



**HSR Carburetor
Easy Kits**

Installation Instructions

For

Evo Big Twin Kit: # 42-7

Twin Cam Kit: # 42-18

Easy Kit Installation Instructions

The HSR series carburetors are precise yet durable instruments; however, like any other piece of fine equipment, they require correct installation and reasonable care to assure optimum performance and long life. Extra time spent during installation will pay off in both short and long term performance and reliability.

This Mikuni HSR carburetor kit is designed to be a bolt-on application, and as such, is set-up and jetted properly for most applications. However, since many Harley-Davidson motors are often highly modified, alternate tuning settings may be required. The Mikuni HSR Tuning Manual helps make jetting alterations and adjustments an easy matter.

NOTE: Carburetor Kits not designated as C.A.R.B. exempt, are not legal for motor vehicles operated on public highways in the state of California, or in any other states and countries where similar laws apply.

Notes, Cautions and Warnings

Statements in this manual preceded by these words are very important:

NOTE:

Gives helpful information that can make a job easier.

CAUTION

Indicates a possibility of damage to the vehicle if instructions are not followed.

WARNING

Indicates a possibility of personal injury or vehicle damage if instructions are not followed.

WARNING

Read these instructions carefully before you begin installation of your HSR kit. All procedures in this manual should be followed, paying particular attention to the following:

1. Mikuni HSR series carburetors require the use of a push/pull throttle assembly to assure closing of the throttle valve.
2. The throttle cables should be routed freely (without sharp bends) between the throttle twist grip and the carburetor and must not be pinched.
3. Gasoline is extremely flammable and is explosive under certain conditions. Do not install your Mikuni near open flame.
4. Never look directly into the bore of the carburetor while the engine is running as injury may result from possible backfire.

CAUTION

A moderate level of mechanical skill is required to install this carburetor kit. After reading these instructions, if you have any doubts, 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 shop manual for your motorcycle.

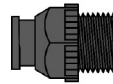
Disassembly

1. Disconnect the negative (-) battery terminal.
2. Turn the fuel petcock to the "OFF" position.
3. Elevate the rear of the fuel tank for better access. It is not necessary to remove the tank to install this kit.
4. Remove the air cleaner assembly, including the back-plate.
5. Disconnect the choke cable from its bracket.
6. Disconnect the vacuum and fuel hose from the carburetor.
7. Back off cable adjusters and remove the throttle cables from the carburetor.
8. Remove the carburetor from the motorcycle.
9. Remove enrichener (choke) cable from the carburetor.

Installation

1. Choke Cable (Evo & Twin Cam)

- A. Remove the Harley choke cable from the stock carb.
- B. Remove the spring and plunger from the cable.
- C. Remove the spring and plunger from the Mikuni carburetor.
- D. Install the Mikuni spring and plunger onto the Harley choke cable. Change nothing else; be sure to use the Harley plastic nut, not the Mikuni nut (See Figure 1).
- E. Install the new assembly into the Mikuni carburetor. Be careful to only gently tighten the plastic nut.



Harley Nut



Mikuni Spring
Figure 1



Mikuni Plunger

2. Throttle Cables

WARNING

Control cables must not pull tight when handlebars are turned to the left and right fork stops. Also, be sure control cables and wires are clear of the fork stops at the steering head so that they will not be pinched when forks are turned against stops.

- A. The HSR carburetor uses the stock throttle cables. However, new cable routing is required to prevent cable binding. To re-route the cables you must elevate the rear of the tank. Cut the stock cable tie from the frame, located above the front cylinder. Some models may use sheet metal clips; if so, remove the cables from the clip. Re-route the cables under the frame (Figure 2).

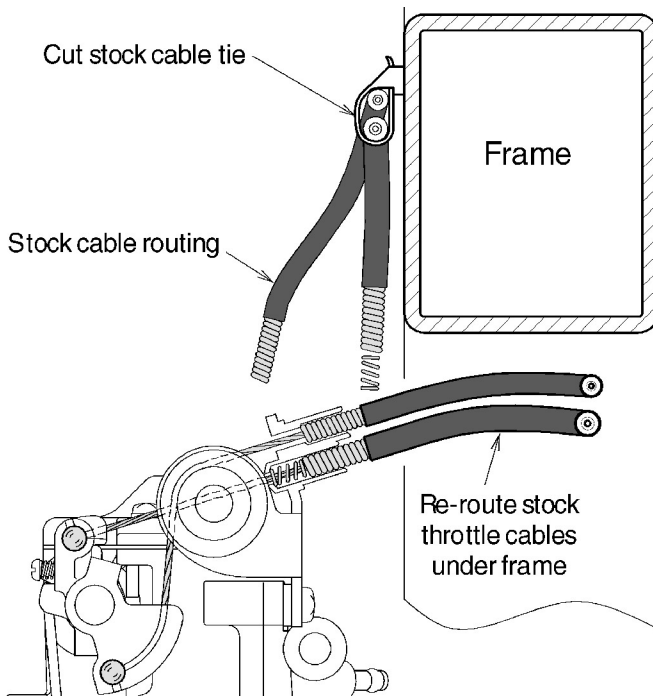


Figure 2

- B. Connect the throttle cables to the carburetor bell crank by first installing the closing cable, then the opening cable (Figure 3).

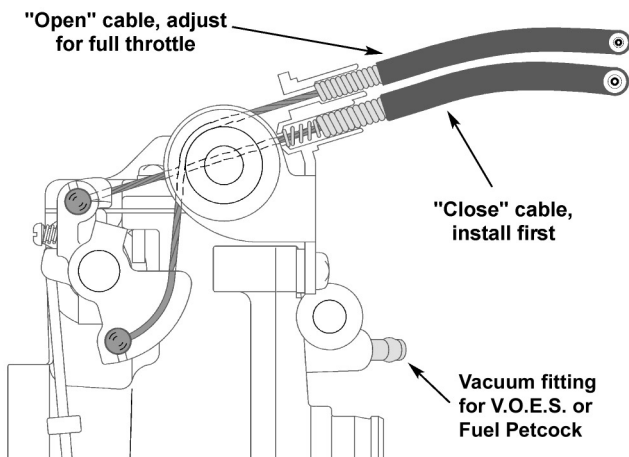


Figure 3

3. Carburetor Installation

- A. Insert the carburetor into the stock Harley-Davidson manifold. The carburetor will fit very snugly. Use grease as a lubricant. Be sure that the choke routing doesn't become kinked.
- B. Slip the fuel hose onto the carburetor's fuel nipple and secure with the enclosed hose clamp.
- C. Some Twin Cam installations may require removal of a small amount of fin material from the cylinders to clear the float bowl.

NOTE:

1. If you are not using the V.O.E.S. or vacuum petcock, be sure to cap the vacuum fitting on the carburetor.
2. Before installing the carburetor, check the condition of the carburetor seal; if damaged, it should be replaced to prevent air leaks. We recommend that you start with a new seal.

4. Stock Backplate (1340 Evo Only)

- A. Insert the enclosed large diameter O-ring into the Mikuni adapter. Attach the adapter to the stock backplate with the provided screws. Do not use the stock screws; they are too long.
- B. Use a small amount of thread lock on each of the screws (Figure 4).
- C. Align the carburetor so that it is centered between the front and rear cylinders. Secure the backplate to the engine with the stock bolts.

NOTE:

1. Before attaching the backplate, check that the carburetor is inserted fully into the intake manifold. If the carburetor is not fully seated, air leaks might result.
2. If you are using the Screamin' Eagle air cleaner kit, refer to the instructions from that kit.

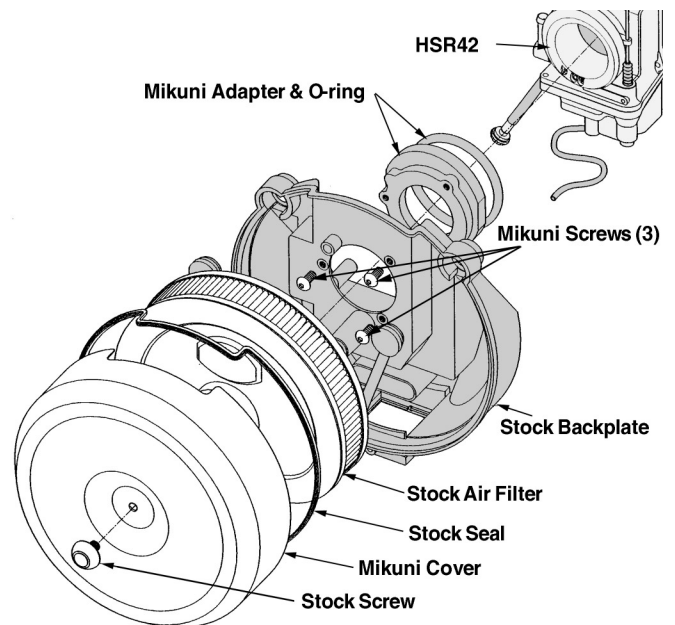


Figure 4

5. Backplate (Twin Cam 88)

- A. Insert the enclosed large diameter O-ring into the Mikuni adapter. Assemble the stock backplate and adapter using the enclosed gasket and stock gasket . Use a small amount of thread lock on each of the stock screws.
- B. Insert the enclosed small O-rings into the 1/8" spacers. The spacers mount between the backplate and heads. Secure the backplate to the engine using the spacers with the O-ring facing the engine (Figure 5).

NOTE:

Before attaching the backplate, check that the carburetor is inserted fully into the intake manifold. If the carburetor is not fully seated, air leaks might result.

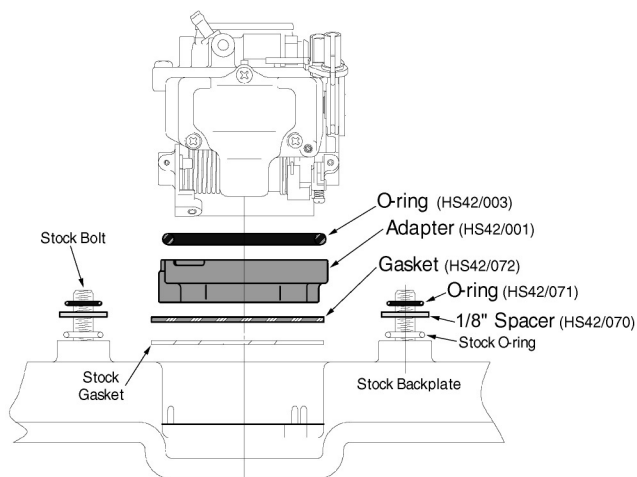


Figure 5

6. Screamin' Eagle Backplate (Twin Cam)

- A. Insert the enclosed large O-ring into the Mikuni adapter. Assemble to the Screamin' Eagle backplate. Use thread lock on each of the stock bolts.
- B. The remainder of the Mikuni/Screamin' Eagle installation follows the Harley instructions. We recommend that you follow those directions to complete the air cleaner installation (Figure 6).

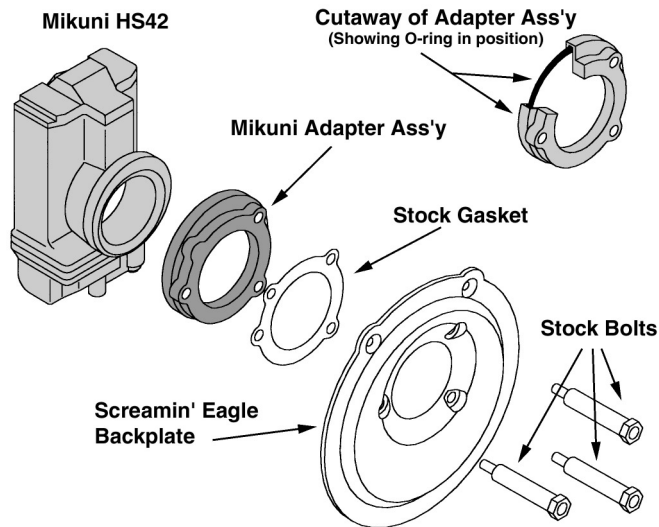


Figure 6

7. Cable Lube

Remove upper throttle housing and inject cable lube in each cable (Figure 7).

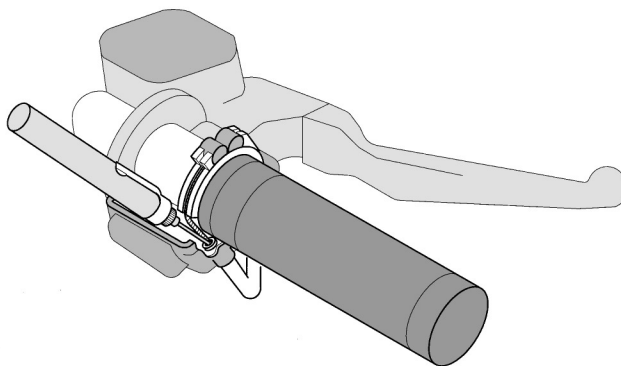


Figure 7

8. Throttle Cables — Adjustment

WARNING

It is important to adjust the cable as described below to ensure that the close cable operates correctly and can close the carburetor fully.

- A. Rotate the throttle grip to the full open position and check to see that the throttle valve (slide) opens completely by looking into the carburetor bore. If the throttle valve doesn't open fully, unscrew the adjuster on the opening cable until it does. This adjustment should be made carefully to get the maximum performance from the carburetor. After the adjustment is made, tighten the adjuster jam nut.
- B. After adjusting the opening cable, turn the handlebars to the right and adjust the throttle free-play with the closing cable to approximately 1/8" (Figure 8).

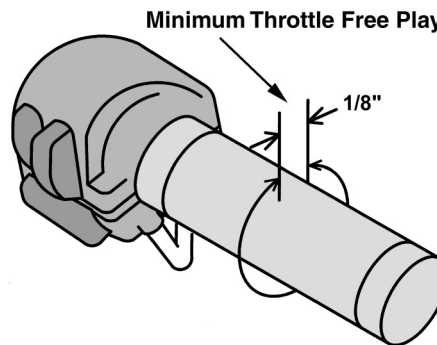


Figure 8

9. Air Cleaners (Evo & Twin Cam)

Evolution 1340 Air Cleaner Cover:

Remove the seal from the stock air cleaner cover and attach it to the Mikuni cover.

NOTE:

Do not use the stock Evo air cleaner cover because it will restrict the airflow and may cause a rich condition at full throttle.

HSR PARTS LIST

#	PART NO.	DESCRIPTION		
1.	C5=0410-B	Screw, Top Cover	51.	VM12/205 Washer, Pilot Air
2.	CW2=0414-B	Screw, Top Cover	52.	N133.037 O-Ring, Pilot Air
3.	776-39005	Top Cover	53.	TM40/27 Fuel Joint
4.	TM42/04	Gasket, Top Cover	54.	KV1/10 O-Ring, Fuel Joint
5.	BS32/126	E-Ring, Jet Needle	55.	B30/398 Packing, Idle Adjuster
6.	826-03002	Washer, Jet Needle	56.	VM22/138 Washer, Idle Adjuster
7.	J8-8DDY01-97	Jet Needle (42)	57.	730-09018 Spring, Idle Adjuster
7a.	J8-8CFY02-97	Jet Needle (45/48)	58.	925-15001 Ring, Idle Adjuster
8.	TM42/03	Lever, T.V. (42/45)	59.	TM42/32 Idle Adjuster (Long)
8a.	TM42/08-1A	Lever, T.V. (48)	59a.	990-605-065 Idle Adjuster (Short)
9.	B40I/56	E-Ring, Link Lever	60.	BS30/97-00 Air Jet (Blank)
10.	B40I/10	Packing, Link Lever	61.	784-430000-Y-6 Needle Jet (723)
11.	834-23041	Pin, Link Lever	62.	TM42/11-70 Nozzle, Accel. Pump
12.	TM42/08-3.0	Throttle Valve (Slide)	63.	N124.063 O-Ring, A/P
13.	739-13002	Screw, Needle Retainer	64.	VM28/486-25 Pilot Jet
14.	TM42/16	Clip, Needle Retainer	65.	TM42/12 Extender, Main Jet (42/45)
15.	TM42/13	Sealing Ring, T.V. (42/45)	65a.	TM42/12-1A Extender, Main Jet (48)
15a.	TM48/02	Sealing Ring, T.V. (48)	66.	N100.604-160 Main Jet
16.	TM42/10	Seal, Throttle Valve	67.	616-33003 O-Ring N.V.
17.	925-98006	Pulley, Cable Bracket	68.	VM13/216 Screw, N.V. Retainer
18.	53974	E-Ring, Cable Bracket	69.	786-27001-4.2 Needle Valve Ass'y (42/45)
19.	TM42/51	Bracket Ass'y, Cable	69a.	786-27002-1A Needle Valve Ass'y (48)
19a.	TM42/53	Bracket Ass'y, Sportster	70.	859-32027 Float Ass'y
20.	B3=0520-B	Bolt, Bracket	71.	BV26/22 Pin, Float
21.	VM28/204	Spacer, Bracket	72.	C2=0410 Screw, Float Pin
22.	TM42/38	Plate, Lock Tab	73.	616-94028 Packing, Float Bowl
23.	C2=0514-B	Screw	74.	TM42/05 Float, Chamber Body
24.	640-12001	Starter Nut, Choke	75.	N122.028 Hose, Overflow
25.	VM14/241	Spring, Starter Plunger	76.	VM28/254 O-Ring, Drain Plug
26.	N189.192	Starter Plunger	77.	TM32/41 Drain plug (42/45)
27.	TM42/06	Body, Bearing & Spigot (42/45)	77a.	TM32/41-1D Drain Plug (48)
27a.	TM48/02	Body, Bearing & Spigot (48)	78.	C2=0412-B Screw, Flt Bowl, short
28.	616-94029	Seal, Spigot Body	79.	TM36/44-1A Rod, A/P
29.	925-19011	Ring (Steel)	80.	TM36/64 Boot, A/P Rod
30.	TM42/43	Lever, A/P	81.	TM36/60 Plunger, A/P
31.	N138.019	Pin, Throttle Lever	82.	VM14SC13/89 Spring, A/P
32.	TM42/48	Lever, Throttle	83.	N198.063 Rubber Cap, Purge Port
33.	M12F/46-BB	Spring, A/P		
34.	MC-0316-B	Screw, A/P		
35.	TM42/47	Spring, A/P		
36.	TM42SS1/01-0	Mixing Body (42/45)		
36a.	TM48SS1/01	Mixing Body (48)		
37.	B36/95	Packing, Shaft (Plastic)		
38.	TM42/36	Adjusting Screw, A/P		
39.	B30/205	O-Ring, A/P Screw		
40.	TM40/89	Bolt		
40a.	TM42/17	Plate, Lock Tab for Shaft		
41.	BN38/43	Pin, Return Lever		
42.	TM42/46	Lever, Return		
43.	B30/1069	Adjusting Screw, Throttle		
44.	N3=04	Nut, Throttle Stop		
45.	TM42/19	Spring, Throttle Return		
46.	700-15012	Shaft, Throttle		
47.	TM42/15	Plate, Fuel Joint Retainer		
48.	C2=0410-B	Screw, Fuel Joint		
49.	604-26014	Screw, Pilot Air		
50.	N133.206	Spring, Pilot Air		

Alternate Parts

Jet Needles:

HSR42

HSR45/48

J8-8DDY01-95	J8-8CFY02-95	Richer
J8-8DDY01-96	J8-8CFY02-96	Richer
J8-8DDY01-97	J8-8CFY02-97	Std
J8-8DDY01-98	J8-8CFY02-98	Leaner

Accelerator Pump Nozzles:

TM42/11-70	Std
TM42/11-60	Leaner
TM42/11-50	Leaner

Needle Valve Assemblies:

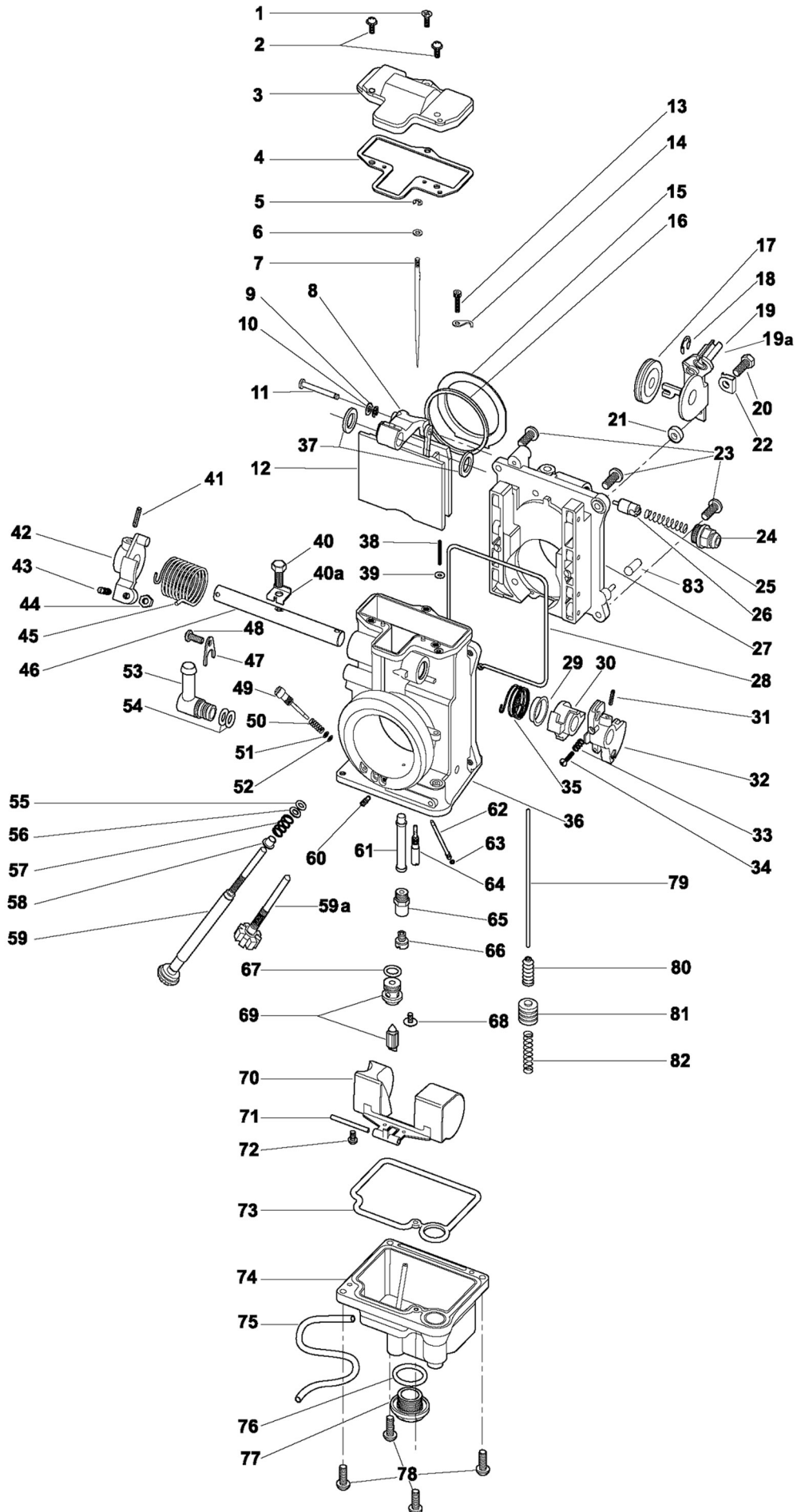
786-27002-1A-4.5	Std (HSR48)
786-27001-4.2	Std (HSR42/45)
786-27001-3.5	Smaller
786-27001-2.3	Pressure only

Rebuild Kit:

HSR42/45:	KHS-016
HSR48:	KHS-031

NOTE:

1. Lined through-part numbers are not available.
2. **Parts in bold** are included in rebuild kits.



Mikuni American Corporation

8910 Mikuni Avenue

Northridge, CA 91324-3496

www.mikuni.com

#	PART NO.	DESCRIPTION
1.	C5=0410-B	Screw, Top Cover
2.	CW2=0414-B	Screw, Top Cover
3.	776-39005	Top Cover (42/45)
3a.	111-776-001	Top Cover (HSR48)
4.	TM42/04	Gasket, Top Cover
5.	BS32/126	E-Ring, Jet Needle
6.	82603002	Washer, Jet Needle
7.	J8-8DDI01-97	Jet Needle (42)
7a.	J8-8CFY02-97	Jet Needle (45/48)
8.	TM42/03	Lever, T.V. (45/48)
8a.	TM42/08-1A	Lever, T.V. (HSR48)
9.	B401/56	E-Ring, Link Lever
10.	B401/10	Packing, Link Lever
11.	834-23041	Pin, Link Lever
12.	TM42/08-3.0	Throttle Valve (Slide)
13.	739-13002	Screw, Needle Retainer
14.	TM42/16	Clip, Needle Retainer
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15a.	TM48/02	Sealing Ring, T.V. (48)
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17.	925-98006	Pulley, Cable Bracket
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26.	N189.192	Starter Plunger
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27a.	TM48/02	Body (HSR48)
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29.	925-19011	Ring (Steel)
30.	TM42/43	Lever, A/P
31.	N138.019	Pin, Throttle Lever
32.	TM42/48	Lever, Throttle
33.	M12F/46-BB	Spring, A/P
34.	MC-0316-B	Screw, A/P
35.	TM42/47	Spring, A/P
36.	TM42SS1/01-0	Mixing Body (42/45)
36a.	TM48SS1/01	Mixing Body (48)
37.	B36/95	Packing, Shaft (Plastic)
38.	TM42/36	Adjusting Screw, A/P
39.	B30/205	ORing, A/P Screw
40.	TM40/89	Bolt
40a.	TM42/17	Plate, Lock Tab for Shaft
41.	BN38/43	Pin, Return Lever
42.	TM42/46	Lever, Return
43.	B30/1069	Adjusting Screw, Throttle
44.	N3=04	Nut, Throttle Stop
45.	TM42/19	Spring, Throttle Return
46.	700-15012	Shaft, Throttle
47.	TM42/15	Plate, Fuel Joint Retainer
48.	C2-0410-B	Screw, Fuel Joint
49.	604-26014	Screw, Pilot Air

50.	N133.206	Spring, Pilot Air
51.	VM12/205	Washer, Pilot Air
52.	N133.037	ORing, Pilot Air
53.	TM40/27	Fuel Joint
54.	KV1/10	O-Ring, Fuel Joint
55.	B30/398	Packing, Idle Adjuster
56.	VM22/138	Washer, Idle Adjuster
57.	730-09018	Spring, Idle Adjuster
58.	925-15001	Ring, Idle Adjuster
59.	TM42/32	Idle Adjuster (Long)
59a.	990-605-065	Idle Adjuster (Short)
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66.	N100.604-160	Main Jet
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68.	VM13/216	Screw, N.V. Retainer
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69a.	786-27002-1A	Needle Valve Ass'y (48)
70.	859-32027	Float Ass'y
71.	BV26/22	Pin, Float
72.	C2=0410	Screw, Float Pin
73.	616-94028	Packing, Float Bowl
74.	TM42/05	Float, Chamber Body
75.	N122.028	Hose, Overflow
76.	VM28/254	O-Ring, Drain Plug
77.	TM32/41	Drain plug (42/45)
77a.	TM32/41-1D	Drain plug (48)
78.	C2=0412-B	Screw, Flt Bowl, short
79.	TM36/44-1A	Rod, A/P
80.	TM36/64	Boot, A/P Rod
81.	TM36/60	Plunger, A/P
82.	VM14SC13/89	Spring, A/P
83.	N198.063	Rubber Cap, Purge Port

Alternate Parts

Jet Needles:

HSR42	HSR45/48
J8-8DDY01-95	J8-8CFY02-95 Richer
J8-8DDY01-96	J8-8CFY02-96 Richer
J8-8DDY01-97	J8-8CFY02-97 Std
J8-8DDY01-98	J8-8CFY02-98 Leaner

Accelerator Pump Nozzles:

TM42/11-70	Std
TM42/11-60	Leaner
TM42/11-50	Leaner

Needle Valve Assemblies:

786-27002-1A-4.5	Std (HSR48)
786-27001-4.2	Std (HSR42/45)
786-27001-3.5	Smaller
786-27001-2.3	Pressure feed only

Rebuild Kit:

HSR42/45: **KHS-016**
 HSR48: **KHS-031**