



**Performance
Machine · Inc**
DISC BRAKES AND WHEELS FOR MOTORCYCLES

Installation Instructions
PM PhatRod™ Wide Wheel Kit
For 2002 and newer V-Rods

ATTENTION

Statements in these instructions that are preceded by the following words are of special significance:

Warning

This means there is the possibility of injury to yourself or others.

Caution

This means there is the possibility of damage to the motorcycle.

Note

Information of particular importance has been placed in italics.

Warranty

Performance Machine Inc. warrants to the original purchaser that the parts of this PhatRod, Wide Wheel Kit to be free of manufacturing defects in materials and workmanship for a period of one (1) year from the date of purchase. In the event warranty service is required, you must call Performance Machine immediately with a description of the problem.

If it is deemed necessary for Performance Machine to make an evaluation to determine whether the part is defective, a return authorization number will be given by Performance Machine. The parts must be packaged properly so as to not cause further damage and returned prepaid to Performance Machine with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem. If after the evaluation by Performance Machine the part was found to be defective it will be repaired or replaced at no cost to you. If we replace it, we may replace it with a reconditioned one of the same design.

Performance Machine shall not be held liable for any consequential or incidental damages resulting from the failure of a Performance Machine part.

Performance Machine shall have no obligation if a part becomes defective as a result of improper installation or abuse.

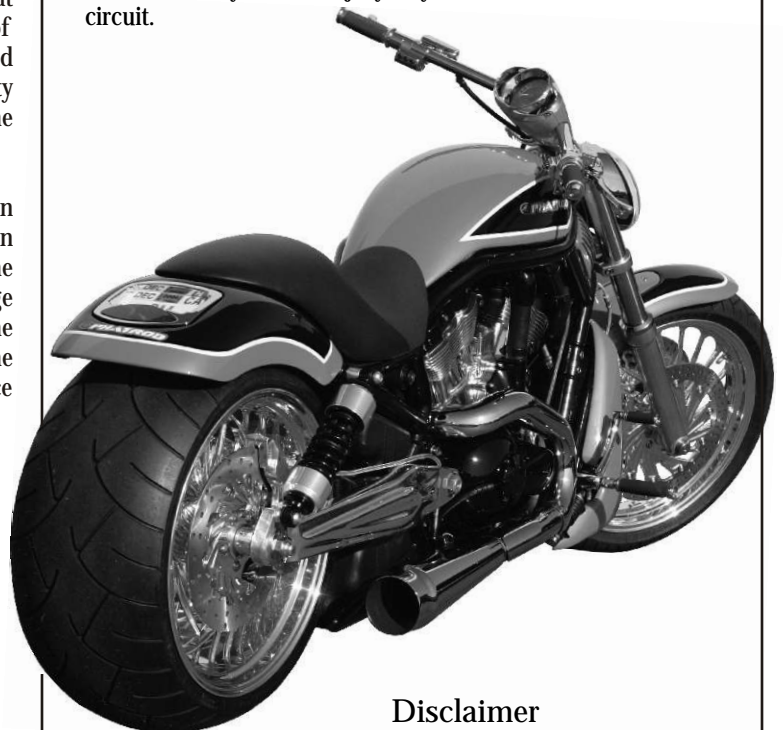
PHATROD™ 280 - WIDE WHEEL KIT

Important Notice

Before installing this Wide Wheel Kit, read through these instructions completely; this will familiarize you with the way in which the parts fit together and the tools needed to complete the job.

The PM PhatRod Kit involves alterations to your motorcycle and may void your factory warranty. PM **STRONGLY** recommends this installation be done by an experienced motorcycle mechanic.

Before performing any installation steps, disconnect the motorcycles battery to eliminate any possibility of damage to the electrical system or injury to yourself due to a short circuit.

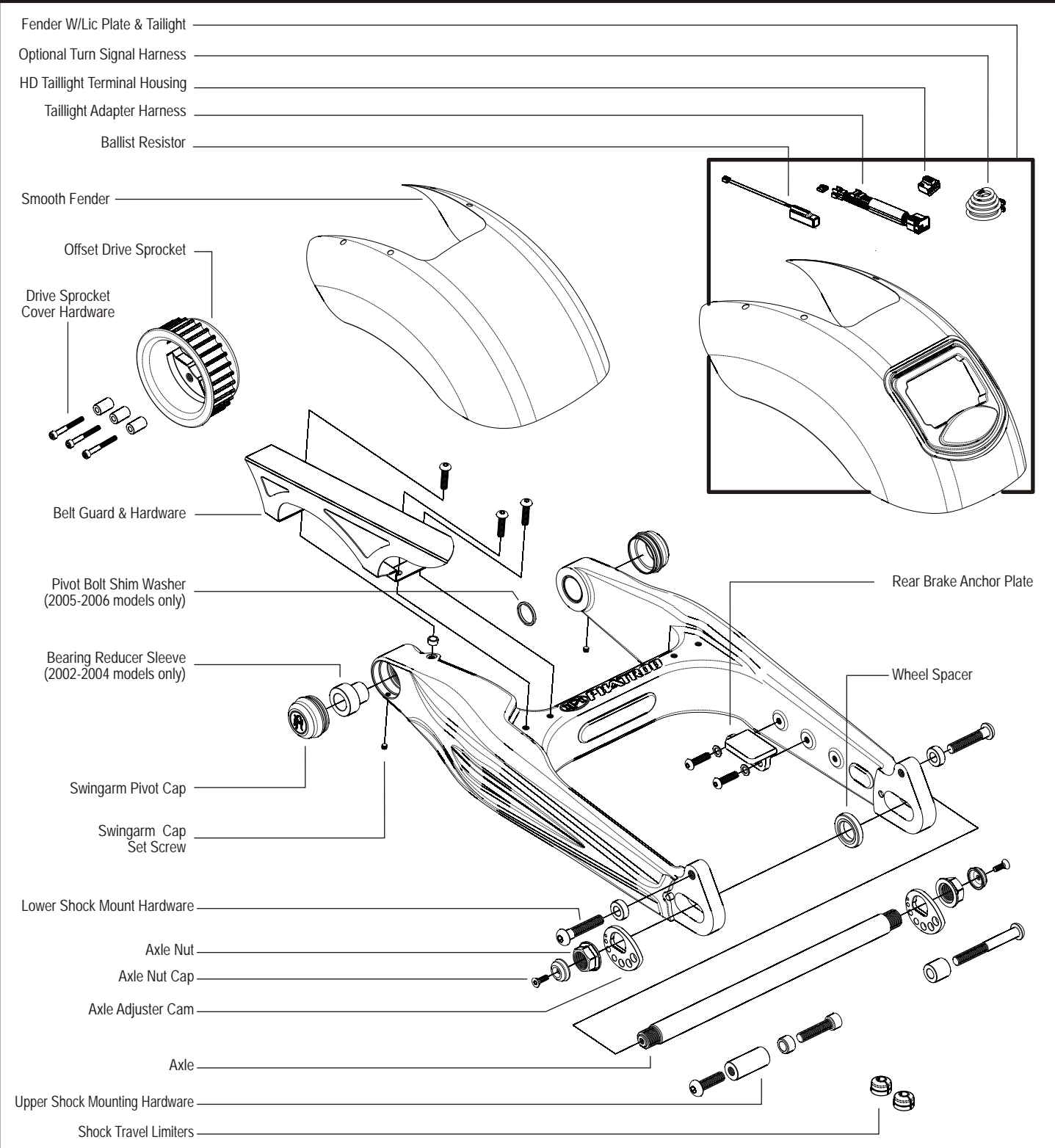


Disclaimer

These Performance Machine parts are designed for high performance motorcycle applications and are intended for the very experienced rider only. The installation of these Performance Machine parts may adversely effect or void your factory warranty.

PM PhatRod Wide Wheel Kit - Parts List:

Before starting to install the PhatRod Kit on your motorcycle, check the packing list to make sure the kit received is the correct one for your model motorcycle and that all components are present.



Additional items necessary for installation (not included)

2004 and earlier V-Rods (3/4" axle) will require a 2005 and newer rear brake system (1" axle)

A new seat is required to follow the lines of the PhatRod fender. Bitchin' Seat Company produces a PhatRod specific seat and can be reached at 714-632-9600

Air Suspensions will allow the tire to interfere with the chassis and will not work with this kit.



Photo 1

This instruction sheet is written with the assumption you will be replacing stock components. If the bike is already modified, some of the steps may be different.

To install the PM PhatRod Kit it will be necessary to raise the motorcycle off the ground on a suitable lift.

Stock Component Removal

Warning

Be sure to center the motorcycle on the lift so that it does not fall over when you raise it up or when you are working on it



Photo 2

Installation of the PM PhatRod Kit begins with the disassembly and removal of the entire rear end of the bike. For additional detailed information on removal of these parts, consult your factory manual.

Some of the original hardware will be reused, do not discard until complete.

Disconnect the battery.

Rear Fender Removal

- 1) Remove Seat (both front and rear sections)
- 2) Remove Turn Signal Canceling Module and Bracket.
- 3) Remove Outer Fender (remove all 6 bolts from top of fender and save hardware)
- 4) Disconnect taillight harness from lights (do not remove at this point)
- 5) Remove shocks (save the mounting nuts and washers from the top of shocks only).
- 6) Remove shocks and forward most bolts from inside of fender/struts
- 7) The entire inner fender/struts/taillight assembly should come off at this point. See Photo 4
- 8) Remove front splash guard



Photo 3



Photo 4

Swingarm Removal

9) Remove mufflers

ATTENTION

The PM PhatRod Swingarm is wider than stock and may interfere with some exhaust systems. In most cases a small spacer placed between the frame and muffler mount will help regain the needed clearance.

10) Remove upper and lower belt guards (they will not be reused)

11) Loosen axle nut, slide wheel forward in swingarm and remove belt (the stock belt WILL be reused, but this is a good time to inspect it for damage)

ATTENTION

2004 and earlier V-Rods (3/4" axle) will require a 2005 and newer rear brake system (1" axle).

12) Remove swingarm pivot bolt and swingarm. (The swingarm pivot bolt and hardware will be reused) See Photo 9



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9

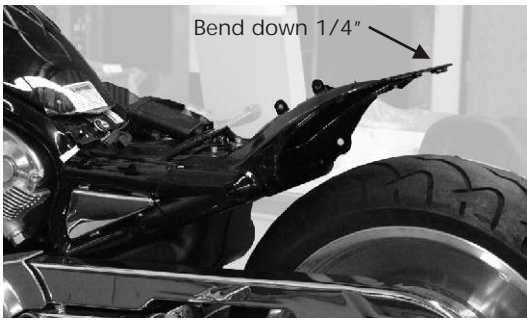


Photo 10



Photo 11



Photo 12



Photo 13



Photo 14

PhatRod Fender Fitment

13) The rearmost tip of the V-Rod frame (duck bill) must be bent down 1/4" to clear PhatRod fender. A few taps with a mallet will do the job.

14) Place PhatRod fender onto frame to confirm clearance is adequate.

15) Using stock hardware bolt unpainted fender onto frame to confirm correct fitment. Fender can be slightly bent up or down to achieve correct alignment before painting. We recommend leaving the unpainted fender in place until the entire installation is completed.

Motor Sprocket Replacement

16) Remove Motor Sprocket Cover

17) Remove 3 bolts securing motor sprocket.

18) Remove stock sprocket and replace with supplied offset sprocket. Apply Red Threadlock and tighten bolts to 66-75 ft-lbs

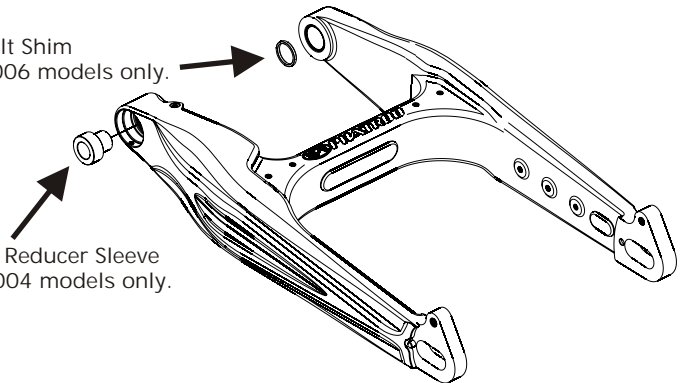
Do not install Motor Sprocket Cover at this point.

PhatRod Swingarm Installation

19) 2002 thru 2004 only - Install supplied bearing reducer sleeve into bearing on left side of swingarm.

Use Pivot Bolt Shim for 2005-2006 models only.

Use Bearing Reducer Sleeve for 2002-2004 models only.



20) 2005 thru 2006 only - Install stock pivot bolt spacer onto pivot bolt (it may still be in place) and slide supplied Pivot Bolt Shim on as well. Both spacer and shim should butt up against shoulder of pivot bolt. Coat pivot bolt with anti-seize.

21) Place swingarm into place and slide pivot bolt in from right side.

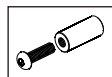
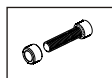
22) Apply Red Threadlock to threads of pivot bolt and install nut. Tighten to 45-55 ft-lbs. Cycle swingarm up and down to confirm nothing is obstructing movement.

23) Install splashguard back into stock position against fuel tank.

Shock Installation

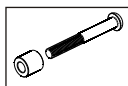
Left Side - Upper Shock Hardware
(Stock & Progressive Shocks)

Inner bolt:
50mm bolt & 16mm Spacer



Left Side - Upper Shock Hardware
(Stock Shocks)
Outer bolt:
50mm bolt & 44mm Spacer

Left Side - Upper Shock Hardware
(Progressive Shocks)
Outer bolt:
40mm bolt & 53mm Spacer



Right Side - Upper Shock Hardware
(Stock Shocks)
80mm bolt & 6mm Spacer

Right Side - Upper Shock Hardware
(Progressive Shocks)
100mm bolt & 23mm Spacer

Right & Left Side - Lower Shock Hardware
(Stock Shocks)
60mm bolt & NO Spacer

Right & Left Side - Lower Shock Hardware
(Progressive Shocks)
60mm bolt & 9mm Spacer

Warning

Shocks will require the installation of a travel limiter (supplied) above the rubber bump stop. Without the limiter, the chassis can interfere with the tire during full compression.

Air Suspensions can also allow the chassis to contact the tire and should never be used with this kit.

24) Set drive belt in place (over motor sprocket and behind shock mounts).

25) Mounting the shocks will require a combination of stock and supplied hardware, follow the steps and illustration carefully to avoid complications.

26) Beginning with the left side, place steel spacer over bolt and slide through upper shock mount in chassis. Apply Red Threadlock to the bolt and thread on the steel spacer. See Photo 15 Snug it to frame.

27) Slide supplied bolt through upper eyelet of shock (stock setup does not use a washer, aftermarket shocks may vary). Apply Red Threadlock and snug into steel spacer.

28) Bottom shock mounts: Slide stock shock washer over bolt, insert through lower shock eyelet and if using Progressive shocks, slide steel spacer over exposed threads, apply Red Threadlock and thread into lower shock mount in swingarm (stock shocks do not require lower spacer). Tighten shock bolts to 30-50 ft lbs. See Photo 16

29) Slide bolt through upper eyelet of right side shock, slide steel spacer over exposed threads and apply Red Threadlock. Place *stock* upper shock nut into frame and thread bolt through frame into stock shock nut. See Photo 17

30) Repeat step 28 for lower shock mount.



Photo 15



Photo 16

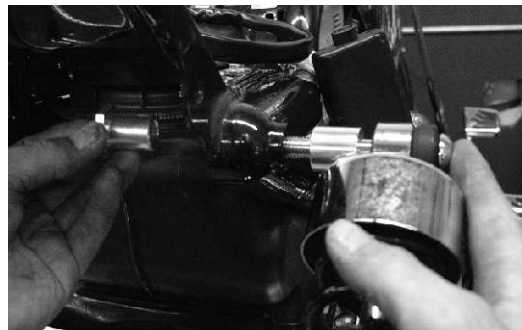


Photo 17

Wheel Installation

ATTENTION

The PM PhatRod kit was designed to work with PM 18" x 10" wheels. Other manufacturers wheels may not line up correctly, potentially causing incorrect driveline and brake alignment.



Photo 18

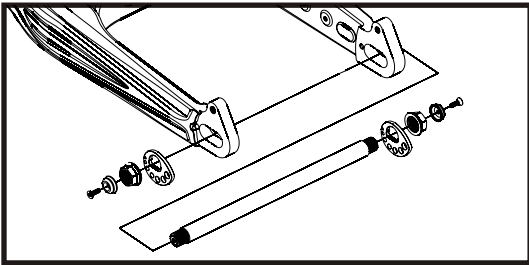


Photo 19

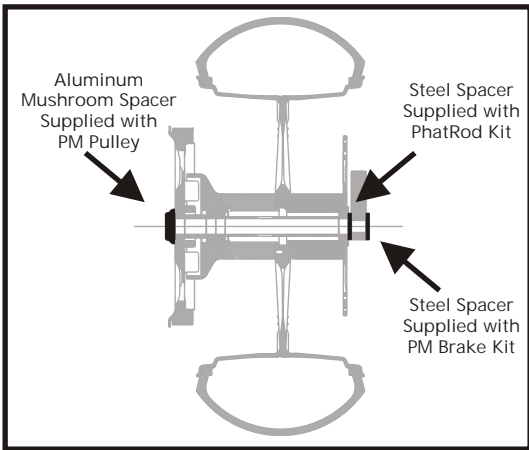


Photo 20



Photo 21



Photo 22

31) Set tire/wheel/pulley/disc assembly between legs of swingarm.

32) Insert mushroom spacer into pulley (supplied with pulley). Wrap belt around pulley.

33) Install adjuster cam & nut onto one end of the axle (snug fit for now) apply anti seize to axle and install from left side into swingarm/pulley/wheel. Do not let axle protrude through right side bearing. See Photo 19

34) Place steel spacer supplied with PhatRod Kit with raised portion toward wheel bearing, followed by brake caliper bracket and slide axle through them. If using PM rear brake system install the spacer that was supplied with the brake kit in between the caliper bracket and swingarm. See Photo 20

35) Slide axle all the way through and install adjuster cam and nut. Do not tighten yet.

36) Slide wheel to forward most position in swingarm and install brake system anchor plate onto swingarm (use two forward most holes) and brake system. Use supplied bolts and apply Red Threadlock before installing.

37) Rotate axle and adjuster cams to achieve correct belt tension (see factory manual for recommended procedure) and torque both right and left hand nuts to 95 ft lbs.

Cover Installations

38) Install Motor Sprocket Cover using supplied hardware and spacers. Apply Red Threadlock to bolts before installation. See Photo 21

39) Press Swingarm pivot caps into swingarm and secure with supplied set screws.

40) Place aluminum Axle End Caps onto axle and secure with supplied hardware. Use Red Threadlock before tightening.

41) If using the supplied Belt Guard, install using new hardware and angled spacer in forward most hole.

Integrated License Plate Frame Installation

———— Note ————

The following steps only apply if using the PM License plate frame and taillight assembly.

42) Although not necessary, we recommend shortening the stock taillight harness to fit.

43) Remove Blue wire terminal from License Plate light housing (others stay in the housing, but are not used).

44) Remove terminals from all other stock plastic plug housings and reinstall into supplied HD plastic housing (this will allow stock wiring to plug into the new harness) See Photo 24

45) The light housing/license plate frame included with the PM PhatRod Kit was designed to use with the light on top or bottom. The PhatRod application utilizes the light in the bottom position and therefore requires the purple and brown wires to be swapped for correct turn signal function See Photo 25. The Harness is also designed for use with multiple applications and is longer than needed for the PhatRod Kit. We recommend shortening the harness to fit.

46) Drill 1/2" hole in duck bill

47) Install rubber grommet over harness and thread harness from taillight through hole in duck bill and press in rubber grommet. See Photo 26

48) The Three components of the electrical system should now plug into each other. Hook battery back up and test all lights.

49) Install fender and replace Turn Signal Module and bracket into original location.

50) Install seat.

Warning

After installing the PM Phatail Kit we strongly encourage you to do a systems check of your bike.

51) While bike is still on a stand, slowly rotate rear wheel watching for any potential interference (disc to caliper, caliper to wheel, wheel to fender, etc).

52) After properly bleeding brake, pedal feel should be firm and consistent.

53) Test at slow speeds, checking brakes in short intervals. Visually inspect disc, caliper and wheel before and after road testing. For the first 100 miles break in disc and pads by using light to medium braking. Avoid unnecessary hard braking. Braking power will progressively increase with less effort as brake pads and disc break in.

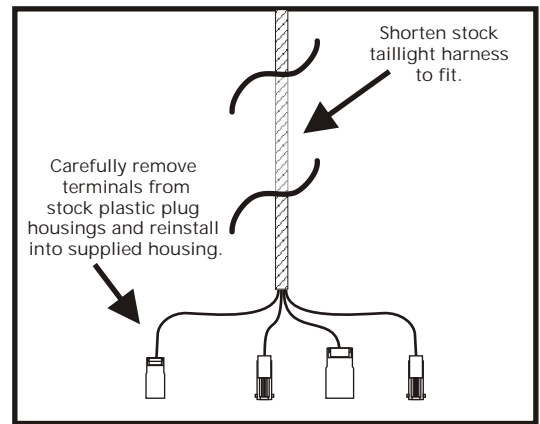


Photo 23

Install Stock Harness Terminals Into Supplied Housing

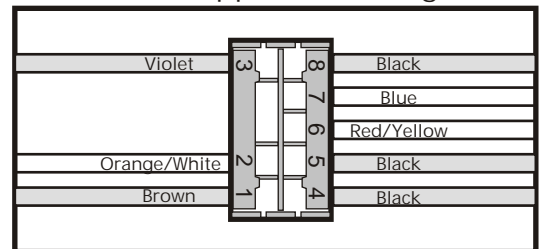


Photo 24

Harness from License Plate Frame

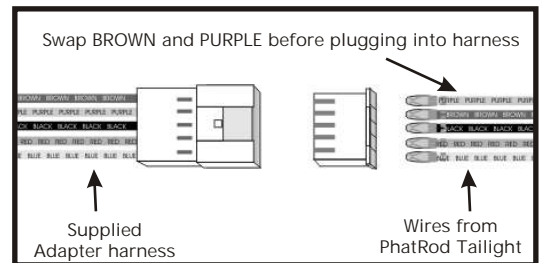


Photo 25



Photo 26

<http://www.performancemachine.com>

 **Performance Machine · Inc**
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