Design Engineering 010454

Design Engineering Titanium Pipe Shield Instruction Manual

Model: 010454

Product Overview

The Design Engineering Titanium Pipe Shield is engineered to provide superior heat protection and insulation for exhaust pipes and tubes. It is designed to reduce radiant heat and help lower under-hood temperatures, contributing to improved overall vehicle performance and component longevity.
This shield is crafted from DEI's proprietary Titanium LR™ technology, which utilizes pulverized volcanic rock woven into a flexible, durable fabric. The Titanium Pipe Shield is capable of withstanding continuous temperatures up to 1350°F and radiant heat up to 1800°F.

Key Features

- **Superior Heat Protection:** Effectively shields exhaust pipes and tubes from extreme temperatures.
- **Temperature Reduction:** Helps to significantly lower radiant heat and under-hood temperatures.
- **Durable Construction:** Made from high-temperature resistant Titanium LR™ material, ensuring long-lasting performance.
- **Component Safeguarding:** Protects nearby hoses, electrical wiring, brake lines, and sensitive components from heat damage and premature wear.
- **Flexible Design:** Adapts easily to curved or irregular exhaust pipes for versatile application.
- **Easy Installation:** Features built-in stainless steel clamps for secure and straightforward mounting.
- **Universal Fit:** Designed for broad compatibility across various automotive, racing, and industrial applications.

What's in the Box

Each package of the Design Engineering Titanium Pipe Shield (Model 010454) includes:

- One (1) Design Engineering Titanium Pipe Shield, measuring 4 inches wide by 12 inches long.
- Necessary stainless steel clamps for installation.

Image: The Design Engineering Titanium Pipe Shield, showing the shield itself, stainless steel clamps, and product packaging.

Setup and Installation

The Titanium Pipe Shield is designed for straightforward installation. Follow these steps for optimal performance and safety:

1. **Identify Target Area:** Determine the specific section of the exhaust pipe or tubing that requires heat protection. This could be near sensitive components like fuel lines, brake lines, electrical wiring, or interior panels.
2. **Ensure Clean Surface:** Make sure the exhaust pipe surface where the shield will be applied is clean and free of debris, oil, or grease.
3. **Position the Shield:** Wrap the Titanium Pipe Shield around the exhaust pipe. The flexible material allows it to conform to curved surfaces. Ensure the shield covers the desired area completely.
4. **Secure with Clamps:** Use the provided stainless steel clamps to secure the shield firmly in place. Thread the clamps around the pipe and through the designated points on the shield. Tighten the clamps evenly to ensure a snug fit, preventing movement or slippage.

5. **Verify Placement:** After tightening, double-check that the shield is securely attached and provides adequate coverage to the protected area. Ensure it does not interfere with any moving parts or other vehicle components.

Images: The Titanium Pipe Shield securely installed on an exhaust pipe, demonstrating its flexible fit and the use of clamps.

Image: The Titanium Pipe Shield applied to a motorcycle exhaust pipe, illustrating its application in tight engine bay spaces.

Operating Considerations

Once installed, the Design Engineering Titanium Pipe Shield operates passively by providing a thermal barrier. No active operation is required. It continuously works to reduce heat transfer from the exhaust system to surrounding components and areas.

Important: Always ensure the shield is properly secured before operating the vehicle. Loose shields can pose a safety hazard or become damaged.

Maintenance

The Design Engineering Titanium Pipe Shield requires minimal maintenance. Periodically inspect the shield for any signs of wear, tear, or damage. Check the tightness of the stainless steel clamps to ensure the shield remains securely in place. If the shield becomes excessively dirty, it can be gently wiped clean with a damp cloth once the exhaust system has cooled down completely. Do not use harsh chemicals or abrasive cleaners.

Troubleshooting

Problem	Possible Cause	Solution
Shield is loose or moving.	Clamps are not tightened sufficiently or have loosened over time.	Re-tighten all stainless steel clamps. Ensure they are snug but do not overtighten to avoid damaging the pipe or shield.

Problem	Possible Cause	Solution
Heat transfer still noticeable.	Incomplete coverage of the heat source; shield is too small for the application; extreme heat conditions exceeding shield capacity.	Verify the shield fully covers the area requiring protection. Consider using a larger shield or additional shields if the heat source is extensive. Ensure the product is suitable for the specific temperature requirements of your application.
Shield appears damaged or frayed.	Physical abrasion or prolonged exposure to temperatures exceeding specifications.	Inspect for contact points with other components. If damage is significant, replace the shield to maintain effective heat protection.

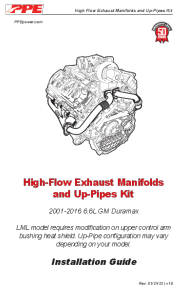
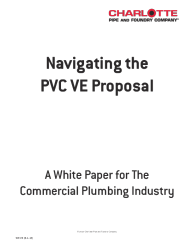
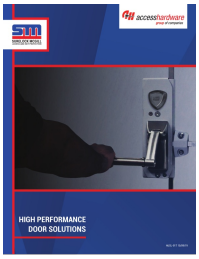
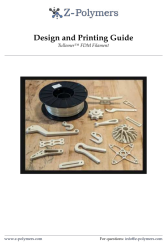
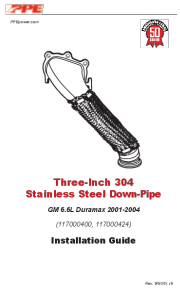
Specifications

Attribute	Detail
Brand	Design Engineering
Manufacturer	DEI
Model Number	010454 (also 10454)
Dimensions (L x W)	12 inches x 4 inches
Item Weight	9.9 ounces
Material (Outer Layer)	Titanium LR™ Technology (pulverized volcanic rock woven fabric)
Material (Inner Layer)	High-Temp Silica Fabric
Continuous Temperature Rating	Up to 1350°F (732°C)
Radiant Heat Resistance	Up to 1800°F (982°C)
Fit Type	Universal Fit
Included Components	Pipe Shield, Stainless Steel Clamps
Date First Available	July 3, 2014

Warranty and Support

Information regarding specific product warranty details or direct support contacts is not available in this manual. For warranty claims, technical assistance, or further inquiries, please refer to the official Design Engineering website or contact their customer service directly. Keep your purchase receipt as proof of purchase.
You can visit the Design Engineering store for more products and information:Design Engineering Store

Related Documents - 010454

	[Standard Reinforced Concrete Pipes Design Criteria - PennDOT] This document outlines the design criteria, specifications, and installation guidelines for Standard Reinforced Concrete Pipes as published by the Commonwealth of Pennsylvania, Department of Transportation (PennDOT). It includes detailed tables for steel areas, proof test loads, and various installation types (Standard, Trench Box/Shoring) for both circular and elliptical pipes.
	[PPE High-Flow Exhaust Manifolds and Up-Pipes Kit Installation Guide for 2001-2016 GM Duramax] Comprehensive installation guide for the PPE High-Flow Exhaust Manifolds and Up-Pipes Kit for 2001-2016 GM Duramax 6.6L Duramax engines. Includes disclaimer and warranty information.
	[Navigating the PVC VE Proposal: A Guide for the Commercial Plumbing Industry] A white paper from Charlotte Pipe and Foundry Company discussing value engineering (VE) proposals for PVC piping in the commercial plumbing industry, focusing on critical questions and potential risks compared to Cast Iron Soil Pipe.
	[Surelock McGill High-Performance Door Solutions] Surelock McGill offers a comprehensive range of high-performance door hardware and accessories, including the Abryll, Slimline, Zeus, and Navis-Shield ranges, designed for various security, operational, and life safety needs. Products are tested and certified to international standards for blast, ballistic, fire, and corrosion resistance, suitable for diverse sectors like defense, data centers, and critical infrastructure.
	[Z-Polymers Tullomer™ FDM Filament Design and Printing Guide] A comprehensive guide to designing and printing with Z-Polymers Tullomer™ FDM filament, covering material properties, printing guidelines, and part applications.
	[PPE Three-Inch 304 Stainless Steel Down-Pipe Installation Guide for GM 6.6L Duramax (2001-2004)] Detailed installation guide for the PPE Three-Inch 304 Stainless Steel Down-Pipe, designed for GM 6.6L Duramax engines from 2001-2004. Includes part numbers, warranty information, and liability disclaimers.

Documents - Design Engineering – 010454

no relevant documents