# ThunderMax® is Key to A Cooler Running Engine

Thermal images show an air cooled H-D<sup>®</sup> engine with an unstable Air/Fuel Ratio vs. the ThunderMax<sup>®</sup> equipped engine with AutoTune.



**Slide 1:** Shows the excessive, high-heat environment in which a typical air cooled H-D<sup>®</sup> engine normally operates - Very uncomfortable for the rider!



**Slide 2:** Shows a ThunderMax<sup>®</sup> equipped engine with AutoTune; Note the cooler operating temperature resulting from a properly balanced fuel curve - Much more comfortable for both rider and passenger!





ThunderMax<sup>®</sup> is an industry award winning, performance ECM designed specifically for EFI equipped Harley Davidson<sup>®</sup> motorcycles. This highly advanced, stand-alone tuning system utilizes proprietary AutoTune technology specificly designed to interface with wide-band oxygen sensors to automaticly adjust a wide range throttle positions and RPM ranges to deliver unmatched performance and driveability like no other product in the industry. ThunderMax<sup>®</sup> is made in the USA and comes 100% assembled, ready to install with no wire-cutting or splicing required. Simply replace the factory ECM and oxygen sensors, load a map, and enjoy your new ride!

- Advanced, Rapid Throttle Response
- Wide Band Tuning for Better Performance
- A Cooler Running Engine
- AFR Maintained Regardless of Changes in Ambient Air
- The Zipper's Difference

Zipper's skill and knowledge of the ThunderMax<sup>®</sup> product is immense, plus our continued development of engine components and kits with ThunderMax<sup>®</sup> gives you a huge advantage over institutional suppliers of this technical product.



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ThunderMax<sup>®</sup> is not for sale or use

on pollution-controlled vehicles; see

ThunderMax<sup>®</sup> 50 for California ARB approved applications.















#### ThunderMax<sup>®</sup> for Touring & Tri Glide<sup>®</sup> Models

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ThunderMax® requires 18mm exhaust sensor ports as used on 2007-2009 models. 2010-2015 (12mm) Touring models must use a 2009 style exhaust or modify the 2010-2015 exhaust to accept 18mm oxygen sensors if not equipped with dual sensor ports. 2002-2006 models require exhaust with 18mm oxygen sensor ports or be modified for same.

## ThunderMax<sup>®</sup> for Softail<sup>®</sup> Models

PART NO.	APPLICATION
#309-382	2012-2015 Softail <sup>®</sup> (Cable Operated) except FXSB Breakout <sup>®</sup> *2
#309-363	2011-2013 FLSTSE (CVO TBW)
#309-361	2011 Softail® (Cable Operated) Except 2011 FXCWC Rocker® C
#309-485 <sup>*1</sup>	2008-2010 Softail® Rocker® and 2009 CVO FXSTSSE
#309-460	2001-2010 Softail <sup>®</sup> (Cable Operated) except Softail <sup>®</sup> Rocker <sup>®</sup>

\*1 Includes Pigtail communication cable adapter due to limited module access. \*2 Breakout® models under development

ThunderMax® requires 18mm exhaust sensor ports as used on 2007-2011 models. 2012-2015 (12mm) Softail<sup>®</sup> models must use a 2007-2011 style exhaust or modify the 2012-2015 exhaust to accept 18mm oxygen sensors if not equipped with dual sensor ports. 2001-2006 models require exhaust with 18mm oxygen sensor ports or be modified for same.

#### ThunderMax<sup>®</sup> for Dyna<sup>®</sup> Models

PART NO.	APPLICATION
#309-382	2012-2015 Dyna <sup>®</sup> Models
#309-485 <sup>*1</sup>	2004-2011 Dyna <sup>®</sup> Models

<sup>\*1</sup> Includes Pigtail communication cable adapter due to limited module access.

ThunderMax® requires 18mm exhaust sensor ports as used on 2006-2011 models. 2012-2015 (12mm) Dyna® models must use a 2007-2011 style exhaust or modify the 2012-2015 exhaust to accept 18mm oxygen sensors if not equipped with dual sensor ports. 2004-2005 models require exhaust with 18mm oxygen sensor ports or be modified for same.

#### ThunderMax<sup>®</sup> for Sportster<sup>®</sup> Models

PART NO.	APPLICATION
#309-382 <sup>*1</sup>	2014-2015 Sportster <sup>®</sup> XL Models
#309-485 <sup>*2</sup>	2010-2013 Sportster® XL Models
#309-464 <sup>*2</sup>	2008-2012 Sportster® XR1200® Models
#309-460	2007-2009 Sportster <sup>®</sup> XL Models

2014-2015 XL models require an exhaust system equipped with 18mm oxygen sensor bungs or be modified to accept 18mm sensors in place of the factory 12mm sensors (not required for 2007-2013 XL/XR models).

\*2 Includes Pigtail communication cable adapter due to limited module access

### ThunderMax<sup>®</sup> for V-Rod<sup>®</sup> Models

PART NO. **APPLICATION** 

2002-2015 V-Rod® Models #309-366<sup>\*1</sup>

\*1 #309-366 communicates via serial port. PC with serial port or USB-Serial adapter required ThunderMax® requires 18mm exhaust sensor ports as used on 2008-2011 models. 2012-

2015 (12mm) V-Rod<sup>®</sup> models must use a 2008-2011 style exhaust or modify the 2012-2015 exhaust to accept 18mm oxygen sensors if not equipped with dual sensor ports. 2002-2007 models require exhaust with 18mm oxygen sensor ports or be modified for same.

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