



N41414 Peacemakers Exhaust for Harley-Davidson Fat Boy and Softail Deuce 2007-08

Please read these instructions carefully and thoroughly before beginning work.

Before installing accessory, carefully consider whether one possesses the necessary technical skills and workshop tools to complete the installation properly. Otherwise, any Motorcycle Retailer will be glad to install this accessory.

Dealers, if installing the Exhaust for a customer please give him this manual. It contains the instructional and reference material needed to properly maintain and use this product.

At time of purchase report any missing parts directly to National Cycle, Inc. The following information is necessary: BAG NUMBER on outside of plastic fastener bag and DATE STAMP located on the end panel of the outer box.

Thank you.

The following symbols are used in these instructions:



Special notes and cautionary measures.



Tips for facilitation of operation, control and adjustment, as well as maintenance work.

PARTS LIST

Index	Description	Part No.	Qty.
1	Muffler, Upper	80-884420-000	1
2	Muffler, Lower	80-884421-000	1
3	Linear Actuator Motor	80-874505-000	1
4	Tips, Slash Cut	37-373536-000	2

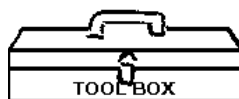
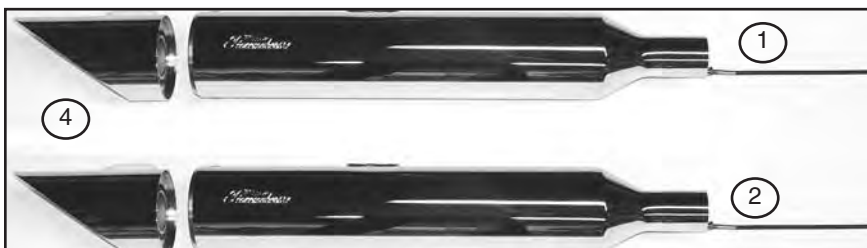
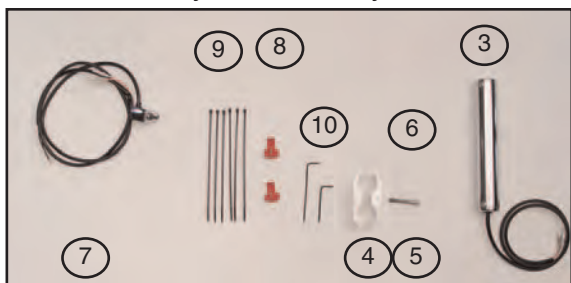
Bag 711

4	Clamp, Toenail, C-Bore	30-390202-000	1
5	Clamp, Toenail, Tapped	30-390203-000	1
6	CSHS, 1/4-20 x 1 1/2"	51-515413-000	1

Bag 735

7	Wire Harness, Switch	80-831411-000	1
8	U-Connector, Scotchlok	80-850002-000	2
9	Cable Ties	44-448725-000	6
10	Hex Key 3/32"	59-515130-000	1
10	Hex Key 5/64"	59-515132-000	1
	Warranty Card (not shown)	10-118420-000	1

Other Parts Needed: N41414 mounts to stock headers and muffler mounts of the Harley-Davidson motorcycle.



Flat Head Screwdriver
9/16" Box End Wrench
3/8" Box End Wrench
Wire Cutters
Supplied 3/32 and 5/64" Allen Wrench
3/16" Allen Wrench, Not shown
Torx Wrench, T-27
Phillips Screwdriver
Pliers
and a 3/8" Socket with Long Extension
Handle for installation of tips
(not pictured)



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PREPARATION



Right and Left side of Motorcycle is determined while sitting on the bike.



All parts removed from Motorcycle will be re-used unless otherwise noted.


1. Wait for stock exhaust to cool down before beginning installation.
 2. Position the motorcycle securely on a work stand or on its side stand.
 3. Remove the two stock heat shield covers. (**Flat Head Screwdriver**)
 4. Loosen the two muffler clamps. (**9/16" Box End Wrench or Socket**) **Figure 1**
-  **The mufflers must be removed from hanger bracket before canisters can be removed from header pipes.**
5. Remove the two 3/8" 1/4-20 bolts that hold the top muffler to the muffler bracket. Repeat for the 4 bolts that hold the lower muffler to bracket. (**3/8" Box End Wrench**) **Figure 2.**
 6. Remove lower muffler first. Twist slightly to separate cross-over pipe. Remove upper muffler. **Figure 3.**
 7. Remove muffler clamps. Stock mufflers will not be re-used.



Figure 1



Figure 2



Figure 3

INSTALLATION of PEACEMAKERS EXHAUST



Cable routing is very specific to ensure bind free movement. That is why we provide detailed instructions and photos. Please resist the urge to find your own routing methods as this may cause cable and /or Liner Actuator failures.



Do not remove cable from muffler. Do not damage or kink cable.



When installation is complete check that the Diverter Cable does not come in contact with pipe or clamp. Contact with high temperatures will damage the cable.



When installation is complete, wipe all thumb prints from Chrome Exhaust before starting motorcycle or they will permanently mark surface.



Figure 4

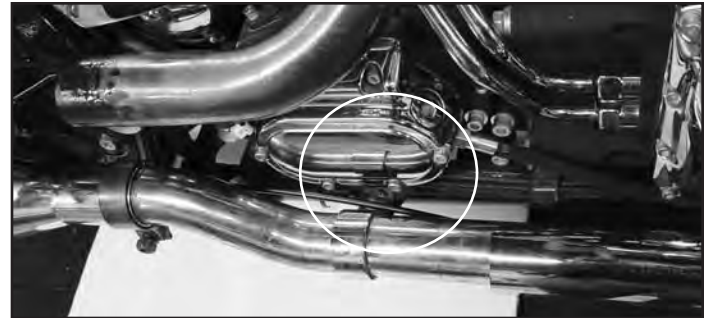


Figure 5



Figure 6

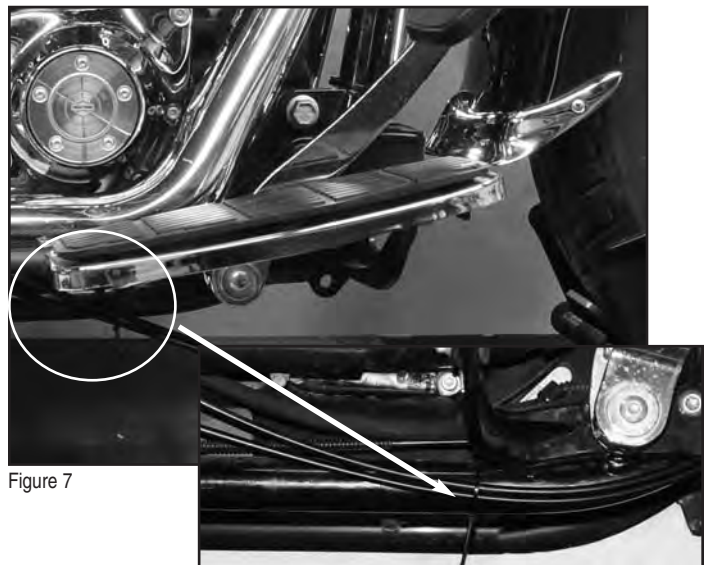


Figure 7

1. Install lower muffler, route cable and tighten muffler clamp.

Install stock muffler clamp on Peacemakers Muffler with clamp nut facing down and out. (9/16" Box End Wrench) **Figure 4**

Route Diverter Cable **over** clamp that attaches header pipe to frame. **Figure 5**

Extend cable forward, do not kink.

2. Install upper muffler, route cable and tighten muffler clamp.

Install stock muffler clamp on Peacemakers Muffler with clamp nut facing down and out.

Route cable around transmission cover between fuel lines as shown in figure 6. Extend cable forward, do not kink. Secure both cables to lower frame tube with Cable Ties. (Wire Cutters) **Figure 7**


Route ends of cables upward behind brake line as shown in **figure 8**.



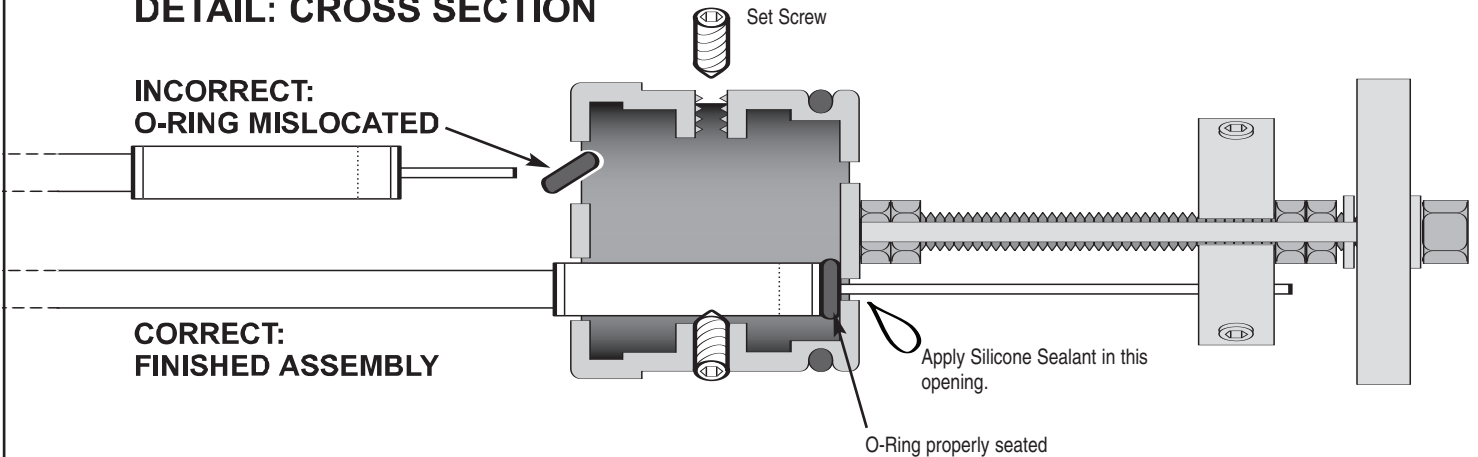
Figure 8


INSTALLATION OF THE LINEAR ACTUATOR DRIVE

The motor from the Linear Actuator Drive is completely sealed within the housing. Do not remove or tamper with the motor. The Drive Shaft contains small O-Rings. These O-Rings and an application of SILICONE grease (silicone is used for compatibility with O'Ring material) will keep moisture out of the Cable Sheath.

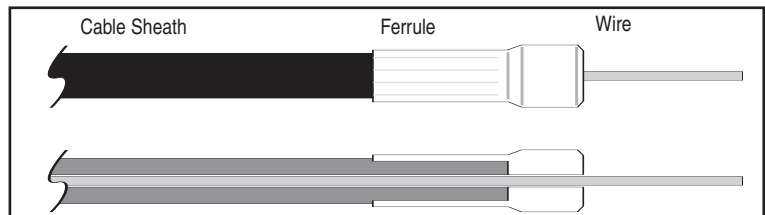
 While loosening the set screws a. and b. (during installation of Cable into Linear Actuator, Step #2) the O-Rings must not fall out. They must be fully inserted into Drive End Cap with the ferrules of the Cables pushing the O-Rings against rear inner wall of the Drive End Cap. Only THEN are the Set Screws fully tightened.

DRIVE END CAP DETAIL: CROSS SECTION



 About the operation of this unique patented design: The electrical drive is separate from the linear mechanical mechanism. The Cable coming from each Peacemakers Muffler is made up of a Wire inserted into a Cable Sheath. For proper operation, the wire end of the Cable needs to be inserted fully into the Wire Guide Assembly before, during Preloading and while Set Screws are being tightened.

CABLE AND SHEATH DETAIL



Installation of Cable into Linear Actuator Guide

1. Remove Actuator Guide from Housing. (**3/32" Allen Wrench**) **Figure 9**

2. Loosen the 2 Set Screws at each location (b) and (c). (**3/32" and 5/64" Allen Wrench**) **Figure 10**

3. From bottom of Actuator Guide, gently insert wire end of cable until Ferrule of Sheath is fully inserted into Drive End Cap and Wire is guided through Position Nut. **Tighten Set Screw (b).** (**3/32" Allen Wrench**) **Figure 11 and 12**



Figure 9

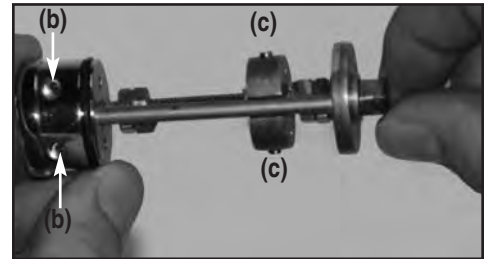


Figure 10

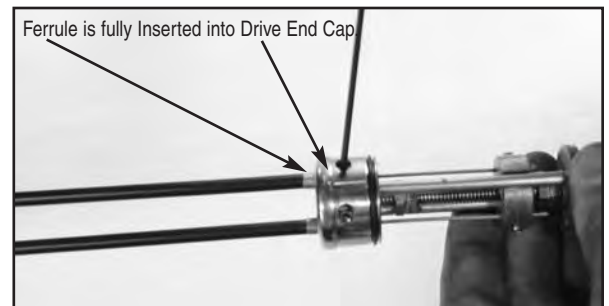


Figure 11



Figure 12

Preload Cable and Install Actuator Drive into Housing



Read these helpful tips before proceeding!

When correctly installed there will be proper inner Wire to Cable Sheath geometry and the Wire ends will be through the Position Nut as shown in Figure 13.

Be certain valves open and close freely before proceeding. To make sure valves are sequenced, pull both wires forward so valves are in the closed position. If in doubt, use a flash light at the rear of the muffler to check.

When preloading Cable be sure to hold the Linear Actuator Drive up next to the frame tube before tightening the 2 set screws (c) against the Wire. This will ensure proper preload on the Diverter Valves.

4. Rotate Drive Screw with Nut (a) clockwise to stop. Mark top of nut (Grease Pencil) then rotate ONE revolution counter clockwise. **Figure 13**

5. Before tightening Set Screws (c) it may be necessary to pull gently on wire of cable so Wire is exposed slightly. **Figure 14 A.**

6. Tighten Set Screws (c). (**5/64" Allen Wrench**) **Figure 14**

7. **Install Actuator Cover.** If necessary use a small amount of lubricant on "O" ring. **Figure 15A**

Use a straight twisting motion until engagement takes place. The acme hex on end of Drive Unit (male) engages into female inside Housing.

8. Align holes at bottom and install Screws. (**3/32" Allen**)

9. Install Actuator using two-piece clamp and bolt from bag. **Leave loose.** (**3/16" Allen Wrench**) **Figure 15 B**

10. Rotate Actuator as shown in **figure 16** for proper clearance of front fender. Tighten Clamp Screw.

11. Route Wire Harness from Actuator Case upward and secure at top of down tube with Cable Tie. **Figure 16**

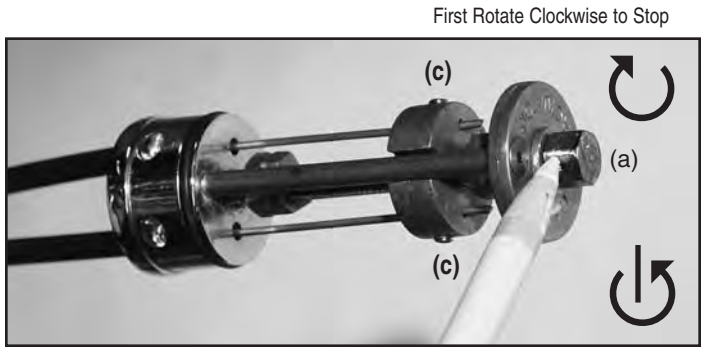


Figure 13

Then rotate ONE revolution counter clockwise. Preload is Complete

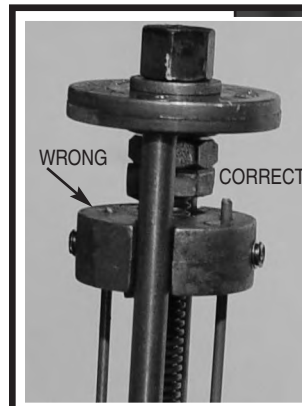


Figure 14 A



Figure 14



Figure 15 A



Figure 15 B



Figure 15

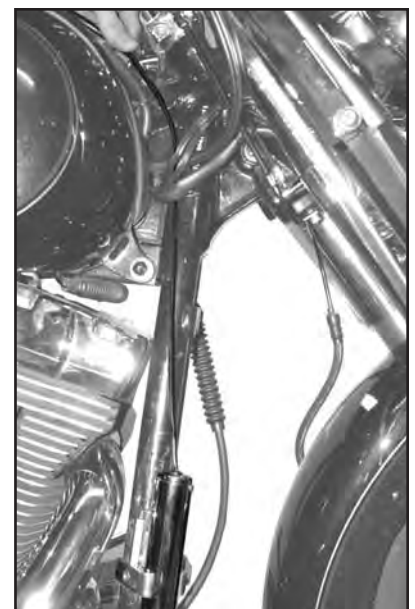


Figure 16

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PREPARATION TO INSTALL SWITCH HARNESS

1. Remove the motorcycle's seat. (**Phillips Screw Driver**)
2. Loosen instrument housing in front and back. (**1/2" Box Wrench**)

INSTALL SWITCH HARNESS

3. Remove screw from left clutch lever mount. Position Switch and re-install Screw. (**T27 Torx**) **Figure 17**
4. Route and secure Switch Harness. Follow wiring down handlebar to frame neck, and route under left side of instrument housing. (**Cable Ties and Wire Cutters**) **Figure 18, 18 A and 18 B**

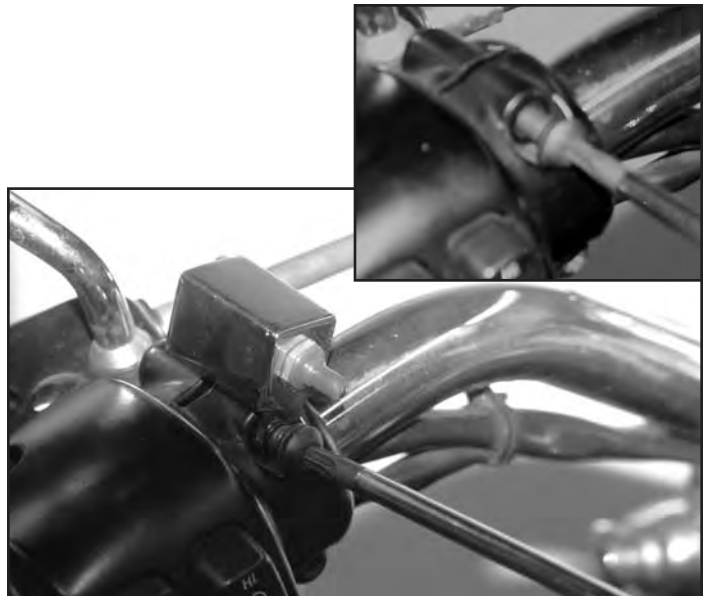


Figure 17

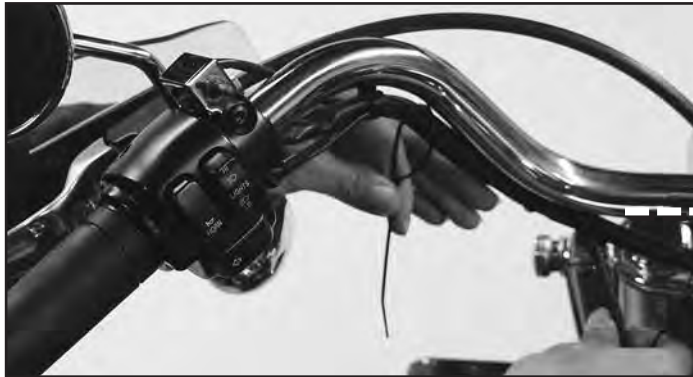


Figure 18



Figure 18 A



Figure 18 B

17. Refer to wiring diagram below and plug ends of Actuator Motor to Switch Harness. **Figure 19.**

18. Cut back on the motorcycles existing wire loom to expose the red with gray stripe wire. Connect this wire to the red wire from Switch Harness. **(Scotchlok Connector and Pliers) Figure 20**

19. Cut back on the motorcycles existing wire loom to expose the black ground wire. Connect this wire to the black wire from the Switch Harness. **(Scotchlok Connector and Pliers) Figure 20**



Wipe all thumb prints from Chrome Exhaust before starting motorcycle.

20. Turn ignition switch to on or start bike. Activate Thumb Switch and listen for Diverter Valve opening and closing. Refer to page 9 if Diverter Valve will not open or close.

21. Adjust wires and secure together with existing wire loom. **(Cable Ties and Cutters)**



Check that there is no binding of cables. Check full turn left to fork lock for proper clearance of Actuator.

22. Re-assemble all parts to motorcycle.

INSTALL END TIPS

1. Use the Screws from Bag #473 to install the slash cut end tips. **(3/8" Socket with Long Extension) Figure 21**

Enjoy your Peacemakers Exhaust!
Patent 7380638



Figure 21

Optional
Turn Down
Tip N41901

and Snub
Nose
N41903



Figure 19

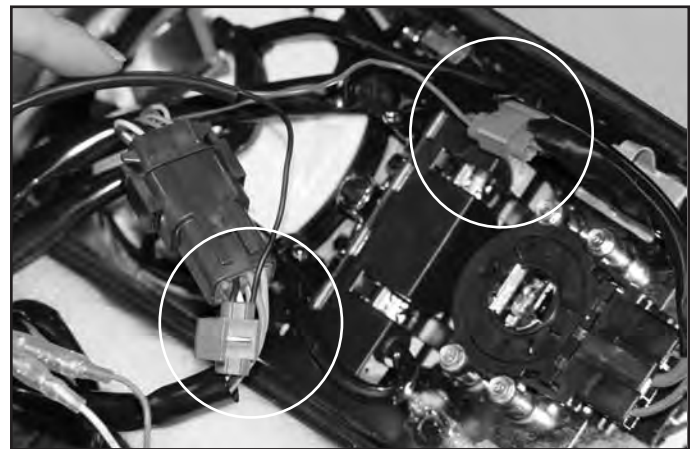
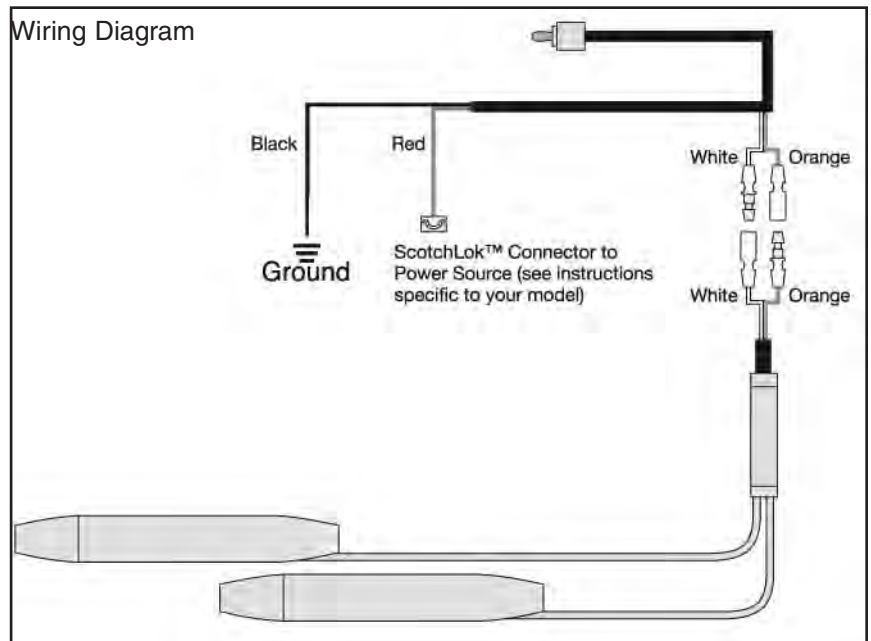


Figure 20

Wiring Diagram



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TROUBLE SHOOTING GUIDE

1. The Diverter Valve will not open or close. Check for power at both sides of bullet plug.

- A. Check for power at ground
- B. Check for power at Actuator Cable side of bullet

If you have no power at A. check your battery. Replace or recharge if necessary.

If you have no power at B. check to be certain the Switch Harness connections are fully seated into the Actuator Cable Connections. If you think you have a faulty Switch Harness, call National Cycle Customer Service.

2. The Diverter Valve will not fully close or open.

- A. Check Installation of Muffler Cables into Actuator Motor (pages 4 and 5 of installation manual.)
Preloading the motor is a simple but necessary step.
- B. Use a flash light and look into end of Mufflers while having someone operate switch.

The Linear Actuator Motor works very effectively in opening and closing the Valve.

This National Cycle product is covered by Patent No. 7380638.



MAINTENANCE It is recommended that you repack your mufflers at 10,000 mile (10,000 km) intervals. National Cycle supplies muffler repack material for the Peacemakers Exhaust. The repack Kit for Peacemakers N41414 is N41402P. Discoloration can be removed from the Exhaust System with a quality metal polish. Be sure to remove all polishing compound residue from the Exhaust System before running the engine. Refer to the WARRANTY PAMPHLET 10-118420-000 for further information.



WARNING If the addition of an accessory(ies) adversely affects your motorcycle's stability immediately remove the accessory(ies). Do Not ride a motorcycle that exhibits unsafe handling traits. Have experienced service personnel correct any problem before riding with the accessory(ies) installed. For further questions concerning handling problems associated with an accessory(ies), contact your dealer, motorcycle manufacturer, or accessory manufacturer.