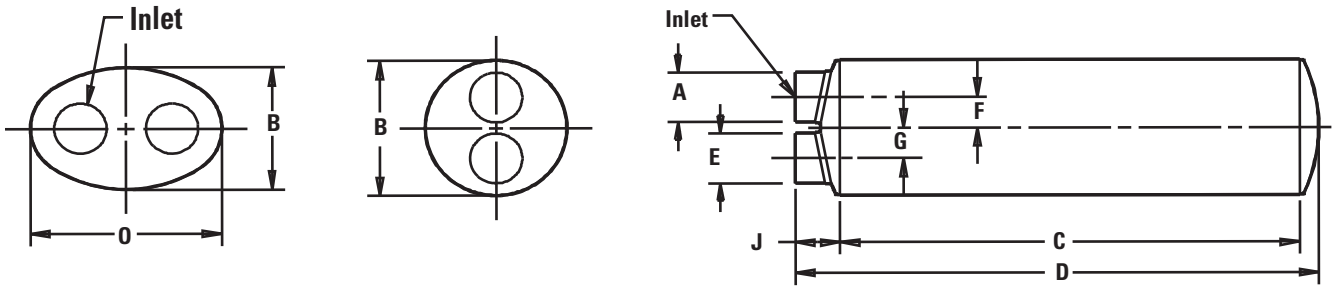
# Muffler Specifications by Style & Inlet Size

## Style 4 - End Inlet /Side Outlet



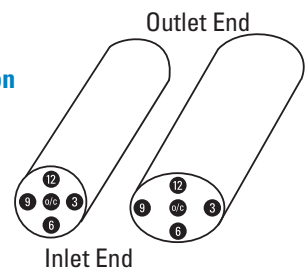

| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position Inlet | Clock Position Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 127 | 301 | 654 | 805 | 127 | | | 124 | 222 | | | | | | 12.5 |
| M060481[9] | 3/4 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 19.25<br>489 | 2.00<br>51 | | | 1.88<br>48 | 5.00<br>127 | | | | 6:00 | | 7.6<br>3.4 |
| M065140[9] | 3/4 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 22.04<br>560 | 2.50<br>64 | | | 2.38<br>60 | 5.75<br>146 | | | | 6:00 | | 10<br>4.5 |
| M085206 | 4 | 3.00<br>76 | 8.50<br>216 | 26.25<br>667 | 29.50<br>749 | 3.00<br>76 | 2.00<br>51 | | | | 3.25<br>83 | 3.50<br>89 | 6.75<br>171 | 6:00 | 9:00 | 20<br>9 |
| M085409[9] | 3/4 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 24.27<br>616 | 3.00<br>76 | | | 2.88<br>73 | 6.50<br>165 | | | | 6:00 | | 15.4<br>7 |
| M090547 | 4 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 32.56<br>827 | 35.16<br>893 | 4.00<br>102 | 2.50<br>64 | | | | 2.60<br>66 | 20.48<br>520 | 6.00<br>152 | 9:00 | 7:00 | 22<br>10 |
| M090548 | 4 | 3.50<br>89 | 8.2 x11.5<br>208 x 292 | 32.56<br>827 | 35.16<br>893 | 4 OD<br>102 OD | 2.50<br>64 | | | | 2.60<br>66 | 20.48<br>520 | 8.70<br>221 | 3:00 | 7:30 | 21<br>10 |
| M091048[9] | 3/4 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 26.38<br>670 | 3.50<br>89 | | | 3.38<br>86 | 7.25<br>184 | | | | 6:00 | | 15.9<br>7.2 |
| M100052 | 4 | 4.00<br>102 | 10.00<br>254 | 27.75<br>705 | 30.75<br>781 | 4.00<br>102 | 2.44<br>62 | | | | 3.00<br>76 | 24.25<br>616 | 8.75<br>222 | 6:00 | 2:00 | 25<br>11 |
| M101169[9] | 3/4 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 29.24<br>743 | 4.00<br>102 | | | 3.88<br>99 | 8.00<br>203 | | | | 6:00 | | 19.8<br>9 |
| M110112 | 4 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 39.00<br>991 | 4.00<br>102 | 2.50<br>64 | | | | 3.00<br>76 | 15.97<br>406 | 8.64<br>219 | 6:00 | 9:00 | 29<br>13 |
| M110148 | 4 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 39.00<br>991 | 4.00<br>102 | 2.50<br>64 | | | | 3.00<br>76 | 17.25<br>438 | 8.64<br>219 | 6:00 | 12:00 | 29<br>13 |
| M120367 | 4 | 4.00<br>102 | 10 x15<br>254 x 381 | 30.38<br>772 | 34.00<br>864 | 4.00<br>102 | 4.25<br>108 | | | | 3.50<br>89 | 22.88<br>581 | 10.50<br>267 | 3:00 | 9:00 | 32<br>15 |
| M110311 | 4 | 4.00 OD<br>102 | 11.00<br>279 | 36.00<br>914 | 41.00<br>1041 | 4.00<br>102 | 2.50<br>64 | | | | 5.00<br>127 | 27.10<br>688 | 8.64<br>219 | 6:00 | 12:00 | 27<br>12 |
| M111025 | 4 | 4 OD<br>102 OD | 11.00<br>279 | 36.00<br>914 | 41.00<br>1041 | 4 OD<br>102 OD | | | | | 5.00<br>127 | 19.66<br>499 | 10.50<br>267 | | 6:00 | 27<br>12 |
| M110014 | 4 | 5.00<br>127 | 11.00<br>279 | 46.00<br>1168 | 51.75<br>1314 | 5.00<br>127 | 2.50<br>64 | | | | 4.25<br>108 | 38.50<br>978 | 8.50<br>216 | 6:00 | 12:00 | 45<br>20 |
| M120366 | 4 | 5.00<br>127 | 10 x15<br>254 x 381 | 36.00<br>914 | 39.25<br>997 | 5.00<br>127 | 3.12<br>79 | | | | 3.12<br>79 | 28.38<br>721 | 9.50<br>241 | 3:00 | 9:00 | 48<br>22 |
| M120749[9] | 3/4 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 31.69<br>805 | 5.00<br>127 | | | 4.88<br>124 | 8.75<br>222 | | | | 6:00 | | 27.5<br>12.5 |

## Style 5 - Inlet & Outlet on Same End




| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position Inlet | Clock Position Outlet | Wgt lbs. kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M060250 | 5 | 2.00<br>51 | 6.00<br>152 | 16.90<br>429 | 19.40<br>493 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.50<br>64 | | | 6:00 | 12:00 | 8<br>4 |
| M060482[8] | 5 | 2.00<br>51 | 6.00<br>152 | 15.75<br>400 | 19.25<br>489 | 2.00<br>51 | 1.50<br>38 | 1.50<br>38 | | | 2.62<br>67 | | | | | 8.4<br>3.8 |
| M065073 | 5 | 2.50<br>64 | 6.62<br>168 | 20.00<br>508 | 21.50<br>546 | 2.50<br>64 | 1.62<br>41 | 1.62<br>41 | | | 1.50<br>38 | | | 6:00 | 12:00 | 10<br>5 |
| M065141[8] | 5 | 2.50<br>64 | 6.62<br>168 | 17.75<br>451 | 22.04<br>560 | 2.50<br>64 | 1.63<br>41 | 1.63<br>41 | | | 3.12<br>79 | | | 6:00 | 12:00 | 10.6<br>4.8 |
| M085207 | 5 | 3.00<br>76 | 8.50<br>216 | 22.00<br>559 | 23.50<br>597 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 1.50<br>38 | | | 6:00 | 12:00 | 16<br>7 |
| M085410[8] | 5 | 3.00<br>76 | 8.50<br>216 | 19.75<br>502 | 24.27<br>616 | 3.00<br>76 | 2.00<br>51 | 2.00<br>51 | | | 3.38<br>86 | | | 6:00 | 12:00 | 17<br>7.7 |
| M091049[8] | 5 | 3.50<br>89 | 9.00<br>229 | 21.75<br>552 | 26.44<br>672 | 3.50<br>89 | 2.10<br>53 | 2.10<br>53 | | | 3.62<br>89 | | | 6:00 | 12:00 | 17.3<br>7.9 |
| M100049 | 5 | 4.00<br>102 | 10.00<br>254 | 27.75<br>705 | 30.62<br>778 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 2.88<br>73 | | | 12:00 | 6:00 | 23<br>10 |
| M101170[8] | 5 | 4.00<br>102 | 10.00<br>254 | 23.75<br>603 | 29.24<br>743 | 4.00<br>102 | 2.44<br>62 | 2.44<br>62 | | | 4.12<br>105 | | | 6:00 | 12:00 | 22<br>10 |
| M120154 | 5 | 4.00<br>102 | 10 x15<br>254 x 381 | 26.00<br>660 | 28.38<br>721 | 4.00<br>102 | 4.25<br>108 | 4.25<br>108 | | | 2.25<br>57 | | | 3:00 | 9:00 | 31<br>14 |
| M120713 | 5 | 4.00<br>102 | 10 x15<br>254 x 381 | 27.00<br>686 | 31.13<br>791 | 5.00<br>127 | 4.40<br>112 | 4.25<br>108 | | | 4.00<br>102 | | | 3:00 | 9:00 | 31<br>14 |
| M120131 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.00<br>660 | 29.39<br>747 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.25<br>83 | | | 3:00 | 9:00 | 32<br>15 |
| M120176 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 26.25<br>667 | 29.38<br>746 | 5.00<br>127 | 3.12<br>79 | 3.12<br>79 | | | 3.00<br>76 | | | 3:00 | 9:00 | 29<br>13 |
| M120189 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 33.38<br>848 | 39.50<br>1003 | 5.00<br>127 | 3.59<br>91 | 3.59<br>91 | | | 4.44<br>113 | | | 3:00 | 9:00 | 46<br>21 |
| M120450 | 5 | 5.00<br>127 | 10 x15<br>254 x 381 | 44.00<br>1118 | 47.38<br>1203 | 5.00<br>127 | 3.59<br>91 | 3.59<br>91 | | | 3.25<br>83 | | | 3:00 | 9:00 | 46<br>21 |
| M120750[8] | 5 | 5.00<br>127 | 11.84<br>301 | 25.75<br>654 | 31.69<br>805 | 5.00<br>127 | 2.81<br>71 | 2.81<br>71 | | | 4.12<br>105 | | | 6:00 | 12:00 | 28.7<br>13 |

**Clock Position**

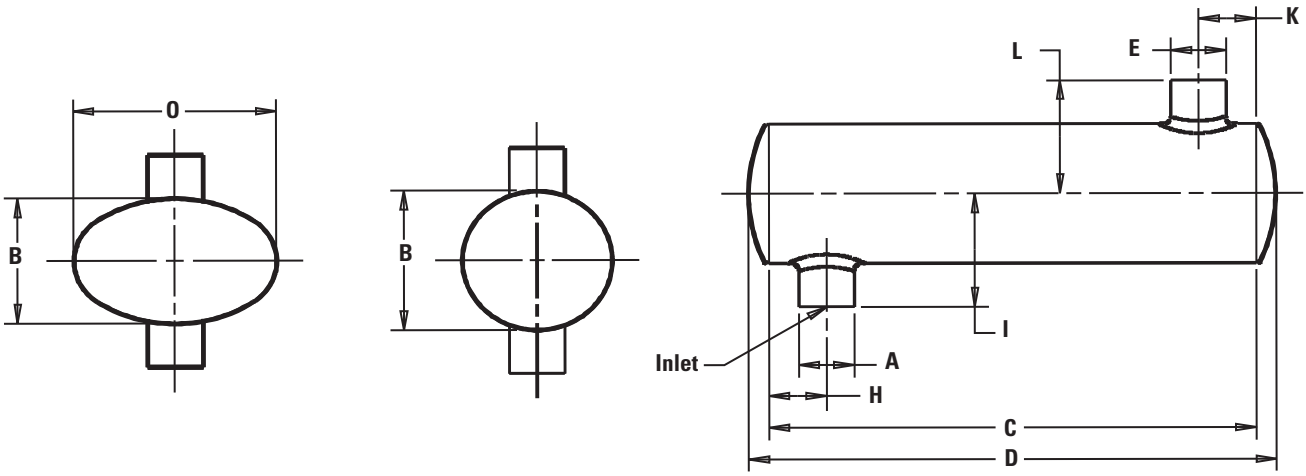



Footnotes

1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

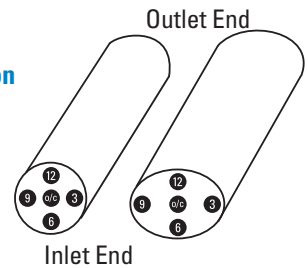
# Muffler Specifications by Style & Inlet Size

## Style 6 - Side Inlet /Side Outlet




| Part Number | Muffler Style | Body: Inlet I.D. (A) | Body: Dia. (B) or (BxO) | Body: Length (C) | Body: Overall Length (D) | Outlet I.D. (E) | Offset: Inlet (F) | Offset: Outlet (G) | Inlet Tube: Loc. (H) | Inlet Tube: Length (I) | Inlet Tube: Length (J) | Outlet Tube from End Center (K) | Outlet Tube from End Center (L) | Clock Position Inlet | Clock Position Outlet | Wgt lbs. / kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M060251 | 6 | 2.00<br>51 | 6.00<br>152 | 18.81<br>478 | 18.81<br>478 | 2.00<br>51 | | | 3.50<br>89 | 5.00<br>127 | | 3.50<br>89 | 5.00<br>127 | 6:00 | 12:00 | 8<br>4 |
| M060483[8] | 6 | 2.00<br>51 | 6.00<br>152 | 15.50<br>394 | 17.24<br>438 | 2.00<br>51 | | | 1.75<br>44 | 5.00<br>127 | | 1.75<br>44 | 5.00<br>127 | 6:00 | 12:00 | 7.4<br>3.4 |
| M065074 | 6 | 2.50<br>64 | 6.62<br>168 | 20.81<br>529 | 20.81<br>529 | 2.50<br>64 | | | 3.50<br>89 | 6.00<br>152 | | 3.50<br>89 | 6.00<br>152 | 6:00 | 12:00 | 10<br>5 |
| M065142[8] | 6 | 2.50<br>64 | 6.62<br>168 | 17.50<br>444 | 19.84<br>504 | 2.50<br>64 | | | 2.50<br>64 | 5.75<br>146 | | 2.25<br>57 | 5.75<br>146 | 6:00 | 12:00 | 9.4<br>4.2 |
| M085208 | 6 | 3.00<br>76 | 8.50<br>216 | 27.00<br>686 | 27.00<br>686 | 3.00<br>76 | | | 3.50<br>89 | 6.75<br>171 | | 3.50<br>89 | 6.75<br>171 | 6:00 | 12:00 | 17<br>8 |
| M085411[8] | 6 | 3.00<br>76 | 8.50<br>216 | 19.50<br>495 | 21.78<br>553 | 3.00<br>76 | | | 3.00<br>76 | 6.50<br>165 | | 3.00<br>76 | 6.50<br>165 | 6:00 | 12:00 | 14.2<br>6.4 |
| M090598 | 6 | 3.50<br>89 | 8.3 x11.5<br>211 x 292 | 26.00<br>660 | 26.00<br>660 | 3.50<br>89 | | | 3.38<br>86 | 7.00<br>178 | | 3.38<br>86 | 7.00<br>178 | 6:00 | 12:00 | 20<br>9 |
| M091050[8] | 6 | 3.50<br>89 | 9.00<br>229 | 21.50<br>546 | 23.64<br>600 | 3.50<br>89 | | | 3.25<br>83 | 7.25<br>184 | | 3.25<br>83 | 7.25<br>184 | 6:00 | 12:00 | 15.1<br>6.9 |
| M100572 | 6 | 4.00<br>102 | 10.12<br>257 | 28.00<br>711 | 30.62<br>778 | 4.00<br>102 | | | 4.50<br>114 | 8.00<br>203 | | 4.50<br>114 | 8.00<br>203 | 6:00 | 12:00 | 22<br>10 |
| M101171[8] | 6 | 4.00<br>102 | 10.00<br>254 | 23.50<br>597 | 26.24<br>666 | 4.00<br>102 | | | 3.75<br>95 | 8.00<br>203 | | 3.75<br>95 | 8.00<br>203 | 6:00 | 12:00 | 19.1<br>8.7 |
| M111026 | 6 | 4.00<br>102 | 11.00<br>279 | 36.00<br>914 | 36.00<br>914 | 4 OD<br>102 OD | | | 3.75<br>95 | 8.64<br>219 | | 9.23<br>234 | 9.50<br>241 | 12:00 | 9:00 | 29<br>13 |
| M120418 | 6 | 5.00<br>127 | 10 x15<br>254 x 381 | 28.00<br>711 | 28.25<br>718 | 5.00<br>127 | | | 5.00<br>127 | 8.00<br>203 | | 5.00<br>127 | 8.00<br>203 | 6:00 | 12:00 | 27<br>12 |
| M120751[8] | 6 | 5.00<br>127 | 11.84<br>301 | 25.50<br>648 | 29.14<br>740 | 5.00<br>127 | | | 4.75<br>121 | 8.75<br>222 | | 4.75<br>121 | 8.75<br>222 | 6:00 | 12:00 | 26.4<br>12 |

**Clock Position**




Footnotes

1 Wrapped muffler (reduces noise and surface temperature)
2 Stainless Steel
3 Silent Partner™ Muffler -Aluminized
4 Silent Partner™ Muffler -Stainless Steel
5 Resonator
6 Band clamp on inlet tube
7 Face flange on inlet
8 Made for off-road use
9 Made for off-road use, flows in either direction

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SHOPTALK

## Purpose of an Exhaust System

Exhaust system design specifications are typically defined by the OEs. They are looking for a solutions that can redirect engine exhaust, reduce exhaust noise and most recently, reduce emissions (hydrocarbons, carbon monoxide, soluble organic fraction (SOF)).

Diesel engines are a reliable and efficient power source for vehicle and equipment manufacturers. Governmental regulations across the globe are driving diesel engine users to consider buying new vehicles or retrofitting their existing engines to meet the new emissions regulations.

## Muffler Design & Performance

Donaldson mufflers are designed and tested with specific focus on three performance variables: attenuation, backpressure and structural.

### Attenuation

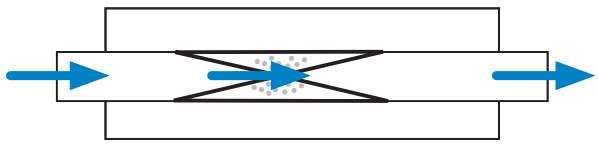
For exhaust systems, attenuation refers to the reduction in sound level measured between an engine without a muffler and the same engine with a muffler. This sound level is typically measured in a decibal scale (dBAs). Traditional mufflers use tubes, baffles, and expansion chambers and insulation to help control noise. Newer applications include emissions reduction devices installed in the exhaust system. Many of the devices also provide the needed noise attenuation either in part or in total.

Sound quality is an additional noise characteristic that is important to the end user. An example of a sound quality concern is the sound of fingernails on a chalk board – this screeching sound makes people wince, yet the measured sound level would not be significant. A low throaty rumble may seem even quiet (and almost desirable) but may be amplified and become annoying if it reverberates within the operator's cabin.

**Heavy-duty mufflers typically employ one of four sound reduction techniques including:**

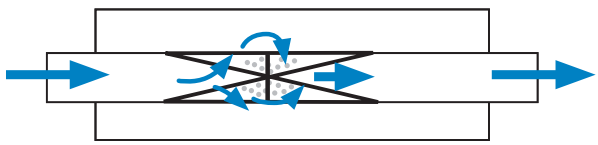
**Reactive silencing**

What's important: the ratio of the body diameter to the tube



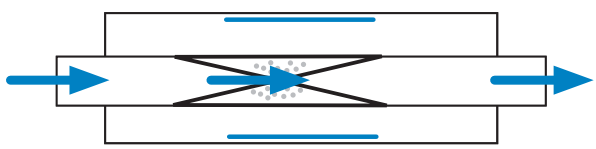
**Resistive silencing**

Exhaust flow is forced through a small area. It removes energy to reduce noise level.



**Absorptive silencing**

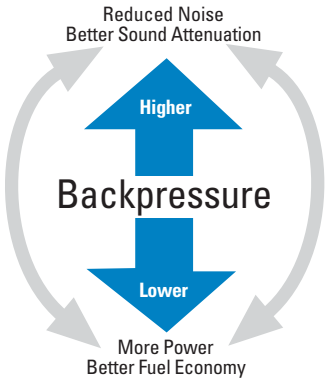
Transforms wave energy into thermal energy. Uses acoustic packing (or wrap) just inside the outer shell of the muffler.



Engine manufacturers generally expect a reduction in engine exhaust sound level of 15-25 dBA. The overall noise level of a vehicle or piece of stationary equipment is the actual regulated value. The overall noise level is typically measured while driving past a microphone at a specific speed and distance. Maximum noise levels in the U.S. are regulated by the U.S. EPA (Environmental Protection Agency).

## Backpressure

A key performance factor in selecting the proper muffler is backpressure. For the most efficient engine performance it is important to apply a muffler that minimizes backpressure.




Backpressure is the force necessary to flow gasses through the Exhaust system, or the resistance to exhaust flow. System considerations include friction and momentum effects - expansion / contraction / elbows, and velocity head loss at outlet.

To minimize backpressure, long tube lengths, small tube diameters, and sudden contractions should be avoided.

Backpressure can reduce horsepower and fuel economy. For example, turbocharged diesel engines loose about 0.5% in horsepower and fuel economy per inch Hg backpressure. To help you minimize backpressure, our selection guide provides exhaust flow ratings at 1" (25mm), 2" (51mm) and 3"(76mm) Hg (mercury).

Conversion: 1.0" (25mm) Hg = 13.6" (345mm)$H_20$

Our muffler spec'ing section outlines the steps you need to take for proper muffler selection.

## Structural

Another performance factor is the structural durability of the system configuration. Position, mounting support, weight and the type of material that the unit is made from are the key sub-components of system structure.

For example, the original OE stanchion or chassis mounting components are adequate for a replacement muffler. If you apply a heavier muffler, like one with an emissions device inside, it's critical to upgrade the hangers, brackets and stanchion with more robust and heavier components. Most exhaust system problems encountered by Donaldson field service are due to improper bracketing and/or use of clamps – not the muffler or muffler construction.

## Exhaust Product Materials

There are a number of materials found in diesel exhaust applications. Some of the materials are appropriate for heavy duty applications and have the mechanical properties to provide good service life.

Since materials vary in strength, corrosion resistance, and price, a particular material may be preferred in individual applications and components. Some of the most common materials, their qualities, and their typical uses are listed in the following table.

| Materials* | Used in | Qualities |
|---|---|---|
| Aluminized Mild Steel | Mufflers | Good Corrosion Resistance |
| | Exhaust Components | |
| Stainless Steel (with and without aluminized coating) | Flexible Tubing | Stronger<br>Excellent Corrosion Resistance |
| | Mufflers | |
| | Exhaust components | |
| | Emissions Products | |
| Chrome | Accessories | Bright Mirror Finish |
| Galvanized | Flexible Tubing | Low Material Cost<br>Temperature Limit 600°F (316°) |
| Cold Rolled | Accessories | Poor Corrosion Resistance<br>Low Cost |

Aluminized steel is the preferred material for traditional diesel exhaust applications. Aluminized steel is a low carbon steel with a thin layer of aluminum alloyed to the surface. The aluminum provides a barrier for protection of the base material. Aluminized steel parts have an ultimate service temperature of 1250°F (677°C) with a continuous duty temperature limit of 1000°F (538°C). This material closely matches the expected service temperatures of diesel engine applications and has excellent corrosion resistance to acidic diesel exhaust gases. Aluminized steel parts provide good field life at a reasonable cost.

Series 400 stainless steels are used for many extended service life diesel applications, and often in gasoline applications due to their higher operating temperatures. This material family provides slightly better strength at exhaust system temperatures than aluminized steel.

Type 409 is the most common 400 series stainless

steel used in exhaust applications. Type 409 is stronger than aluminized but exhibits cosmetic problems at exhaust system temperature. At first exposure to high temperature it discolors. Over time it develops a nondestructive coating of surface rust. After an extended time in the field a 409 product will display external discoloration and look worse than a similar part made from aluminized steel, but will last much longer.

Another choice is 409 stainless steel with an aluminum coating. Aluminized 409 is used on diesel catalytic converter mufflers due to its excellent high temperature resistance and the corrosion protection of the aluminized coating. Aluminized 409 is found primarily on emission products or high temperature gasoline applications.

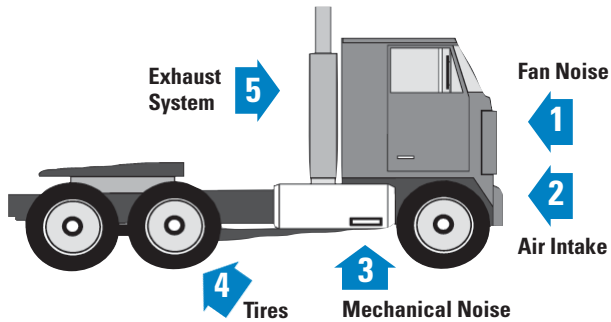
Series 300 stainless steels are also utlized in exhaust systems. The most common material is Type 304. This material has excellent corrosion resistance and very good high temperature strength and is used in some muffler applications where very high stresses occur. This is a premium material and is also used in many for gasoline applications. The most prevalent use of the material in heavy duty diesel applications is for flex pipe. Flex pipe produced from light gauge 304 stainless steel is an excellent choice considering all the factors of cost, durability, and service life.

Often chrome plated cold rolled steel parts are found on exhaust system parts. This material is a reasonable choice for cosmetic applications where a bright mirror finish is desired. Corrosion from the inside of the product can still occur. Chrome parts may be very challenging to produce. It is important to produce the parts with a high level of quality because surface irregularities are very visible to the end user.

An alternate choice for chrome parts is bright annealed stainless steel. This material provides a bright mirror like finish with excellent exhaust service life. Bright stainless steel is typically used for muffler heat shields and generally an expensive material choice.

## Noise Sources

### Five Major Sources of Noise in Trucks




### Easy Maintenance Tips Reduce Exhaust Noise

1. Check the exhaust tubing. Repair or replace worn or leaking components.
2. Make sure your exhaust system is properly supported.
3. Installing a resonator or wye connector muffler is an economical way to reduce noise.
4. Modify a single exhaust system to a dual.
5. Check stack and tailpipe position. A straight stack will be quieter than a curved stack on vertical exhaust systems. Turn your horizontal tailpipes toward the center of the road.

| Type of Equipment | Net installed power<br>. P (in kW)<br>. Electric Power $P_{el}$(1) in kW<br>. Mass of appliance m in kg<br>. Cutting width L in cm | Permissible sound power level in dB/1 pW | |
|---|---|---|---|
| | | Stage I as from 3 January 2002 | Stage II as from 3 January 2006 |
| Compaction machines (vibra ting rollers, vibratory plates, vibratory rammers) | P ≤ 8 | 108 | 105 |
| | 8 < P ≤ 70 | 109 | 106 |
| | P > 70 | 89 + 11 lgP | 86 + 11 lgP |
| Tracked dozers, tracked loaders, tracked excavator-loaders | P ≤ 55 | 106 | 103 |
| | P > 55 | 87 + 11 lgP | 84 + 11 lgP |
| Wheeled dozers, wheeled loaders, wheeled excavator-loaders, dumpers, graders, loader-type landfill, compactors, combustion engine driven counterbalanced lift trucks, mobile cranes, compaction machines (non-vibrating rollers), paver-finishers, hydraulic power packs | P ≤ 55 | 104 | 101 |
| | P ≥ 55 | 85 + 11 LgP | 82 + 11 LgP |
| Excavators, builders' hoists for the transport of goods, contruction winches, motor hoes | P ≤ 15 | 96 | 93 |
| | P > 15 | 83 + 11 lgP | 80 + 11 lgP |
| Hand-held concrete-breakers and picks | m ≤ 15 | 107 | 150 |
| | 15 < m < 30 | 94 + 11 lgP | 92 + 11 lgm |
| | m ≥ 30 | 96 + 11 lgP | 94 +11 lgP |
| Tower cranes | | 98 + lgP | 96 + lgP |
| Welding and power generators | $P_{el}$ ≤ 2 | 97 + lg$P_{el}$ | 95 + lg$P_{el}$ |
| | 2 < $P_{el}$ ≤ 10 | 98 + lg$P_{el}$ | 96 + lg$P_{el}$ |
| | $P_{el}$ > 10 | 97 + lg$P_{el}$ | 95 + lg$P_{el}$ |
| Compressors | P ≤ 15 | 99 | 97 |
| | P > 15 | 97 + 21gP | 95 + 2 lgP |
| Lawnmowers, lawn trimmers / lawn edge trimmers | L ≤ 50 | 96 | 94 (2) |
| | 50 < L ≤ 70 | 100 | 98 |
| | 70 < L ≤ 120 | 100 | 98(2) |
| | L > 120 | 105 | 103(2) |

'$P_{el}$ for welding generators: conventional welding current multiplied by the conventional load voltage for the lowest value of the duty factor given by the manufacturer.
$P_{el}$ for power generators: prime power according to ISO 8528-1: 1993. Point 13.3.2
2 Indicative figures only. Definitive figures will depend on amendment of the Directive following the repport required in Article 20(3). In the absence of any such amendment, the figures for stage I will continue to apply for stage II.
The permissible sound power level shall be rounded to the nearest whole number (less than 0.5 use lower number: greater than or equal to 0.5 use higher number)

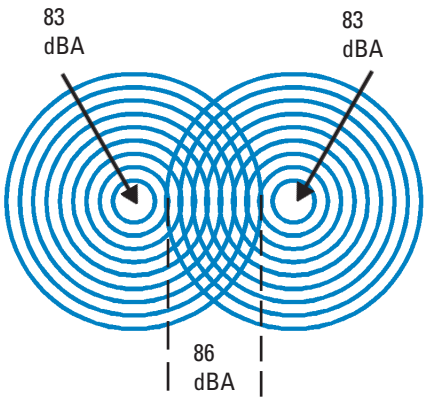
L162/8 EN Official Journal of the European Communities 3.7.2000

SHOPTALK

## Rules of Thumb

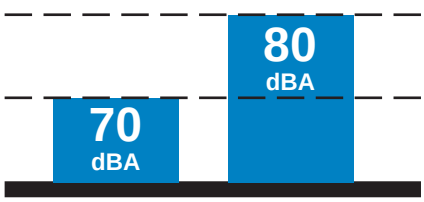
### Combining Two Equal Noise Sources Increases Sounds Level by 3 dBA

Two equal noise sources combine to create a sound level 3 dBA greater than either source.



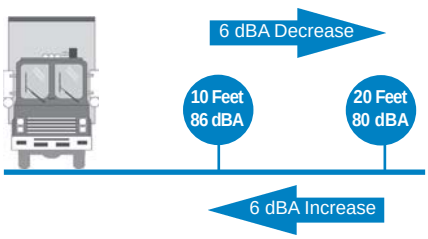

### Twice the Loudness is a 10 dBA Increase

The increases are not linear! Increasing noise by 10 dB sounds twice as loud.




### Sound Pressure Level Changes With Distance

Doubling the distance to a noise source decreases its sound level by 6 dB. Halving the distance to a noise source increases its sound level by 6 dB.




## Emissions Devices & Acoustic Silencing

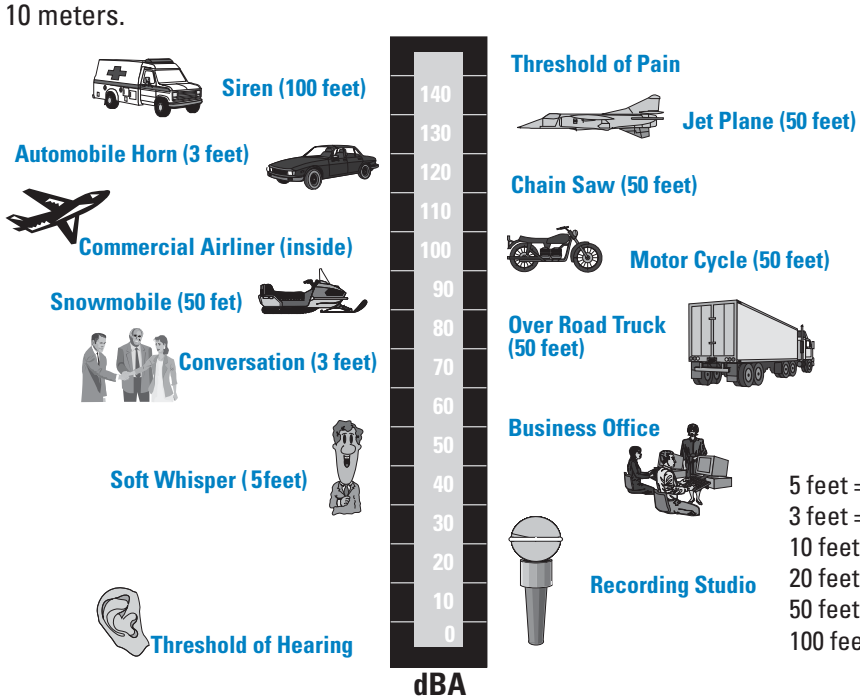
Various emissions reduction technologies are applied to exhaust systems to meet new emissions standards. The additional components can significantly change or eliminate the traditional acoustic silencing components common in older muffler designs. Depending on the application, emissions reduction devices may totally eliminate the need for further sound control and for others, minimal acoustic silencing may be required. The sound attenuation of emissions devices varies depending on the filtering substrates and configuration of the overall system.



Typical emissions aftertreatment substrates (ceramic and metal)

## Familiar Sounds on the dBA Noise Scale

Other examples of sound levels:
70 dB Traffic jam; 90 dB Heavy machinery, 130 dB Jet engine at 10 meters.



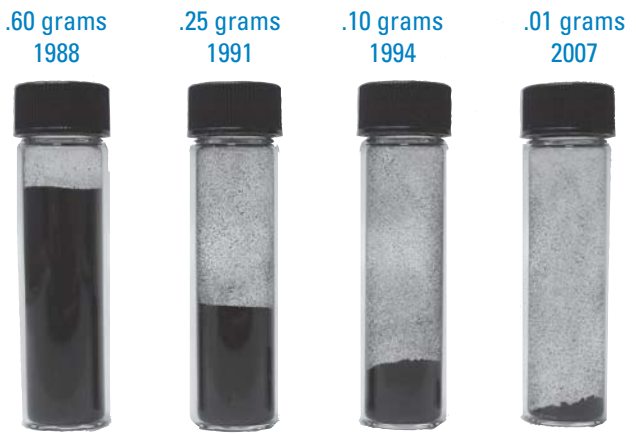
# Diesel Particulate Matter (PM) Allowed per Horsepower-Hour

## What does "Diesel PM per Horsepower-Hour" Mean?

A 200 horsepower (HP) engine could release as much as 200 times the amount shown in one vial during one hour of operation or a 300 HP engine could release as much as 300 times the amount shown in one vial during one hour of operation.

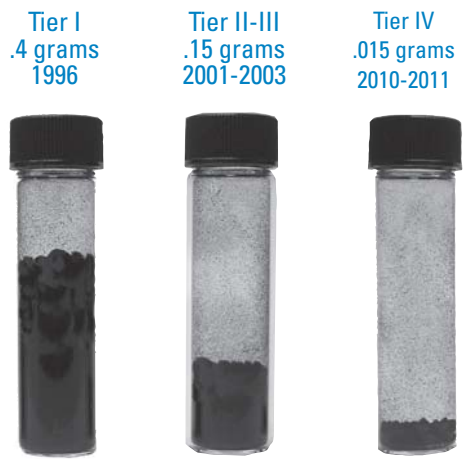
### Limits for On-Road, Heavy Duty Trucks

Diesel Particulate Matter (PM) Allowed per Horsepower-Hour



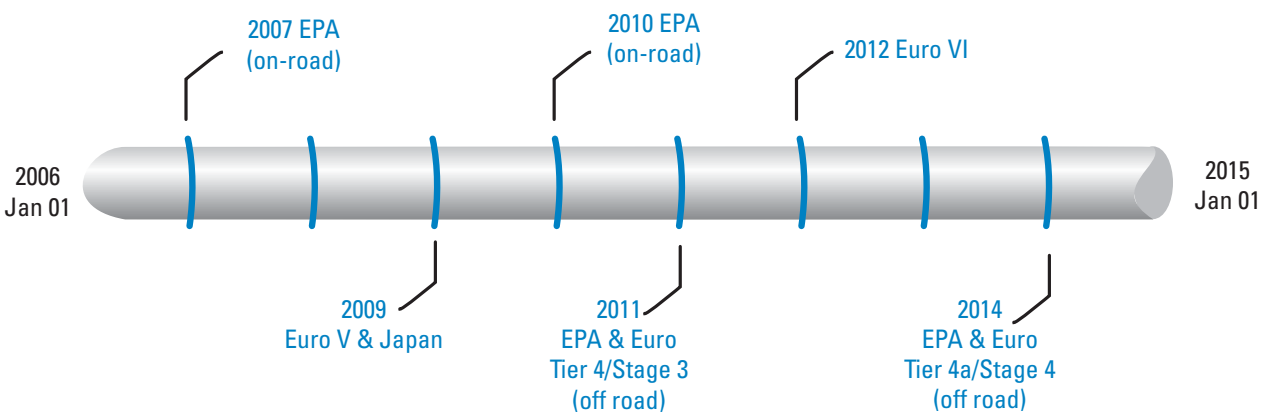

### Limits for Off-Road Diesel Engines

Levels for 175-750 HP engines only. Other engine HP limits and timing vary.




Soot vials are shown smaller than actual size (2-3/8" height).

# Worldwide Emissions Mandates & Timing



# Flex Tubing: Cutting & Installation

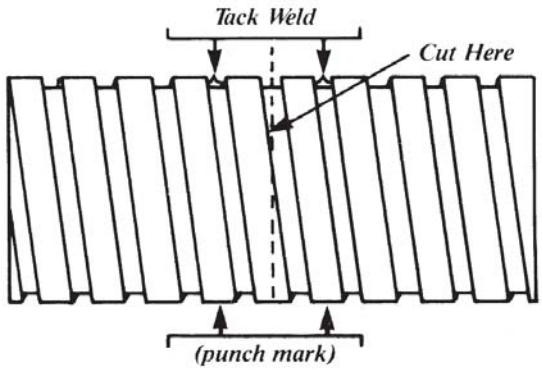
Flexible tubing can twist or unravel when cut, causing its diameter to change and making installation difficult. This occurs because flexible tubing must maintain flexibility in order to function properly, and, therefore, cannot be tightly wound in the manufacturing process. However, flexible tubing can be managed for trouble-free installation by following these guidelines.



## Cutting

### Step 1- Prepare

Place a tack weld between convolutions on each side of the intended cut to keep ends from twisting or unraveling.



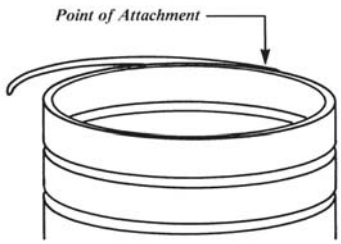

If a welder is not available, insert a mandrel or back-up pipe into the tubing and place a punch mark directly on convolutions on each side of the intended cut. Heavy-duty tape over a de-greased pair also works. Cut through tape and leave in place, clamp over tape.

### Step 2 - Cut

Place the tubing securely in a vice. Cut with a metal cutting band saw or a hacksaw with 32 teeth per inch.

### Step 3 - Trim

Each side of the cut will now have a spiral "tail" that must be removed to the point at which it is attached. Bend each tail until it breaks, or bend and use a cutting shears to remove.

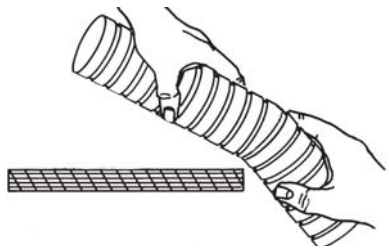



### Step 4 - Deburr

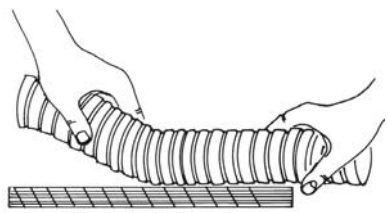
Deburr both cut surfaces with a hand-operated drum sander or file.

## Installation

Flexible tubing's function is to prevent excessive stress on exhaust system components by absorbing vibration and thermal expansion that would otherwise cause system components to shake loose and break.



To provide adequate flexibility, flex tubing should be installed in a half extended state. To reach half extension, place the middle of the tubing over the edge of a work bench, push down on both halves and bend as much as possible.



Then place the entire piece of tubing on the work bench and push the end down until straightened. The tubing is now at half extension.

Note: Do not use flexible tubing to form an exhaust pipe bend. Use elbows instead.

Donaldson
FILTRATION SOLUTIONS

# Donaldson & Industry Acronyms

## Exhaust/Emissions Acronyms

ATD ..... After Treatment Device
Bp..... Backpressure
CARB ..... California Air Resources Board
CCM..... Catalytic Converter Muffler (or DOC)
CCV ..... Crankcase Ventilation or Closed Crankcase Vent
CDPF..... Catalyzed Diesel Particulate Filter
CFM ..... Cubic Feet per Minute
CFS..... Crankcase Filtration System
CO ..... Carbon Monoxide
dBA..... Decibel, A scale (noise level)
DMF..... Diesel Multi-stage Particulate Filter
DOC..... Diesel Oxidation Catalyst
DPF ..... Diesel Particulate Filter
EAT..... Exhaust After Treatment
EDM..... Emissions Device Monitor
EGR ..... Exhaust Gas Recirculation
EIEO ..... End In / End Out (muffler style)
EISO..... End In / Side Out (muffler style)
EPA ..... Environmental Protection Agency
EPA Tier 4/IV..... Off-road emissions standards
EPA07 ..... U.S. EPA 2007 on-road regulation
EPA10 ..... U.S. EPA 2010 on-road regulation
ERC ..... Emissions Resource Center
Euro Stage XX .... European Emissions Reduction Regulations
FTP..... Federal Test Procedure
HC ..... Hydrocarbon (unburned fuel)
HP ..... Horse Power
HTEF ..... High Temperature Exhaust Filter
ICC ..... Independent Catalytic Converter
ID..... Inside Diameter
IOM..... Installation Operation Manual
ISO ..... International Organization for Standardization
ISO/TS ..... ISO Technical Specification
LNF..... Low $NO_2$ Filter (muffler)
LXF..... Low NOx Filter (muffler)
LSD ..... Low Sulfur Diesel (fuel)
LTF..... Low Temperature Filter (muffler)
$NO_X$..... Nitrogen Oxides
OCV..... Open Crankcase Ventilation
OD ..... Outside Diameter
PM ..... Particulate Matter
SC..... Silicone Carbide
SCR ..... Selective Catalyst Reduction
SEF..... Semi-active Electric Filter (muffler)
SIEO..... Side In / End Out (muffler style)
SISO..... Side In / Side Out (muffler style)
SRF..... Standard Recirculation Filter
SS..... Stainless Steel
ULSD..... Ultra-Low Sulfur Diesel (fuel)
VOC..... Volatile Organic Compound
VOF ..... Volatile Organic Fraction

www.donaldsonoemfiltration.com/technologies/emission

# Engine Brake & Exhaust Silencer

Donaldson. Silent Partner™

SHOPTALK

### Designed to specifically address engine brake noise

- Addresses engine brake noise, silencing engine brake "bark"
- Reduces exhaust noise 66% versus a standard muffler

### Silences engine brake "bark"

- Reduces driver fatigue
- Improves trucking industry image

### All stainless steel construction available*

- Won't rust out like conventional mufflers

### Direct replacement

- Easy installation, can be applied on existing trucks

### No increase in back pressure

- Silences without engine power loss
- Maintains fuel economy

*Models available in both stainless steel and aluminized steel



# Flat Band SealClamp™ Installation Instructions

SHOPTALK



## Step 1

Position 1/3 to 1/2 way onto the larger diameter tube or to completely cover slots.



May be used for butt-style joints in light duty applications



## Step 2

Assemble bolts between clamp bolts and tubes.






## Step 3

For all models, tighten by alternating the wrench between fasteners several times to uniformly take up the slack, beginning with the large diameter side of the connection. Tighten the nuts for stainless clamps as illustrated. Tighten alternately until the gasket is fully compressed and the mating bars' surfaces are fully touching. The grade 8 bolts and nuts are rated to 100 ft. lbs. of torque. For best results use an impact wrench.

## Important Application Notes

- Use either 9/16 inch (14mm) hex wrench
- Grease the clamps and the joint area before installing
- Do not use for exhaust system mounting support
- Do not use for exhaust manifold or turbocharger connections
- Do not reuse the clamps
- Do not use as a butt joint clamp–use for overlap connections only

# Stepped SealClamp™ Installation Instructions

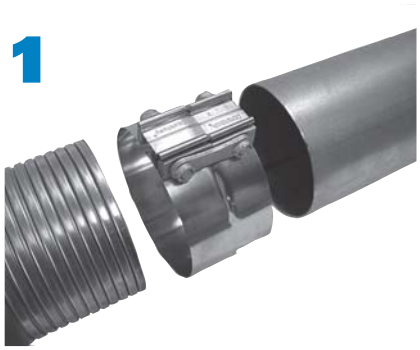







Stepped Preformed SealClamp is Individually packaged with installation instructions

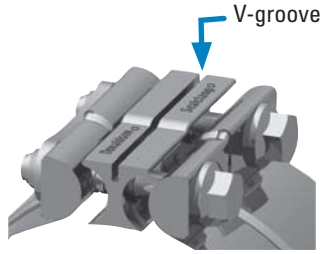
**1**



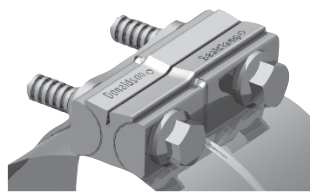
**2**



**3**




Before / Antes / Avant



After / Después / Après

## Unique design with fully assembled hardware!

1. Position the SealClamp over the smallest tube. Larger end of the clamp must be on the overlapping tube or flex.

2. Locate the step of the clamp to the overlapping tube at the joint.

3. Using the v-groove as a visual guide, alternately tighten bolts until the groove is approximately half closed (~50 ft. lbs). Do not exceed 70 ft. lbs. torque as clamp damage may occur.

## Diseño único para un ensamble completo!

1. Colocar el SealClamp sobre el tubo más pequeño. El diámetro mayor del SealClamp debe estar sobre el tubo rígido o flexible a sobrepasar.

2. Ubicar el escalón de la abrazadera en la unión del tubo sobrepuesto.

3. Usando la ranura como guía visual, apriete alternadamente los pernos hasta que la ranura esté aproximadamente a medio cerrar. No exceda 94,9 N(m (35 lbs-pie) de par de apriete por que puede producir daños en la abrazadera.

## Conception unique avec pièces entièrement assemblées!

1. Placer le collier sur le tuyau de diamètre inférieur. La portion la plus grande du collier doit se trouver sur le tuyau qui chevauche.

2. Positionner la partie étagée du collier sur la portion chevauchante du tuyau en l'alignant sur le joint.

3. En utilisant la rainure comme guide visuel, serrer alternativement les boulons, jusqu'à ce que la rainure soit à moitié fermée. Ne pas dépasser une force de torsion de 35 pied-livre, cela risquerait d'endommager le serre-joint.

## Attenuation

In an exhaust system, attenuation refers to the reduction in sound level measured between an engine without a muffler and the same engine with a muffler.

## Backpressure

Backpressure is the force necessary to flow exhaust gas through the system. Backpressure reduces horsepower and fuel economy - for turbocharged diesel engines - about 0.5% decrease in horsepower and fuel economy per inch Hg backpressure. Typically measured in inches of mercury (Hg) or inches of water ($H_2O$) - 1.0" (25mm) Hg - 13.6" (345mm) $H_2O$

## CFM

Cubic feet per minute of airflow.

## dBA

The sound level measured in decibels using a sound level meter weighted for the "A" scale frequency response. It has over 82% correlation with loudness as determined by the typical human ear (dB without the "A" scale weighting overall has only 70% correlation to loudness).

## Decibel (dB)

A unit used to express the relative difference in acoustic power. Whenever dB is used a reference level is implied. The reference value of 0.0002 dynes/cm2 = 0dB.

## DOC Muffler

Diesel Oxidation Catalyst (DOC) Muffler. This muffler design contains a catalyst inside that reduces emissions while reducing exhaust noise. Also referred to as a catalytic converter muffler (CCM).

## DPF Muffler

Diesel Particulate Filter (DPF) Muffler. This muffler design contains a particulate filter that requires Ultra Low Sulfur Diesel fuel. The filter eliminates a greater amount of particulate matter compared to a DOC Muffler, but has a higher activation temperature (260°C). Like a DOC, it also reduces emissions while reducing exhaust noise.

## Dynamometer Test

A test that allows an engine to be run to full horsepower and rated RPM while remaining stationary.

## Exhaust Noise Level

Sound level of the exhaust system, typically measured in dBA.

## N/A

Naturally aspirated

## Resonator

A device inserted in the exhaust system ahead of the muffler that provides additional exhaust noise silencing without adding significant backpressure.

## Sound Level Meter

A sound level measuring device that includes a microphone, an amplifier, an output meter and sound frequency networks for measuring sound levels in decibels,

## Total Vehicle Noise

The sum of exhaust noise level measurement plus fan, intake, mechanical and tire noise. Noise levels add logarithmically (equal noise levels combined add 3 dB; example 75 dB + 75 dB = 78 dB).

# PART NUMBER INDEX

When all you have is a Donaldson part number, this section will lead you to the proper page in the catalog where specific information on that part number can be found.

In some cases you will find two separate page numbers listed, for products such as: mufflers (with references to the specifications section and the muffler selection by engine performance section); and clamps (with references to both dimensional and application information).




| Part No. | Page |
|---|---|
| **Exhaust Clamps** | |
| Bent Bolt Clamp | |
| Offset MaxGrip | |
| Bent Bold | |
| M002164 | 14 |
| M001865 | 14 |
| M002134 | 14 |
| M002135 | 14 |
| MaxGrip Bent Bolt Clamp | |
| M001866 | 14 |
| M001867 | 14 |
| M001756 | 14 |
| M001702 | 14 |
| M001502 | 14 |
| M001593 | 14 |
| M001432 | 14 |
| M001503 | 14 |
| M001566 | 14 |
| M001703 | 14 |
| M001668 | 14 |
| M001504 | 14 |
| M001505 | 14 |
| M001799 | 14 |
| M001506 | 14 |
| SealClamp™ | |
| The Original Band Clamp | |
| X007829 | 15 |
| X007830 | 15 |
| X007831 | 15 |
| X007784 | 15 |
| X007785 | 15 |
| X009076 | 15 |
| X007833 | 15 |
| X007834 | 15 |
| X007824 | 15 |
| X007805 | 15 |
| X004536 | 15 |
| X004537 | 15 |
| X004476 | 15 |
| X004538 | 15 |
| X004478 | 15 |
| X004480 | 15 |
| X004482 | 15 |
| X004962 | 15 |
| X004484 | 15 |
| X004539 | 15 |
| X006204 | 15 |
| X006203 | 15 |
| X006202 | 15 |
| Torctite® | |
| J009604 | 16 |
| J009605 | 16 |
| J009606 | 16 |
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| J190063 | 16 |
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| P222741 | 16 |
| P222742 | 16 |
| Easyseal® | |
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| J000202 | 16 |
| J000208 | 16 |
| J000203 | 16 |
| J000209 | 16 |
| Standard U-Bolt Clamps | |
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| P206405 | 16 |
| P206406 | 16 |
| P206407 | 16 |
| P206408 | 16 |
| P206409 | 16 |
| P206410 | 16 |
| P206411 | 16 |
| P207667 | 16 |
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## Global Presence with Local Touch

Donaldson has established a global distribution network to serve our customers locally as well as worldwide. We operate as a global company with a network of primary distribution locations that support a mature hub of regional distribution centers and warehouses.

Donaldson distribution centers are strategically located to quickly and accurately deliver filtration and exhaust products wherever replacement products are needed. We work with a network of transportation, third party logistics companies, consolidators, and cross-docking facilities to meet or exceed our customers' requirements.

All regions of the world benefit from our global umbrella of distribution centers. We focus our efforts on local support and the capabilities of our staff. We continue to make significant investments in facilities, systems, supply chain relationships and staffing to offer the best order fulfillment options available.



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