



# Service Bulletin

## WBH-16 Fuel Tank Vent Valve and Vapor Hose Update

<b>Product Group:</b> Concrete Buggies	<b>Date Issued:</b> 08/07/12	<b>Service Bulletin No.</b> CB20120806
<b>Bulletin Type</b> <input checked="" type="checkbox"/> Mandatory <input type="checkbox"/> Information Only <input type="checkbox"/> Recommended Change		<b>Models/Series Affected:</b> WBH-16 110401 ~ 120610

**Details**

Multiquip is alerting the owners of the WBH16-Series power buggies of updates required to the fuel tank. This change involves replacing the roll over valve located on the fuel tank with a vent valve and the addition of a fuel tank neck seal. This is a critical update and failure to implement will result in improper operation and possible safety hazards including:

- Restricted vapor flow resulting in excessive fuel tank pressure and carburetor flooding.
- Spilled fuel may come in contact with hot engine components during refueling.
- Fuel leaking from the carburetor and igniting during operation.

Please follow the installation instructions carefully and do not reuse components unless explicitly stated in the directions.

**Parts Information**

Item No.	Part No.	Description	QTY.	Remarks
A	WBHEVAPKIT	Kit, Evap & Fuel Tank Update		Includes Items B & C
B	521205	Kit, Evap Retrofit	1	Includes Items 1-11
1	800056	Bolt, HHCC 1/4" NC x 3/4" G5	2	
2	492595	Washer, 1/4" NC	4	
3	801130	Clamp, Rubber Coated	2	
4	492581	Nut, Nylon 1/4" G8	2	
5	802255	Tension Clamp	3	Fuel Filter, Canister
6	517621	Tension Clamp	2	Air Filter
7	520833	3/16" Air Filter Hose	1	5.5-Inches
8	506208	Worm Clamp	2	Hose Reducer
9	802405	1/4" to 3/16" Hose Reducer	1	
10	491030	Plastic Tie-Wrap	1	
11	802006	Seal, Fuel Tank Neck	1	
C	521205B	Kit, Vent Valve	1	Includes Items 12-17
12	801130	Clamp, Rubber Coated	1	
13	EM911011	Pipe Plug 1/8"	1	
14	802498	Tension Band Clamp	1	Vent Valve
15	202772	Vent Valve	1	Fuel Tank
16	203403	Grommet, Vent Valve	1	
17	60004	3/16" Fuel Hose	1	41" Long

**Figure 1. Parts Identification**



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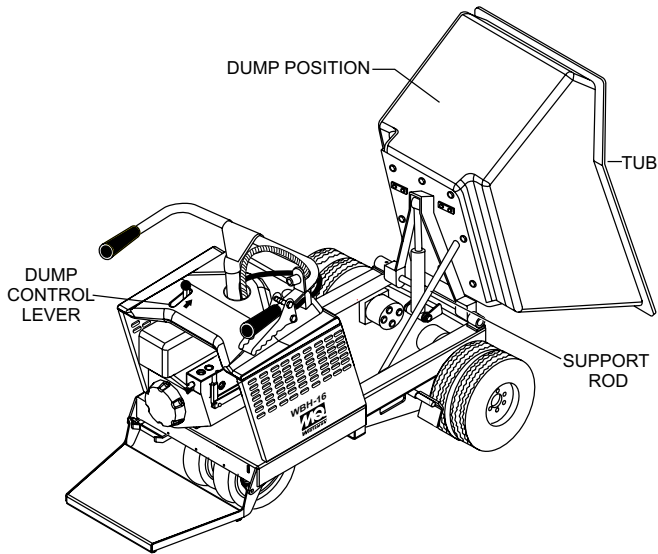
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## REMOVAL PROCEDURE

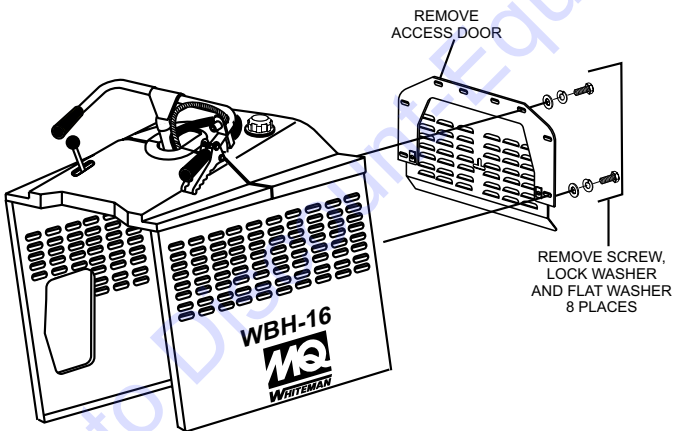
### Access Panel Removal

1. Turn the engine **ON**.
2. Place the tub (Figure 2) in the vertical position by moving the dump control lever forward.
3. Turn the engine **OFF**.
4. Position the support rod against the bottom of the tub.



**Figure 2. Tub Dump Position**

5. With the tub in the dump position remove the 8 screws and associated hardware that secure the access door (Figure 3) to the buggy.

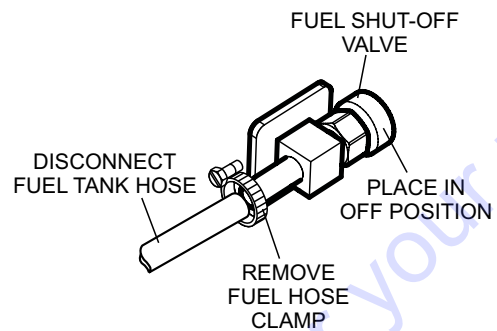


**Figure 3. Removing Access Door**

6. Set access door and associated hardware aside in a safe place where they will not get damaged or lost.

### Fuel Shut-Off Valve

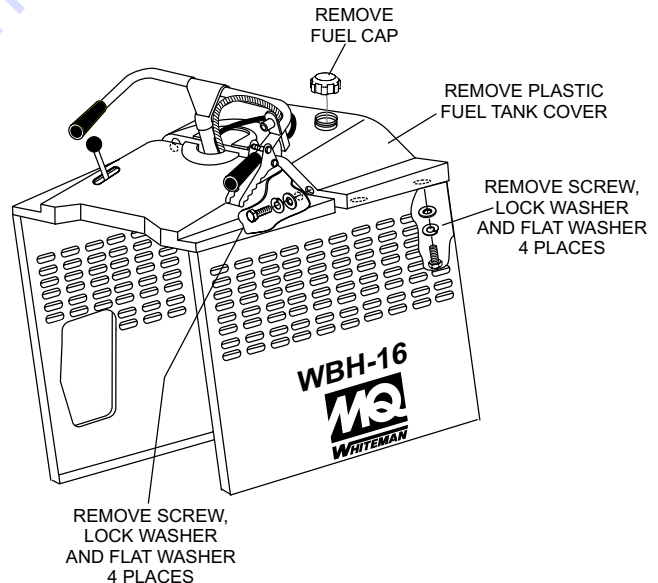
1. Place the fuel shut-off valve (Figure 4), located at the base of the fuel tank in the **OFF** position.
2. Next, remove the hose and clamp from the fuel shut-off valve port.



**Figure 4. Fuel Shut-Off Valve (OFF)**

### Fuel Tank Cover Removal

1. Remove the fuel tank cap from the fuel tank.
2. Next, remove the 8 screws and associated hardware that secure the fuel tank cover (Figure 5) to the buggy.
3. Remove fuel tank plastic cover from the buggy to expose the steel fuel tank.



**Figure 5. Fuel Tank Cover Removal**

## Fuel Tank Removal

1. Remove and discard existing tension clamp (Figure 6) from the roll-over valve port.
2. Next, remove and discard existing fuel tank vapor hose from charcoal canister tank port. Retain tension clamp, it will be used later.
3. Remove the fuel tank from the buggy.

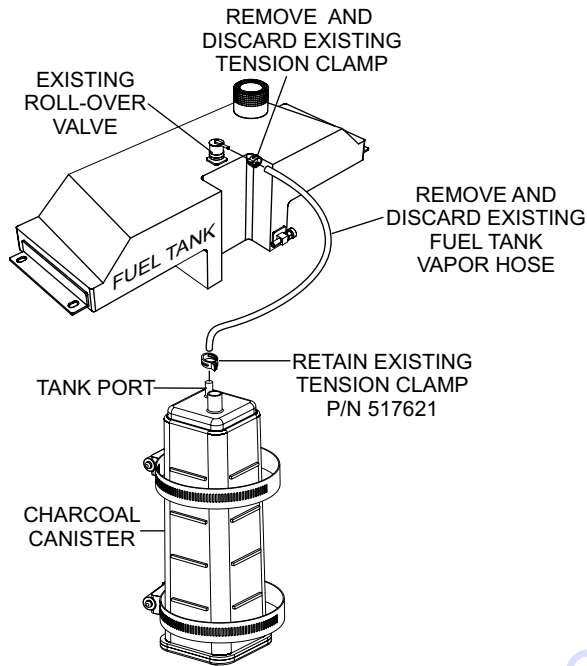


Figure 6. Tank Hose Disconnection

4. Next, turn fuel tank upside-down (Figure 7) and drain any fuel in the fuel tank into a suitable container.

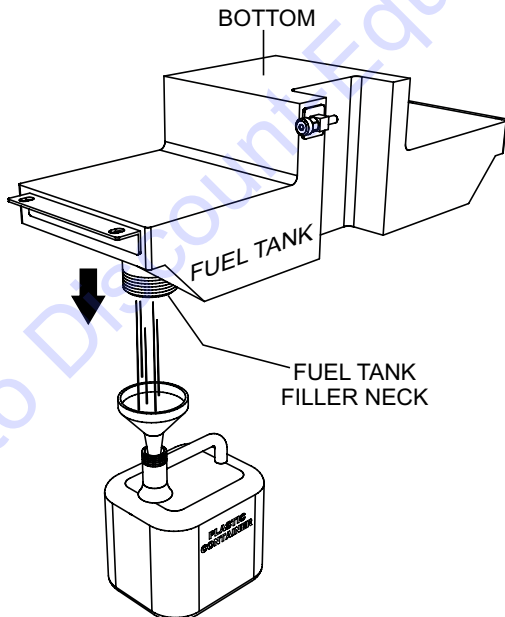


Figure 7. Fuel Tank Drain

5. To remove any harmful residue, vapors or fumes from the fuel tank, the fuel tank should be placed outside in a warm environment so that the tank can thoroughly dry.
6. With the fuel cap removed (Figure 8), place the fuel tank outside in the upright position with the fuel filler neck facing upwards and allow the fuel tank to dry. This may take 30-45 minutes.

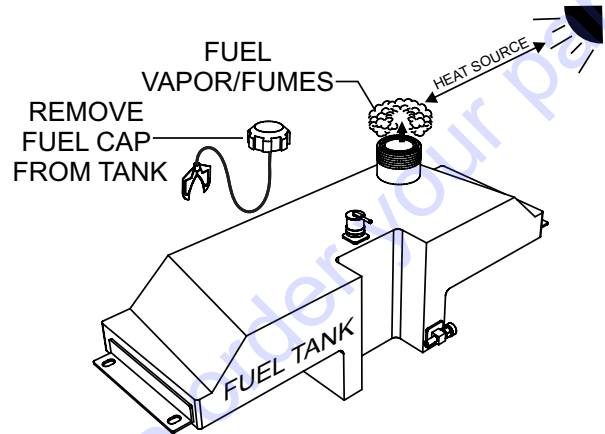


Figure 8. Drying The Fuel Tank

### NOTICE

**DO NOT** proceed to the next step until the fuel tank is thoroughly dry and all harmful residue, vapors and fumes have been removed from the tank.

## Fuel Tank Roll-Over Valve Removal

1. Use a flat head screwdriver to remove the roll-over valve and rubber seal from the fuel tank as shown in Figure 9.

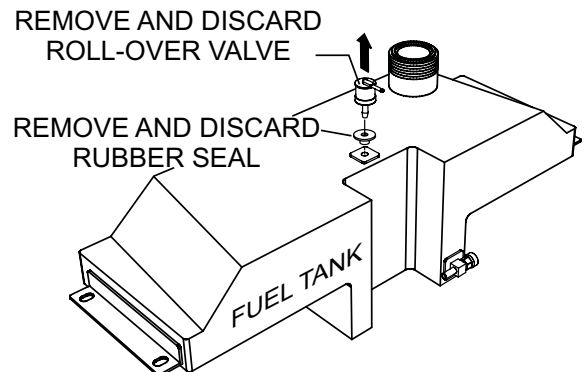


Figure 9. Removing Roll-Over Valve

## Fuel Tank Modification

The fuel tank requires modification to accommodate a new type **vent valve** and **pipe plug**. Follow the procedure below to modify the fuel tank.

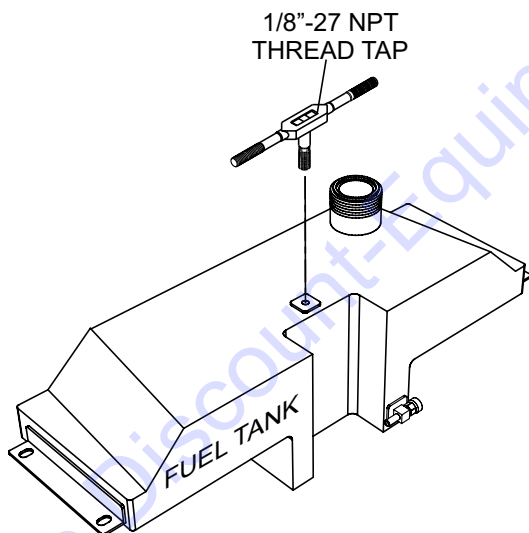
### **!** DANGER

**DO NOT** perform any fuel tank modifications until all vapors and fumes have been completely evaporated from the fuel tank.

In addition the fuel tank must be completely dry, no fuel and all fuel residue completely removed. The possibility exist of fire or explosion if fuel or combustible residue remains in the tank.

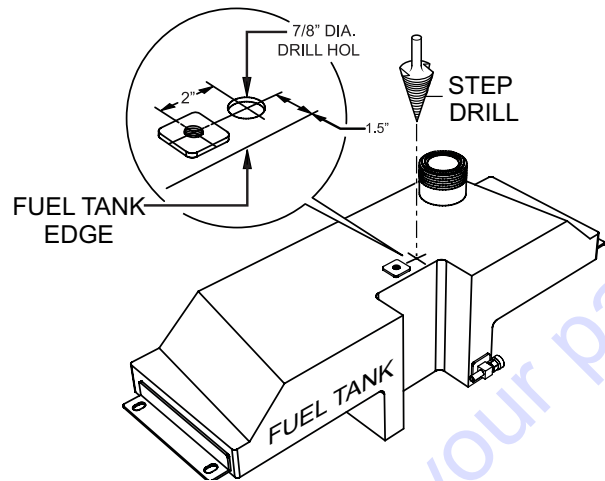
Failure to observe these conditions could start a fire causing severe bodily harm and serious damage to the equipment.

1. Place fuel tank on a suitable workbench free of dirt and debris.
2. Before tapping or drilling ensure tank is dry and all vapors have evaporated. Have a fire extinguisher nearby in case of fire.
3. Using a 1/8"-27 NPT thread tap (Figure 10), thread the hole where the existing roll-over valve was installed.



**Figure 10. Pipe Plug Tap Hole**

4. Next, using a step drill or equivalent drill bit, drill a 7/8-inch diameter hole as shown in Figure 11. This hole is necessary for the new vent valve.
5. After the hole has been drilled, deburr the hole opening and remove any rough edges.



**Figure 11. Vent Valve Drill Hole**

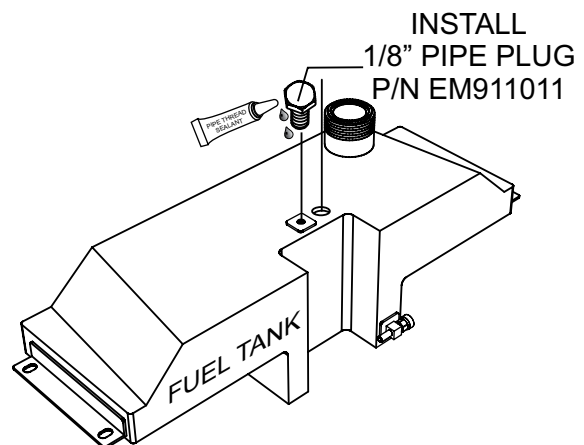
## Fuel Tank Cleaning

Shavings from tapping and drilling of the fuel tank may have entered the fuel tank. To remove any debris or foreign matter that may have entered the fuel tank, perform the following procedure.

1. Pour solvent into the fuel tank, then flush thoroughly.
2. Repeat this process until all foreign matter and debris have been removed from the fuel tank.
3. Set fuel tank aside and let dry.

## New Fuel Tank 1/8" Pipe Plug Installation

1. Apply fuel resistant sealant (Figure 12) to the threads of the new 1/8-inch pipe plug (P/N EM911011) to be installed on the fuel tank.
2. Insert 1/8" fuel tank pipe plug into the threaded hole where roll-over valve was installed.



**Figure 12. 1/8" Pipe Plug Installation**



## New Fuel Tank Vent Valve Installation

1. Spray the inside and outside of the vent valve grommet with Windex™ or an equivalent solution as shown in Figure 13. This will make it easy to fit the grommet onto the vent valve.
2. Twist and turn the vent valve while applying pressure to insert onto grommet.
3. Insert vent valve with grommet attached into fuel tank as shown in Figure 13. Please note orientation of vent valve port.

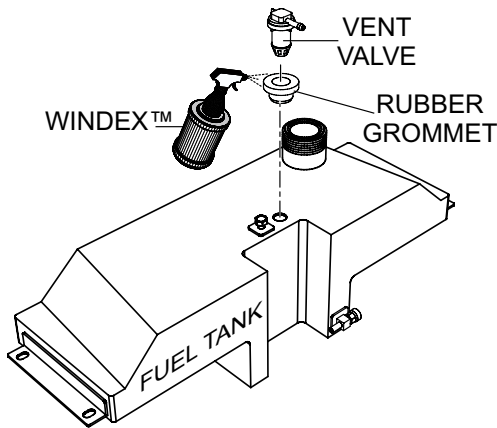


Figure 13. Vent Valve Installation

## Side Panel Rubber Coated Clamp Installation

4. Install 2 new rubber coated clamps (P/N 801130) to the buggy left-side panel (Figure 14). **NOTE**, these clamps must be installed 180° opposite of each other.
5. From the operator's position, secure both clamps to the buggy's left-side panel using the supplied hardware, bolt (P/N 800056), washer (P/N 492595) and nut (P/N 492581).

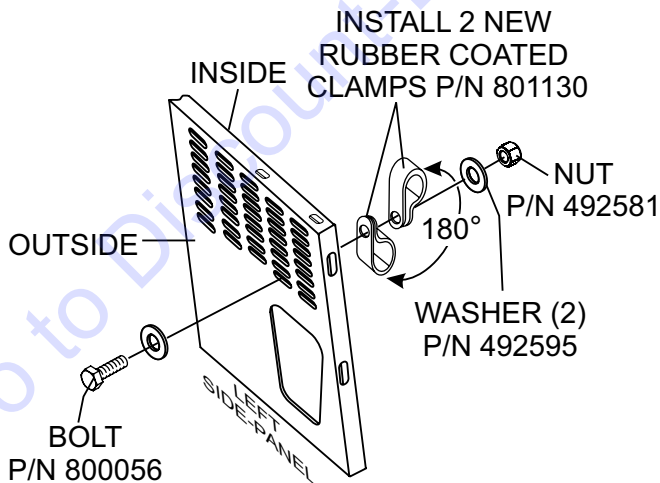


Figure 14. Air Filter/Fuel Tank Vapor Hose Clamps

## Air Filter Vapor Hose Modification

The 1/4-inch diameter vapor hose connecting the air filter to the charcoal canister needs to be shortened in length. This is necessary to allow installation of a 1/4" to 3/16" hose reducer.

Perform the procedure below to modify the air filter vapor hose and install a new tension clamp (canister end).

1. At the charcoal canister (Figure 15) remove the air filter vapor hose and worm clamp from the charcoal canister **purge port**. Discard worm clamp.

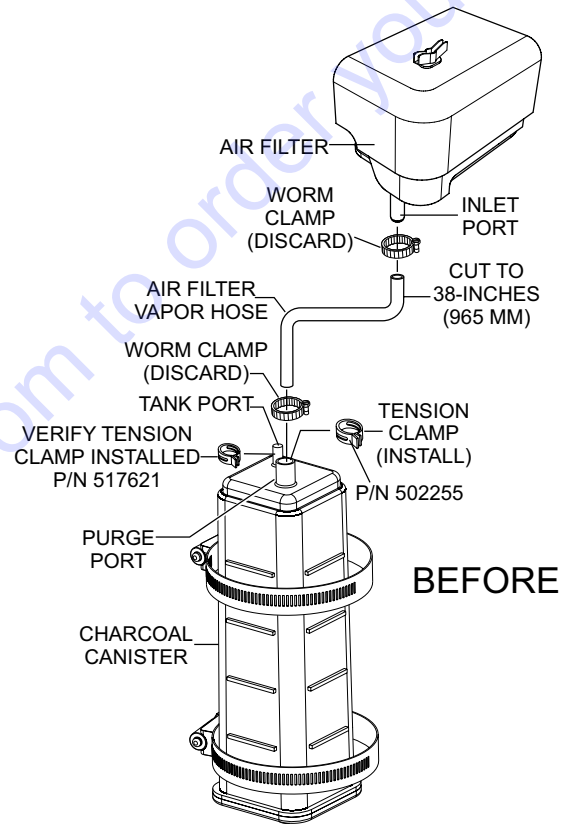


Figure 15. Air Filter Vapor Hose Components

2. Next, disconnect the other end of air filter vapor hose from the air filter inlet port. Discard worm clamp.
3. Place air filter vapor hose on a suitable work bench and cut to 38 inches (965 mm).

### NOTICE

The air filter vapor hose needs to be supported to prevent kinking. This is accomplished by means of a rubber coated clamp installed on the buggy's left-side panel.

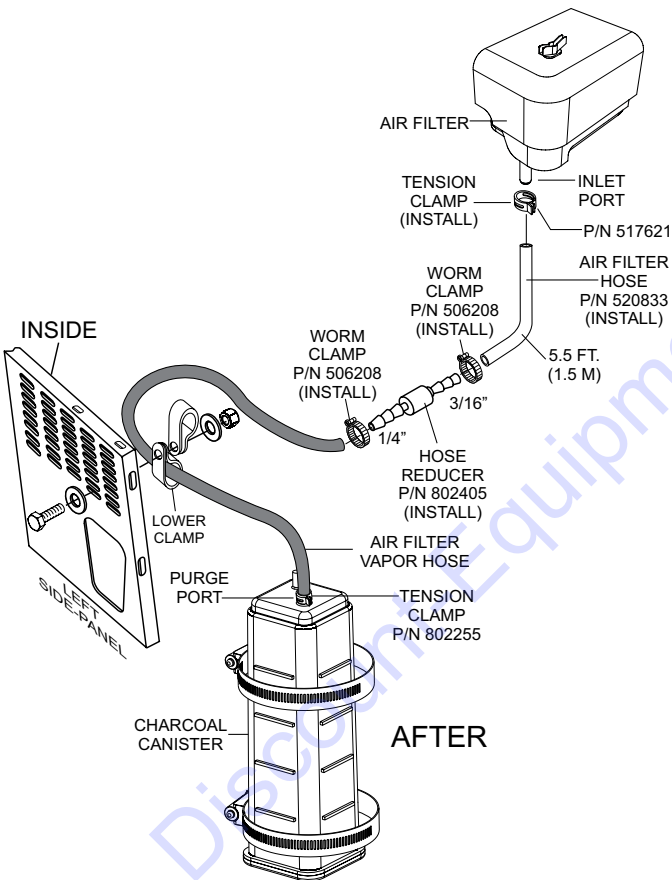
- Route one end of the air filter vapor hose thru the newly installed lower rubber coated hose support clamp on buggy left-side panel (Figure 16), then connect it to the **purge port** on the charcoal canister using tension clamp (P/N 802255).
- DO NOT** attach the free end of the air filter vapor hose to the air cleaner inlet port at this time.

### Hose Reducer Installation

The hose reducer (Figure 16) is required to provide a better connection using the provided 3/16" hose to the air filter inlet port.

Perform the procedure below to install the 1/4" to 3/16" hose reducer (P/N 802405) and worm clamps (P/N 506208).

- Locate the free end of the air filter vapor hose and using supplied worm clamp (P/N 506208) connect it to the 1/4" side of the hose reducer.

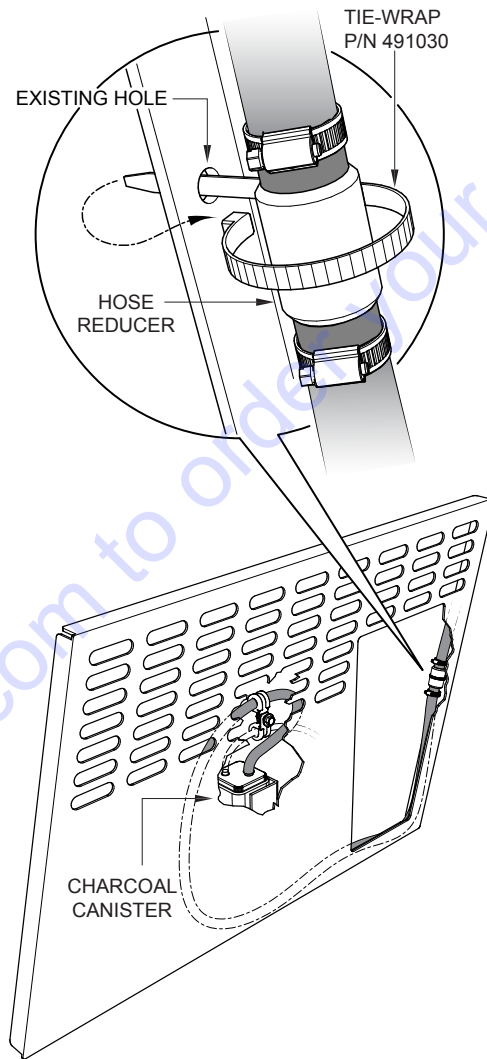


**Figure 16. Hose Reducer Installation**

- Next, using the supplied worm clamp (P/N 506208) connect the supplied 5.5" section of hose (P/N 520833) to the 3/16" side of the hose reducer.
- Finally, using the supplied tension clamp (P/N 517621) connect the free end of the 5.5 section of hose to the air filter inlet port.

### Securing The Hose Reducer

- Using the supplied tie-wrap (P/N 491030) secure the 1/4" to 3/16" hose reducer to the buggy as shown in Figure 17.

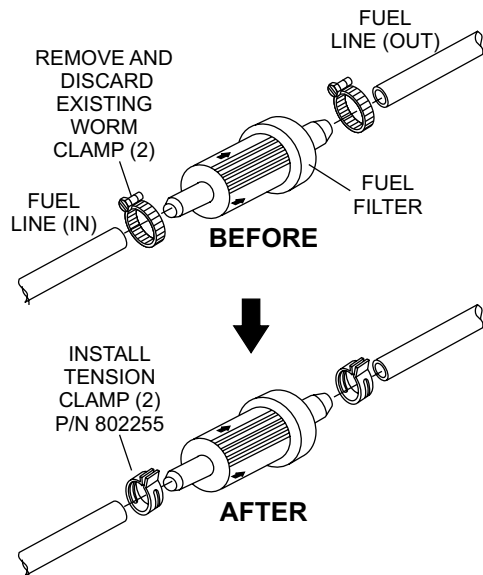


**Figure 17. Securing Hose Reducer**

### Fuel Filter Clamp Replacement

The existing worm clamps (2) that secure the fuel filter to the fuel hose lines need to be replaced with tension type clamps (2). Replace existing worm clamps as shown in Figure 17.

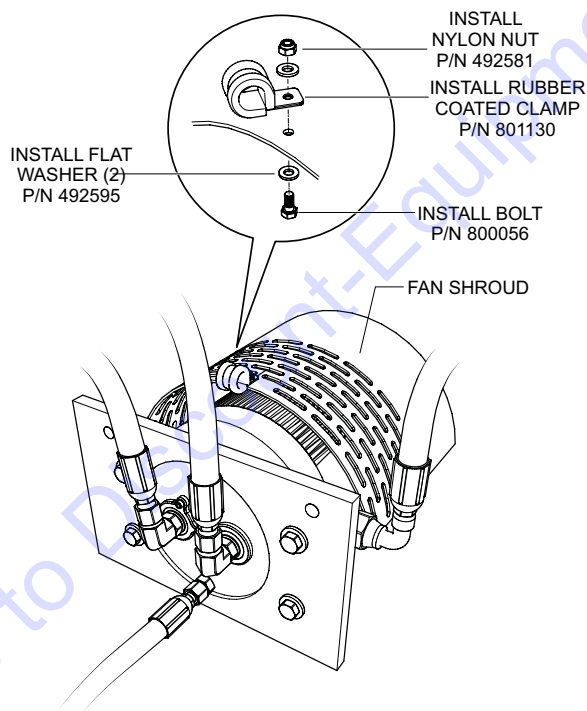
- When removing existing worms clamps from the fuel filter, fuel may begin spill. Wipe up any spilled fuel immediately.
- Remove both existing worm clamps from the fuel filter. Discard both worm clamps.
- Install new replacement tension clamps (P/N 802255) in place of the worm clamps.



**Figure 18. Fuel Filter Tension Clamps**

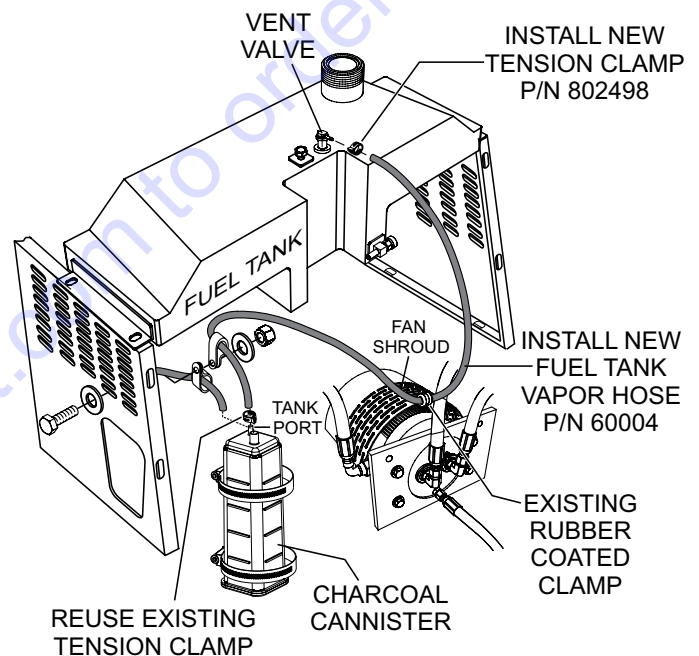
### Fuel Tank Vapor Hose Clamp Installation

1. Cut and remove existing tie-wrap securing fuel tank vapor hose to fan shroud.
2. Secure rubber coated clamp (P/N 801130) to **fan shroud** (Figure 19) using the supplied hardware, bolt (P/N 800056), 2 washers (P/N 492595) and nut (P/N 492581).



**Figure 19. Installing Fuel Tank Vapor Hose Clamp**

3. Place fuel tank on top of buggy side panels.
4. Connect the new fuel tank vapor hose line (P/N 60004) to the tank port on the charcoal canister (Figure 20) using the tension clamp from the original discarded vapor hose.
5. Route new fuel tank vapor hose thru newly installed upper rubber coated hose support clamp (Figure 14) on buggy left-side panel.
6. Next, route fuel tank vapor hose thru existing rubber coated clamp on the fan guard (Figure 20).
7. Lastly, connect fuel tank vapor hose to the fuel tank vent valve (Figure 20) and secure with tension clamp (P/N 802498).



**Figure 20. Fuel tank Vapor Hose Routing**



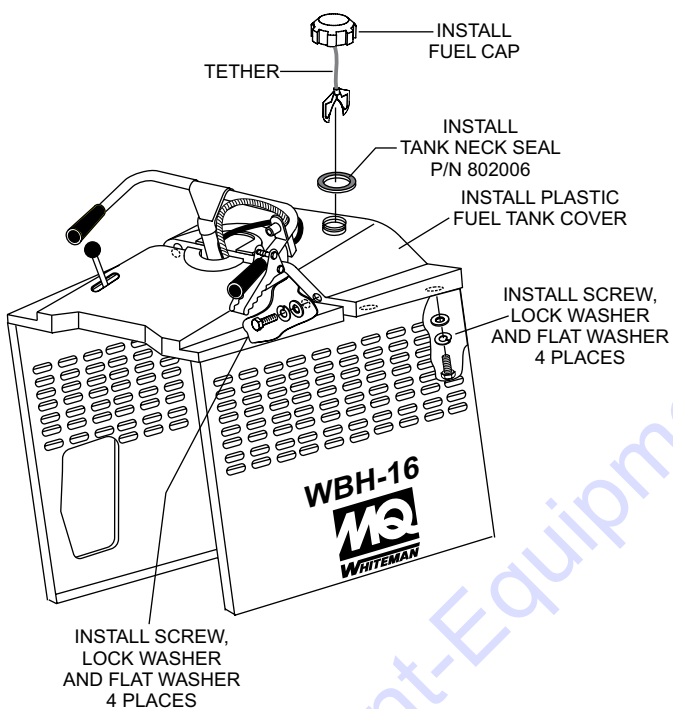
## Fuel Tank Neck Seal Installation

In some instances, gasoline spilled during refueling may run down the neck of the fuel tank and make contact with the hot muffler or other engine components.

To prevent this from occurring, a **fuel tank neck seal** must be installed over the fuel tank filler neck.

Perform the procedure below to install the fuel tank neck seal.

1. Place fuel tank plastic cover over fuel tank and secure both the fuel tank plastic cover and fuel tank to the buggy side panels.
2. Install new fuel tank neck seal (P/N 802006) as shown in Figure 21.



**Figure 21. Tank Neck Seal Installation**

## Reassembly

1. Reinstall fuel cap.
2. Reinstall buggy access door.
3. Connect main fuel hose line to fuel shut-off valve.
4. Place fuel shut-off valve in the **ON** position.
5. Refill fuel tank.

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