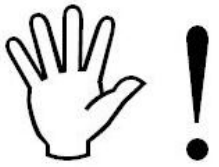
Instruction Manual

25-30XBK
HONDA ADJUSTABLE FUEL PRESSURE REGULATOR



STOP!

THIS PRODUCT HAS LEGAL RESTRICTIONS.
READ THIS BEFORE INSTALLING/USING!

WARNING! THIS IS A RACE ONLY PRODUCT MANUFACTURED AND SOLD FOR INSTALLATION ON VEHICLES DESIGNED TO BE USED SOLELY FOR COMPETITION PURPOSES. ONCE THIS PART IS INSTALLED, THE VEHICLE MAY NEVER BE USED, OR REGISTERED OR LICENSED FOR USE, ON A PUBLIC ROAD OR HIGHWAY. IF YOU INSTALL THIS PART ON YOUR VEHICLE AND USE THE VEHICLE ON A PUBLIC ROAD OR HIGHWAY, YOU WILL VIOLATE THE CLEAN AIR ACT AND MAY BE SUBJECT TO PERSONAL CIVIL OR CRIMINAL LIABILITY, INCLUDING FINES OF UP TO $4,819 PER DAY.

IT IS THE RESPONSIBILITY OF THE INSTALLER AND/OR USER OF THIS PRODUCT TO ENSURE THAT IT IS USED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IF THIS PRODUCT WAS PURCHASED IN ERROR, DO NOT INSTALL AND/OR USE IT. THE PURCHASER MUST ARRANGE TO RETURN THE PRODUCT FOR A FULL REFUND.

THIS POLICY ONLY APPLIES TO INSTALLERS AND/OR USERS WHO ARE LOCATED IN THE UNITED STATES; HOWEVER CUSTOMERS WHO RESIDE IN OTHER COUNTRIES SHOULD ACT IN ACCORDANCE WITH THEIR LOCAL LAWS AND REGULATIONS.

WARNING!

Improper installation and/or adjustment of this product can result in major engine/vehicle damage. For technical assistance visit our dealer locator to find a professional installer/tuner near you.

Note: AEM holds no responsibility for any engine damage or personal injury that results from the misuse of this product, including but not limited to injury or death.

AEM Performance Electronics
AEM Performance Electronics, 2205 126th Street Unit A, Hawthorne, CA 90250
Phone: (310) 484-2322 Fax: (310) 484-0152
http://www.aemelectronics.com
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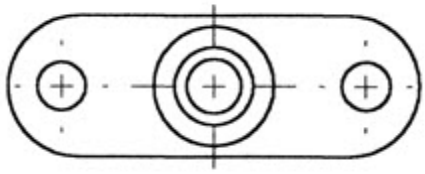
Read and understand these instructions <u>BEFORE</u> attempting to install this product.

- **Do not smoke while working on the fuel system.**
- **Keep open flames or sparks away from your work area.**
- **Be sure to relieve fuel pressure before beginning the installation.**

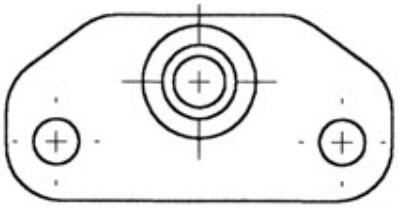
Optional Fittings

AEM Part Number	Description
50-200-06	-6 Male AN to 9/16"-18 Male ORB (O-Ring Boss)
50-200-86	-8 Male AN to 9/16"-18 Male ORB (O-Ring Boss)

The AEM adjustable regulator bolts directly to the stock Honda or the AEM high volume fuel rail. It is CNC machined from 6061 T-6 aluminum. The fuel outlet port is tapped to 9/16"-18 ORB threads, which allows the use of several different hoses ranging from the stock Honda fuel return hose to –8 AN hose. The vacuum reference is 1:1 ratio so for every pound of boost on a turbocharged or supercharged application yields a 1-pound rise in fuel pressure. The range of adjustability is from 20 PSI to the maximum the fuel pump can deliver.



Inline Base



Offset Base

Honda uses two styles of fuel pressure regulator bases. Before proceeding with your installation please compare the fuel pressure regulator on your vehicle and your new AEM adjustable fuel pressure regulator with the above diagrams.

1990-1993 Honda Accord and 1992-2000 Honda Prelude require the use of the *AEM Hi-Flow Fuel Rail* P/N 25-104. The AEM Adjustable Fuel Pressure Regulator can <u>NOT</u> be used with the stock fuel rail on these applications.

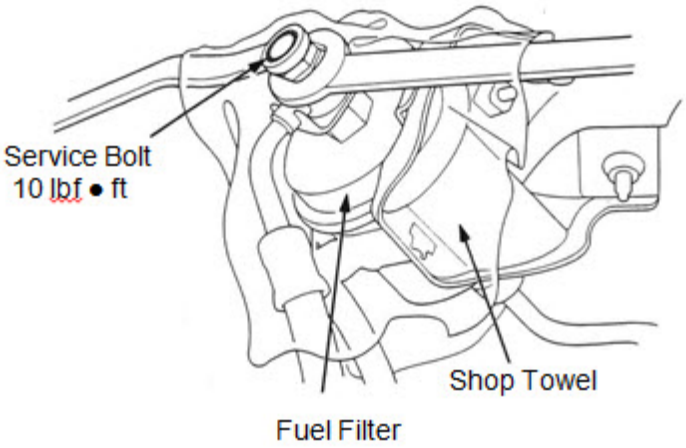
Refer to attached table of applications to determine the correct *AEM* Adjustable Fuel Pressure Regulator Kit that is required for your year/model vehicle.

1) Getting started
   a) Make sure vehicle is parked on a level surface.
   b) Set parking brake.
   c) Disconnect the negative cable from the negative battery terminal.
   d) If engine has run within the past two hours let it cool down.
   e) Clean the area on the fuel rail adjacent to the regulator.

Note: It is recommended to replace the washer between the service bolt and the special banjo bolt whenever the service bolt is loosened. (where equipped)

2) Relieving fuel pressure
   a) Remove the fuel fill cap.
   b) On models equipped with a 6mm service bolt. (Illustrated below) If your vehicle is not equipped with a 6mm service bolt, proceed to step c.

i) Use a box end wrench on the 6mm service bolt on top of the fuel filter, while holding the special banjo bolt with another wrench.
ii) Place a rag or shop towel over the 6mm service bolt.
iii) Slowly loosen the 6mm service bolt one complete turn.
iv) Leave service bolt loose until all pressure has been relieved.
v) Tighten service bolt to 10 lbf-ft.



a) On models not equipped with a 6mm service bolt.
   i) Use a box end wrench on the 12mm banjo bolt on top of the fuel filter.
   ii) Place a rag or shop towel over the 12mm banjo bolt.
   iii) Slowly loosen the 12mm banjo bolt one complete turn or until all pressure has been relieved.
   iv) Torque the 12 mm banjo bolt to 25 lbf-ft.

3) Stock fuel pressure regulator removal
   a) Place a rag or shop towel under the fuel pressure regulator return line.
   b) Disconnect the fuel return line at the bottom of the stock fuel pressure regulator.
   c) Disconnect the vacuum hose from the stock fuel pressure regulator.
   d) Place a rag or shop towel over the fuel pressure regulator.
      i) Remove the two 6mm retaining bolts.
      ii) iRemove the fuel pressure regulator from the vehicle.

4) Installation of the AEM adjustable fuel pressure regulator

The AEM fuel pressure regulator has the .250" orifice installed in the regulator and is set to 40psi. All adjustments of the pressure regulator will be explained in a later portion of the instructions.

   a) Remove and discard the two fuel pressure regulator caps used in packing. One cap is in the fuel inlet and one cap is on the fuel return.
   b) Install the fuel pressure regulator onto the fuel rail using the two allen bolts and washers supplied in the kit. Make sure that the o-ring is replaced and properly installed between the regulator and the fuel rail. When installing the two allen head bolts a 5mm allen key should be used.
      i) Torque to 9 lbf-ft.
   c) Connect the vacuum hose to the top of the fuel pressure regulator. On some vehicles incorporating a strut tower brace, it may be required to rotate the pressure regulator top to clear vacuum fitting.
   d) Install the fuel return line fitting.
      i) Use one crush washer when using the inline return fitting. Tighten to 20 lbf-ft. (Kits 25-300 & 25-301)
      ii) Use two crush washers (one on each side of the fitting) when using the banjo angle return fitting. Tighten to 20 lbf-ft. (Kits 25-303 & 25-304)

(1) When using a kit with an angle return fitting, rotate the return nipple to match the fuel return line placement before tightening.

e) Make sure that the rubber fuel return line is free flowing back to the fuel return hard line. Ensure that there are no bends or kinks in the line that can restrict the fuel flow.
f) Install any remaining components that were removed during disassembly.

5) Finishing touches
   a) Connect the negative battery terminal.
   b) Turn the ignition switch to the on position for approximately two seconds. Do not operate the starter. Then turn the ignition switch to the off position.
   c) Repeat this procedure three times, and then check all components that were removed during installation for any signs of fuel leakage.
   d) If there are signs of leakage you MUST correct the leak before proceeding.
   e) If there are no signs of leakage, then start engine and again check for leaks. If there is any sign of leaking you MUST repair the leak before driving the vehicle.
   f) To check the fuel pressure, start the engine. Measure the fuel pressure with the engine idling and vacuum hose of the fuel pressure regulator disconnected from the fuel pressure regulator and pinched. Set the AEM adjustable fuel pressure regulator to recommended settings on the last page of the instructions.

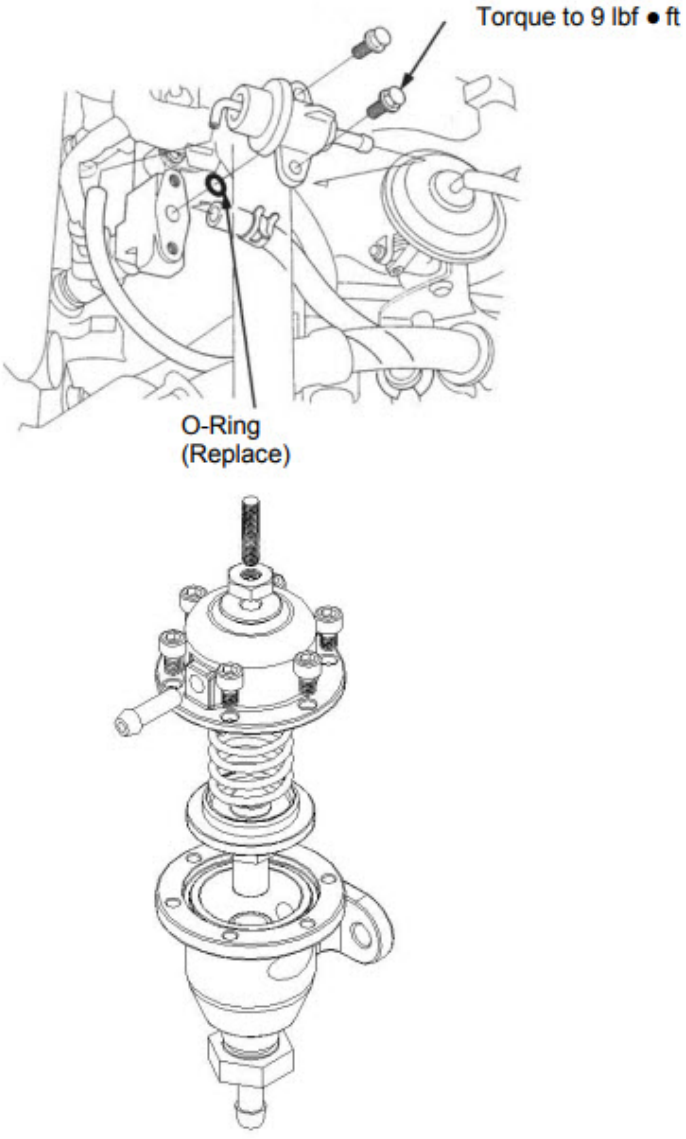
6) Pressure adjustments

The AEM adjustable fuel pressure regulator can be fine tuned for your application. These adjustments will be covered in this section. A fuel pressure gauge needs to be used for precise tuning.

   a) When fuel pressure adjustments are to be made, loosen the jam nut on the top of the AEM fuel pressure regulator and either tighten or loosen the set screw.

i) When loosening the jam nut a 3/8” wrench should be used.
ii) When tightening or loosening the set screw a 3/32” allen key should be used.
(1) To increase fuel pressure turn the set screw in a clockwise rotation.
(2) To decrease fuel pressure turn the set screw in a counter-clockwise rotation.

Fig. 1



Bill of Materials for 25-300BK:

QTY	PN	Description
2	2-609	-6 to 7mm Barb Fuel Return Fitting
1	2-611	Vacuum Fitting
1	2-612	Spring Cap
1	2-698	0.250” Orifice
1	2-8000	Fuel Pressure Regulator Top
1	2-8100	Fuel Pressure Regulator Bottom (Inline)
1	1-3007	Crush Washer
1	1-3010	O-Ring
6	1-2023	Socket Bolt, SS 8-32 x 5/16”
1	1-2021	Socket Screw, SS 10-32 x 1”
1	1-2022	Nut, Jam SS 10-32
1	2-301	Diaphragm
1	1-122	Spring
2	1-2045	Socket Bolt, SS M6 x1 x 12mm
2	1-3016	Washer, SS M6

Bill of Materials for 25-301BK:

QTY	PN	Description
1	2-609	-6 to 7mm Barb Fuel Return Fitting
1	2-611	Vacuum Fitting
1	2-612	Spring Cap
1	2-613	0.250” Orifice
1	2-8000	Fuel Pressure Regulator Top
1	2-8101	Fuel Pressure Regulator Bottom (Offset)
1	1-3007	Crush Washer
1	1-3010	O-Ring
6	1-2023	Socket Bolt, SS 8-32 x 5/16”
1	1-2021	Socket Screw, SS 10-32 x 1”
1	1-2022	Nut, Jam SS 10-32
1	2-300	Diaphragm
1	1-122	Spring
2	1-2045	Socket Bolt, SS M6 x1 x 12mm
2	1-3016	Washer, SS M6

Bill of Materials for 25-303BK:

QTY	PN	Description
1	2-610	-6 to 7mm Nipple
1	2-635	-6 Banjo Bolt
1	2-611	Vacuum Fitting
1	2-612	Spring Cap
1	2-698	.250 Orifice
1	2-8000	Fuel Pressure Regulator Top
1	2-8100	Fuel Pressure Regulator Bottom (Inline)
2	1-3007	Crush Washer
1	1-3010	O-Ring
6	1-2023	Socket Bolt, SS 8-32 x 5/16”
1	1-2021	Socket Screw, SS 10-32 x 1”
1	1-2022	Nut, Jam SS 10-32
1	2-300	Diaphragm
1	1-122	Spring
2	1-2045	Socket Bolt, SS M6 x1 x 12mm
2	1-3016	Washer, SS M6

Bill of Materials for 25-304BK:

QTY	PN	Description
1	2-610	-6 to 7mm Nipple
1	2-635	-6 Banjo Bolt
1	2-611	Vacuum Fitting
1	2-612	Spring Cap
1	2-613	0.250” Orifice
1	2-8000	Fuel Pressure Regulator Top
1	2-8101	Fuel Pressure Regulator Bottom (Offset)
2	1-3007	Crush Washer
1	1-3010	O-Ring
6	1-2023	Socket Bolt, SS 8-32 x 5/16”
1	1-2021	Socket Screw, SS 10-32 x 1”
1	1-2022	Nut, Jam SS 10-32
1	2-300	Diaphragm
1	1-122	Spring

QTY	PN	Description
2	1-2045	Socket Bolt, SS M6 x1 x 12mm
2	1-3016	Washer, SS M6

Regulator Part #	Straight or Angle Return	Vehicle	Year	Model	Rec. Fuel Press
25-300	Straight	Integra	94-2000	RS, LS, GS	40-47 PSI
25-300	Straight	Integra	94-2000	GSR, Type-R	48-55 PSI
25-300	Straight	Accord	88-89	LXI, SEI	36-41 PSI
25-300	Straight	Accord	90-91	All	35-41 PSI
25-300	Straight	Accord	92-93	All	40-47 PSI
25-300	Straight	Civic	92	All	40-47 PSI
25-300	Straight	Civic	92-95	All	40-47 PSI
25-300	Straight	Civic	99-00	SI	40-47 PSI
25-300	Straight	Del Sol	93-95	S, SI	40-47 PSI
25-300	Straight	Del Sol	94-97	VTEC	40-47 PSI
25-300	Straight	Prelude	88-91	SI	35-41 PSI
25-300	Straight	Prelude	92-96	S	40-47 PSI
25-303	Angle	Integra	86-89	All	35-41 PSI
25-303	Angle	Integra	90-91	All	35-41 PSI
25-303	Angle	Integra	92-93	Non-VTEC	41-48 PSI
25-303	Angle	Integra	92-93	VTEC	48-56 PSI
25-303	Angle	NSX	91-94	All	46-53 PSI
25-303	Angle	NSX	95-00	All	46-53 PSI
25-303	Angle	TL	95-98	4 Cyl.	43-50 PSI
25-303	Angle	TL	96-98	V6	38-45 PSI
25-303	Angle	Vigor	92-94	All	43-50 PSI
25-303	Angle	Civic	89-91	SI	40-47 PSI
25-303	Angle	Civic	90-91	EX	40-47 PSI
25-303	Angle	Civic CRX	88-91	HF, SI	40-47 PSI
25-303	Angle	Insight	00	All	40-47 PSI
25-300	Straight	Prelude	92-96	SI, SE	36-43 PSI
25-300	Straight	Prelude	92-96	VTEC	33-40 PSI
25-300	Straight	Prelude	97-00	All	40-47 PSI
25-301	Straight	CL	98-99	2.3L	47-54 PSI
25-301	Straight	Accord	98-00	4 Cyl.	47-54 PSI
25-301	Straight	Civic	96-00	DX, HX, CX, LX	40-47 PSI
25-301	Straight	CRV	99-00	All	40-47 PSI
25-301	Straight	Del Sol	96-97	S	40-47 PSI

Regulator Part #	Straight or Angle Return	Vehicle	Year	Model	Rec. Fuel Press
25-301	Straight	S2000	00	All	47-54 PSI
25-304	Angle	CL	97	2.2L	41-48 PSI
25-304	Angle	Accord	94-97	4 Cyl.	41-48 PSI
25-304	Angle	Civic	96-00	EX	40-47 PSI
25-304	Angle	CRV	97-98	All	38-46 PSI
25-304	Angle	Del Sol	96-97	SI	40-47 PSI

12 Month Limited Warranty

AEM Performance Electronics warrants to the consumer that all AEM ELECTRONICS products will be free from defects in material and workmanship for a period of twelve months from date of the original purchase. Products that fail within this 12-month warranty period will be repaired or replaced when determined by AEM that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement, at AEM's discretion, of the AEM Electronics part. In no event shall this warranty exceed the original purchase price of the AEM ELECTRONICS part nor shall AEM ELECTRONICS be responsible for special, incidental or consequential damages or cost incurred due to the failure of this product.

Warranty claims to AEM ELECTRONICS must be transportation prepaid and accompanied by dated proof of purchase. This warranty applies only to the original purchaser of product and is non-transferable. All implied warranties shall be limited in duration to the said 12-month warranty period. Improper use or installation, accident, abuse, unauthorized repairs or alterations voids this warranty.

AEM ELECTRONICS disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by AEM ELECTRONICS.

Warranty returns will only be accepted by AEM ELECTRONICS when accompanied by a valid Return Merchandise Authorization (RMA) number. Product must be received by AEM ELECTRONICS within 30 days of the date the RMA is issued. UEGO oxygen sensors are considered wear items and are not covered under warranty.

Please note that before AEM ELECTRONICS can issue an RMA for any electronic product, it is first necessary for the installer or end user to contact the tech line at 1-800-423-0046 to discuss the problem. Most issues can be resolved over the phone. Under no circumstances should a system be returned, or an RMA requested before the above process transpires. AEM ELECTRONICS will not be responsible for products that are installed incorrectly, installed in a non-approved application, misused, or tampered with.

Fuel Pumps installed with incorrect polarity (+&- wires crossed) will not be warranted. Proper fuel filtration before and after the fuel pump are essential to fuel pump life. Any pump returned with contamination will not be warranted.

Any AEM ELECTRONICS product, excluding discontinued products, can be returned for repair if it is out of the warranty period. There is a minimum charge for inspection and diagnosis of AEM ELECTRONICS parts which are out of warranty. Parts used in the repair of AEM ELECTRONICS electronic components will be extra. AEM ELECTRONICS will provide an estimate of repairs and must receive written or electronic authorization before repairs are made to the product.

Need additional help? Contact the AEM Performance Electronics tech department at 1-800-423-0046 or email us at tech@aemelectronics.com.