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INSTALLATION

instructions

for single TILT FORWARD 42 Mikuni Carburetor kit

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SINGLE CARB INSTRUCTIONS

SAFETY PROCEDURES
NOTES, CAUTIONS & WARNINGS

Instructions in this manual preceded by these words are very important.

NOTE

Means information that can make a job easier.

CAUTION

Means there is the possibility of damage to the vehicle.

WARNING

Means there is the possibility of personal injury to yourself or others.

Read the installation instructions thoroughly prior to the installation of this Rivera-Mikuni carb kit. All procedures should be followed exactly as described in this manual, paying particular attention to the following:

WARNING

1. **THIS CARBURETOR REQUIRES THE USE OF PULL OPEN / PULL CLOSED THROTTLE CABLES** to insure closing of the throttle valve (slide). The high vacuum nature of this carb, or dirt dirt ingested into the carburetor when running without an air filter, may prevent the throttle valve from closing promptly and or completely.

2. Install the **THROTTLE CABLES SO THEY ARE ROUTED FREELY (WITHOUT SHARP BENDS) BETWEEN THE THROTTLE TWIST GRIP & THE CARBURETOR**. The throttle cables should not be pinched by the installed fuel tank, and they should not be pinched, pulled or restricted by the motorcycle body work and/or the front fork assembly when it is turned through the full range of motion.

3. **GASOLINE IS EXTREMELY FLAMMABLE & GASOLINE VAPORS ARE EXPLOSIVE.** Before installing or servicing your Rivera carb kit, always follow these fire safety procedures:
Make sure the work area is well ventilated and free from open flame or sparks, i.e., appliances with pilot lights, such as water heaters, clothes dryers or space heaters, etc.

Before removing the motorcycle gas tank, be sure the fuel petcock is in the "OFF" position and the cross-over fuel line is well clamped. Clean up any fuel spills immediately.

4. Never look directly into the bores of the carburetors while the motor is running as injury may result from backfires.

CAUTION

A moderate degree of mechanical skill is required to properly install this single-carb kit. If after reading these instructions you have any doubts about your ability to correctly install it we recommend that you have a professional install it for you. If you install the kit yourself we recommend that you also use the applicable maintenance manual for your motorcycle for reference.

TYPICAL TOOLS REQUIRED

These tools are required to remove the stock carburetor and install the high performance Rivera single carburetor kit.

1. Allen wrenches, 1/8", 5/32", 1/4" & 5/16"
2. Standard wrenches, 1/2", 9/16"
3. Diagonal cutters (dikes)
5. Slotted and #2 Phillips screwdrivers
5. Rivera Blue Thread lock or equivalent
6. T25 TORX, '96-'98 models only
7. Maintenance Manual (for your model)

SINGLE CARB INSTRUCTIONS

DISASSEMBLY

1. Disconnect the negative (-) battery terminal.

2. Turn the fuel petcock to the "**OFF**" position.

3. Remove the gas tank from the motorcycle, or elevate the rear of the tank for better access to the intake manifold.

4. Completely remove the OEM or existing air cleaner assembly.

6. Disconnect the vacuum hoses and fuel hose from the carburetor.

7. Remove the carburetor assembly (and choke cable assembly) from the motorcycle. The throttle cable adjusters must be slackened to allow the cables to be disconnected from the carburetor. The Rivera single-carb MIkuni kit is designed to operate with standard 1990 & later Harley-Davidson OEM throttle cables.

8. Remove the intake manifold and clamps; these parts will not be reused.

INSTALLATION

1. **INTAKE MANIFOLD**

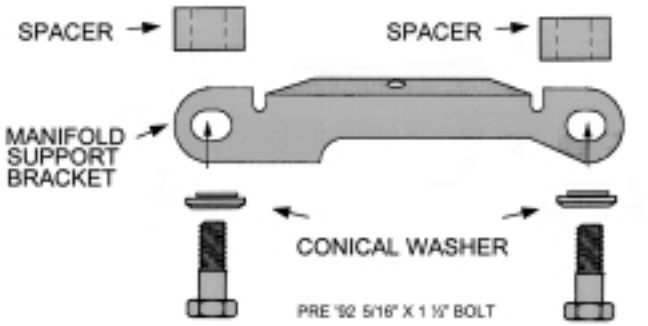
A. Attach the Rivera intake manifold using the enclosed clamps and seals. The rear cylinder clamp is marked with "R" and the front with "F". Place the clamps and seals onto the manifold and loosely attach the manifold to the cylinder heads using the stock bolts.

B. Attach the Rivera manifold support bracket to the cylinders in the appropriate method for your type engine:

SUPPORT BRACKET ATTACHMENT FOR PRE '92 MODELS

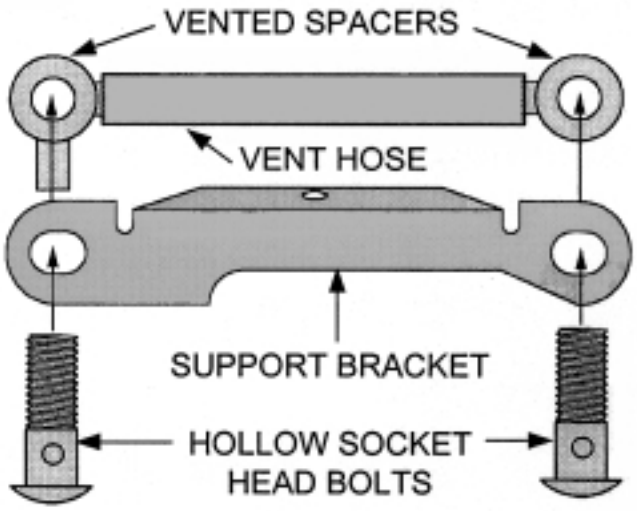
Pre '92 engines use 2ea. 5/16" X 11/2" bolts, 2ea. conical washer, & 2ea. 1/2" long spacers with 5/16" holes from this kit.

TOP View



SUPPORT BRACKET ATTACHMENT FOR '92 & LATER MODELS

"92 & later engines; use 2ea. 1/2" hollow socket head bolts, and 2ea. 1/2" long vented spacers. Install the vented spacers as illustrated with the enclosed 5/16" ID hose. (Twin Cam uses 3/8" hollow bolts.)



C. Once you have determined the correct support bracket mounting for your model, attach the bracket loosely and secure the manifold to the support bracket with the enclosed 3/8" X 3/4" bolt, flat and lock washers.

PLEASE NOTE

Center the intake manifold between the cylinder head and securely tighten the mounting hardware (i.e., manifold clamp bolts, support bracket bolts, and manifold bolt.

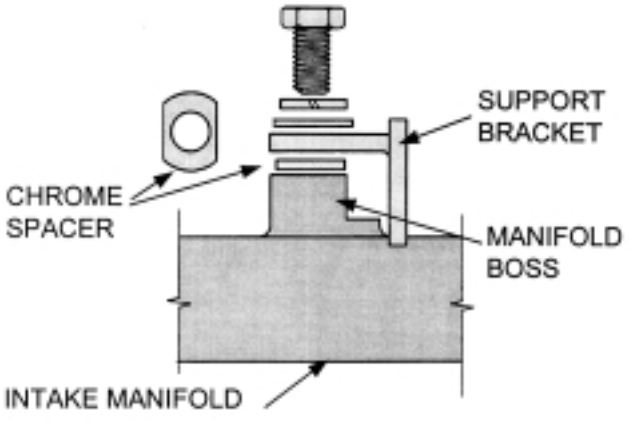
CAUTION

2. **CARBURETOR INSTALLATION**

A. Mount the carburetor on the intake manifold ensuring that the O-ring is in place, using the two bolts provided.

On rubber mounted engines, check the clearance between the gas tank and the carburetor, there should be a minimum of 3/8" at the **CLOSEST POINT**. If the clearance is less than this amount, place the 1/8" thick chrome spacer, included in the kit, between the intake manifold boss and the support bracket to create more gas tank to carburetor clearance.

Having less than 3/8" gas tank clearance may



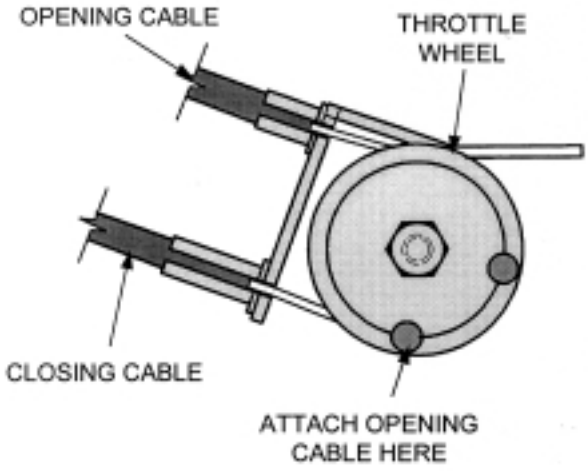
allow the carburetor to contact the gas tank as the engine moves during normal operation.

4. **THROTTLE CABLES**

This Rivera carb kit is designed to use the stock 1990 & later throttle cables. Before attaching the throttle cables, assure that they are in proper operating condition and well lubricated.

A. Check to ensure that the throttle cable adjusters are completely loosened. Insert the end of the opening cable into the throttle wheel in the position indicated; do-not insert the cable housing into the cable bracket at this time. Insert the end of the closing cable in the remaining throttle wheel hole (hold the opening cable out of the way as necessary) and insert the cable housing into the cable bracket.

B. Insert the pull-open cable housing into the cable bracket. The throttle cables overlap in the

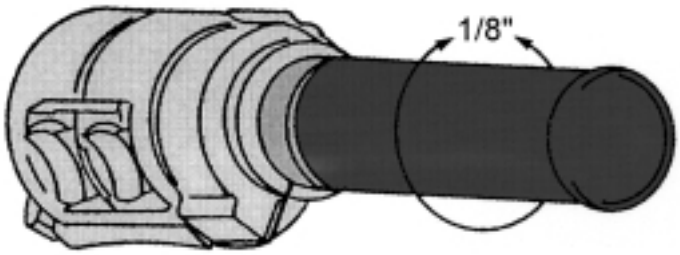


throttle wheel groove between the two holes, but do not rub against each other during operation.

ATTACHING THE THROTTLE CABLES

C. Check the throttle for smooth operation. Open the throttle to the full open position and look into the bore of the carburetor to verify that the throttle valve is raised completely out of the bore. If it is not, adjust the pull-open throttle cable until the throttle valve completely clears the bore.

D. Adjust the throttle "free-play" to approximately 1/8" as indicated by using the closing throttle cable adjuster to remove excess cable play.



ADJUSTING THROTTLE FREE-PLAY

4. **HOSES**

A. **FUEL HOSE** - Connect the enclosed fuel hose to the petcock and secure it with an enclosed hose clamp. Route the fuel line between the cylinders, below the intake manifold. Cut off any excess hose before attaching it to the carburetor. Secure the hose with the remaining enclosed clamp.

B. **V.O.E.S** - As required for Evo Big-Twin, attach the vacuum hose for the V.O.E.S. to the vacuum fitting on the carburetor (after removing the cap). Twin Cam requires the map sensor to be installed in the map sensor boss. If required, a longer piece of 3/16" vacuum hose is included in the kit.

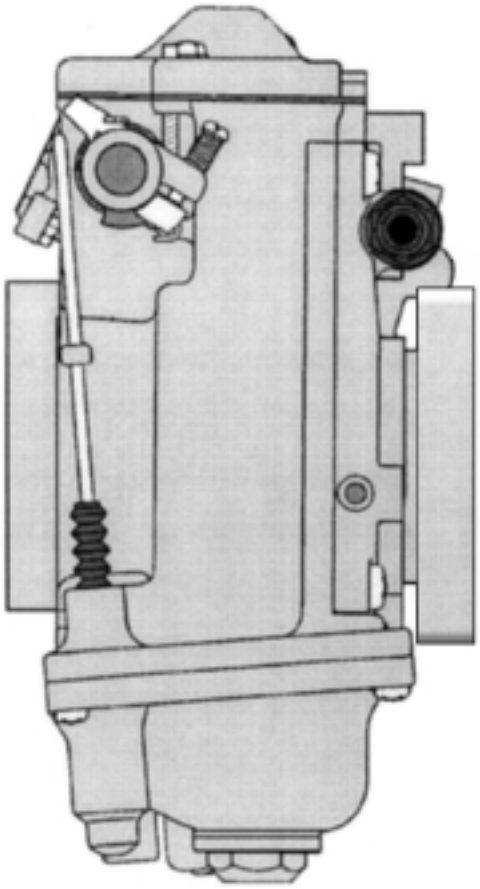
C. **VENT HOSE '92 & LATER**- Connect the remaining fuel hose to the open fitting on the vented space and secure with a hose clamp. Route the hose down between the engine and transmission. Cut the hose off flush with the bottom of the engine.

D. **CARBURETOR DRAIN HOSES** - Route the carburetor drain hoses along the front push rod tube and in front of the crankcase. Secure them as necessary with cable ties from the kit.

5. **AIR CLEANER ASSEMBLY**

A. Assemble the air cleaner by placing the filter into the groove in the carburetor backing plate and secure it in place with the air cleaner cover and screws.

USE RIVERA BLUE THREADLOCK ON ALL AIR CLEANER SCREWS TO KEEP THEM FROM VIBRATING LOOSE.



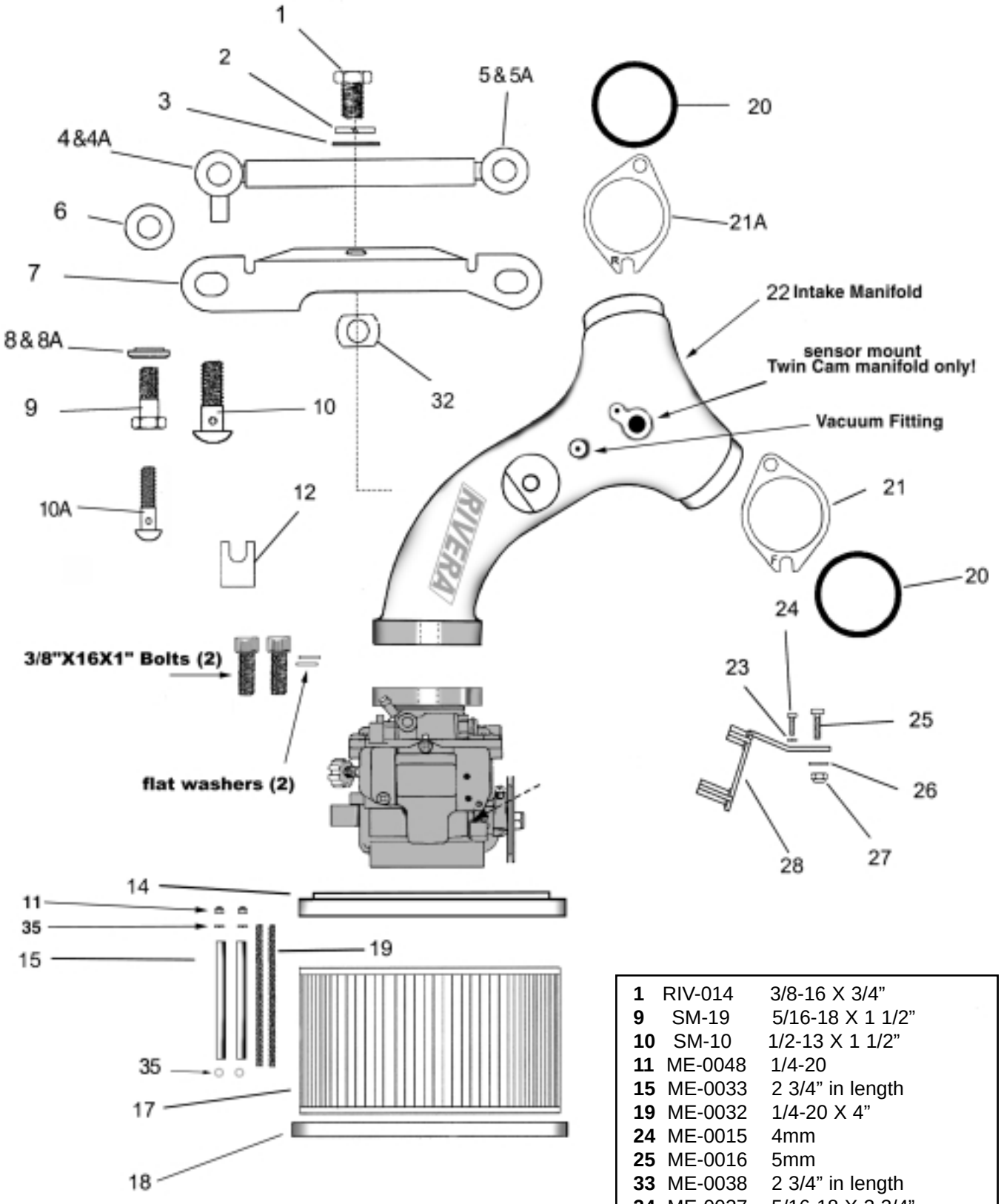
SIDE VIEW

SINGLE CARB INSTRUCTIONS

KIT PARTS LIST

Item	Part no	Description	Qty
1	RIV-014	Bolt	1
2	RIV-016	Lockwasher	1
3	RIV-015	Flatwasher	1
4	RIV-009A	Breather dual out	1
4A	RIV-009A-TC	(Twin Cam only)	1
5	RIV-009	Breather one out	1
5A	RIV-009-TC	(Twin Cam only)	1
6	RIV-010	Spacer	2
7	RIV-006	Support bracket	1
8	SM-013	Stepped washer	2
8A	SM-013-TC	(Twin Cam only)	2
9	SM-19	5/16" Bolt	2
10	SM-010	1/2" Hollow bolt	2
10A	SM-010-TC	3/8” Hollow bolt	2
11	ME-0048	1/4-20 Acorn Nut	2
12	RIV-005	Choke bracket	1
13	RIV-022	Spigot seal	1
14	ME-0022S	A/C base	1
15	ME-0033	Air Cleaner spacer	2
16	HSR42-3003	O-ring	1
17	RIV-012	Air filter	1
18	ME-0023	A/C cover	1
19	ME-0032	A/C studs	2
20	RE-90-R	Seal set	1
21	RE-90-F	front flange	1
21A	RE-90-R	rear flange	1
22	RIV-026-A	Cast manifold	1
22	RIV-026-B	Polished manifold	1
22	RIV-026-C	Chrome manifold	1
23	ME-0014	4mm screw	1
24	ME-0015	4mm washer	1
25	ME-0016	5mm screw	1
26	ME-0017	5mm washer	1
27	ME-0018	5mm lock-nut	1
28	RIV-004	Cable bracket	1
29	RIV-017	Fuel/breather hose 24"	1
30	RIV-020	Hose clamp	2
32	RIV-024	Spacer	1
33	ME-0038	Spacer	2
34	ME-0037	Carb Mount bolt	2
35	ME-0054	Flat Washer 1/4”	4
36	ME-0053	Lock Washer 1/4”	2
37	ME-0029	Lock Washer 5/16”	2
38	PC-015A	Stainless flat washer	

SINGLE CARB INSTRUCTIONS



1	RIV-014	3/8-16 X 3/4”
9	SM-19	5/16-18 X 1 1/2”
10	SM-10	1/2-13 X 1 1/2”
11	ME-0048	1/4-20
15	ME-0033	2 3/4” in length
19	ME-0032	1/4-20 X 4”
24	ME-0015	4mm
25	ME-0016	5mm
33	ME-0038	2 3/4” in length
34	ME-0037	5/16-18 X 3 3/4”