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Installation Instructions and Warranty Information

1630S	86-87 Ranger/Bronco II 2.9L
1632S	88-91 Ranger/Bronco II 2.9L Auto
1632S-1	88-90 Ranger/Bronco II 2.9L Manual
1633S-1	90-94 Ranger 4.0L
1634S	95-97 Ranger/Explorer 4.0L
1646S	91-93 Ranger 3.0L/Mazda B3000



The product accompanying this document has been granted a California Air Resources Board (CARB) exemption, an "E.O." number, or is a direct or consolidated replacement part. It is 50-state legal, when installed on the appropriate vehicles per the manufacturer's application guide.

CARB EO # D-57-27

Read all instructions carefully before attempting installation.

Rev. 2 2-28-13 DSL

PerTronix© thanks you for choosing JBA HEADERS, the best fitting, highest quality header on the market. In order to realize the full potential of our good fit, please read and understand these instructions completely prior to starting work.

Check to make sure you received the proper parts for your application. The header number will be stamped on the engine flange. If you are unsure you have received the proper parts call before you start work.

Be sure to work safe! Whenever you work under the vehicle be sure that it is located on level, solid ground and is supported by adequate safety stands! Remember: Hot asphalt will not support most jack stands!

Many factors affect the installation of headers, some of which are broken or aftermarket motor mounts, accidents that impact the configuration of the frame, and/or the installation of different engines or aftermarket cylinder heads.

Attention Customers breaking in new engines: Due to the extreme heat generated during the break-in process, the appearance of the ceramic coating may be altered in certain areas. The protection characteristics and thermal barrier properties of the coating is never compromised. It is recommended that a cast iron manifold or old set of headers be used for this process.

Notice: The coating of these headers can be marred or scratched during installation. If the header needs to be returned and is damaged, you will be charged for recoat.

JBA uses sealing beads on all its headers. We have found that when installed correctly, the raised bead around each port increases the pressure exerted on the gasket directly adjacent to the port and effectively prevents leaking gaskets. It is normal for the flange to be raised off the cylinder head the thickness of the sealing bead. It is important when installing the header, to install all bolts loosely, then tighten evenly to ensure the flat installation of the flange. The torque sequence from one flange to another will vary, but generally every bolt on a header should be first fit snug, starting from the inside of the flange working out, alternating from top to bottom so that the bolt connects the flange to the manifold to the point where they barely touch. Second, using the same inside-out pattern, tighten each bolt until finished. This method will help prevent leakage and will give the user the best possible performance out of their pair of headers.

1. Place vehicle in a location where the floor is solid and flat, with adequate lighting. Do not attempt to work on a hot engine. Heat causes metal to expand and makes removal of fasteners difficult at best. Disconnect the battery cables from the battery. Raise the front of the vehicle to obtain adequate access to the bottom exhaust manifold flanges. Use large-base jack stands to support the vehicle. Do not rely on the jack! Block the tires to prevent the vehicle from rolling off the jack stands.

2. Disconnect the negative battery cable from the battery.

3. Disconnect the spark plug wires by grasping and gently twisting the spark plug wire boots. Do not pull on the wires! Brush or blow any debris, which may have collected around the manifolds or spark plugs. This will help prevent foreign matter from entering the combustion chamber when the manifolds are removed.

4. Apply penetrating oil on all accessible fasteners and fittings before attempting to remove them.

5. Unbolt the muffler assembly from the rear of the catalytic converter. Complete removal of the muffler assembly is not required. However, the muffler assembly needs to be dropped to provide clearance to remove the Catalytic Converter assembly. Unbolt the Catalytic Converter assembly from the Y-Pipe. Remove the Catalytic

Converter assembly by sliding it rearward from the engine. Save all fasteners for re-installation

6. Unplug the O2 Sensor wire(s). Access to the O2 sensor plug(s) may be obscured by the transmission. Loosening the Y Pipe from the factory manifolds should make access easier. Remove the O2 sensors using either a box wrench or a special O2 sensor socket which can be purchased at most auto parts stores. Take care not to drop the O2 sensors. Finish removing the bolts and maneuver the factory Y-Pipe out from under the vehicle.

7. If equipped remove the EGR tube from the EGR valve and the exhaust manifold.

8. Unbolt the dipstick tube bracket from the engine. Carefully slide the dip stick tube upward to remove. Unbolt the Driver's side exhaust manifold and remove from the top side. Remove the gaskets and any gasket material or any carbon deposits that remain on the head surface. The use of a gasket removal agent will ease the removal of any gasket material. Use care not to get debris into ports or spark plug holes.

NOTE: '90-'94 4.0 Explorers and '90 to '92 Rangers use a single O2 sensor and no EGR. '93 to '94 Rangers utilize two O2 sensors and an EGR fitting. The 1633-1 header has fittings to accommodate these differences.

The supplied plugs should be used to close any unused fittings.

9. Apply anti-seize to the header bolts if installing on aluminum heads. Bolt the Driver's side header to the engine using the supplied gaskets, bolts, and lock washers. Torque to 30 lbs./in on iron heads, 23 lbs./in on aluminum heads.

10. Models with EGR fittings only. Remove the EGR adapter fitting which adapts the EGR tube to the fitting on the factory manifold. This adapter must be reused. Thread the adapter into the fitting on the header and reconnect the EGR tube. (Note: 3.0L Models may or may not have this adapter)

11. Clean all grease or oil from the outside of the dip stick tube. Apply a small amount of silicone sealant to the outside of the dip stick tube where it slip-fits into the engine. Reinstall the dip stick tube. Make sure that the dipstick tube is not too close to the header tubes.

12. If equipped, remove the heat riser tube from the passenger side manifold. Unbolt the passenger side manifold and remove from the underside of the vehicle. Remove the gaskets and any gasket material or any carbon deposits that remain on the head surface. The use of a gasket removal agent will ease the removal of any gasket material. Use care not to get debris into ports or spark plug holes.

13. Maneuver the passenger side header into place from under the vehicle. Apply anti-seize to the header bolts if installing on aluminum heads. Bolt the header to the engine using the supplied gaskets, bolts, and lock washers. Torque to 30 lbs./in on iron heads, 23 lbs./in on alum. Re-attach the heat riser tube.

14. Install the O2 sensor(s) in the new Y-pipe. Apply a thin coating of High Temperature, Sensor Safe, Silicone Sealant to the collector domes of the Headers. Apply a small amount of sealant to the Driver's side half of the Y-Pipe where it slip fits into the Passenger side half of the Y-Pipe and slide the two halves together. Loosely bolt the Y-Pipe to the headers. Plug the O2 sensor wire(s) in. Loosely bolt the Y-Pipe clamp in place .

15. Make sure that the mating surface of the Catalytic Converter flange is clean. The gasket may be reused if undamaged. Apply High Temperature, Sensor Safe, Silicone Sealant to both surfaces of the gasket. Slide the catalytic converter assembly into its mount and loosely bolt the Y-pipe to the catalytic converter. Re-attach the muffler assembly. After checking to insure that all components are aligned properly, tighten all bolts to factory specs.

16. Reinstall the spark plug wires and looms taking care not to let any wires come into contact with the headers. Reinstall the battery cable. Make sure that the battery cable is routed away from the headers.

17. Check that all bolts are tight. Make sure that all wiring, fuel lines, transmissions lines, brake lines etc are clear of the headers and the exhaust and relocate as necessary.

18. Start the engine and let it warm up. Check for leaks. Shut engine off and let it cool down. Check to make sure all fasteners are tight.

19. Periodically check & retighten the header bolts.

Parts List:

- | | |
|------------------------------------|--------------------------------------|
| (1) Driver's Side Header Assembly | (2) Header gaskets (Head flange) |
| (6) Collector Bolts | (1) Passenger's Side Header Assembly |
| (6) Collector Nuts. | (1) 2-Piece Y-Pipe |
| (1) Y-Pipe Clamp | (12) 8mm header bolts |
| (1) O2 Sensor Plug (some models) | (12) 8mm lock washers |
| (1) EGR Fitting Plug (some models) | |



440 E. Arrow Hwy.
San Dimas, CA 91773
(909) 599-5955

This vehicle is equipped with:

Dougs Headers # D66XX
JBA Headers # 16XXS

Legal for sale and installation in California

CARB EXECUTIVE ORDER
D-57-19 & D-57-27

WARNING

This label is required to aid in passing the California smog check program. This label must be installed in an underhood location that is readily visible.

LIMITED ONE YEAR WARRANTY

All JBA HEADERS and exhaust products are guaranteed, to the original purchaser, to be free of defects in materials and workmanship for one year. This warranty covers the replacement or repair of the product only and does not cover the cost of removal and installation, customer applied aftermarket coatings or any discoloration or corrosion of finished surfaces.

Damage or product failure resulting from collision, improper installation, off-road use, road hazards, the use of exhaust insulating wrap or like products or rust occurring after installation, is not covered by the warranty. The warranty extends only to the original purchaser.

Should a part become defective it should be returned to the original selling retailer and must be accompanied with the sales receipt. If there is no retailer in your area, call the factory for a return authorization and return your part prepaid to the factory for inspection. PerTronix reserves the rights to replace or repair the alleged defective part and return the part freight collect.

JBA
performance**exhaust**®

