Instructions Created by an:

Automotive Service Excellence
MASTER AUTO TECHNICIAN

Suzuki Samurai Sidewinder CV Carburetor Adapter Kit

(SKU# SEU-CVCK-40)

Instructions also apply to: SEU-CVCK-44

Revised 09-22-15

Installation Instructions

CAUTION: Safety glasses should be worn at all times when working with vehicles and related tools and equipment.

FOR ADDITIONAL COPIES OF THESE AND OTHER INSTRUCTIONS GO TO:
www.lowrangeoffroad and click on the **"INSTRUCTIONS"** tab.

Suggested Tools:

- Allen Sockets: 6mm, 3/16”
- Sockets: 10mm
- Ratchet
- Standard Screwdriver
- Combination Wrench (Optional for fuel pressure regulator adjustment)
- Power Hand Drill
- Drill Bit: 5/16” Drill Bit
- Hack Saw
- Timing Light
- Tachometer

Introduction

SIDEWINDER CV ADAPTER KIT

OFF ROAD ONLY

Congratulations on your purchase of the Sidewinder CV Carburetor Adapter Kit. This unique adapter allows you to install the popular Keihin® 40mm CV (constant velocity) or the Screaming Eagle 44mm side draft carburetor on your stock or modified off-road vehicle. The performance and reliability of this carburetor is a matter of record, and with its float bowl below the venturi, the Keihin is very resistant to flooding or rough running when operating on steep inclines or angles. The constant velocity system smoothes sudden throttle changes and also allows the Keihin CV to automatically alter A/F ratios during elevation changes.

Almost two million Keihins® were used on 1988-2006 Harley Davidson® motorcycles, on engines ranging in size from 74 cubic inches (1200 cc's) to 88 cubic inches (1442 cc's). Keihin CV's were also used on Kawasaki 90 cubic inch (1500 cc) Vulcans®,

Used Keihins® are widely available, and units in good condition can be found in the $50 - $100 range. The stock 40mm Keihin CV can handle engine displacements up to 1600 cc's and also works well with modified engines (special camshafts, headers, etc.). For larger displacement motors, the 40mm Keihin can be bored out to 41mm. Another option you may want to consider is the Harley Davidson® Screaming Eagle® side draft carburetors in a 44mm size. This Carburetor can be purchased through kutterharleyonline.com. Click HERE for more information. If you want to install the 44mm carburetor all that is needed is to swap the 40 mm front adapter for a 44mm front adapter. Low Range Off-Road has the front adapters available for purchase or trade for the 40mm size. However, after very extensive testing on and off road (even in competition crawling events) the 40mm Keihin CV has proven to be the carburetor of choice for most applications.

The following instructions, photographs, and diagrams demonstrate the assembly of the Sidewinder CV Kit.

It is recommended that you read the entire installation instructions before beginning!

NOTE: Low Range Off-Road recommends using the intake vacuum port for the distributer vacuum advance (*See photo 2*) first. If you have any issues after, then try the vacuum advance on the intake housing ring *(See photo 1)*. Almost all applications are using the intake vacuum port. If you are using the intake vacuum port, start the engine timing procedure at 14 degrees and if you are using the intake housing ring, start the engine timing procedure at 10 degrees and then verify engine performances. (*See photo 1*).

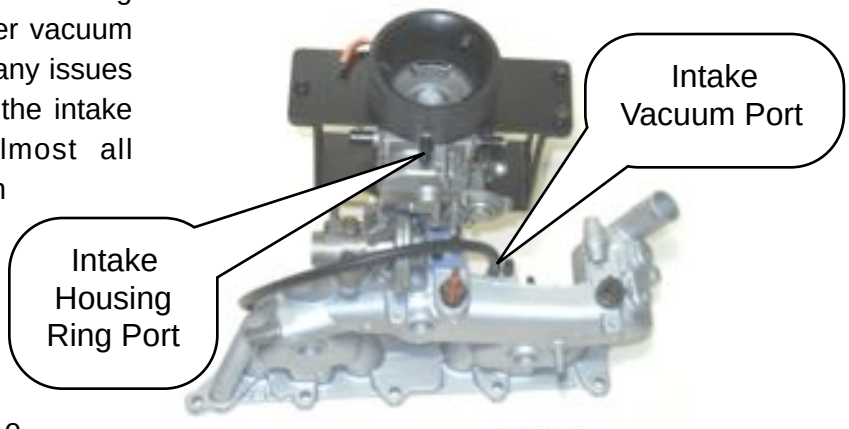


Photo 1

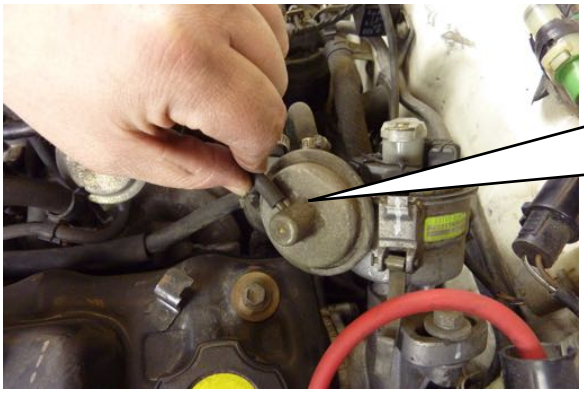


Photo 2

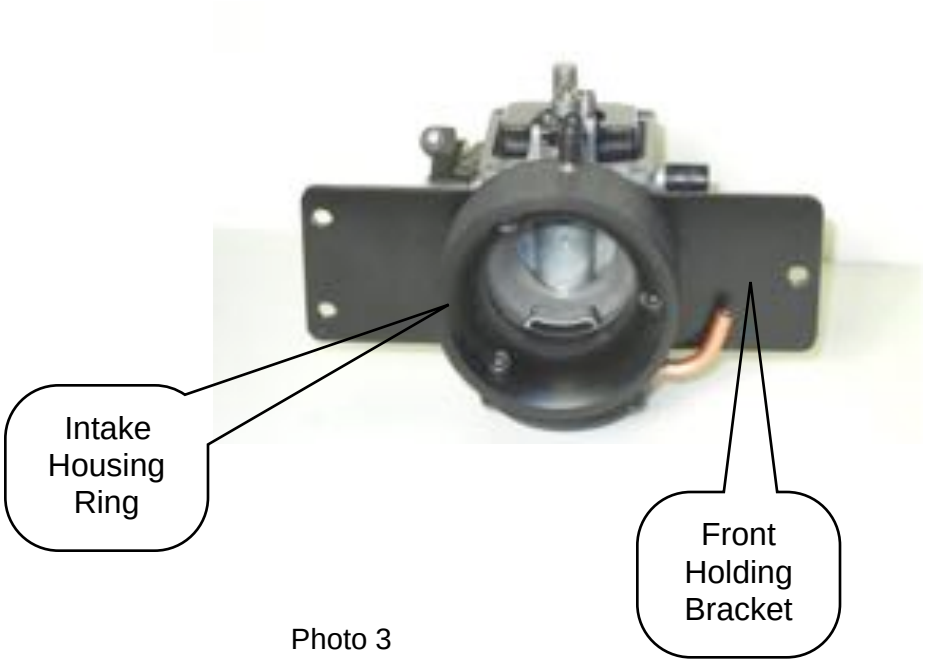


Photo 3

The float bowl can be removed without removing the intake housing ring and the front holding bracket if the jets need to be changed. This eliminates the need for replacing these gaskets. (*See photo 3*)

Caution: Do not use Loctite type of adhesives on any bolts supplied with the Sidewinder CV Kit.

OEM Air Cleaner Assembly

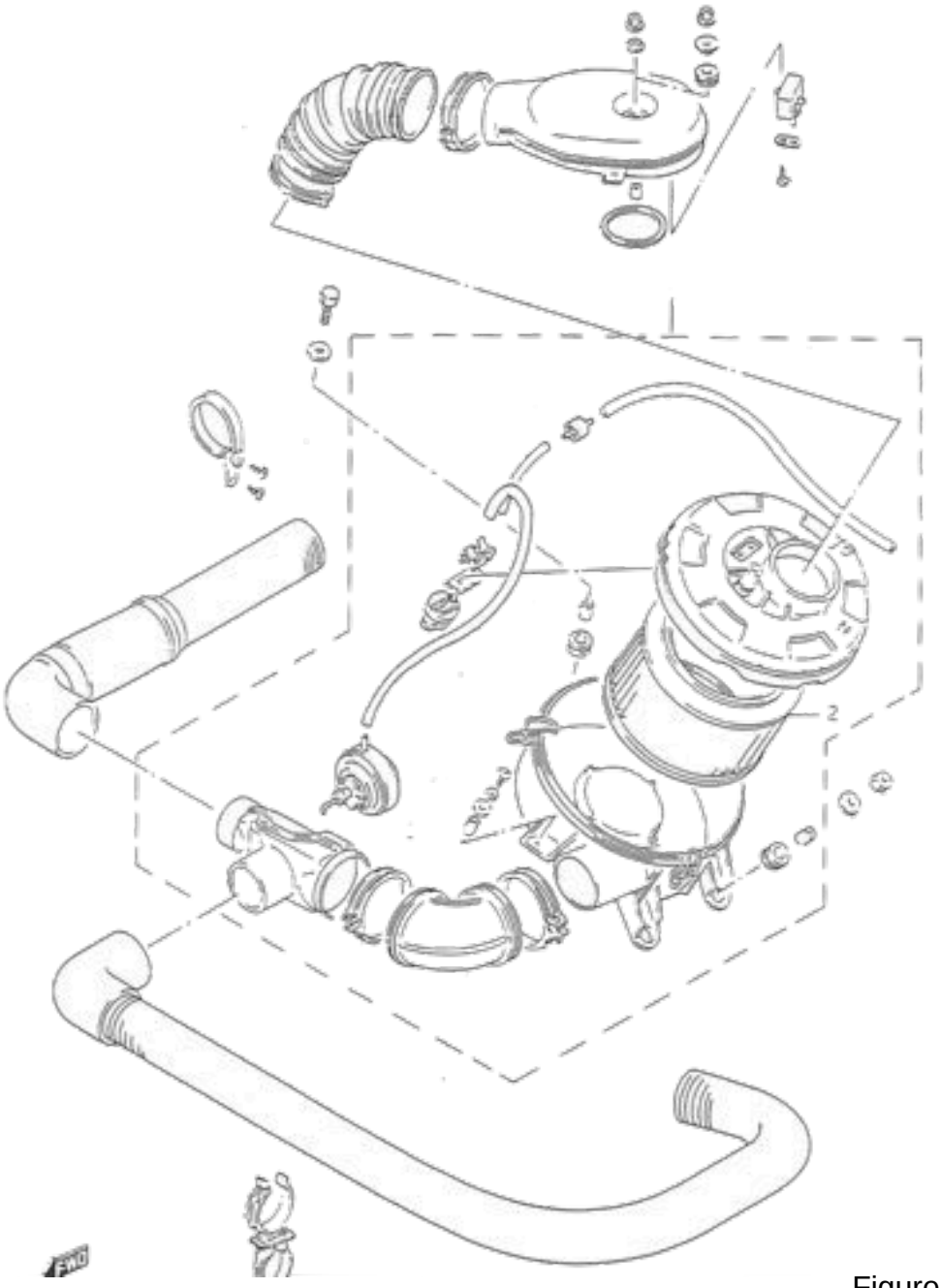


Figure A

Carburetor and Intake Assembly

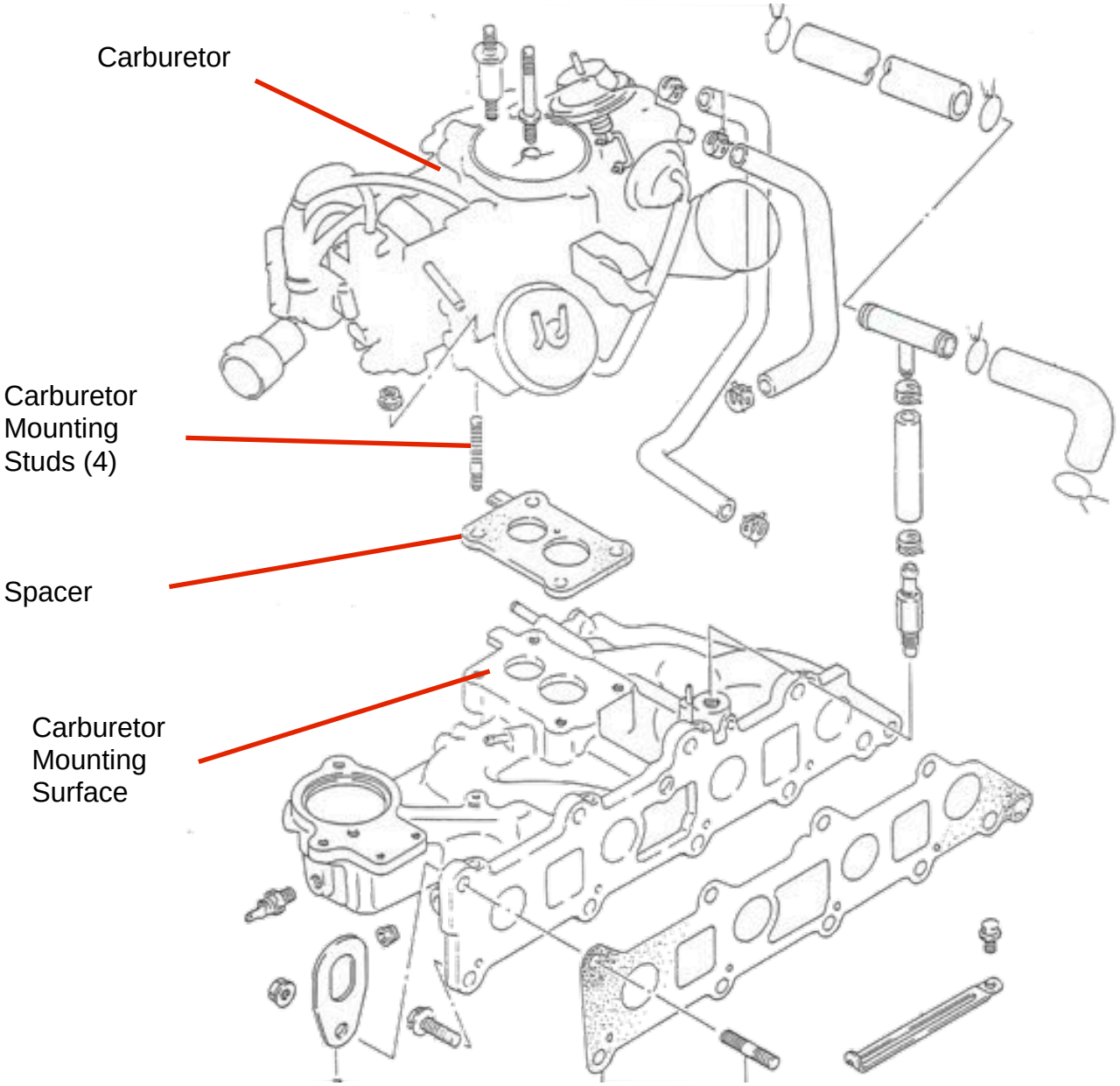


Figure B

Section 1 "ASSEMBLING THE KIT"

Note: If the carburetor you are using has already been modified for use with the Sidewinder kit, you can begin here. If not, it is recommended that you start in Section 2, and then come back to Section 1

CAUTION: Gasoline is highly flammable. Make sure your engine is cool and that the area you are working in is well-ventilated and that you are not working near sparks or flames. You have been WARNED! Failure to follow proper basic safety precautions may result in severe bodily harm or DEATH to you or your vehicle.

Step 1

Disconnect neg battery cable. Remove the stock or after-market air cleaner (see Figure A), carburetor , and spacer (see Figure B). Be careful not to allow parts or material to fall into the open manifold. (**Caution:** The engine should be cool before removing the choke heater hoses. (See Figure D) The coolant will be hot if the engine is hot)

Step 2

Remove the (4) carburetor mounting studs from the manifold using the two (2) jam nut method on each stud, or with a pair of locking pliers. (See Figure B)

Two Jam Nut Method

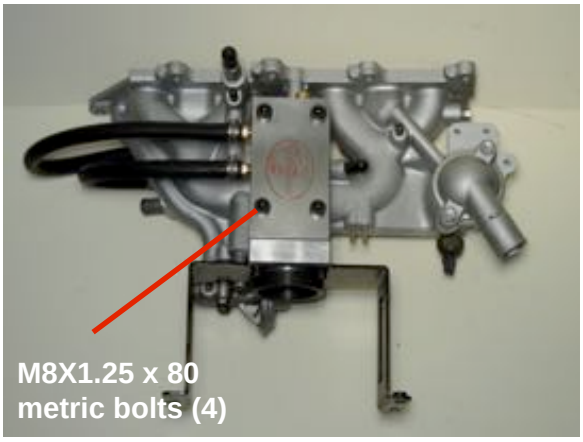
Step 3

Carefully clean the carburetor mounting surface (Figure B) on the manifold.

Note: Porting the intake webbing is optional.

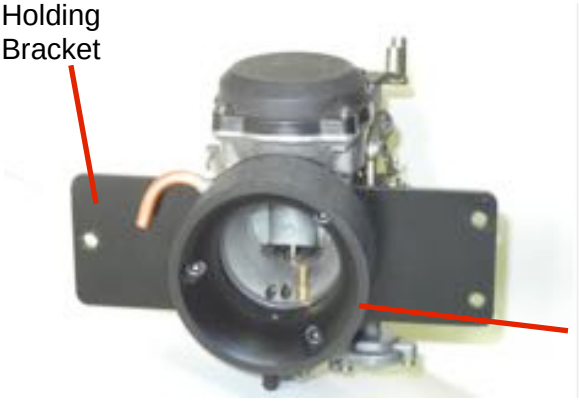
Step 4

Lay the new gasket and the Sidewinder adapter on the mounting surface manifold.



Step 5

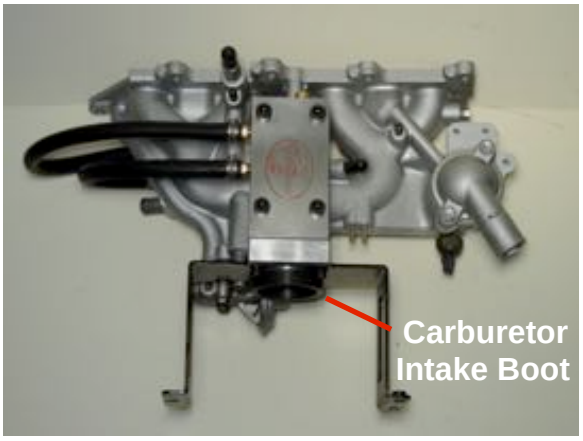
Install four the (4) M8-1.25 x 80 metric bolts into the manifold through the billet adapter. Tighten the bolts using a 6mm allen socket in a progressively tighter criss-cross pattern until 20 ft. lbs is reached. **DO NOT OVERTIGHTEN.**



Step 6

Insert the (2) carburetor inlet gaskets, one in front of the carburetor and the other in front of the holding bracket (See Figure C). Install the included three (3) ¼-20 x 1.5” bolts. Secure the front holding bracket and intake housing ring to the carburetor.

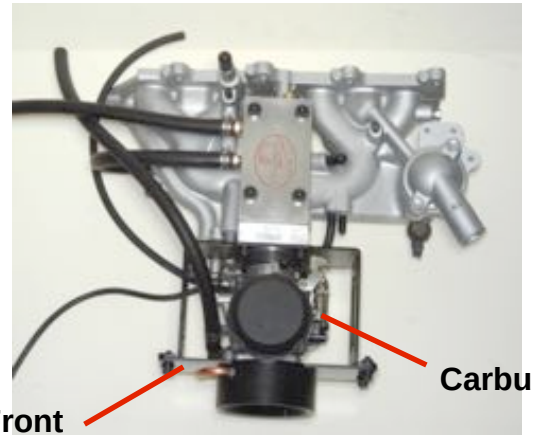
Figure C



Step 7

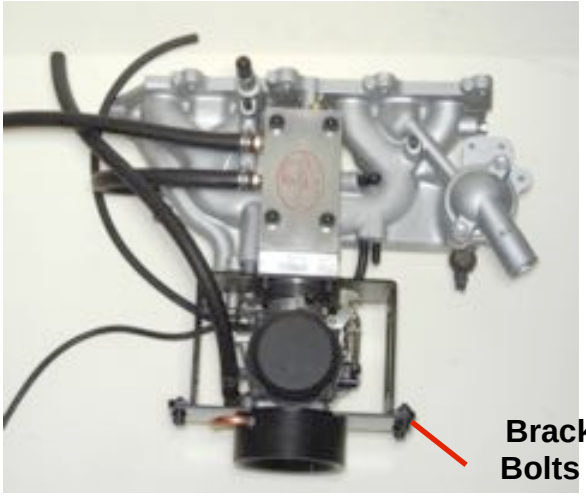
Place the rubber carburetor intake boot (or Carb Seal Ring as it is sometime called) on the aluminum tube.

Note: This boot is not supplied with the kit. But can be purchased from a Harley Davidson parts supplier. We recommend using kutterharleyonline.com. Click HERE for their website.



Step 8

Ease the carburetor and front holding bracket assembly into the boot, making sure that it seats fully and forms a good seal. A small amount of lubricant (good old-fashion saliva will get the job done) will ease the installation of the carburetor.



Step 9

Install and tighten the (3) bracket bolts using a 3/16” allen socket.

Choke Heater Outlet Hose to Water Pump

Choke Heater Inlet Hose From Intake Manifold

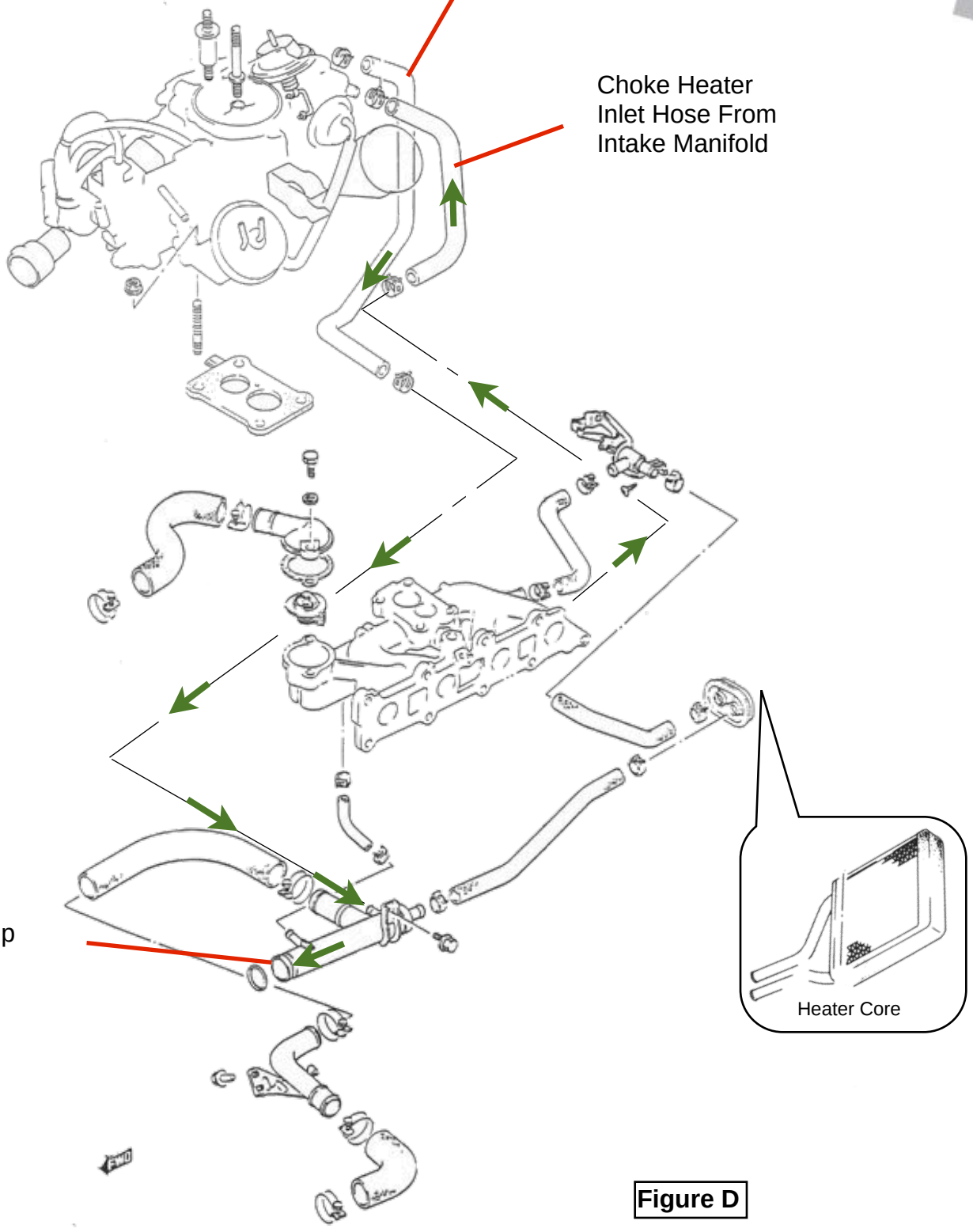
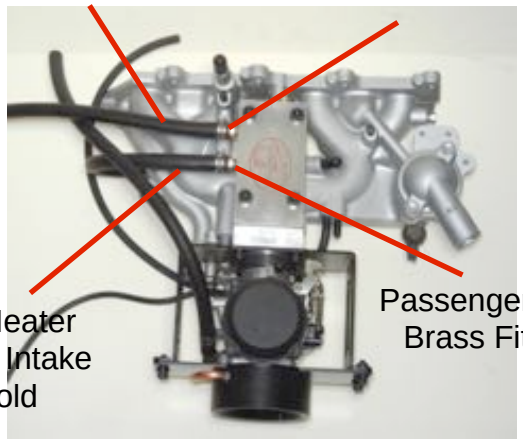


Figure D

Choke Heater Outlet to Water Pump

Driver Side Brass Fitting



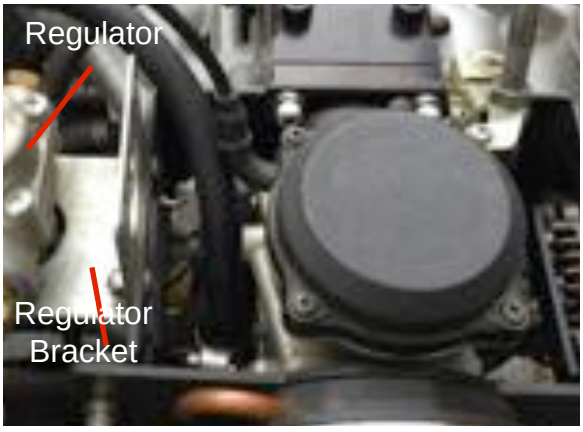
Choke Heater Inlet from Intake Manifold

Passenger Side Brass Fitting

Step 10

Connect the heated choke hoses to the brass fittings and snug the hose clamps. The inlet hose coming from the intake manifold connects to the passenger side brass fitting and the outlet hose going to the water pump connects to the driver side brass fitting. (See Figure D)

Installing the Fuel Regulator and Hoses



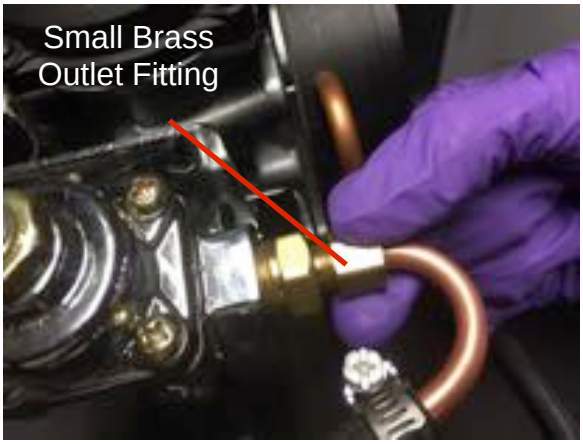
Step 11

Connect the fuel regulator to the carburetor bracket and tighten the screws.

Step 12

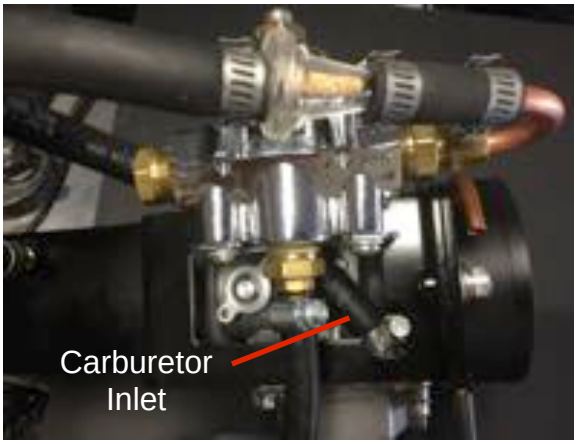
Install the large brass outlet fitting to the fuel pressure regulator using an 11/16” box end wrench.

Note: We recommend wrapping teflon tape on the threads of the fitting before installation.



Step 13

Install the small brass outlet fitting and copper tube to the large brass fitting **but leave it loose for now.**

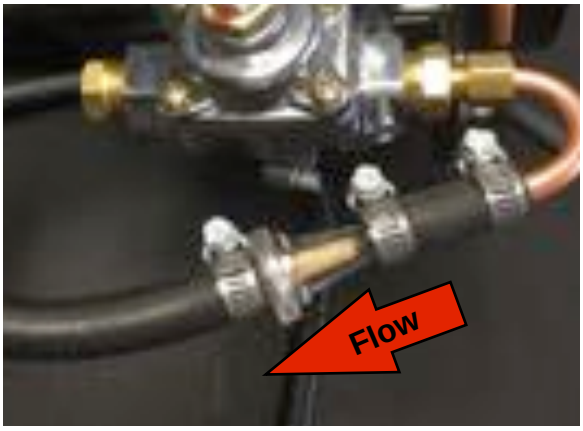


Step 14

Connect the other end of the rubber hose to the carburetor inlet and tighten the hose clamp.

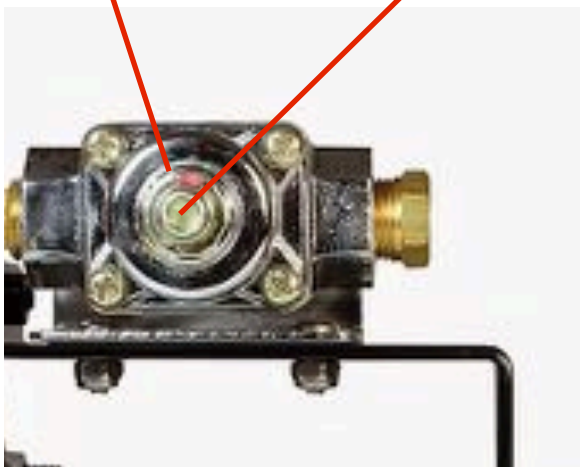
Step 15

Tighten the small brass fitting using a 1/2” open end wrench.



Tech Tip 15A

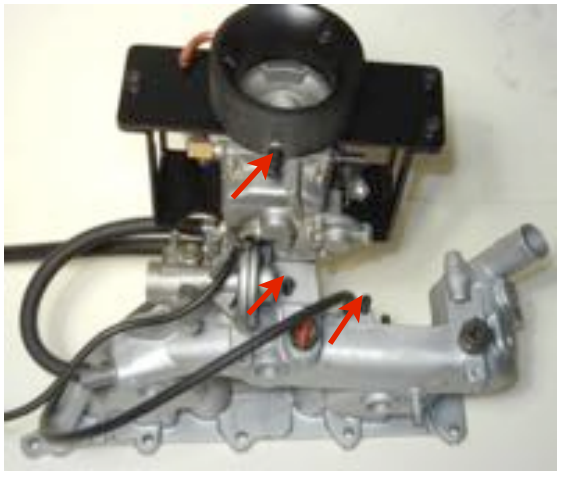
Insure that the fuel filter is oriented properly as shown here. And double check all the hose clamps to insure they are secure and tight.



Tech Tip 15B

The regulator pressure is not preset. Therefore, it will likely need to be adjusted. To adjust, loosen the regulator lock nut (5/8” wrench) and turn the adjustment screw (7/32” Allen) clockwise to increase the pressure and counter-clockwise to decrease pressure.

VERY IMPORTANT: Decrease the regulator pressure IF bowl overfills after the installation. (Regulated pressure should be approximately 2 psi or less.)

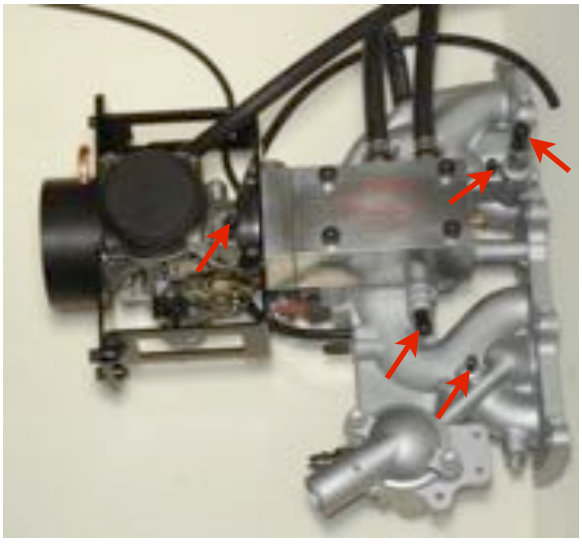


Step 17

Unused vacuum ports must be plugged. The following vacuum cups are enclosed with the kit: (9) 1/8”, (2) 3/16”, (2) 1/4”, and (2) 5/16”. The arrows indicate which ports to plug.

Step 16

Connect this hose between the intake manifold and the distributor vacuum advance diaphragm.



Step 17 Continued

These ports need to be plugged as well.

Connecting the Choke (Enrichment) Cable

Choke Cable

Choke Cable Accessories

Step 18

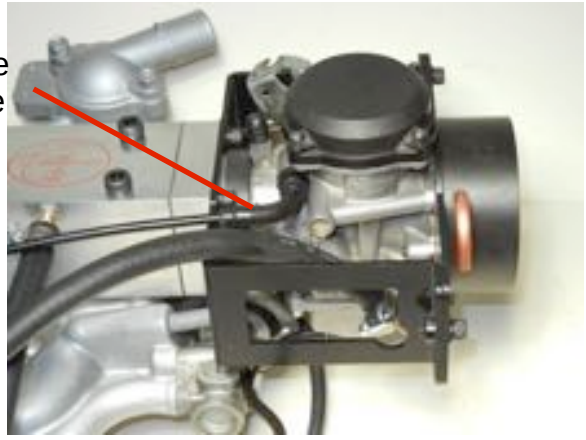
Mount the cable pull knob under (or through) the dash using the locknut and washer. Drill a hole through the firewall or use an existing hole to pass the cable through to the engine compartment.

Step 19

Assemble these choke cable components to look like the next picture.

Note: The choke cable is supplied with this kit but the accessories are not supplied with this kit. They should come with the carburetor or can be purchased from Harley Davidson. See Appendix D for part numbers

Choke Cable



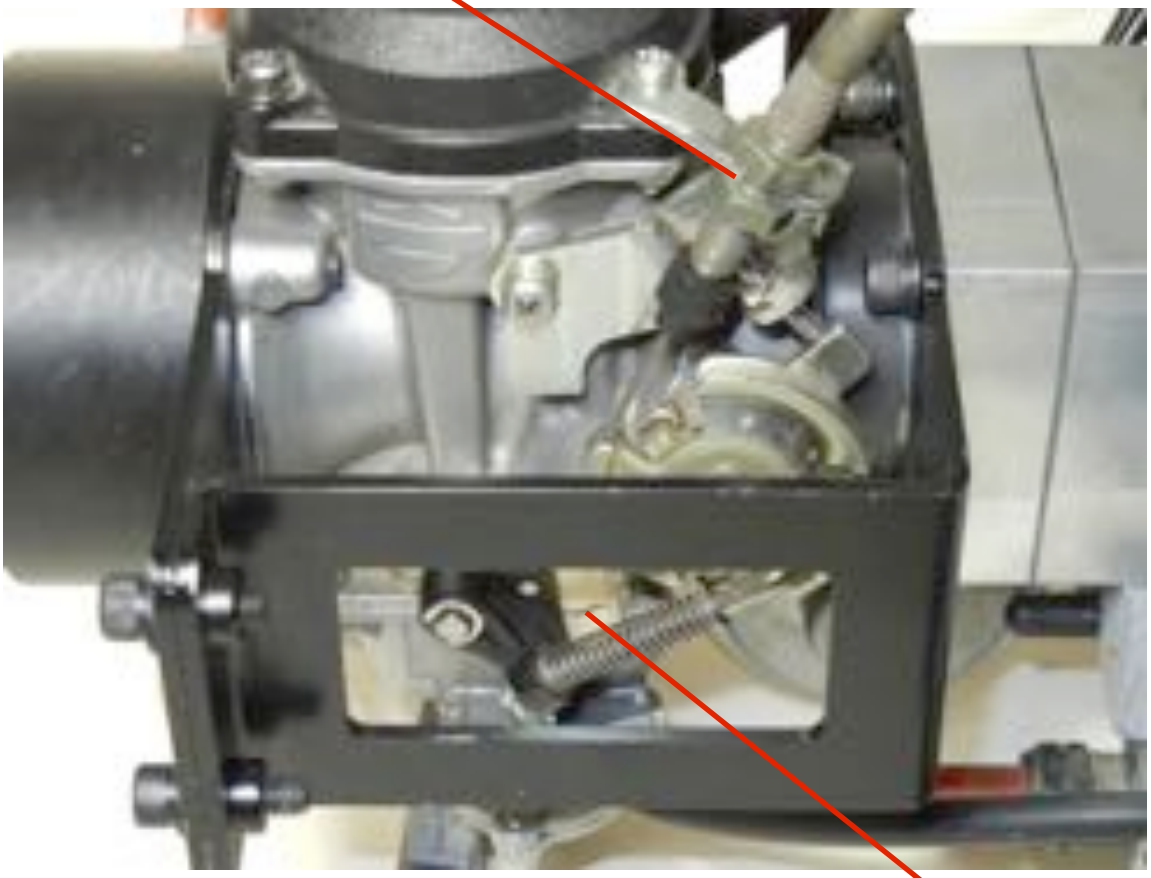
Step 19 Continued

Choke cable assembled.

Step 20

Connect the choke cable to the carburetor.

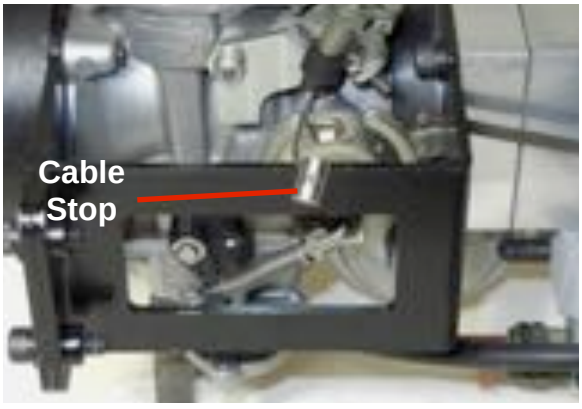
Cable Adjustment
(Centered)



Cable Mark to Cut

Step 21

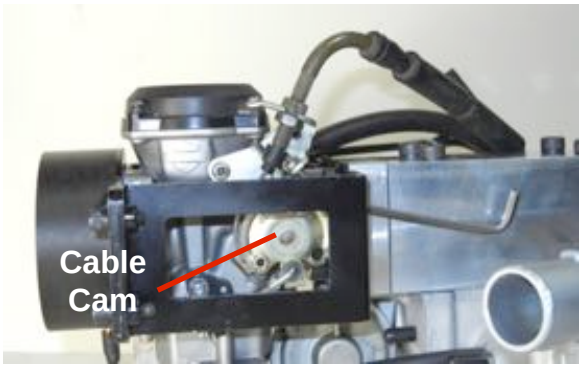
Cut off the end of the stock Samurai accelerator cable at the cable stop. Turn the 12mm nuts on the cable adjuster to center them. Place the cable in the bracket and **mark the cable where the new cable stop must be installed** so that the cable stop will fit into the carburetor cam. Install the new cable stop, and then cut the excess cable off. You may need to cut the cable before inserting it in the cable stop. **DO NOT CUT TOO SHORT**. There is an adjustment behind the accelerator pedal if you need to adjust the pedal height. To prevent the accelerator cable from flaring or spreading out, wrap the cable with masking tape before cutting it and use sharp wire cutters.



Step 22

Install accelerator cable stop on the end of the cable.

Note: Be sure the cable is flush with the stop and the set screw is tight.



Step 23

Install the throttle cable into the cable cam.

Tech Tip 23

If you are using an e-pump, then you must use a Napa 3040 or FRAM G3499 Fuel Filter. It installs between the fuel pump and the regulator, with the return line going back to the tank. Fuel line routing as follows: fuel tank, e-pump filter, regulator and carburetor. The return check valve must be removed when using an e-pump. This check valve is located approximately 10" behind the OEM fuel filter. Only a 1-4 lb e-pump can be used.

Step 24

There are several methods of dealing with the Valve Cover Breather Vent. SideWinder CV recommends installing the small filter provided in the kit into the vent hole. This filter must be cleaned periodically to prevent pressure built up.

Step 25

Install the supplied K&N air filter on the intake housing.

Note: This filter will need to be cleaned periodically.

Section 2 “HOW TO MODIFY A USED CV CARBURETOR”

Step 1

The Keihin® carburetor has a vacuum port on the top. It needs to be capped.

Tech Tip 1A

If you can buy a used take-off Keihin® CV carburetor from a 1988-2006 Harley Davidson® dealer or private party, try to get an unmodified or “unmolested” 40mm Keihin® CV carburetor from a 1988 -2006 Harley Davidson® motorcycle. While all models will work, the best ones, insofar as calibration, come from the “Big Twin” model built from 1999-2003. Some Keihin’s may have had the plug that covers the idle A/F ratio screw removed in order to adjust the idle mixture. This is not uncommon and does not necessarily mean that the carburetor has been modified in other areas. If the plug has not been removed, it is recommended that you remove it by completing steps 2 through 4 of this section. If the plug has been removed skip ahead to Step 5 of this section.

Tech Tip 1B

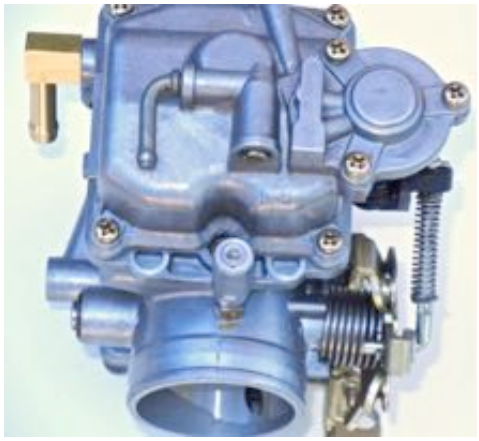
The Keihin® uses a cable operated valve to enrich the fuel mixture for cold weather starting. On Harley Davidson® motorcycles, this valve is operated by a cable. Because the Keihin® has an accelerator pump, starting the vehicle in cool weather is not a problem. If you choose to use the enricher system an enricher cable is suppled with this kit. However, the other enrichener parts (See Above) are not. These parts can be purchased from cutterharleyonline.com. Click HERE to go to this website. Once on the site simply, enter the part numbers shown above.

Whether you choose to use or not use the enrichener, is your choice, but it is important to remember that the carburetor **MUST** have the enrichener valve assembly installed in order for the carburetor to operate properly. The hole that the valve assembly goes into **CANNOT** be left open. If you choose not to use the enrichener, the starter cap (27581-88), spring (27315-88A) and starter valve (27583-88) **MUST** be installed in the opening.

Removing the Air/Fuel Ratio Plug

Step 2

Begin Air/Fuel plug removal by drilling a small 1/8” hole (GO EASY) in the plug.



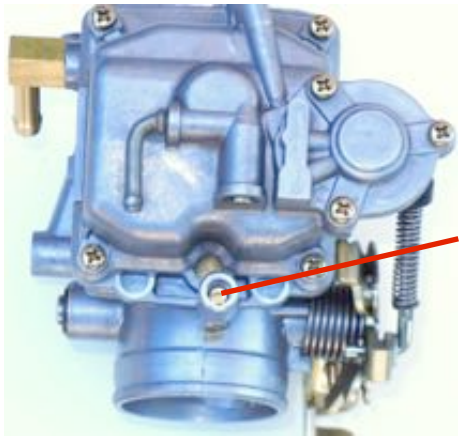
Tech Tip 2

This shows the 1/8” hole drilled in the plug.

Step 3

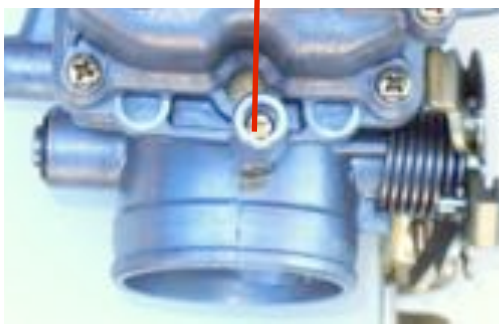
Thread in a small sheet metal screw, and pull the plug out.

Caution: Be careful not to push the drill or screw in too deep – the A/F ratio screw is right under this plug!



Step 4

With the plug removed, use a small blade-type screwdriver to turn the adjustment screw clockwise until it lightly seats – **DO NOT OVERTIGHTEN**. Then back it off 2-1/2 turns. This will be a good starting point for adjusting your air/fuel mixture after you have the carburetor on the engine and the engine running.



Tech Tip 4

The A/F ratio screw affects the entire range of fuel delivery. It is not used to adjust idle only like with down draft carburetors. It should be set at 2-1/2 turns “out” during the tuning of the jets. Later, it could be turned in ¾ to 1 turn for better fuel economy.

Modifying the Throttle Cable Bracket

You need to modify the Throttle Cable Bracket by cutting and drilling the slotted bosses so that the Suzuki accelerator cable passes through.

Step 5

Remove Throttle Cable Bracket by removing these (2) screws.

Step 6

Secure the throttle cable bracket in a vice and cut along the dotted line using a Hack Saw.

Step 7

Cut off the slotted boss at the dotted line using a hack saw.

Step 8

Drill out the hole using a 5/16” drill and replace the modified throttle cable bracket back on the carburetor.

CAUTION: Drill slowly and secure the bracket properly or the drill may grab onto the edge of the slotted boss and twist the bracket, which could cause physical damage to you and or the bracket.

Selecting the Main and Idle Jets

Tech Tip 8A

Need to select the proper main and idle jets. We are finding out that there are no base size main and idle jets from engine to engine. Stock motors have been doing well with the 185 to 210 mains. High Performance motors have been getting good results with 195 to 220 main jets. However, all of the idle jets have been between 45 and 48. **Need to verify color on all spark plugs to ensure the engine is tuned properly.** (*See appendix A*) **Idle and main jet fine-tuning is the responsibility of the purchaser**. Free tech support is available to customers who have purchased a **Sidewinder CV Kit** by calling 801-805-6644.

For High Performance information you may want to check out these links bellow:

http://www.nightrider.com/biketech/hd_cv_mods.htm

http://www.nightrider.com/biketech/hdcvcarbappendix.htm

http://www.harley-performance.com/cv-carburetor.html

http://www.gadgetjq.com/keihin_carb.htm

Tech Tip 8B

Verify and adjust the carburetor Float Adjustment. This adjustment is important or the Float Chamber will over fill and the carburetor will start leaking. (*See appendix C*)

General Information

For some reason the intakes manifolds in Canada are slightly different and the bracket may require notching to fit around the brake booster connection. For the vacuum switch located on the intake, if needed, you can rotate it 90 degrees toward the radiator or remove and plug it.

Review the following Appendixes:

Appendix A **Spark Plug Conditions**

Appendix B **44 mm CV Carburetor Part List**

Appendix C **Carburetor Float Adjustment**

When adjusting the float, you should tap on it when the carburetor is upside-down to ensure the float does not hit the roof of the carburetor. If it does, it will not shut off. Adjust by lifting the float up and pushing down on the silver tab between towers until tapping the float lightly has no indication of hitting the roof.

Appendix D **Choke (Enrichment) Part Numbers**

Disclaimer

The **Sidewinder CV** carburetor adapter has been designed and is intended **for off-road use only**. Installation of this part on a vehicle intended for use on public roads may violate local State and Federal laws and any/all regulations including those relating to emissions requirements and motor vehicle safety standards. Federal, and many state laws, prohibit the removal, modification or rendering inoperative of any part or vehicle system affecting emissions or safety. All sales on this product are final.

Idle and main jet fine-tuning is the responsibility of the purchaser. Free tech support is available to customers, who have purchased a **Sidewinder CV Kit** by calling 801-805-6644.

Low Range Off-Road, 1195 S 1680 W, Orem, UT 84058 USA

Appendix A

Spark Plug Conditions

NORMAL

Symptoms: Brown to grayish-tan color and slight electrode wear. Correct heat range for engine and operating conditions.
Recommendation: When new spark plugs are installed, replace with plugs of the same heat range.

WORN

Symptoms: Rounded electrodes with a small amount of deposits on the firing end. Normal color. Causes hard starting in damp or cold weather and poor fuel economy.
Recommendation: Plugs have been left in the engine too long. Replace with new plugs of the same heat range. Follow the recommended maintenance schedule.

CARBON DEPOSITS

Symptoms: Dry sooty deposits indicate a rich mixture or weak ignition. Causes misfiring, hard starting and hesitation.
Recommendation: Make sure the plug has the correct heat range. Check for a clogged air filter or problem in the fuel system or engine management system. Also check for ignition system problems.

ASH DEPOSITS

Symptoms: Light brown deposits encrusted on the side or center electrodes or both. Derived from oil and/or fuel additives. Excessive amounts may mask the spark, causing misfiring and hesitation during acceleration.
Recommendation: If excessive deposits accumulate over a short time or low mileage, install new valve guide seals to prevent seepage of oil into the combustion chambers. Also try changing gasoline brands.

OIL DEPOSITS

Symptoms: Oily coating caused by poor oil control. Oil is leaking past worn valve guides or piston rings into the combustion chamber. Causes hard starting, misfiring and hesitation.
Recommendation: Correct the mechanical condition with necessary repairs and install new plugs.

GAP BRIDGING

Symptoms: Combustion deposits lodge between the electrodes. Heavy deposits accumulate and bridge the electrode gap. The plug ceases to fire, resulting in a dead cylinder.
Recommendation: Locate the faulty plug and remove the deposits from between the electrodes.

TOO HOT

Symptoms: Blistered, white insulator, eroded electrode and absence of deposits. Results in shortened plug life.
Recommendation: Check for the correct plug heat range, over-advanced ignition timing, lean fuel mixture, intake manifold vacuum leaks, sticking valves and insufficient engine cooling.

PREIGNITION

Symptoms: Melted electrodes. Insulators are white, but may be dirty due to misfiring or flying debris in the combustion chamber. Can lead to engine damage.
Recommendation: Check for the correct plug heat range, over-advanced ignition timing, lean fuel mixture, insufficient engine cooling and lack of lubrication.

HIGH SPEED GLAZING

Symptoms: Insulator has yellowish, glazed appearance. Indicates that combustion chamber temperatures have risen suddenly during hard acceleration. Normal deposits melt to form a conductive coating. Causes misfiring at high speeds.
Recommendation: Install new plugs. Consider using a colder plug if driving habits warrant.

DETONATION

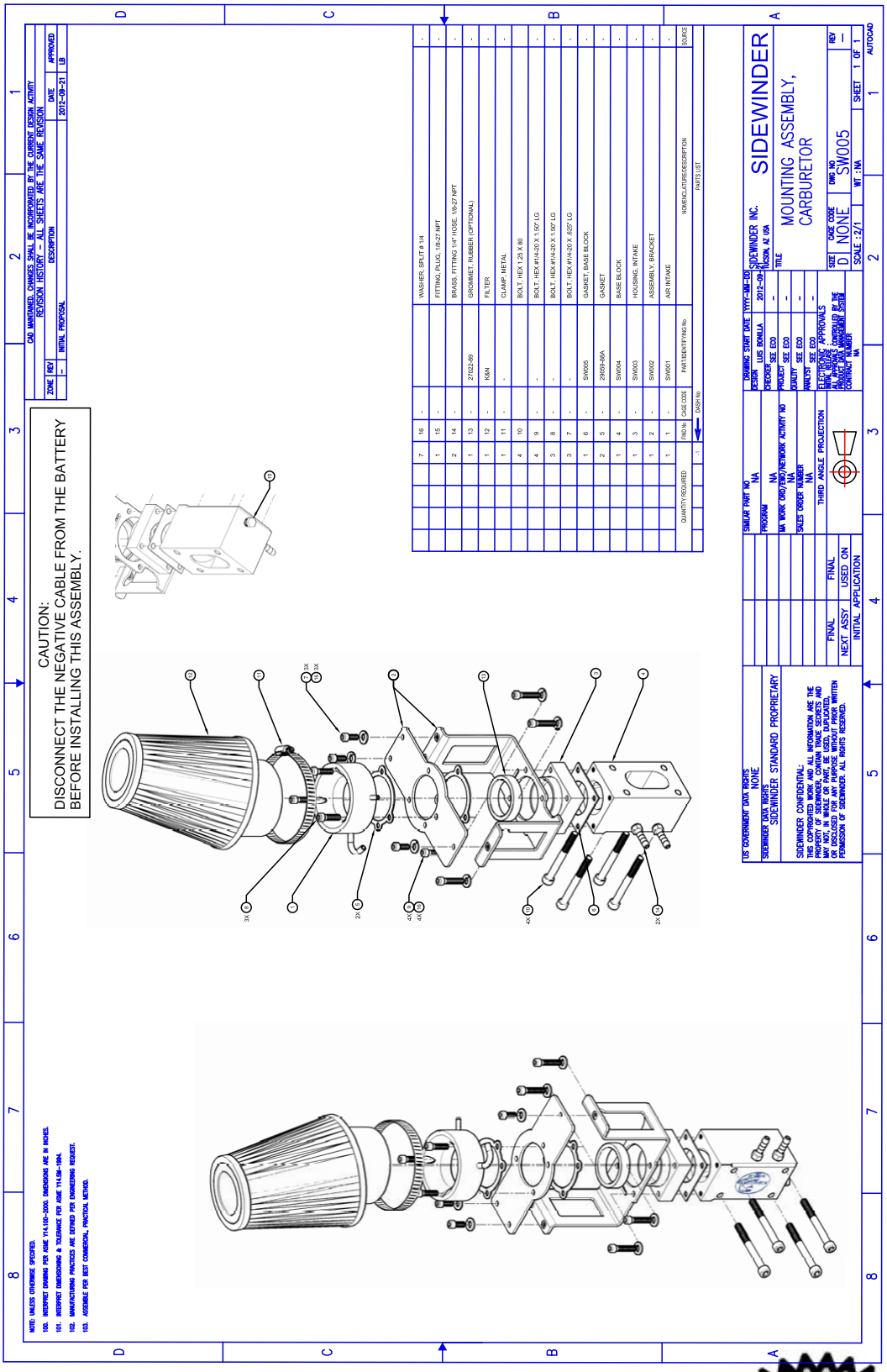
Symptoms: Insulators may be cracked or chipped. Improper gap setting techniques can also result in a fractured insulator tip. Can lead to piston damage.
Recommendation: Make sure the fuel anti-knock values meet engine requirements. Use care when setting the gaps on new plugs. Avoid lugging the engine.

MECHANICAL DAMAGE

Symptoms: May be caused by a foreign object in the combustion chamber or the piston striking an incorrect reach (too long) plug. Causes a dead cylinder and could result in piston damage.
Recommendation: Repair the mechanical damage. Remove the foreign object from the engine and/or install the correct reach plug.

Appendix B

Sidewinder Parts Lists



Appendix C

Carburetor Float Adjustment

INSTRUCTIONS

-J01696 REV. 09-26-03

Kit Number 27934-99

SCREAMIN' EAGLE® BIG BORE 44 mm CV CARBURETOR KIT

General

This kit is designed for use on 1984 through 1999 1340 Evolution engines and 1999 and later Twin Cam 88™ engines. It is recommended that SCREAMIN' EAGLE air cleaner kits be used with these carburetors. For use on pre-1990 Evolution engine vehicles, the throttle cables will need to be changed to 1990 and later cables from the same model vehicle.

The correct Intake Manifold Kit must be used with this carburetor. These kits are:

Part Number 29635-99, Intake Manifold Kit - Twin Cam 88 Engines

Part Number 29636-99, Intake Manifold Kit - 1340 Evolution Engines

The additional kits available for use with this kit are:

Part Number 27554-99 - Carburetor rebuild kit for SCREAMIN' EAGLE Big Bore 44 mm CV carburetor.

Part Number 27419-99 - Carburetor tuner kit for SCREAMIN' EAGLE Big Bore 44 mm CV carburetor.

CAUTION

Harley-Davidson® motorcycles equipped with some Screamin' Eagle® high-performance engine parts may not be used on public roads and in some cases must be restricted to closed course competition. This engine related performance part is intended for racing applications and is not legal for sale or use in California on pollution controlled motor vehicles. Use of this Screamin' Eagle carburetor may reduce or void the Limited Warranty Coverage.

Engine related performance parts are intended FOR THE EXPERIENCED RIDER ONLY.

⚠WARNING

The rider's safety depends on the correct installation of this kit. Follow the procedures listed in this Instruction Sheet and applicable Service Manual. If any procedures are not within your capabilities, or you do not have the correct tools, have your Harley-Davidson Dealer perform the installation. Improper installation could result in death or serious injury.

Kit Contents

The kit contains only the Big Bore 44mm CV carburetor. For detailed internal parts listing, see Service Parts Illustration and list at the end of these instructions.

Additional Kits Required

⚠WARNING

Using this kit with air cleaner covers other than recommended below could result in failure of element faceplate. The element in this kit is specifically designed for use with the original equipment cover used on the models specified. This kit may be used in conjunction with other Harley-Davidson accessory covers provided that the appropriate adapter recommended in those kits is used. If the element faceplate fails, the air cleaner cover could detach, possibly distracting the rider and could result in death or serious injury.

SCREAMIN' EAGLE air cleaner Part No.'s are as follows:

1990-1992 1340 Evolution engines-29008-90A

1993 and later 1340 Evolution engines-29543-99

1999 and later Twin Cam 88 engines-29440-99

Installation

NOTE

Refer to applicable Service Manual for detailed instructions on how to remove necessary components. Service Manuals are available from your Harley-Davidson Dealer.

⚠WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

1. Refer to the Service Manual and follow the instructions given to remove the seat and disconnect the battery cables, negative cable first.
2. Remove stock air cleaner, carburetor and manifold according to the applicable Service Manual instructions.

NOTE

In order for the Big Bore Carburetor to function properly, the stock manifold assembly must be replaced by either of the performance intake manifolds, Part Number 29635-99 for the Twin Cam 88 engine or Part Number 29636-99 for the 1340 Evolution engine.

3. Refer to Instruction Sheet -J01695 for Kit Numbers 29635-00 and 26636-00 and install the applicable Performance Screamin' Eagle Intake Manifold assembly.

Carburetor Float Adjustment (Cont.)

NOTE

The fit between the carburetor and the intake manifold seal ring is tight. For ease of installation it is recommended that the mating surfaces, carburetor body and seal ring be lubricated prior to assembly to reduce surface friction. Use liquid dish soap or line mounting lube for this purpose.

4. Refer to the applicable Service Manual. Insert the carburetor into the manifold. As the carburetor is being inserted, check that the choke cable is not being kinked.
5. On 1340 Evolution engines, slip the V.O.E.S. vacuum hose on the carburetor fitting below idle cable bracket. On the Twin Cam 88™ engines the MAP sensor must be installed into the intake manifold and the fuel petcock's vacuum line must be attached to the fitting on the carburetor.
6. Slip the fuel hose onto the carburetor fuel nipple and secure with hose clamp.
7. On 1340 Evolution engines, route float bowl overflow hose behind rear cylinder push rod tubes and down between crankcase and transmission.
8. On Twin Cam 88™ engines, the over flow line should be routed behind the rear cylinder push rod tubes, behind the rear cylinder and on top of engine/transmission surface. It should then be routed down between the engine/transmission and inner primary.

NOTE

The overflow line can be cut for improved fitment. It should not hang below the lowest engine/transmission surface. Doing so will expose the end of the hose to excessive air flow which can affect the operation of the carburetor.

⚠WARNING

Refer to the applicable Service Manual and ensure that the throttle cables are of the correct length and are routed correctly. If the cables are not of the correct length or routed correctly, they could interfere with the operation of the motorcycle. This could cause loss of control and could cause death or serious injury.

9. Install the applicable air cleaner assembly.
10. Connect the negative (-) battery cable and install the seat.

⚠WARNING

After installing seat, pull upward on front of seat to be sure it is in locked position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070a)

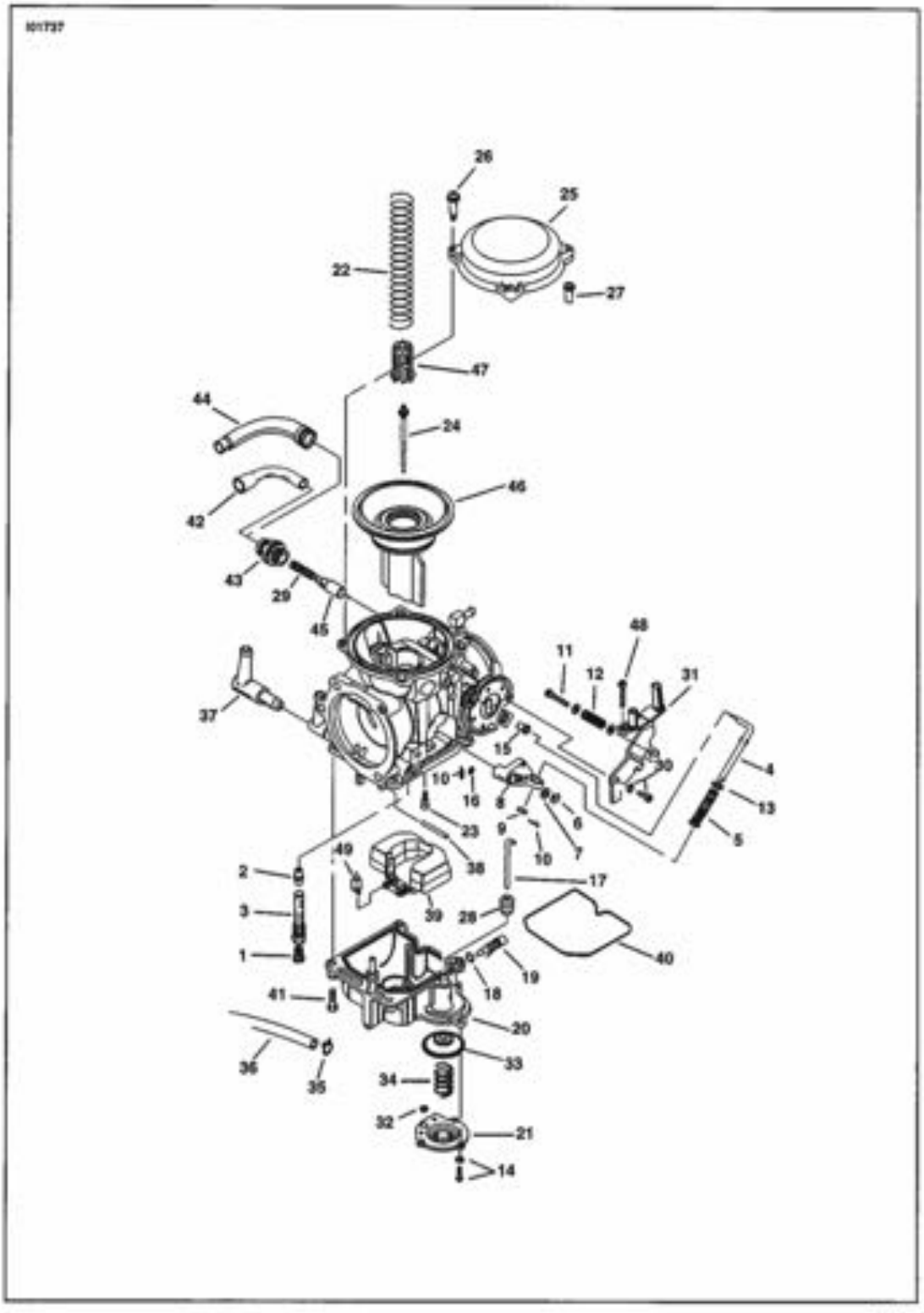
11. Start the motorcycle and check engine performance. If performance is unsatisfactory, tune the carburetor as described below.
12. Tuning the carburetor.
    - If the engine exhibits a rich or lean condition at idle and up to 1/4 throttle opening, adjusting the idle mixture screw (IMS) may correct the condition without having to change jets.
    - The IMS is a fuel flow adjuster, so that turning it in (clockwise) leans the carburetor and turning it out (counterclockwise) enriches the carburetor.

NOTE

The IMS is not to be adjusted "out" further than 3-1/2 turns.

- The IMS can be adjusted from 1/2 to 3-1/2 turns.
- If the engine runs well at either the 1/2 or 3-1/2 turn extrema, change to a leaner (smaller) or richer (larger) slow jet. Then reset the IMS away from the extreme positions.
- Additional jets and needles for tuning are included in the Tuner Kit, Part Number 27419-99.

Carburetor Float Adjustment (Cont.)



Carburetor Float Adjustment (Cont.)

Service Parts

Part No. 27934-99 | Date 9/03

44 mm BIG BORE CV CARB. KIT

ITEM	DESCRIPTION	PART NO.	ITEM	DESCRIPTION	PART NO.
1	Main Jet	See Tuner Kit	**26***	**Screw, Top (3)**	**27262-96**
2	Needle Jet	27725-99	27	Collar, Carburetor Top	27263-96
3	Needle Jet Holder	27101-88	**28***	**Boot, Accelerator Pump**	**27311-76**
4	Rod	27122-89	29	Spring	27315-88A
5	Spring	27123-89A	**30***	**Screw**	**27317-88**
6	E-Clip	27124-89	31	Bracket, Throttle Cables	27339-90
7	Washer	27125-89	**32***	**O-Ring (2)**	**27360-76**
8	Lever	27126-89	**33***	**Diaphragm, Accelerator Pump**	**27361-76**
9	Washer	27127-89	**34***	**Spring, Diaphragm**	**27362-76**
10	Pin (2)	27128-89	**35***	**Clip, Overflow Hose**	**27368-76**
11	Idle Screw	27130-90	36	Hose, Overflow w/Clip	27553-99
12	Spring	27136-90	37	Fitting (L-Joint)	27371-76
13	Washer	27137-81	38	Pin	27575-88A
14*	**Screw w/Washer (3)**	**27146-89**	39	Float	27576-92
15	Collar	27147-89	**40***	**O-Ring, Float Chamber**	**27577-92**
16	Washer	27148-89	**41***	**Screw (4)**	**27579-88A**
17	Rod	27156-89	42	Cable Guide	27580-88
18	O-Ring	27127-89	43	Starter Cap	27581-88
19	Drain Screw	27158-89	44	Cable sealing Cap	27582-88
20	Float Chamber Assembly	27287-98	45	Starter Valve	27583-88
21	Pump Housing	27260-00	**46***	**Vacuum Piston**	**27552-99**
22	Spring	27162-89	47	Spring Seat	27586-88
23	Slow Jet	See Tuner Kit	48	Screw	27587-88
24	Jet Needle	See Tuner Kit	49	Valve w/Clip	27886-78A
25	Top, Carburetor	27261-96	50	Clamp, hose (not shown)	9946

Note: items marked with a (*) and in "bold" are included in the Carburetor Rebuild Kit Part No. 27554-99

-J01696

Carburetor Float Adjustment (Cont.)

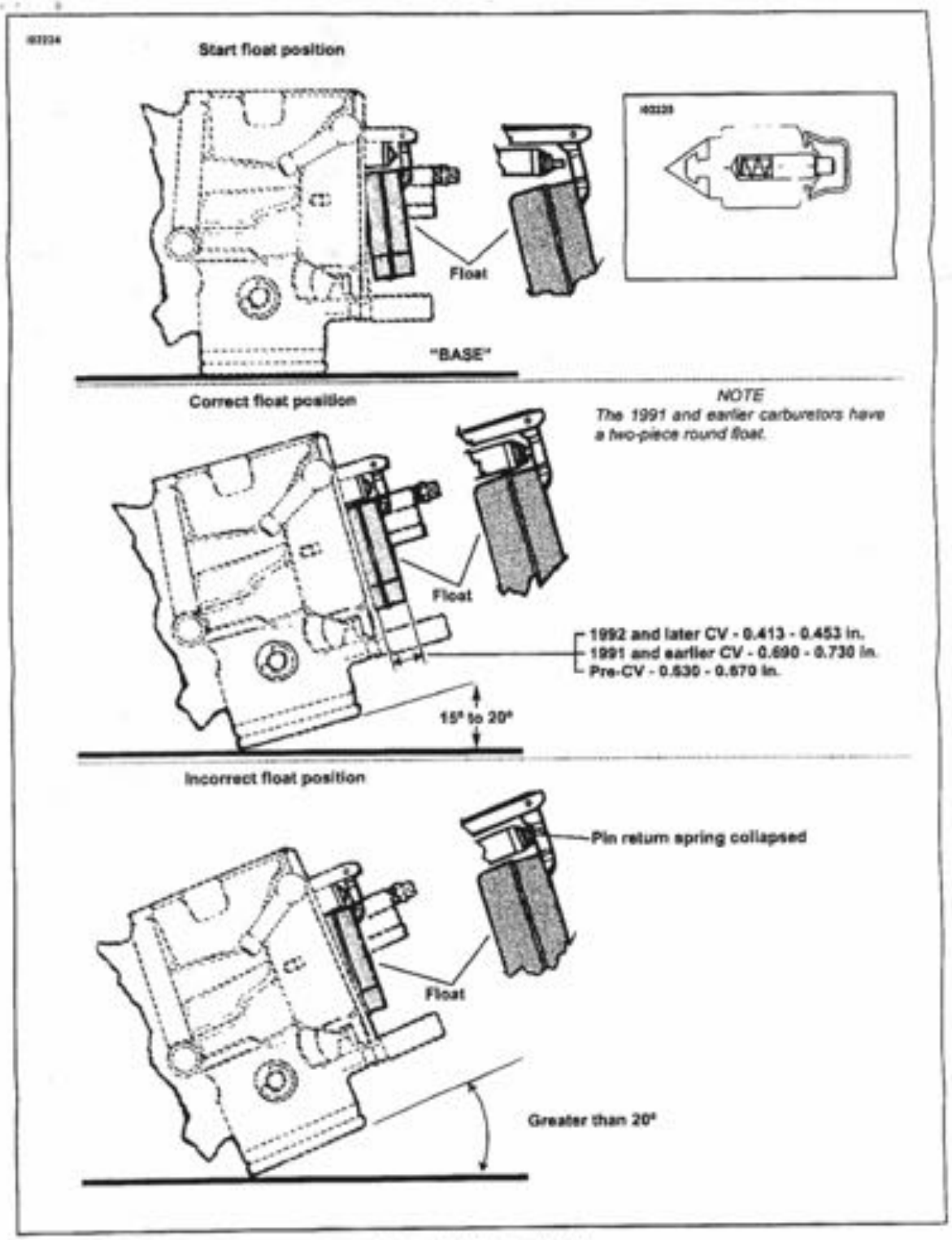
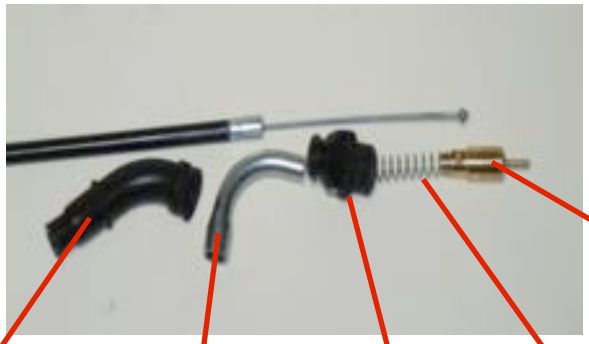


Figure 1. Float adjustment

Appendix D

Enrichment (or Choke) Cable Part Numbers



As always, If you experience any difficulty during the installation of this product please contact Low Range Off-Road Technical Support at 801-805-6644 M-F during regular store hours. Thank you for purchasing from Low Range Off-Road.

These instructions are designed as a general installation guide. Installation of many Low Range Off-Road products require specialized skills such as metal fabrication, welding and mechanical trouble shooting. If you have any questions or are unsure about how to proceed, please contact our shop at 801-805-6644 or seek help from a competent fabricator. Using fabrication tools such as welders, torches and grinders can cause serious bodily harm and death. Please operate equipment carefully and observe proper safety procedures.

Rock crawling and off-road driving are inherently dangerous activities. Some modifications will adversely affect the on-road handling characteristics of your vehicle. All products sold by Low Range Off-Road are sold for off road use only. Any other use or application is the responsibility of the purchaser and/or user. Some modifications and installation of certain aftermarket parts may under certain circumstances void your original dealer warranty. Modification of your vehicle may create dangerous conditions, which could cause roll-overs resulting in serious bodily injury or death. Buyers and users of these products hereby expressly assume all risks associated with any such modifications and use.