



N41301 Peacemakers Exhaust for Yamaha XV 16/17
Road Star and Royal Star Venture and Tour Deluxe

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

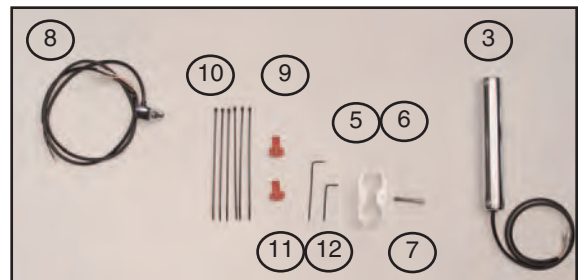
Index	Description	Part No.	Qty.
1	Muffler, Front	80-884416-000	1
2	Muffler, Rear	80-884417-000	1
3	Linear Actuator Motor	80-874505-000	1
KIT-PM301			
4	Tip, Slashcut, Chrome	37-373536-000	2
Bag 711			
5	Clamp, Toenail, C-Bore	30-390202-000	1
6	Clamp, Toenail, Tapped	30-390203-000	1
7	CSHS, 1/4-20 x 1 1/2"	51-515413-000	1
Bag 738			
8	Wire Harness, Switch	80-831405-000	1
9	U-Connector, Scotchlok	80-850002-000	2
10	Cable Ties	44-448725-000	6
11	Hex Key 3/32"	59-515130-000	1
12	Hex Key 5/64"	59-515132-000	1
Bag 743			
13	Screw, Whizlok, 1/4 20 x 5/8"	50-57000-000	8
Bag 746			
14	Muffler Clamp, 2"	37-400671-000	2
15	Reducer	34-341841-000	2
	Warranty Card	10-118420-000	1



- 12mm Socket
- 14mm Socket
- Supplied 3/32 and 5/64" Allen Wrench
- 3/16" Allen Wrench
- 3/8" Socket
- Pliers
- Wire Cutters



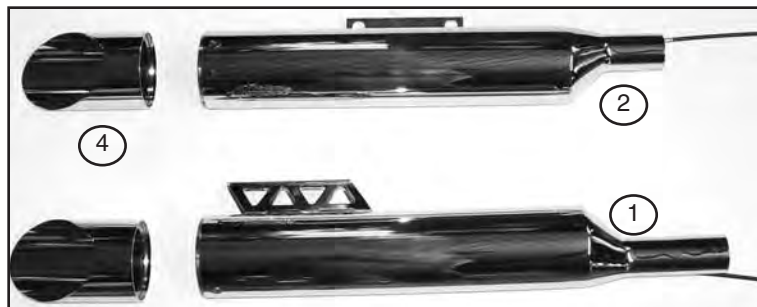
Bag 713 and 738



Bag 743



Bag 746



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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.

REMOVAL OF STOCK MUFFLERS

1. Remove the two bolts that hold the rear muffler to the hanger bracket. Repeat for the 2 bolts that hold the front muffler to bracket. (14mm Socket) **Figure 1**
2. Loosen the muffler clamps. (9/16" Box End Wrench or Socket) **Figure 2**
3. Remove the front muffler first. Twist slightly to separate cross-over pipe. Remove rear muffler.
4. Remove muffler clamps. Stock mufflers and clamps will not be re-used.

INSTALL REDUCER RING AND CLAMPS

1. Install reducer rings inside canisters. **Figure 3**
2. Install clamps to canisters. **Figure 4**



The head of the clamp bolt will face down and out. (9/16" Box End Wrench) **Figure 4**



Figure 1



Figure 2



Figure 3



Figure 4

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.



Figure 5



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 6

1. Use stock bolts to install front canister, to bracket. Route cable and tighten muffler clamp. (14mm socket and 9/16" wrench)

Route Diverter Cable along frame and over footrest bracket. **Figure 5 and 6**

Extend cable forward, do not kink.

2. Use stock bolts to install rear canister to bracket. Route cable and tighten muffler clamp. (14mm socket and 9/16" wrench)

Route cable across transmission cover to join with lower cable at lower frame tube. **Figure 7**

Extend cable forward, do not kink. Secure both cables to lower frame tube with Cable Ties. (Wire Cutters) **Figure 8**



Figure 7

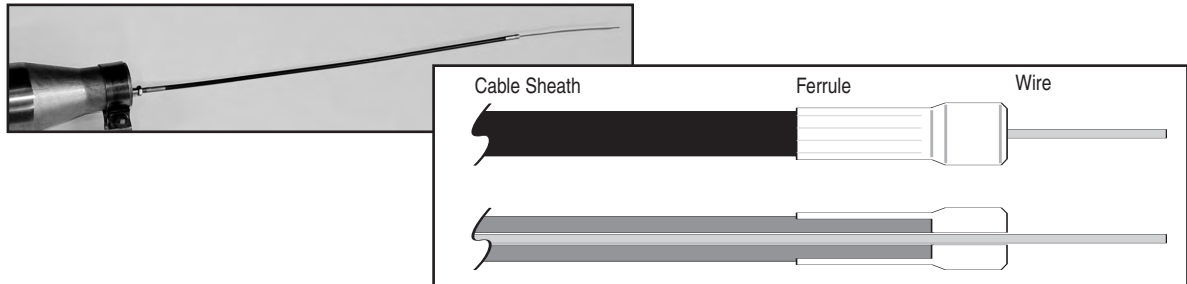


Figure 8

THE LINEAR ACTUATOR DRIVE



About the operation of this unique patent pending 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. Please follow the detailed instructions below.



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**



Figure 9

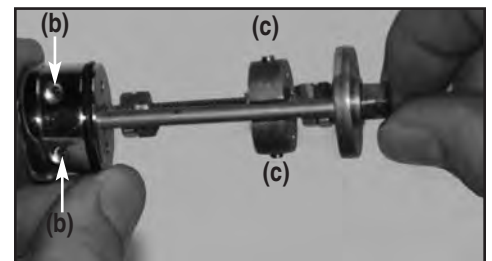


Figure 10

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**

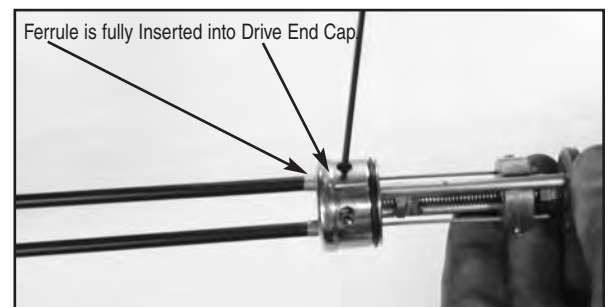


Figure 11

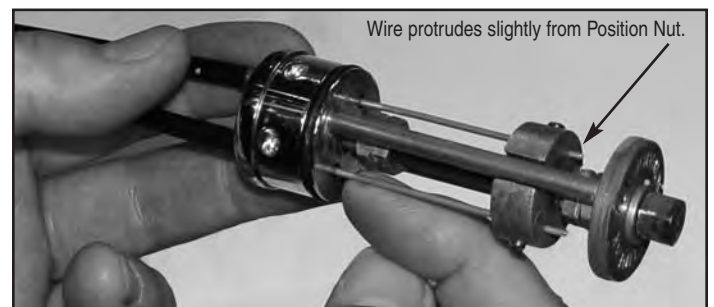




Figure 12

Preload Cable and Install Actuator Drive into Housing

 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.

 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 to ensure proper preload on the Diverter Valves.

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

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

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

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

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

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

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

9. Rotate Actuator as shown in **figure 15** for proper clearance of front fender. Tighten Clamp Screw.

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

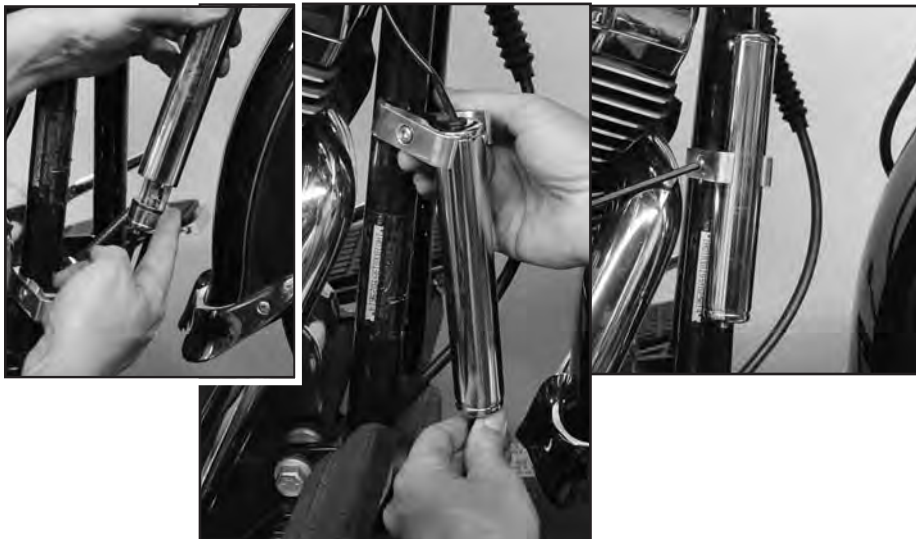


Figure 15

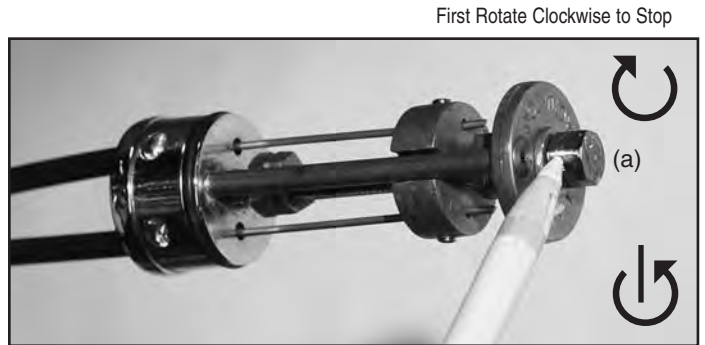


Figure 13

First Rotate Clockwise to Stop

Then rotate ONE revolution counter clockwise. Preload is Complete

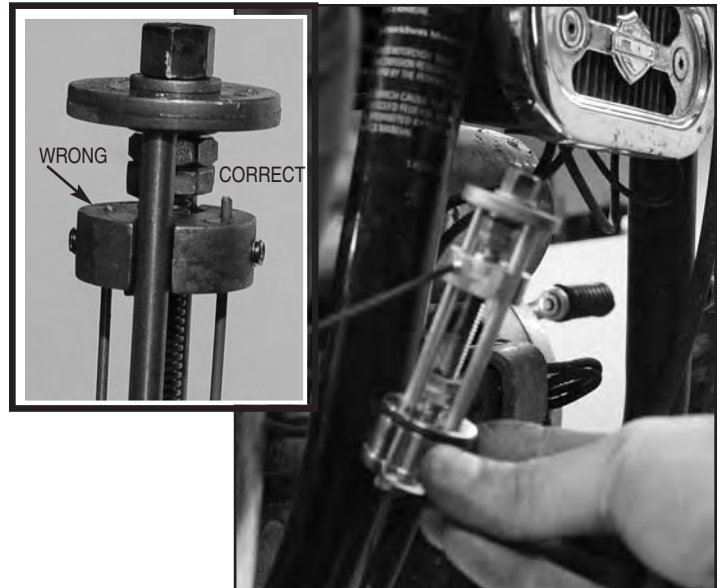
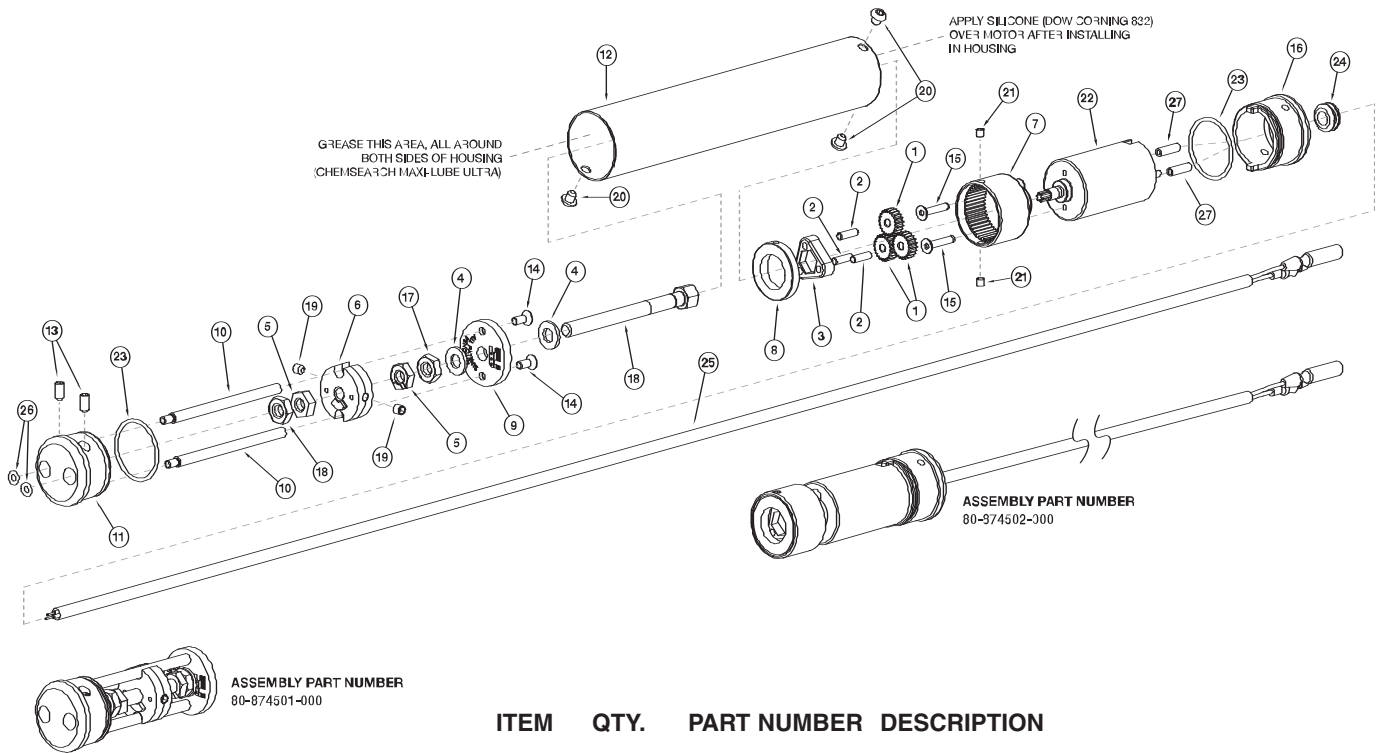


Figure 14



Figure 16

Detail of Actuator Drive



ITEM	QTY.	PART NUMBER	DESCRIPTION
1	3	34-349100-000	GEAR, PLANET, 21T, .479~OD
2	3	51-512017-000	DOWEL PIN, .125 x .437 18-8 SS
3	1	70-740505-000	DRIVE GEAR CARRIER
4	2	49-490501-000	WASHER, THRUST, OILITE
5	2	70-740535-000	TRAVEL STOP
6	1	70-740530-000	POSITION NUT
7	1	70-740500-000	RING GEAR CASE
8	1	70-740520-000	GEARBOX ENDPLATE
9	1	70-740525-000	RETAINER PLATE
10	2	34-349110-000	GUIDE, POSITION NUT
11	1	70-740510-000	DRIVE END CAP
12	1	34-342650-000	CHROME LINEAR ACTUATOR HOUSING
13	2	51-515031-000	SET SCREW, 8-32 x 5/16
14	2	51-514523-000	6-32 SET SCREW
15	2	51-514014-000	M3-0.5 x 14 FHCS
16	1	70-740515-000	MOTOR END CAP
17	2	42-450220-000	HEX NUT, 1/4-20, ACME, 5/32
18	2	34-349120-000	DRIVE SCREW, WITH NUT
19	2	51-515030-000	SET SCREW, 8-32 x 3/16
20	3	51-516005-000	CS, BUT. SOC., 8-32 x 3/16
21	2	51-515040-000	SET SCREW, 6-32 x 3/16
22	1	80-875100-000	MOTOR ASSY. WITH IGARASHI SUN GEAR
23	2	44-443217-000	O-RING, ID 7/8, OD 1, T 1/16
24	1	44-447101-000	RUBBER GROMMET
25	1	80-830390-000	MOTOR WIRE HARNESS
26	2	44-443220-000	O-RING, BUNA, ID 5/32, OD 9/32, T 1/16
27	2	80-816015-000	BLACK SHRINK TUBE

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WIRING PREPARATION

1. Expose the motorcycle's main wire harness by removing the instrument cluster from tank.

Wiring, Install Switch Harness

1. Remove screw from left clutch lever mount. **(4mm Allen)** **Figure 17**



Figure 17

2. Install switch bracket using stock screw. **Figure 18**

3. Route switch harness down handlebar to frame neck, and route under instrument cluster.


 Secure switch harness wire into wire guide or with cable tie. **(Wire Cutters)** **Figure 19**



Figure 18

4. Route wire to motorcycle's main wire harness. **Figure 20**



Figure 19



Figure 20

17. Refer to wiring diagram below and plug ends of Actuator Motor to Switch Harness. **Figure 21**


18. Connect the motorcycles Brown wire to the Red wire from Switch Harness. (**Scotchlok Connector and Pliers**) **Figure 22**

19. Connect the motorcycles Black wire to the Black wire from the Switch Harness. (**Scotchlok Connector and Pliers**) **Figure 22**

 **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.

*Enjoy your Peacemakers Exhaust!
All patents pending.*

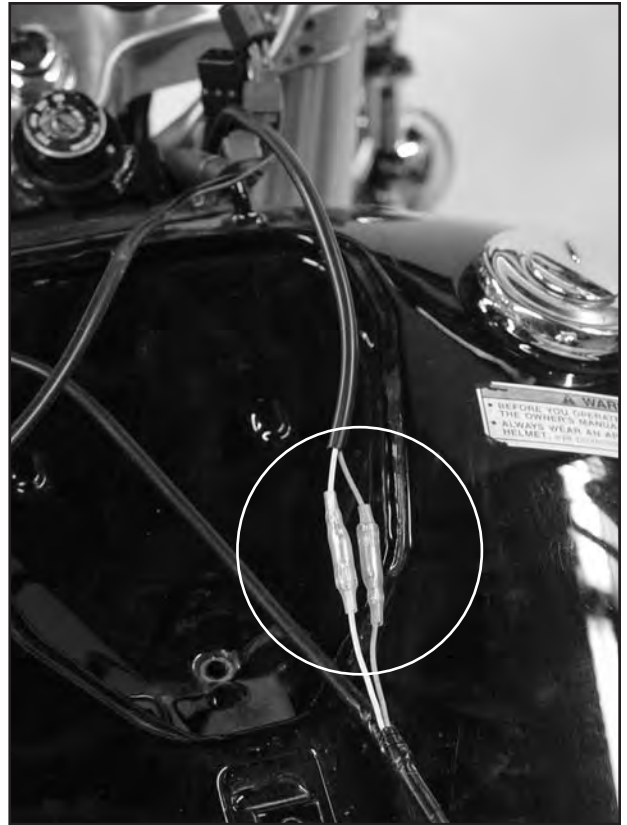


Figure 21

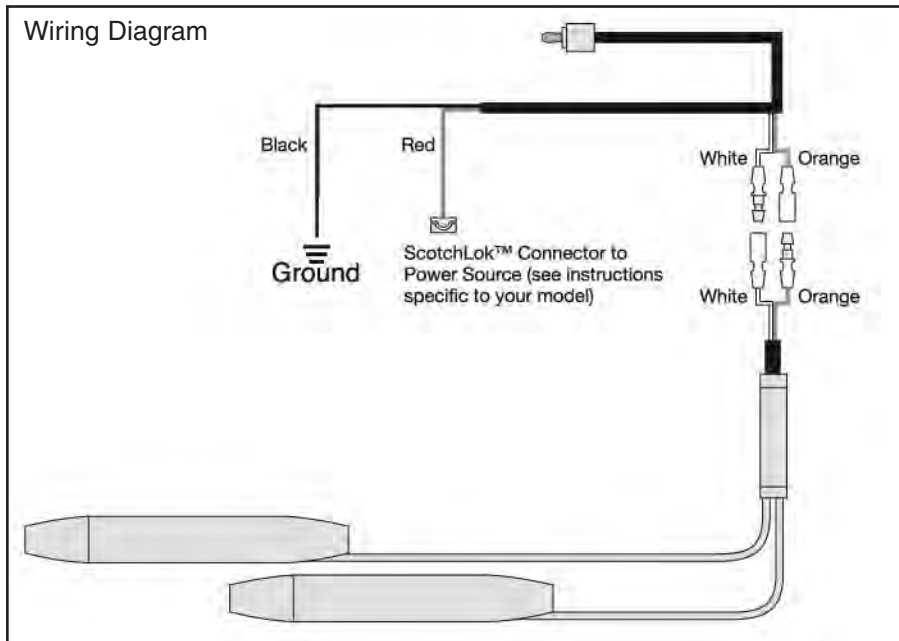


Figure 22

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.

FAQs

Is rejetting or remapping required when using Peacemakers?

The N41006 Peacemakers Exhaust is designed to fit a stock VTX1300R/S, or a VTX1300R/S fitted with other National Cycle accessories. When fitted to an otherwise stock motorcycle the Peacemakers Exhaust does not require any adjustments to the carburetor or intake system in order to achieve an optimal running condition. However, if the Peacemakers are being fitted to a motorcycle with modifications to the carburetor or other portions of the intake system, then National Cycle recommends that the fuel/air mixture be adjusted to the specifications of the manufacturer of the air cleaner kit or other such intake modifications.



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 N41301 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.