

# INSTALLATION INSTRUCTIONS

## DRAG SPECIALTIES GAS TANKS P/N DS-391348/49/47/22

**CAUTION:** Gas tanks **MUST** be properly installed, sealed and pressure tested **BEFORE** painting.

**ATTENTION INSTALLER:** (if other than owner): Please forward this instruction sheet to the purchaser of this product. These instructions contain valuable information necessary to the end user.

**INTRODUCTION:** These instructions describe the procedure for properly installing rubber mounted Quick-Bob gas tanks with speedometer and ignition switch on 82-99 XL models.

Review instructions carefully before beginning, as they contain important information. Please retain for future reference. Particularly important information is distinguished in these instructions by the following notations:

**NOTE:** A NOTE provides key information to make procedures easier or clearer.

**CAUTION:** A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle and/or accessories.

**WARNING!:** A WARNING indicates special procedures that must be followed to avoid injury to a motorcycle operator or person inspecting or repairing the motorcycle.

#### TOOLS REQUIRED:

7/16" combination wrench	1/2" combination wrench
9/16" combination wrench	Large adjustable wrench
1/8" hex key	1/4" hex key
Flat blade screwdriver	

**CAUTION:** Installing this kit on your motorcycle will require modifications to your wiring harness. We strongly suggest that you have a wiring schematic for your motorcycle. Because of the wide range of years these kits will work on, your motorcycle wiring may be slightly different than what is shown in the instructions. If you are not comfortable working with wiring, soldering, etc., we suggest you have a qualified technician do the installation work. Make sure you disconnect the battery before attempting any modifications. In any case make sure you do the wiring work before you have the gas tank painted. If you paint the tank and then try to make the following modifications, damage to the newly painted surfaces will probably result. We highly recommend that you solder and use heat shrink tubing to isolate any wiring connections made to prevent short circuits. Be sure you are using the correct wires. We will not be responsible for any type of damage resulting from any wiring modifications of any type. Check and double check your wiring. Make sure the circuit breakers and fuses are not disabled. You can burn up the entire wiring harness in your motorcycle in seconds if not wired correctly. If you are not sure, find someone who is.



**CAUTION:** Tank should be mounted, then removed, sealed on the inside and then pressure tested before painting to prevent leaks. When mounting tank, do not stress any of the mounting tabs as this could cause failure at a later date. Use washers for shims if necessary.

#### PROCEDURE:

Begin by placing the motorcycle on its side stand.

1. Remove the speedometer and tachometer (if necessary). Drain fuel from existing gas tank into an approved container. Make sure you are in a well ventilated area away from any flame or sparks. Remove the existing gas tank and retain the OEM petcock.
2. Remove ignition switch and housing from coil bracket and remove coil mounting bracket. Cut the cable tie around the main wiring harness just above the coil to get more slack in the wires going to the ignition switch.
3. Mount front bracket (6) on to frame using bolt (7), star washers (8) and nut (9). Pass the bolt through unthreaded hole closest to the front of the bracket, then through the front frame mounting hole. Make sure the mounting bolt is not so long as to rub against the inside of the tank when mounted. Shorten bolt flush to nut if necessary.
4. On 883 models only, attach horn bracket (15) to front bracket (6) using bolt (14), star washers (8) and nuts (9).

## DRAG SPECIALTIES

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5. Route the main wiring harness between the legs of the new coil mounting bracket and attach OEM coil and coil bracket using button head screws (13), star washers (8) and nuts (9). Coil bracket attaches to holes on front bracket that are farthest back. Make sure that no wires are pinched or rubbing against sharp edges.

6. Install rubber grommets (3) into holes in front of fuel tank, then push inserts (4) into grommets.

7. Push shoulder inserts (10) into rubber shoulder spacers (11).

8. Pass double-threaded bolt (12) through rear tank mounting hole in frame tube, then assemble rubber shoulder spacers/inserts and washers (2) on to bolt. Tighten securely.

9. Attach petcock to tank using thread sealer and adapter (5) if necessary.

10. Carefully slide tank on to rear mount until front grommets align with threaded holes in front mount. Install assembly using bolts (1) and washers (2). Tighten securely.

11. Cut new fuel line (25) to appropriate length and install with hose clamps (18).

12. On custom models unplug enough connectors (exposed between the risers under the cover) to be able to untangle and route the 2 bundles of wires going to the speedometer so they can exit out under the bottom of the back cover.

13. Steps 14 through 19 apply only to 95-99 models with the electronic speedometer. If you have a 82-94 model and intend to use the mechanical speedometer furnished with the tank kit, please go directly to step 20.

14. Remove the back cover of the speedometer housing. Remove the rubber boot that covers the trip reset button and remove the button.

15. One bundle of 3 wires on Customs (1 white/orange, 1 orange/white and 1 black) can be disconnected from the terminals on the back of the speedometer body. Carefully note where each goes, disconnect and pull these 3 wires out through the hole in the back cover. For all other models, unplug under the seat to be able to pull the wires through the OEM mounting bracket.

16. The other bundle of 3 wires (1 orange/white, 1 green/white and 1 black) are connected to a multipin connector. On Customs this is between the risers. These wires cannot be disconnected in the speedometer so they must be removed from the multipin connector or cut and respliced.

An alternative to disconnecting the wires from the back of the speedometer and cutting and splicing the other individual wires is to cut all 6 wires approximately 3" from the back of the speedometer and install a new 6-pin block connector that can be hidden in the bottom of the new dash. This will greatly simplify the installation and removal process. Such connectors are commonly available from any electronics supply house, a well-stocked auto supply store or Radio Shack.

It is necessary to cut or disconnect these wires to be able to remove the speedometer back cover on Customs and the mounting bracket on all models. (An alternative, though rough, is to use tin snips to carefully cut a slot to the hole in the back cover on Customs and to cut down the side of the mounting bracket to free the 2 wire bundles. Remove the bottom gasket.

17. If you choose to splice the wires (or install bullet-style male/female connectors) or can reinstall the wires back into the multipin connector, mount the speedometer with the original rubber gasket into the dash cover from the top using the original screws through the mounting tabs in the dash, and then make your splices. Any splices or crimped connections should be carefully soldered, spaced and insulated so as not to cause a short.

18. Reconnect the other 3 wires to their terminals on the back of the speedometer or plug back in under the seat.

19. Reroute the wires for the reset button and install the reset button in the hole provided on the left side of the new dash. Reinstall the rubber boot on the outside. Skip step 20 and go directly to step 21.

20. For 82-94 models with the mechanical speedometer, you will need to extend the illumination light lead from the rear of the headlight to the new speedometer. Install the speedometer head onto the base plate by installing the rubber grommets into the two mounting flanges on the speedometer head and then securing the head to the base plate with the two pins and c-clips. If your speedometer cable is not compatible with the threads on the rear of the speedometer, using cable DS-223099 will usually work. If you have extended front fork tubes you may need a longer or oversize cable.

21. Install the dash base plate noting that there are spacers included in the kit to allow the dash to be spaced higher or lower for a better fit to the tank. Use as required.

22. There are three indicator lights included in the dash and dash base plate. If you choose to wire these in, we would recommend that you use the center green light for the neutral indicator, the right red light for the low oil pressure indicator, and the left light for the high beam. Because of the many differences in the wiring for these indicator lights, please make note of the wires going to the original indicator lights and extend these to the new lights in the base plate. The wires should originate from the rear of the headlight housing.

### 23. Ignition switch – 94-99 models

There are two options.

The first is to use the stock switch with the relocation bracket. This bracket is mounted on the rear cylinder head bolt that holds the upper motor mount. Reroute the ignition switch and wiring under the frame and to the left side of the motorcycle. Mount the switch to this bracket using the original button-head screw.

The second option is to wire in the dash ignition switch. To do this, first disconnect the battery to prevent short-circuits. Then remove the wires from the stock switch. Reroute the wires up the front of the tank and under the dash panel. You may have to extend the stock wiring. Make

# INSTALLATION INSTRUCTIONS

## DRAG SPECIALTIES GAS TANKS P/N DS-391348/49/47/22

sure you use wire of the same gauge as the original. Route the wires under the new dash panel and through the rubber grommets in the dash base plate. Bring in the red or hot wire through the right side grommet and the ignition and accessory wires through the left side grommet. Wire into switch as shown in the accompanying schematic. Wired this way you will have accessories only if the switch is turned one click to the left, and ignition and lights if the switch is turned either one or two clicks to the right. Make sure you add the jumper wires as indicated on the switch wiring schematic. The switch will not work properly if the jumper wires are omitted. It is not possible to separate the lights and ignition circuits without modifying the main wire harness. Install the switch on the base plate with the included screws. There are spacers included to raise the switch to allow proper spacing between the switch and the dash cover, use as required. Make sure the terminals on the switch do not touch the dash cover or a short circuit could develop.

### Ignition switch – 82-93 models

To do this, first disconnect the battery to prevent short-circuits. Then remove the wires from the stock switch. Reroute the wires up the front of the tank and under the dash panel. You may have to extend the stock wiring. Make sure you use wire of the same gauge as the original. Route the wires under the new dash

panel and through the rubber grommets in the dash base plate. Bring in the red or hot wire through the right side grommet and the ignition (white) and lights (green) wires through the left side grommet. Wire into switch as shown in the accompanying schematic. Wired this way you will have accessories only if the switch is turned one click to the left (this is not currently used on Sportster models), and ignition and lights if the switch is turned either one or two clicks to the right. Make sure you add the jumper wires as indicated on the switch wiring schematic. The switch will not work properly if the jumper wires are omitted. It is possible to separate the lights and ignition circuits by removing the jumper wire between the "B" and "C" terminals, although this is generally not recommended (check local laws). Install the switch on the base plate with the included screws. There are spacers included to raise the switch to allow proper spacing between the switch and the dash cover, use as required. Make sure the terminals on the switch do not touch the dash cover or a short circuit could develop.

**WARNING!** Check all mounts and fuel line fittings before filling with fuel. Double check all fuel lines and fittings for leaks. Check all electrical wiring to be sure it is not binding or pinched. Test ride motorcycle and recheck all fuel lines and fittings for leaks.

