



N41413 Peacemakers Exhaust for Harley-Davidson  
Softail Deluxe model FLSTN 2005-06.

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 warranty card. **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.

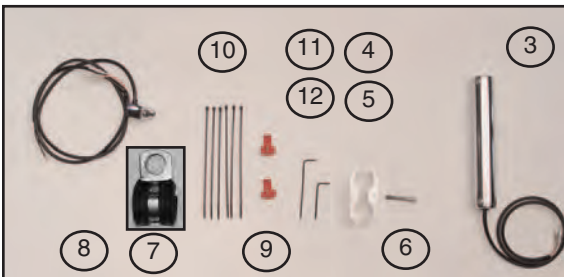
**PARTS LIST**

Index	Description	Part No.	Qty.
1	Muffler, Rear	80-884115-000	1
2	Muffler, Front	80-884116-000	1
3	Linear Actuator Drive	80-874500-000	1
<b>Bag 711</b>			
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
<b>Bag 716</b>			
7	Cable Clamp with Cushion	30-300005-000	1
<b>Bag 735</b>			
8	Wire Harness, Switch	80-831411-000	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
	Warranty Card (not shown)	10-118420-000	1



- Flat Head Screwdriver
- 9/16" Box End Wrench
- 3/8" Box End Wrench
- Wire Cutters
- Supplied 3/32 and 5/64" Allen Wrench
- 1/4" Allen Wrench
- Torx Wrench, T-27
- Pliers

**Other Parts Needed:** N41413 mounts to stock headers and muffler mounts of the Harley-Davidson motorcycle.



Handle Cables with Care. Do Not Kink while Unpacking.



**NATIONAL CYCLE, INC.** PO Box Maywood, IL 60153-0158 USA

708-343-0400 / Fax: 708-343-0625 / www.nationalcycle.com / e mail: info@nationalcycle.com

## **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 4 nuts holding exhaust to exhaust bracket. **(3/8" Wrench) Figure 1**
4. Loosen the two muffler clamps. **(9/16" Box End Wrench or Socket) Figure 2**
5. Carefully remove rear and front mufflers. **Figure 3**  
Remove muffler clamps. Stock mufflers will not be re-used.
6. Remove the bolt at transmission. **(1/4" Allen 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.



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



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

### 1. Install rear muffler, route cable and tighten muffler clamp.

Install stock muffler clamp on Peacemakers Muffler. (9/16" Box End Wrench)

Route cable over passenger foot peg bracket **Figure 5**

Extend cable forward, do not kink.

Slide Cable Clamp onto end of cable. **Figure 6**

At location where transmission bolt was removed, install the cable clamp. Use the bolt removed from transmission case to secure clamp in place. **Figure 7**

### 2. Install front muffler, route cable and tighten muffler clamp.

Install stock muffler clamp on Peacemakers Muffler. (9/16" Box End Wrench)

Route upper and lower cables along frame tube. **Figure 8**

Carefully guide ends of cable through brake reservoir guide. **Figure 9**

Secure both cables to frame tube with Cable Ties. (Wire Cutters) **Figure 10**



Figure 8

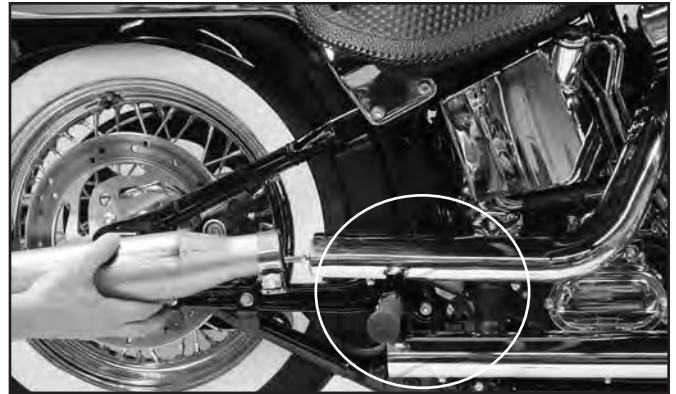


Figure 5



Figure 6

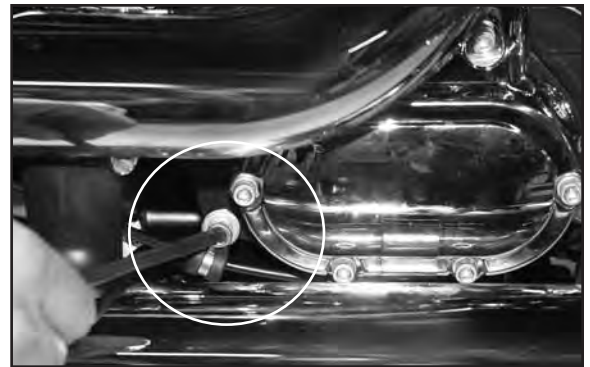


Figure 7



Figure 9



Figure 10

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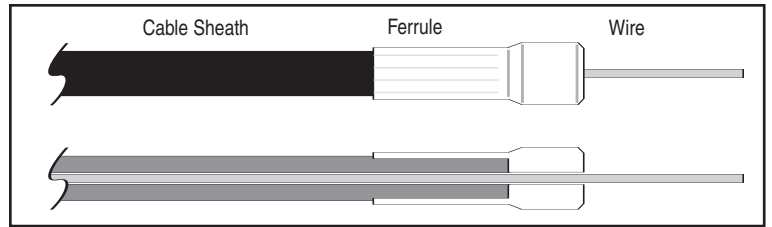
## THE LINEAR ACTUATOR DRIVE



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 (Illustration A.) For proper operation, the wire end of the Cable needs to be inserted fully into the Wire Guide Assembly (Figure 14) before, during Preloading and while Set Screws are being tightened. Please follow the instruction below.



Illustration A.



### Installation of Cable into the Wire Guide Assembly of the Linear Actuator Drive.

1. Remove Actuator Guide from Housing. (**3/32" Hex Key Wrench**) **Figure 11**
2. Loosen the 2 Set Screws at each location (b) and (c). (**3/32" and 5/64" Allen Wrench**) **Figure 11**

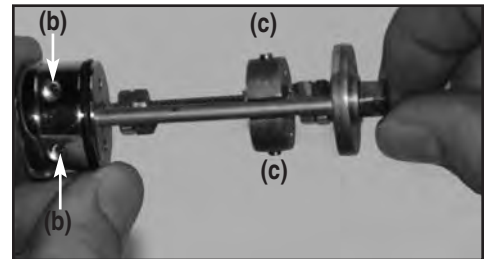


Figure 11

3. From bottom of Actuator Wire Guide Assembly 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" Hex Key Wrench**) **Figure 12 and 13**

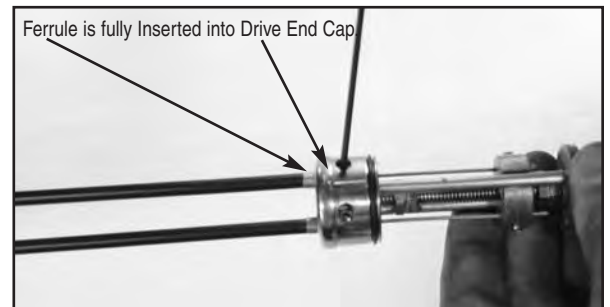



Figure 12


### Wire Guide Assembly



Figure 13

## 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 15.

 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.

4. Rotate Drive Screw with Nut (a) clockwise to stop. Mark top of nut (Grease Pencil) then rotate ONE revolution counter clockwise. **Figure 14**

5. Before tightening Set Screws (c) it may be necessary to pull gently on wire of cable so Wire is exposed slightly. **Figure 13 and 15**

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 16**

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 16**

10. Rotate Actuator as shown in **figure 17** 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 17**

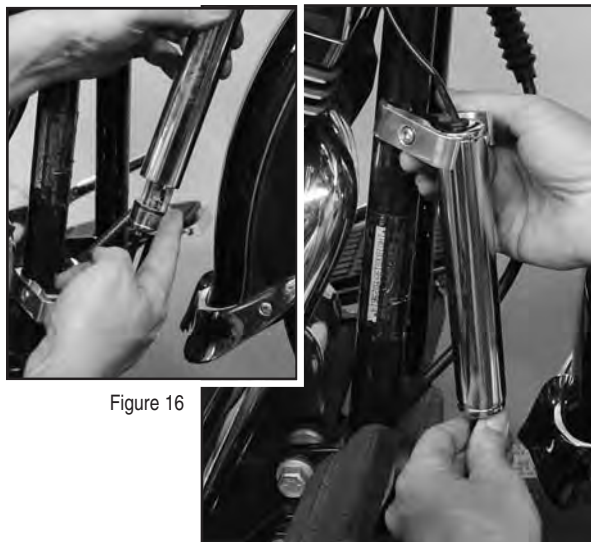


Figure 16

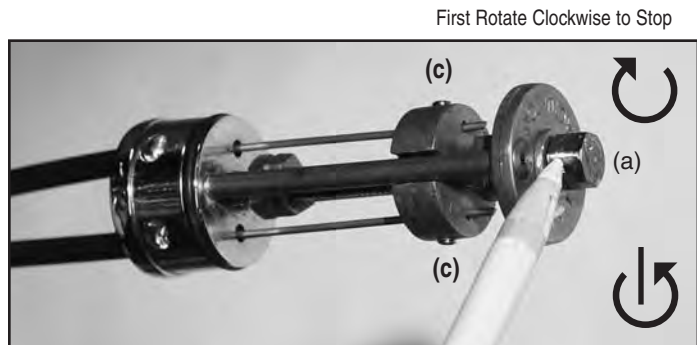


Figure 14

First Rotate Clockwise to Stop

Then rotate ONE revolution counter clockwise. Preload is Complete

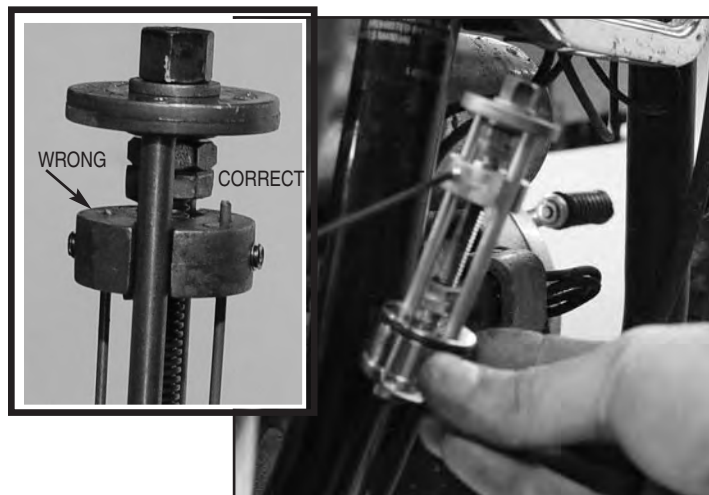


Figure 15

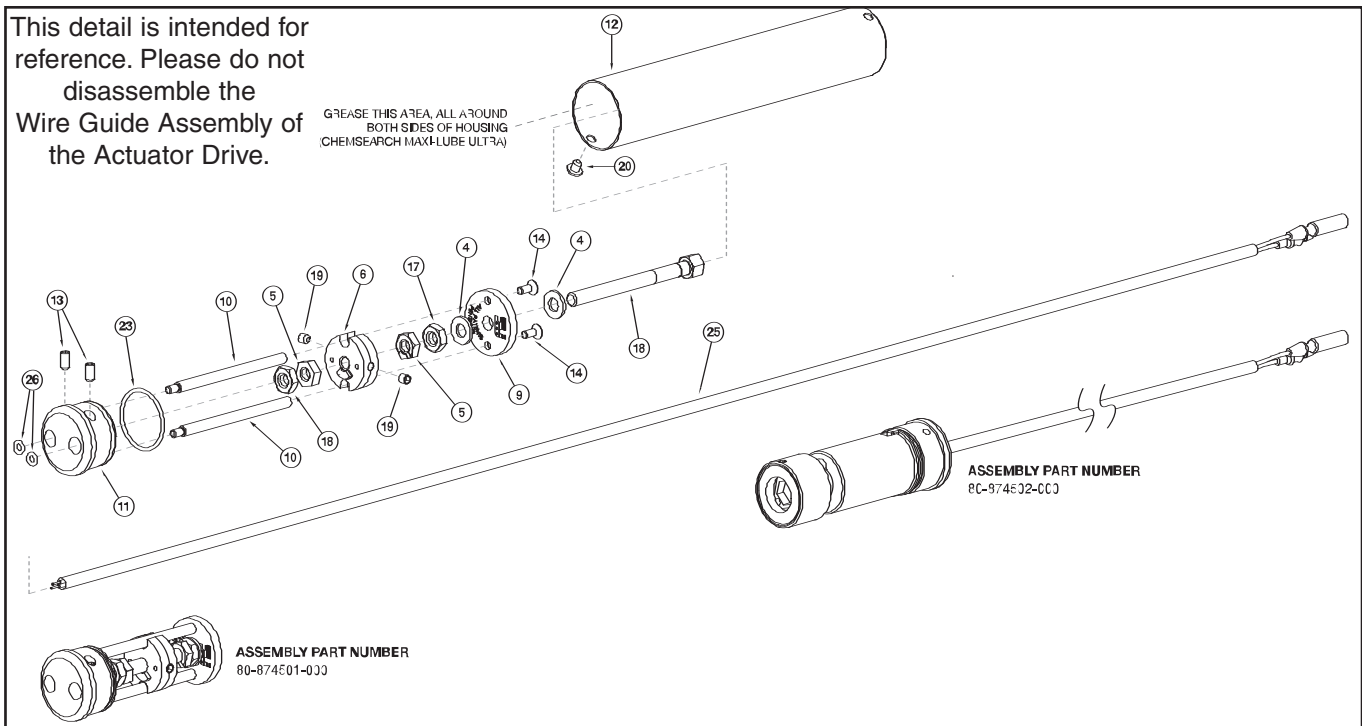


Figure 17

## Detail of Actuator Drive

This detail is intended for reference. Please do not disassemble the Wire Guide Assembly of the Actuator Drive.

GREASE THIS AREA, ALL AROUND BOTH SIDES OF HOUSING  
CHEMSEARCH MAX-LUBE ULTRA



ITEM	QTY.	PART NUMBER	DESCRIPTION
4	2	49-490501-000	WASHER, THRUST, OILITE
5	2	70-740535-000	TRAVEL STOP
6	1	70-740530-000	POSITION NUT
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
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
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

## **INSTALL SWITCH HARNESS**

1. Remove screw from left clutch lever mount. Position Switch and re-install Screw. **(T27 Torx) Figure 18**

3. Route and secure Switch Harness. Follow wiring down handlebar to frame neck. **(Cable Ties and Cutters) Figure 19 and 20**

## **PREPARATION OF WIRING**

1. Loosen the instrument housing. Gently turn onto a cloth on side of tank to access wires. **(1/2" Box Wrench) Figure 21**

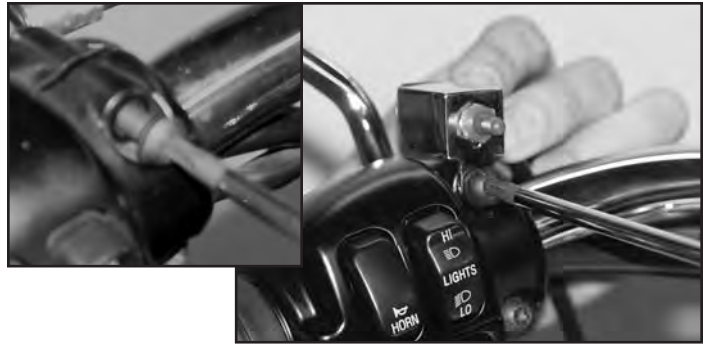


Figure 18



Figure 19



Figure 20



Figure 21

4. Refer to wiring diagram below and plug ends of Actuator Motor to Switch Harness.

Route Harness under left side of instrument housing.

**Figure 22**


5. Cut back on the motorcycles existing wire loom to expose the red with gray stripe wire. Connect this wire to the red wire from the Switch Harness. (**Scotchlok Connector and Pliers**) **Figure 26**

6. 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**)

 **Wipe all thumb prints from Chrome Exhaust before starting motorcycle.**

7. 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.

8. 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.**

9. Re-assemble all parts to motorcycle.

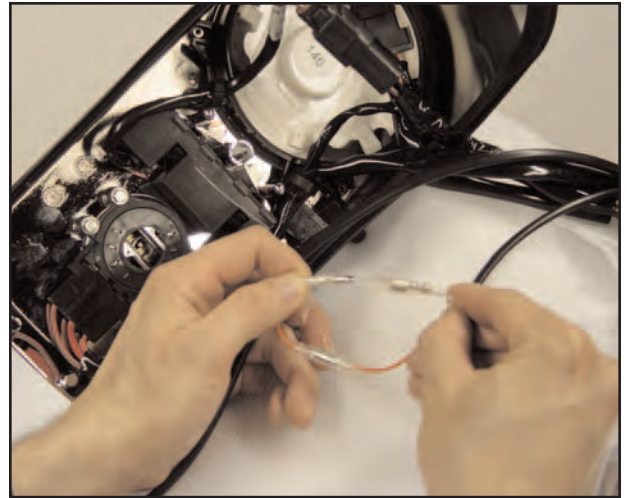


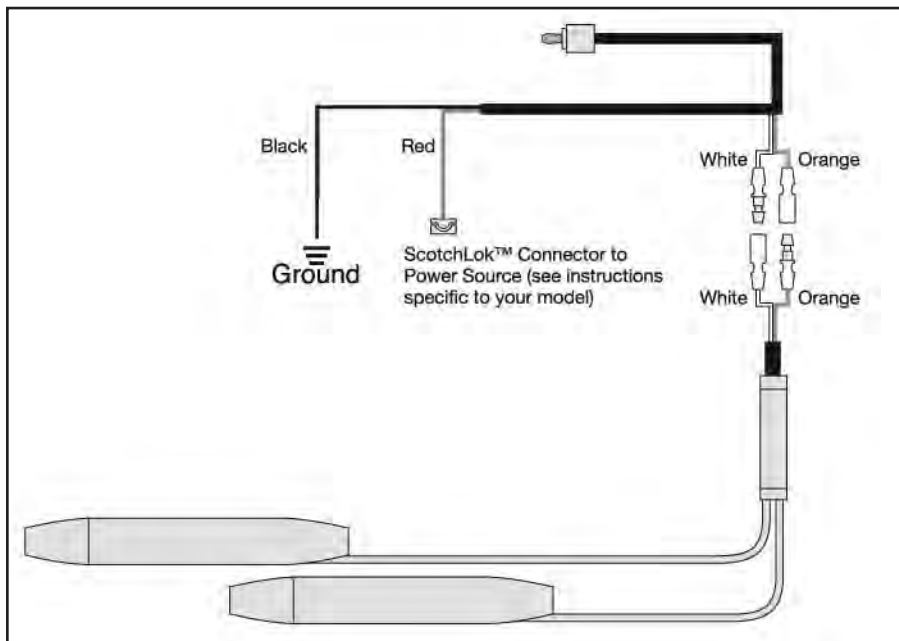
Figure 22



Figure 26

*Enjoy your Peacemakers Exhaust!  
All patents pending.*

### Wiring Diagram





## 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 Wire from Muffler Cable 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.



**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 N41413 is N41413P. 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.