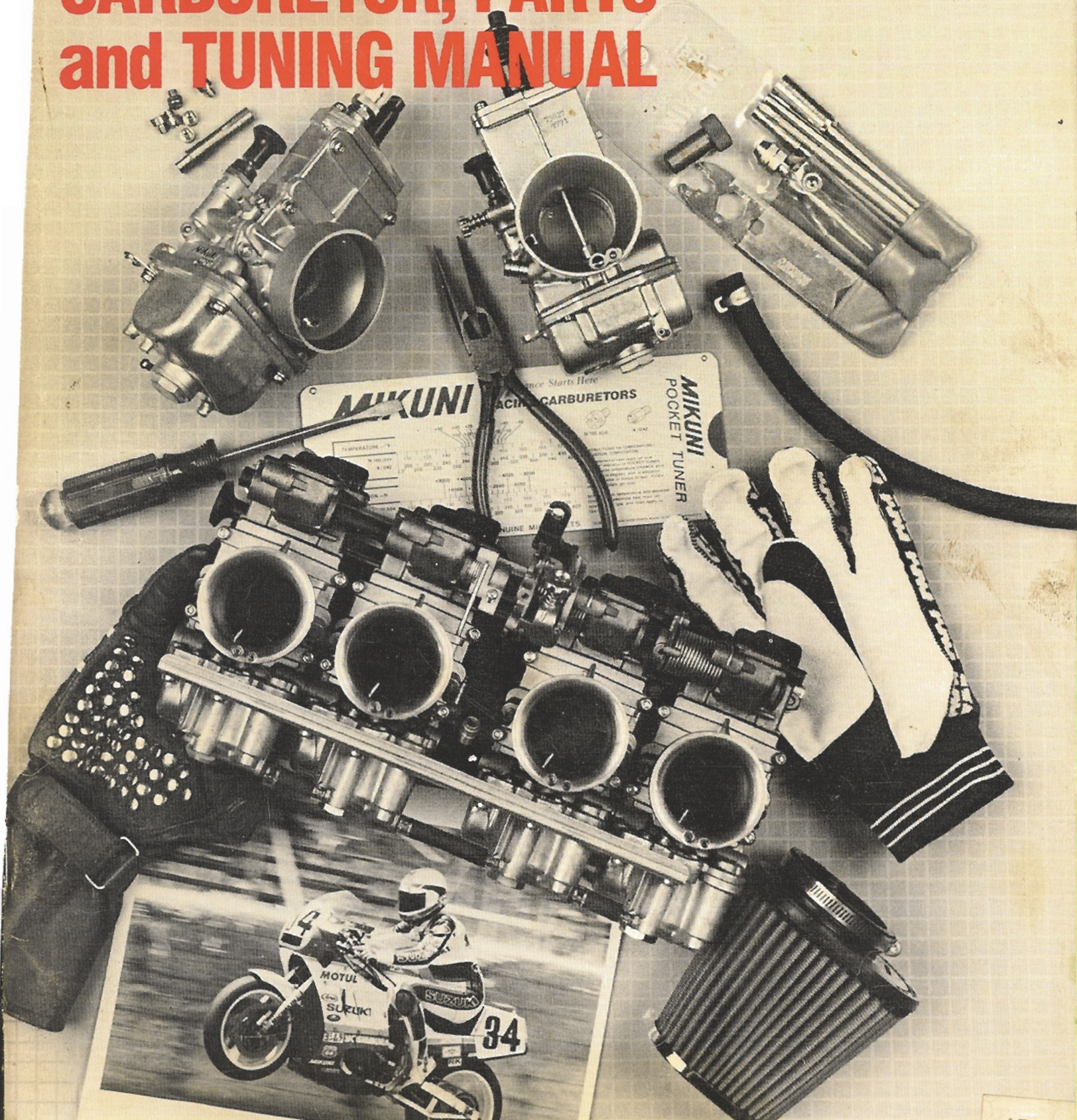


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SUBCO MIKUNI

CARBURETOR, PARTS and TUNING MANUAL



MIKUNI
POCKET TUNER
RACING CARBURETORS
Temperature starts here

TEMPERATURE (°F)	TEMPERATURE (°C)	VELOCITY (MPH)	VELOCITY (KPH)
50	10	100	160
100	38	150	240
150	65	200	320
200	93	250	400
250	121	300	480
300	149	350	560
350	177	400	640
400	205	450	720
450	233	500	800
500	261	550	880
550	289	600	960
600	317	650	1040
650	345	700	1120
700	373	750	1200
750	401	800	1280
800	429	850	1360
850	457	900	1440
900	485	950	1520
950	513	1000	1600

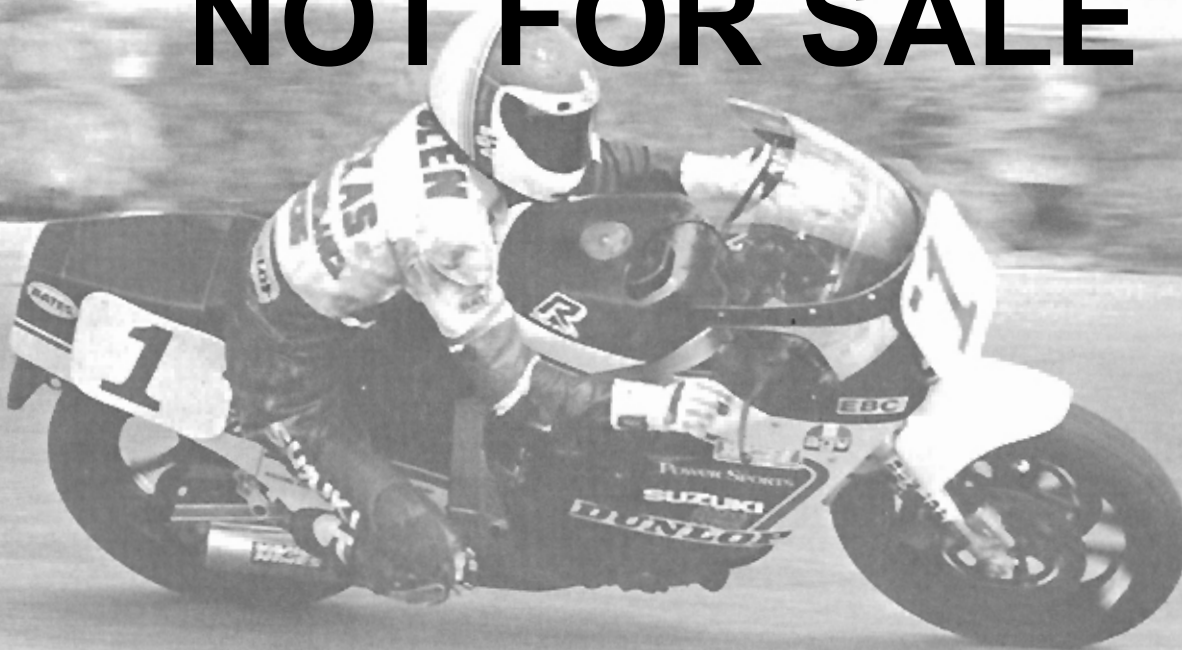


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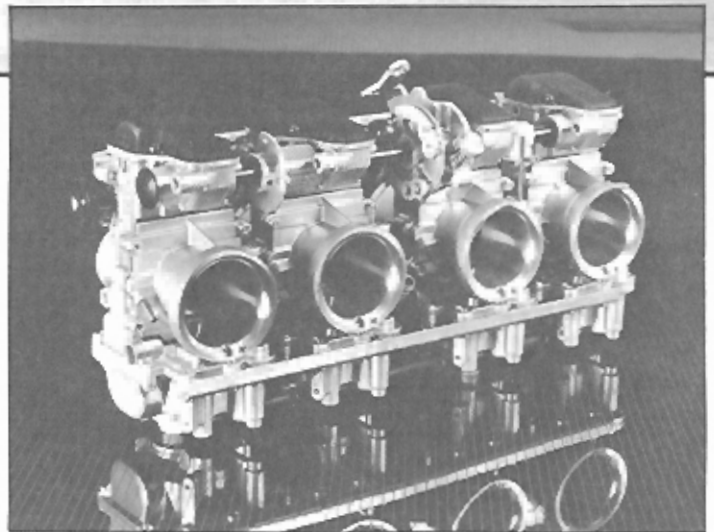
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Sudco International is a major distributor for Mikuni Carburetors. We carry the complete line of Mikuni aftermarket and performance carburetors for street bikes, dirt bikes, ATVs, Jet Skis and snowmobiles, as well as all replacement parts and tuning components. The Service Technicians in our R & D Department can assist you with tuning advice and can special setup any Mikuni Carburetor for your particular application. Please provide our Technicians with all the required information for your application as outlined in the chapter "Sudco Special Set Up."



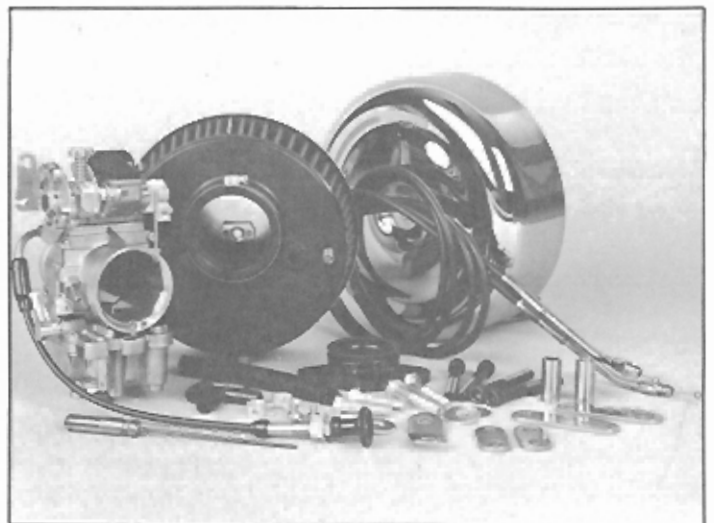
QUALITY MOTORCYCLE PRODUCTS

SUDCO

INTERNATIONAL CORP.

SUDCO INTERNATIONAL CORP.,
1824 EAST 22ND STREET,
LOS ANGELES, CA 90058 USA

**PARTS ORDER DESK
R & D DEPARTMENT
(213) 747-5173**



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SUDCO/MIKUNI

CARBURETOR, PARTS AND

TUNING MANUAL

CONTENTS

- 2** **RS SERIES SMOOTHBORE** are designed for road race, drag race and high performance sportbike applications on inline four cylinder motorcycles. These radial flat slide carburetors feature a smoothbore design for maximum flow and superior horsepower gains. Adjustable accelerator pump provides instant throttle response at low RPMs and throughout the powerband.
- 12** **VM SERIES SMOOTHBORE** is the original smoothbore design for street bikes 650cc through 1000cc. Excellent, smooth low and mid-range power with superb throttle control. All around performance, whether just cruising or running 10,000 RPMs.
- 23** **HD SERIES SMOOTHBORE** is a totally new carb for Harley-Davidson from Mikuni. The new HD Series comes in a complete kit and improves starting, rideability, power and torque for any riding application from street and touring, to custom and performance. Also included is Sudco's TM Evolution Carb Kit.
- 26** **TMX SERIES CARBURETOR** is designed for motocross, off-road dirt bikes and racing ATV applications. The high performance TMX features a new radial flat slide design working in a smoothbore venturi to produce improved throttle response along with a wider and stronger overall powerband. The TMX is lightweight and compact body design offers easy main jet and jet needle access for quick trackside tuning.
- 32** **TM SERIES SMOOTHBORE** single valve carburetor feature faster air flow and smooth through the venturi area due to the flat valve (slide) configuration and jet blocks that create a smoothbore effect. The high velocity of the air flow means stronger vacuum at the needle jet nozzle. The carb body is also designed to accept the power jet kit and accelerator pump kit. **PRO-SERIES CARBURETOR** is based on the popular TM Series carburetor. The Pro-Series features a proven Mikuni flat-valve carb with a totally redesigned, hand machined venturi area. Our tests have shown that this carburetor design will out-flow any other factory produced carb by a minimum of 10% or more.
The venturi design also provides a high air speed rate at lower RPMs, which result in a much stronger, smoother, wider powerband.
- 37** **YAMAHA YSR50 PERFORMANCE** comes from an easy to bolt-on big bore Sudco/Mikuni Carburetor Kit and a tuned Expansion Chamber with silencer.
- 38** **VM SERIES CARBURETOR** The standard Mikuni single round slide carburetor available in spigot mount, flange mount and clamp-on designs. When choosing a dependable, moderately priced replacement carburetor, the standard round slide is an excellent choice.
- 58** **SUDCO SPECIAL SETUP CARBURETORS** provides Sudco customers with Mikuni Carburetors set up for any particular application. Included in this section are special manifolds and K&N Air Filters.
- 66** **JET SKI CARBURETORS** in 38mm and 44mm venturi bores for maximum performance from Jet Ski engines. Our **PRO-SERIES JET SKI CARBURETOR** is a proven Mikuni 44mm hand machined for a larger venturi. The Pro-Series is the trick 45mm race version of the standard BN44.
- 76** **ACCESSORIES** Mikuni tools, accessories and wearing apparel.
- 78** **CARBURETOR OPERATION AND TUNING** How your Mikuni Carburetor works and how to make tuning changes for optimum performance.

NOTE: MIKUNI AFTERMARKET AND PERFORMANCE CARBURETORS ARE FOR OFF-ROAD AND RACING USE ONLY. THEY ARE NOT LEGAL FOR USE IN CALIFORNIA ON MOTOR VEHICLES THAT ARE OPERATED ON PUBLIC HIGHWAYS OR IN ANY OTHER AREAS WHERE SIMILAR ANTI-POLLUTION LAWS APPLY.

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MIKUNI RS SERIES RACING CARBURETORS

INTRODUCTION

The Mikuni RS Series Carburetors were designed and built in response to the needs of the world's top motorcycle road race and drag race teams. They required carburetors which could satisfy the precise fuel metering demands and high flow volume required by highly modified race engines. And yet, also provide the smooth, controllable throttle response that is needed by any rider pushing his motorcycle to its limits on the race track and under any high performance applications. The carburetors need to meter fuel correctly under a wide range of atmospheric conditions and engine tuning modifications while being easily accessible for track side tuning changes which need to be made quickly.

Designed for in-line four cylinder performance motorcycle applications, the Mikuni RS Series Carburetors offer superior horsepower gains with their maximum flowing

smoothbore induction tract and radial flat slide design. An adjustable accelerator pump system helps to provide instant throttle response, particularly in the lower RPM range. The RS Series Carburetors feature a compact design which is 25% lighter than other performance carburetors, offers quick needle jet adjustment, and uses readily available standard Mikuni jets.

In their first season of competition, the RS Series Carburetors proved themselves as the ultimate power producing induction system for performance motorcycles. RS Series Carburetors are the winning choice of Team Suzuki in AMA National Superbike competition and Team Suzuki WERA National Endurance Racing Champions. We are sure that your new Mikuni RS Series Carburetors will help you put together a winning effort as well. Best of luck!

Team Suzuki's Kevin Schwantz on the Suzuki GSX-R750 Superbike equipped with Mikuni RS Series Carburetors.



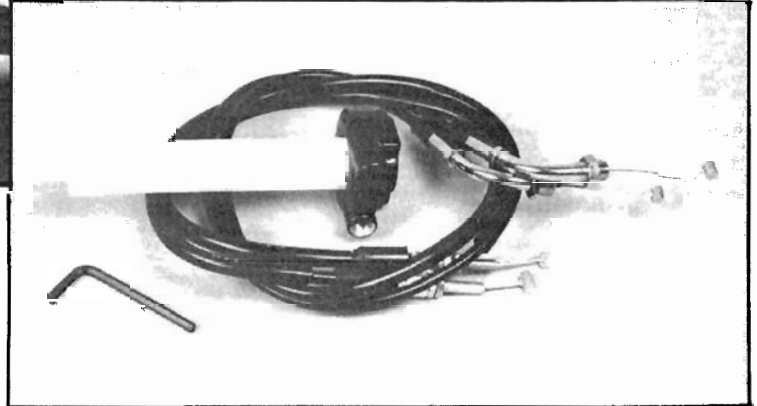
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INSTALLATION SAFETY PROCEDURES AND CAUTIONS



Read and follow the Installation Instruction Manual supplied with your Mikuni RS Series Carburetors. All procedures should be followed exactly as described in the Manual. Take special attention of the following:

- Mikuni RS Series Carburetors require the use of a Push/Pull Throttle Assembly to assure positive closing of the throttle slides under high performance applications, because the high vacuum pressures encountered, as well as dirt ingested into the carburetors when running without air cleaners, may hinder throttle slide closing. You may use either your bike's original equipment (OEM) Push/Pull Throttle Assembly if it is so equipped, or an OEM Push/Pull Throttle assembly from another model motorcycle so equipped. Also available from your Mikuni dealer is the Mikuni Push Pull Throttle Assembly KRS-001.
- Before installing on motorcycle, be sure to check that the throttle slides on your Mikuni RS Series Carburetors open and close completely without any restrictions.
- On installation the throttle cables should be routed freely between the carburetors and the twist throttle. The cables should not be pinched by the installed fuel tank, and they should not be pinched, restricted or pulled by the motorcycle's bodywork and/or front fork assembly when the forks are turned through their full range of motion.



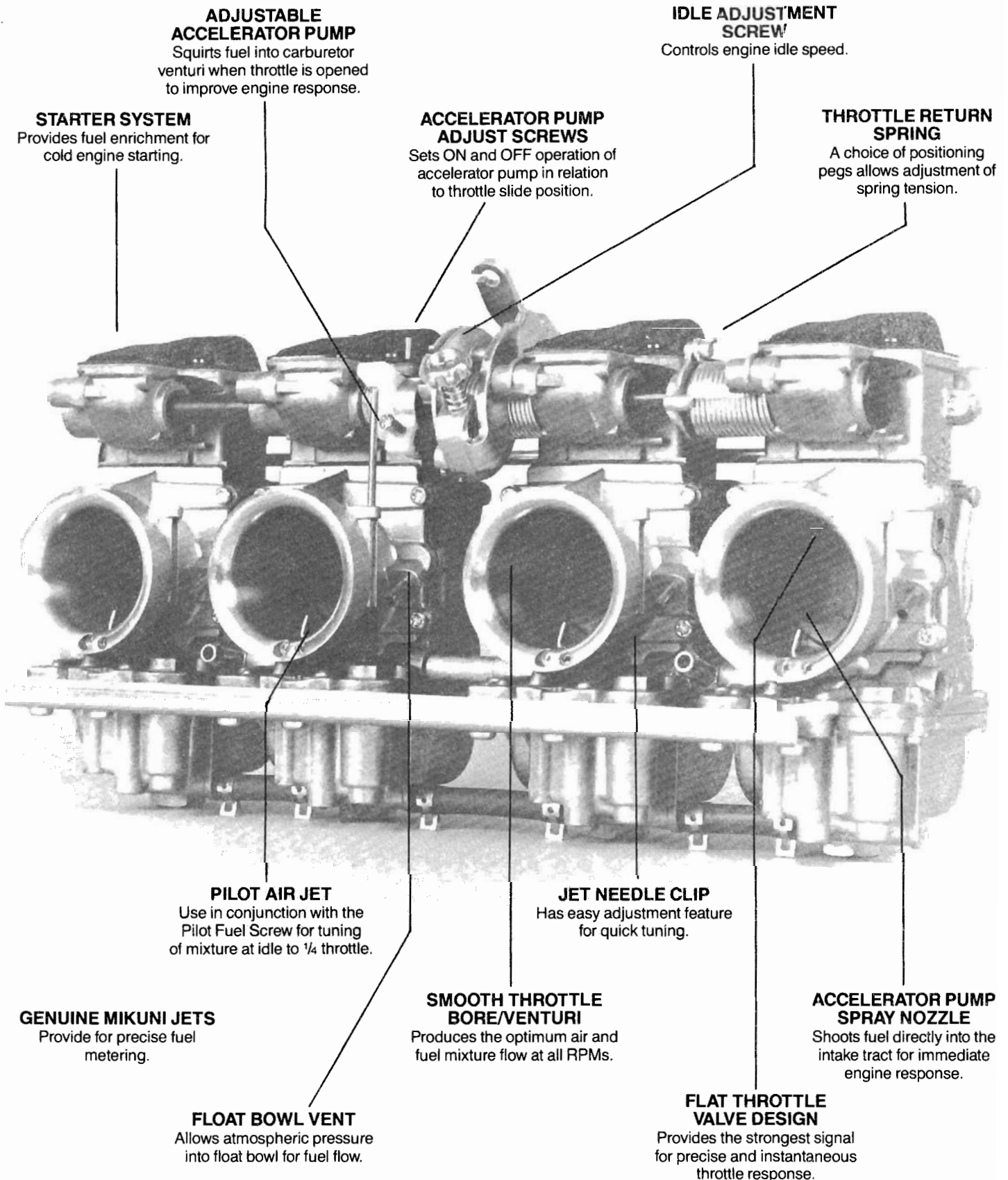
Gasoline is extremely flammable and can be explosive under certain conditions. Before attempting to install or service your Mikuni RS Series Carburetors, the following safety procedures should be followed:

- Make sure your work area is well ventilated and void of combustible materials. The area should be free from any source of flame or sparks; this includes any appliance with a pilot light or flame heat like a water heater or gas clothes dryer, an electric space heater or electric motors which create sparks.
- Disconnect the negative lead to your motorcycle's battery (if equipped with a battery) and/or remove the battery completely from the motorcycle to prevent the chance of the battery leads or terminals sparking. The motorcycle's ignition switch should also be in the "OFF" position.
- Before removing the motorcycle's fuel tank, be sure the fuel petcock is turned to the "OFF" position. Fuel lines should be well clamped.

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PERFORMANCE FEATURES



ADJUSTABLE ACCELERATOR PUMP
Squirts fuel into carburetor venturi when throttle is opened to improve engine response.

IDLE ADJUSTMENT SCREW
Controls engine idle speed.

STARTER SYSTEM
Provides fuel enrichment for cold engine starting.

ACCELERATOR PUMP ADJUST SCREWS
Sets ON and OFF operation of accelerator pump in relation to throttle slide position.

THROTTLE RETURN SPRING
A choice of positioning pegs allows adjustment of spring tension.

PILOT AIR JET
Use in conjunction with the Pilot Fuel Screw for tuning of mixture at idle to 1/4 throttle.

JET NEEDLE CLIP
Has easy adjustment feature for quick tuning.

GENUINE MIKUNI JETS
Provide for precise fuel metering.

SMOOTH THROTTLE BORE/VENTURI
Produces the optimum air and fuel mixture flow at all RPMs.

ACCELERATOR PUMP SPRAY NOZZLE
Shoots fuel directly into the intake tract for immediate engine response.

FLOAT BOWL VENT
Allows atmospheric pressure into float bowl for fuel flow.

FLAT THROTTLE VALVE DESIGN
Provides the strongest signal for precise and instantaneous throttle response.

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CARBURETOR APPLICATIONS

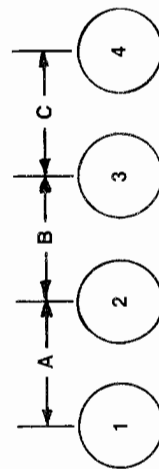
STANDARD TUNING SPECIFICATIONS

MIKUNI KIT NUMBER	APPLICATION *(GENERAL)	ENGINE MODIFICATIONS (TYPICAL)	CARB SPACING (Throttle Shaft No.) A-B-C	SPIGOT (O.D.) MM	MAIN JET (N100.604)	JET NEEDLE (J8-) (CLIP POS.)	NEEDLE JET #568 (784-13002)	PILOT JET (VM28/486)	PILOT SCREW (TURNS)
RS34-D31-K	YAM FZ 600 ALL	[1]-[2]	70-80-70 (700-17013)	38	115	9DZH1 (-3)	P-4	17.5	1/4-1/2
RS34-D26-K	YAM FJ 600 ALL KAW NINJA 600 KAW NINJA 750 87-88	[1]-[2] [1]-[2] [1]-[2]	70-89-70 (700-17013)	40	115 115 115	9DZH1 (-3)	P-4	17.5	1/4-1/2
RS34-D21-K	GSX-600 88 GSX-R 750 ALL SUZ GS 750 ALL KAW KZ 750 ALL	[1]-[2] [1]-[2] [1]-[2] [1]-[2]	77-93-77 (700-17011)	42	115 115 115 115	9DZH1 (-3)	P-4	17.5	1/4-1/2
RS36-D8-K	KAW NINJA 900 ALL KAW NINJA 1000 86-87 YAM FJ 1100 ALL YAM FJ 1200 ALL	[1]-[3] [1]-[3] [1]-[2] [1]-[2]	77-85-77 (700-17011)	42	130 130 130 130	9DZH1 (-3)	P-4	17.5	1/4-1/2
RS36-D3-K	GSX-600 88 GSX-R 750 GSX-R1100, GS 1000-1150 KZ 1000-1100	[3]-[7] [1]-[6] [1]-[2] [1]-[2]	77-93-77 (700-17011)	42	120 120 130 130	9DZH1 (-3)	P-4	17.5	1/4-1/2
RS38-D35-K	NINJA 900 NINJA 1000 FJ 1100-1200	[1]-[7] [1]-[7] [1]-[7]	77-85-77 (700-17011)	42	135 135 135	9CHY3 (-2)	Y-6	17.5	1/4-1/2
RS38-D19-K	GSX-R 750 GSX-R1100, GS 1000-1150 KZ 1000-1100	[7] [1]-[7] [1]-[7]	77-93-77 (700-17011)	42	135 135 135	9CHY3 (-2)	Y-6	17.5	1/4-1/2
RS40-D12-K	NINJA, FJ RACE	[7]	77-85-77 (700-17011)	44	140	9CHY3 (-3)	Y-6	17.5	1/4-1/2
RS40-D1-K	GSX-R, GS, KZ RACE	[7]	77-93-77 (700-17011)	44	140	9CHY3 (-3)	Y-6	17.5	1/4-1/2

KIT PREFIX NUMBER DENOTES CARB VENTURI SIZE IN MILLIMETERS. EG: RS36 = 36MM BORE.

*NOTE: THESE ARE GUIDELINES ONLY. OTHER APPLICATIONS MAY BE AVAILABLE. CONTACT YOUR MIKUNI DISTRIBUTOR. SPECIFICATIONS ARE SUBJECT TO CHANGE.

CARBURETOR SPACING:
(mm)



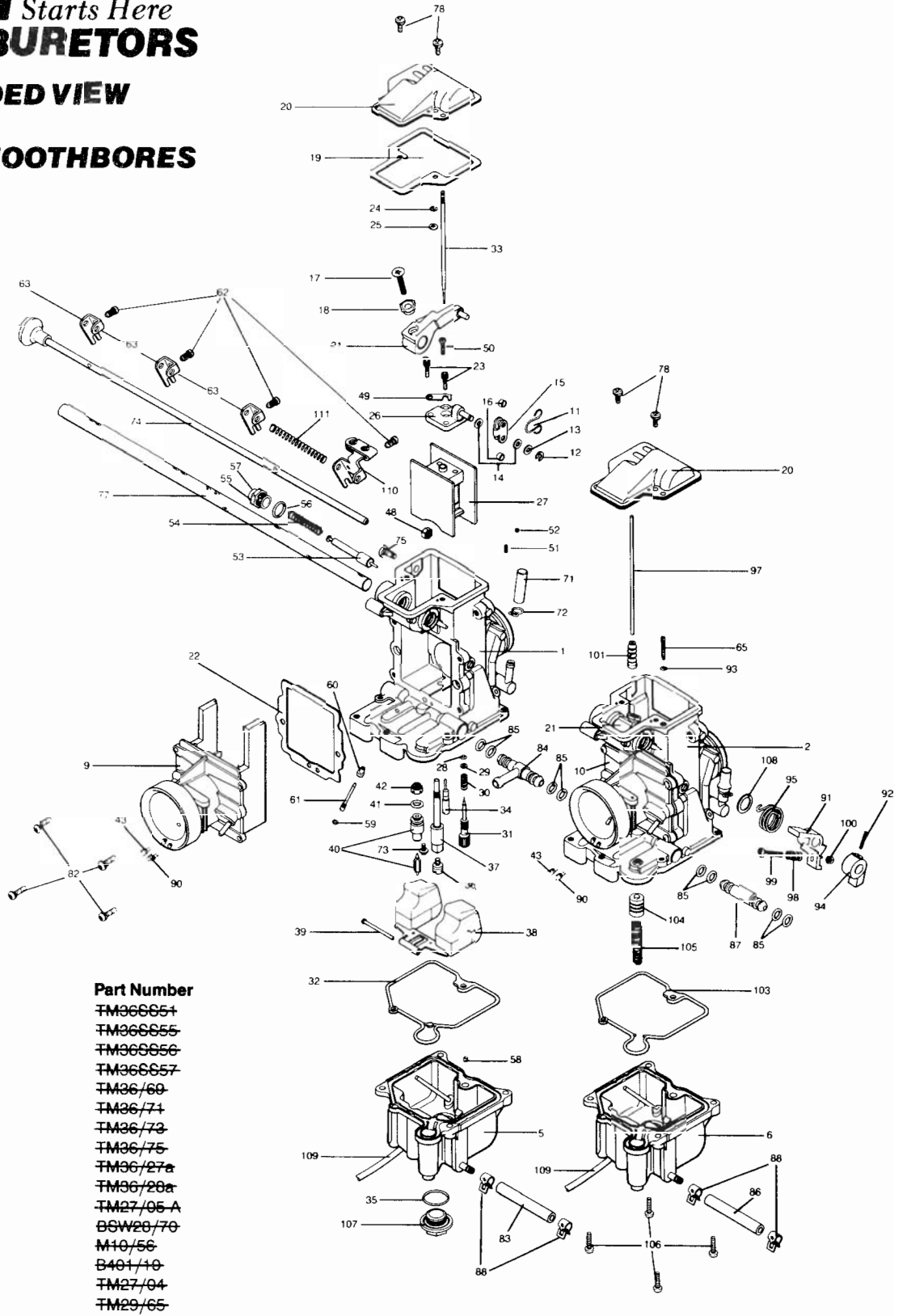
- MODIFICATIONS:
- [1] AFTERMARKET EXHAUST
 - [2] AFTERMARKET FILTER/NO AIRBOX
 - [3] INCREASE "CC" CAPACITY
 - [4] VALVES AND HEAD WORK
 - [5] INCREASE COMPRESSION
 - [6] IGNITION HI-REV
 - [7] COMPLETE RACE ENGINE

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MIKUNI Performance Starts Here **RACING CARBURETORS**

TYPICAL EXPLODED VIEW RS-34-36-38-40 RADIAL SLIDE SMOOTHBORES



No.	Description	Part Number
1	MIXING BODY	FM366654
2	MIXING BODY	FM366655
3	MIXING BODY	FM366656
4	MIXING BODY	FM366657
5	FLOAT CHAMBER BODY	FM36/60
6	FLOAT CHAMBER BODY	FM36/74
7	FLOAT CHAMBER BODY	FM36/73
8	FLOAT CHAMBER BODY	FM36/75
9	FUNNEL	FM36/27a
10	FUNNEL	FM36/28a
11	CLIP, T.V. LEVER	FM27/05-A
12	E-RING, T.V. LEVER	BSW20/70
13	WASHER, T.V. LEVER	M10/56
14	PACKING, T.V. LEVER	B401/10
15	PLATE, T.V. LEVER	FM27/04
16	RING, T.V. LEVER	FM29/65

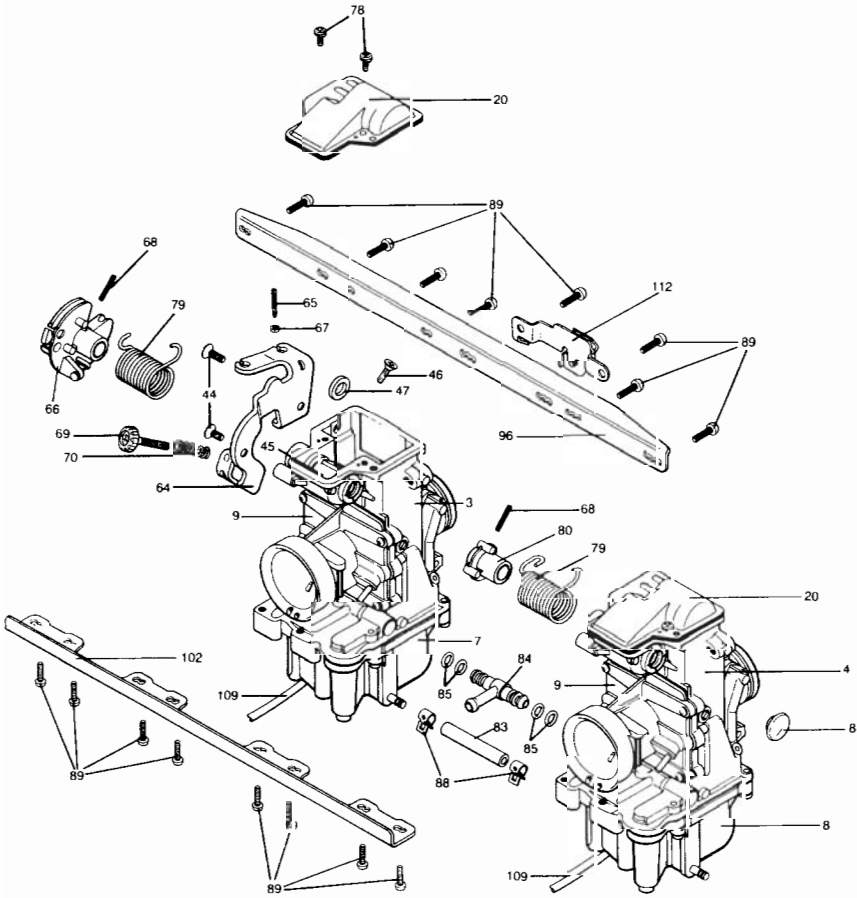
NEW MIKUNI RS SERIES

Legal in California ONLY for racing vehicles which may NEVER be used upon a highway.

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No.	Description	Part Number
17	SCREW, SYNCH. LOCK	C5=0518
18	RING, SYNCH. ADJUST	TM36/06
19	GASKET, TOP COVER	TM36/39
20	TOP COVER, CARB.	TM36/50
21	LEVER ASSY, T.V. #1-2-4	TM36/51
22	GASKET, A/FUNNEL	TM36/42a
23	SCREW, 2.5 mm ALLEN	739-13001
24A	E-RING, RS 32-34-36 NDLE	VM20/369
24B	E-RING, RS 38-40 NDLE	BS32/126
25	WASHER, NEEDLE CLIP	VM26/315
26	CONNECTOR PLATE, T.V.	TM36/54
27A	VALVE, THROTTLE 32-34-36	832-42004
27B	VALVE, THROTTLE 38-40	832-42004-01
28	O-RING, FUEL SCREW	NI33.037
29	WASHER, FUEL SCREW	VM12/33
30	SPRING, FUEL SCREW	NI33.206
31	SCREW, PILOT FUEL	604-26003
32	O-RING, F.C.B. #1-3-4	616-94020
33A	JET NEEDLE RS36 BEFORE 12/87	J8-9CHY01
33B	JET NEEDLE RS32-34-36	J8-9DZH01
33C	JET NEEDLE RS38-40	J8-9CHY03
34	PILOT JET	VM28/486
35	O-RING, DRAIN PLUG	VM28/254
36	MAIN JET	NI00-.604
37	NEEDLE JET-568	784-13002
38	FLOAT ASSY	859-32011

No.	Description	Part Number
39	PIN, FLOAT	VM36/160
40	NEEDLE VALVE ASSY	NI49.040
41	O-RING, NEEDLE VALVE	KV/10
42	FILTER, NEEDLE VALVE	VM18/233
43	MAIN AIR JET (PLUGGED)	B5/30/97
44	SCREW, CRANK BRACKET	C5=0512
45	LEVER ASSY, T.V. #3 CARB	TM36/57
46	SCREW, LEVER LOCK	C5=0514
47	PACKING, SHAFT	VM20/174
48	HEXAGON, LOCK NUT	VM18/267
49	PLATE, NEEDLE RETAINER	TM36/42
50	SCREW, T.V. PLATE	C2=0310
51	SPRING, STARTER SHAFT	B21/29
52	BALL, STARTER SHAFT	B21/28
53	PLUNGER, STARTER	NI51-030
54	SPRING, STARTER	VM16/42
55	GUIDE HOLDER, STARTER	640-12002
56	O-RING, STARTER	N138.198
57	CAP, STARTER	NI06-211
58	STARTER JET	VM17/1002
59	O-RING, A/P NOZZLE	N124.063
60	PLUG, A/P NOZZLE	TM29/14
61	PUMP NOZZLE	TM36/43
62	SCREW, START BRACKET	N158.052
63	LEVER, STARTER SHAFT	NI78-666
64	BRACKET, BELL CRANK	TM36/37d
65	ADJUST SCREW, A/P	TM36/48A
66	LEVER ASSY, BELL CRANK	TM36/31
67	HEXAGON NUT, A/P	N2=03-B
68	PIN, THROTTLE BELL CRANK	N138.019
69	ADJUSTER, IDLE	739-55009
70	SPRING, IDLE ADJUSTER	N110.209
71	CAP, VACUUM FITTING	N148.013
72	SPRING CLIP, VAC. FIT	BVK28/128
73	SCREW, NV HOLDER	VM13/216
74	SHAFT ASSY, STARTER	TM36/34a
75	PAN HEAD MACHINE SCREW	C2=0508-B
76	FLAT HEAD MACHINE SCREW	C5=0514
77A	SHAFT, THROTTLE B/C #3	700-17011
77B	SHAFT, THROTTLE B/C #1	700-17012
77C	SHAFT, THROTTLE B/C #3	700-17013
78	SCREW, TOP COVER	CW2=0408
79	SPRING, THRTL. RTRN.	TM36/46a
80	LEVER, RTN. SPRING	TM36/33
81	CAP, SHAFT END	TM33/63-A
82	SCREW, AIR FUNNEL	VM30/133
83	HOSE, FUEL CONNECT	888-44009
84	INLET, FUEL "T"	791-23010
85	O-RING, FUEL JOINT	616-23002
86	HOSE, A/P FUEL	888-44004
87	JOINT, FUEL	792-20014
88	CLIP, FUEL HOSE	E100729-BB
89	SCREW, BRACKET	C2=0512-B
90	PILOT AIR JET	BS30/97-0.8
91	LEVER, A/PUMP	TM36/17
92	PIN, A/P LOCATE	BN30/43
93	O-RING, A/P ADJ.	B30-205
94	LEVER, A/PUMP	TM36/18
95	SPRING, A/PUMP	TM36/45
96	PLATE, TOP BRACKET	TM36/35
97	ROD, A/PUMP	TM36/44
98	SPRING, A/P ADJ.	M12F/46A
99	SCREW, A/P ADJ.	MC-0316-B
100	HEXAGON NUT, A/P ADJ.	N3=03-B
101	CAP, A/P RUBBER	TM36/64
102	PLATE, LOWER BRACKET	TM36/36
103	O-RING, F.C.B. A/P	616-94021
104A	PLUNGER, A/PUMP 8mm	TM36/60
104B	PLUNGER, A/PUMP 12mm	TM36/60a
105	SPRING, A/P 12mm	VM14SC13/89
106	SCREW, FLOAT BOWL	C2=0412-B
107	PLUG, DRAIN	VM33/77
108	RING, A/P SPRING	E204-040
109	HOSE	888-23026a
110	LEVER, STARTER CABLE	TM36/63
111	SPRING, STARTER BRACKET	730-06027
112	BRACKET, STARTER CABLE	TM36/61



PART NUMBER (000-000) = NO AVAILABLE STOCK

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TUNING COMPONENTS

All Mikuni RS Series Carburetor Kits are designed to be a bolt-on application, and as such, are set up and jetted properly as sold for your particular motorcycle application. Carburetor Kits are jetted and tuned for use on a stock production model motorcycle or a production model motorcycle with bolt-on modifications like a tuned exhaust system, and with the stock airbox removed and the carburetors using less restrictive individual clamp-on air filters.

Major engine modifications like higher compression pistons and racing camshafts may require minor tuning adjustments to your RS Series Carburetors. But for most applications the advanced design of these carburetors and their unmatched sensitivity to supply an engine's fuel mixture requirements throughout a wide range of modifications allow these carburetors to come jetted correctly for most applications.

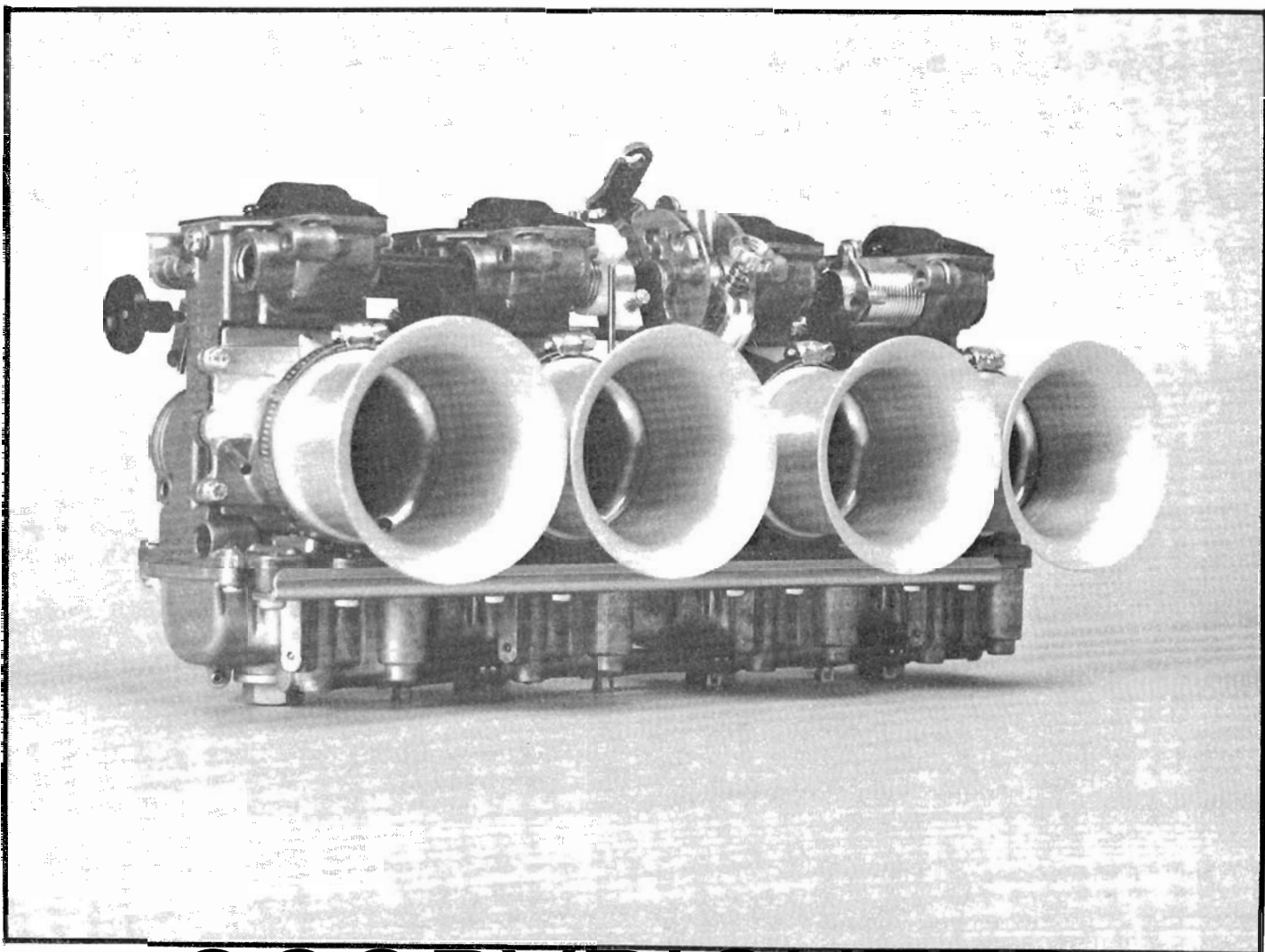
Before attempting any jetting changes which you feel are needed, first refer to the carburetor specification chart in this manual and check if your carburetors are equipped with the recommended jetting for your particular RS Series Carburetor and motorcycle applications.

The accompanying diagram shows which jetting circuits in the RS Series Carburetors are the principal operating circuits for a specific amount of opening of the throttle slide. The jetting circuit being affected is determined by the throttle slide opening...and not by engine RPM.

FUEL METERING CIRCUITS:

- **Closed Throttle:** *Choke/Starter System* Fuel mixture enrichment system for cold starting. Pull lever OUT for cold starting, push lever IN as engine warms up.
- **Closed Throttle to $\frac{1}{8}$ Throttle:** Idle circuit consisting of the *Pilot Jet*, *Pilot Fuel Screw* and *Pilot Air Jet*. *Idle Adjustment Screw* raises or lowers throttle slide height to control engine idle speed. *Pilot Fuel Screw* meters fuel with standard setting $\frac{1}{8}$ to $\frac{1}{2}$ turn out maximum.
- **$\frac{1}{8}$ to $\frac{3}{4}$ Throttle:** Fuel metering components in this range are the *Needle Jet* and the *Jet Needle*. Raising the circlip at the top of the needle lowers the needle into the needle jet, making the mixture leaner. Lowering the clip and raising the needle makes the mixture richer.
- **$\frac{3}{4}$ to Full Open Throttle:** *Main Jet*. The larger the jet number, the richer the jet.
- **Throttle Response.** Controlled by the accelerator pump system. Use adjustment screws to set operation beginning at $\frac{1}{4}$ Throttle and end operation at $\frac{3}{4}$ Throttle. The accelerator pump system should not be in operation when jetting changes are being made (see Installation Instructions).

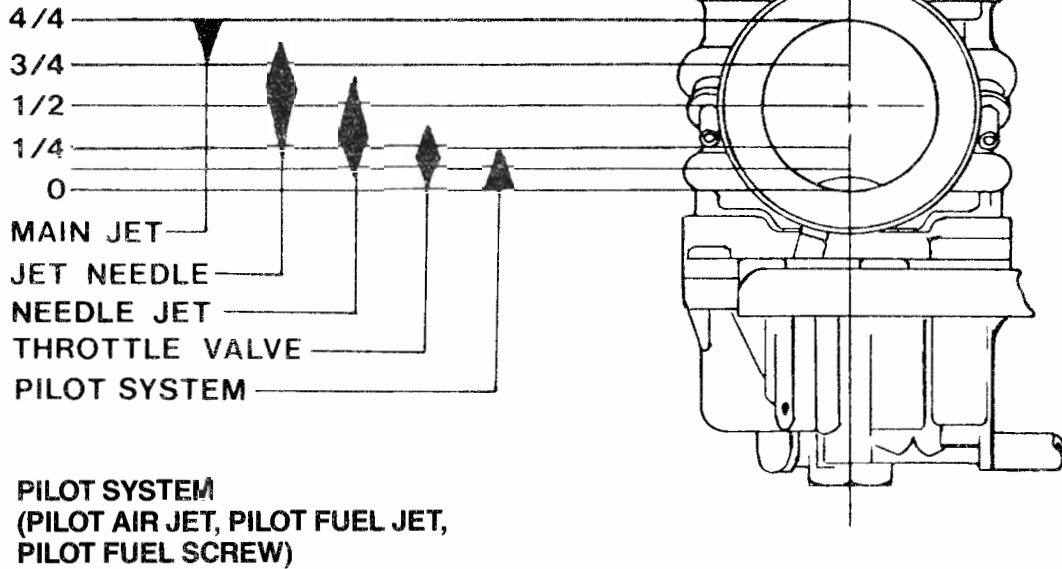
Any testing for carburetion jetting or adjustments to the idle circuit should be done with the engine at normal operating temperature.



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THROTTLE SLIDE POSITION:

The carburetor's tuning components functional range.



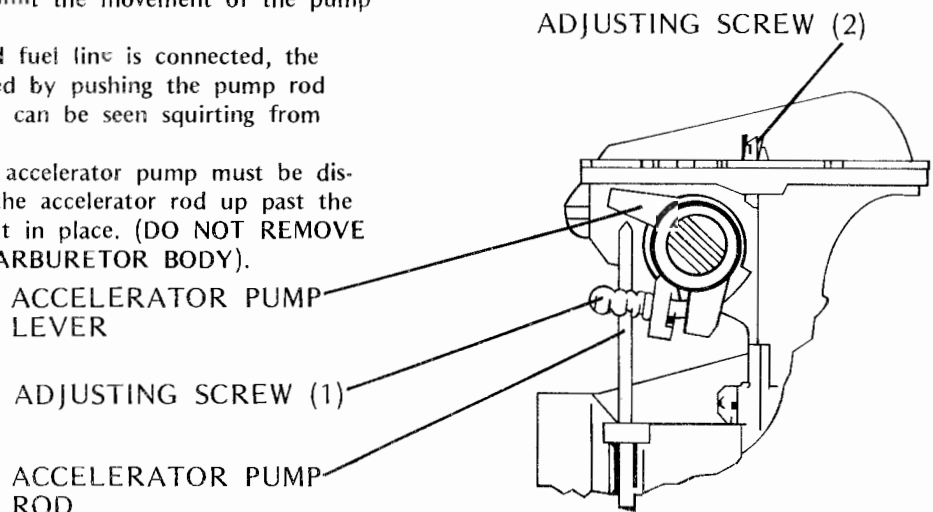
ACCELERATOR PUMP SYSTEM

BASIC COMPONENTS

- A. Adjusting screw (1): This is used to set the point at which the pump stroke starts (throttle position).
- B. Adjusting screw (2): This is used to limit the pump stroke (duration).
- C. Accelerator pump and pump lever: The pump lever pushes the pump rod down which forces a piston (plunger) down and injects a measured amount of fuel through the pump nozzle in the bore of each carburetor and into the intake port.

BASIC ADJUSTMENTS

- A. First adjustment is made by setting the (1) screw. When the throttle is opened to 1/4 position the pump rod starts to move down.
- B. The (2) screw should be set to limit the movement of the pump to 3/4 throttle position.
- C. After carburetors are installed and fuel line is connected, the accelerator pump should be primed by pushing the pump rod down with your fingers until fuel can be seen squirting from pump nozzles.
- D. For proper carburetor jetting the accelerator pump must be disconnected. Do this by slipping the accelerator rod up past the pump lever just enough to hold it in place. (DO NOT REMOVE THE PUMP ROD FROM THE CARBURETOR BODY).

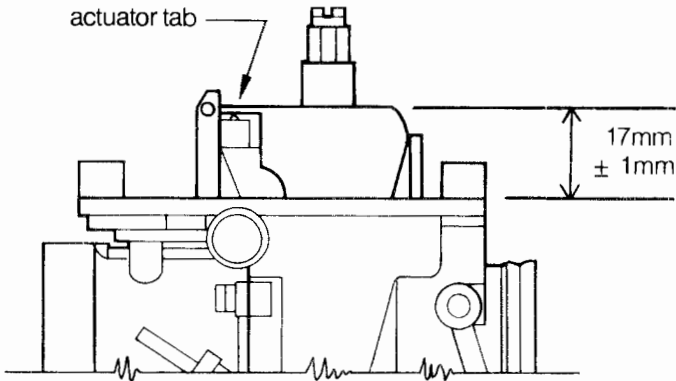


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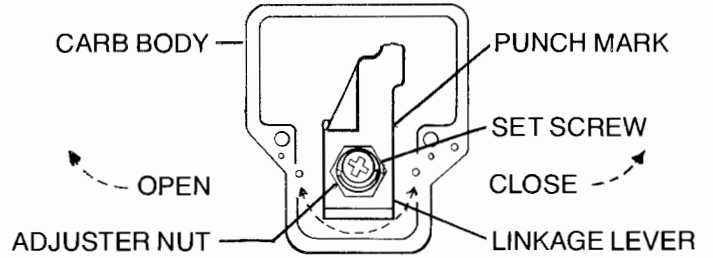
FLOAT LEVEL ADJUSTMENT:

Invert carburetors and remove float bowls. Float Assembly's actuator tab should just begin contact with Needle Valve Assembly when bottom of Float Assembly is 17mm from carburetor bottom as shown. Make required adjustments by bending actuator tab.



CARBURETOR SYNCHRONIZING (BALANCING)

1. The Mikuni Synchronizing System is designed to use very few parts and be easy to adjust.
2. Use a manometer or similar device connected to the fittings on the carbs near the intake manifolds. You are then able to check proper carb synchronization. If the carbs are not in synch or become mis-adjusted, follow the following steps:
 - a. With the engine running and the carb top covers removed, locate the carb out of synch with the manometer.
(Note: Carb No. 3 is the standard by which other carbs are set.)

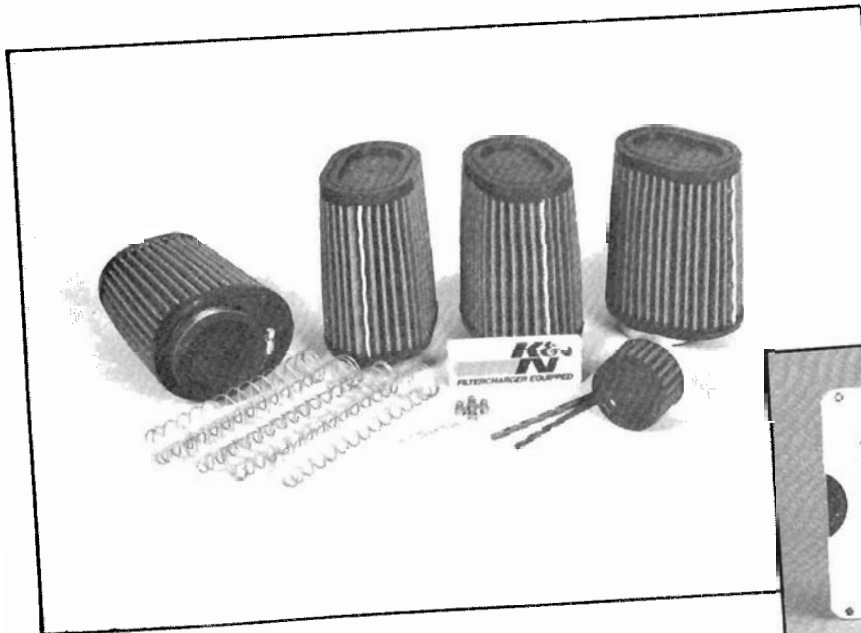


- b. Loosen the set screws so you can turn the adjuster nut.
- c. Turn the adjuster a small amount in the direction necessary as shown in the above diagram and tighten the set screw.
- d. Snap the throttle several times and repeat if needed.

K&N AIR FILTERS TO FIT RS SERIES CARBS

Protect your engine from dirt both on the street and on the race track with hi-flowing K&N Filters. These individual carb filters flow more air and increase horsepower than stock airbox/filter assemblies. Sold individually, order 4 for each RS Carb kit. Features chrome end caps, cleanable filter elements, oval offset positioning, 2-1/8" I.D.

K&N RC-0981 OVAL FILTER, Part No. 005-121



MIKUNI POCKET TUNER

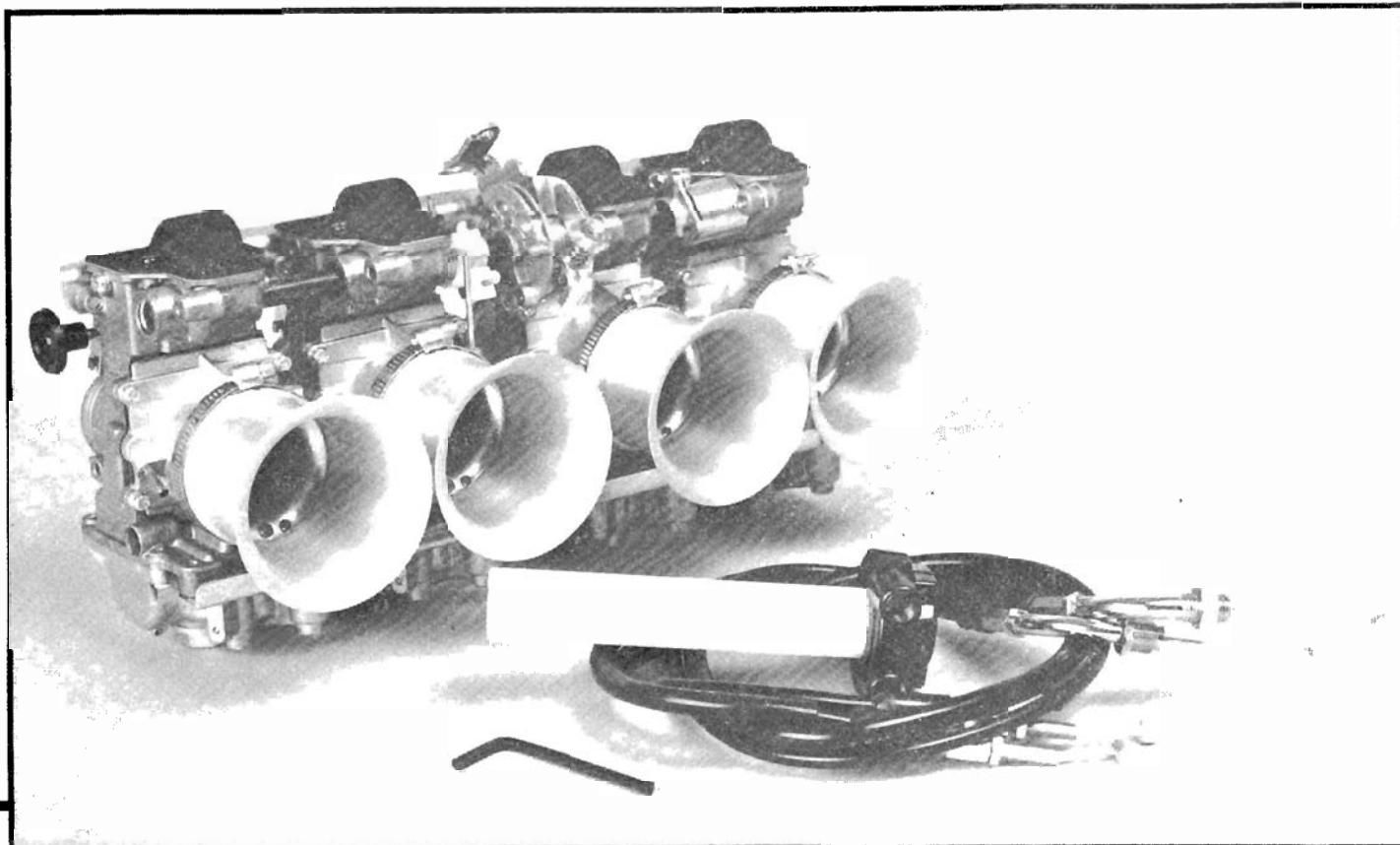
A handy pocket size slide calculator which can be used to determine required jetting changes in Mikuni carburetors due to changes in ambient temperature, altitude, or both. The Pocket Tuner is applicable to both single and multi-carburetor applications on two-stroke and four-stroke engines. It also comes with a guide for determining rich or lean carburetor conditions.

MIKUNI POCKET TUNER, Part No. MK-550-TNR



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MIKUNI RS SERIES CARBURETORS AND ACCESSORIES



MIKUNI RS SERIES CARBURETORS

Please consult the RS Series application chart on page 5 for the particular RS Series Carburetors kit part number required for your application. Carburetors are available in 34, 36, 38 and 40mm bore sizes with different carb spacing for particular bike applications and with different jetting to match engine modifications.

MIKUNI KIT NUMBER	APPLICATION *(GENERAL)	MIKUNI KIT NUMBER	APPLICATION *(GENERAL)
RS34-D31-K	YAM FZ 600 ALL	RS36-D3-K	GSX-600 88
RS34-D26-K	YAM FJ 600 ALL		GSX-R 750
	KAW NINJA 600		GSX-R1100
	KAW NINJA 750 87-88		GS 1000-1150
RS-34-D21-K	GSX-600 88	RS38-D35-K	KZ 1000-1100
	GSX-R 750 ALL		NINJA 900
	SUZ GS 750 ALL		NINJA 1000
	KAW KZ 750 ALL		FJ 1100-1200
RS36-D8-K	KAW NINJA 900 ALL	RS38-D19-K	GSX-R 750
	KAW NINJA 1000		GSX-R1100
	86-87		GS 1000-1150
	YAM FJ 1100 ALL		KZ 1000-1100
	YAM FJ 1200 ALL	RS40-D12-K	NINJA, FJ RACE
		RS40-D1-K	GSX-R, GS, KZ RACE

KIT PREFIX NUMBER DENOTES CARB VENTURI SIZE IN MILLIMETERS. EG: RS36 = 36MM BORE.

*NOTE: THESE ARE GUIDELINES ONLY. OTHER APPLICATIONS MAY BE AVAILABLE. CONTACT YOUR MIKUNI DISTRIBUTOR. SPECIFICATIONS ARE SUBJECT TO CHANGE.

MIKUNI PUSH/PULL THROTTLE ASSEMBLY

A push/pull throttle assembly is required with the use of all Mikuni Racing Carburetors to assure the positive closing of the carburetor throttle slides against the high vacuum pressures encountered in racing engines. The Mikuni Push/Pull Throttle Assembly includes a twist throttle assembly and both throttle cables with adjusters.

PUSH/PULL THROTTLE ASSEMBLY, Part No. 005-230

MIKUNI VELOCITY STACKS

Velocity stacks improve the air flow into the carburetors to increase induction efficiency and increase horsepower on racing engines where air filters are not required. Set of 4 velocity stacks fits all Mikuni RS Series Carburetors and other carburetors with 55mm O.D. intake bells. Choose length depending on chassis clearance and desired tuning characteristics (short length—broad low RPM power; medium length—mid RPM power; long length—peak RPM power).

30mm Mikuni Velocity Stacks, Part No. KRS-002

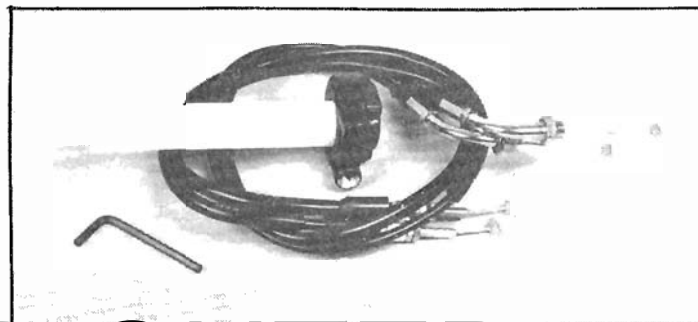
50mm Mikuni Velocity Stacks, Part No. KRS-003

70mm Mikuni Velocity Stacks, Part No. KRS-004

VELOCITY STACK FILTER SCREENS

For race track use. Keep gravel and debris out of your RS Series Carburetors with these filter screens that clip to the ends of the Velocity Stacks. These screens do not hinder air flow. Set of 4.

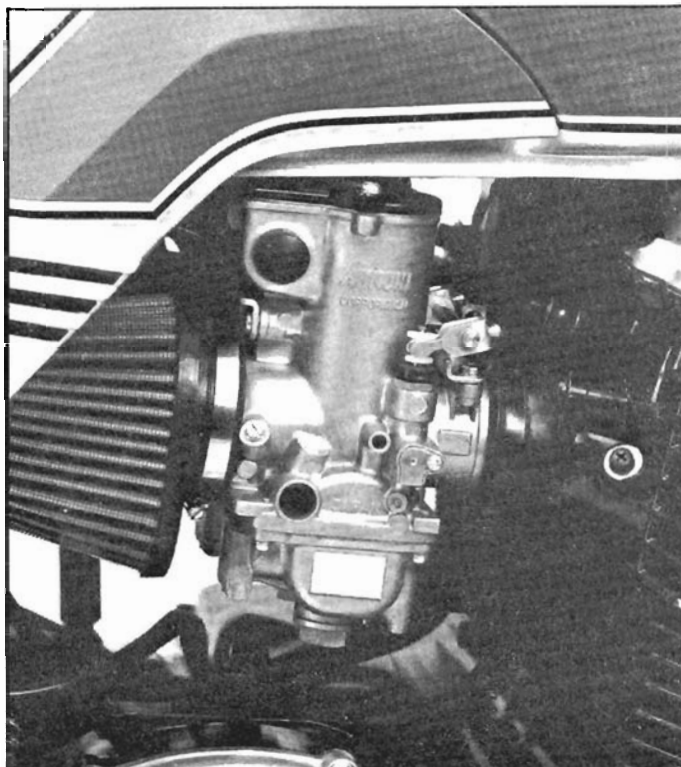
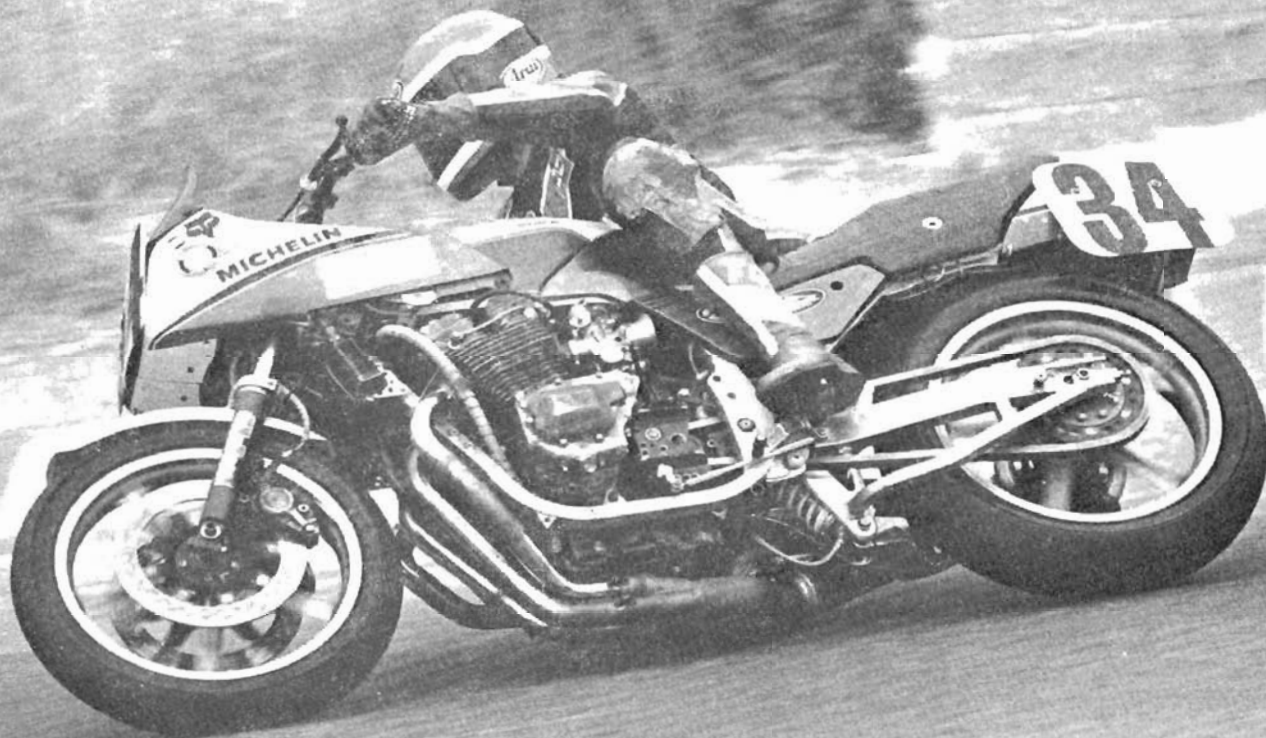
RS FILTER SCREENS, Part No. 005-202



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MIKUNI VM SERIES SMOOTHBORE CARBURETORS

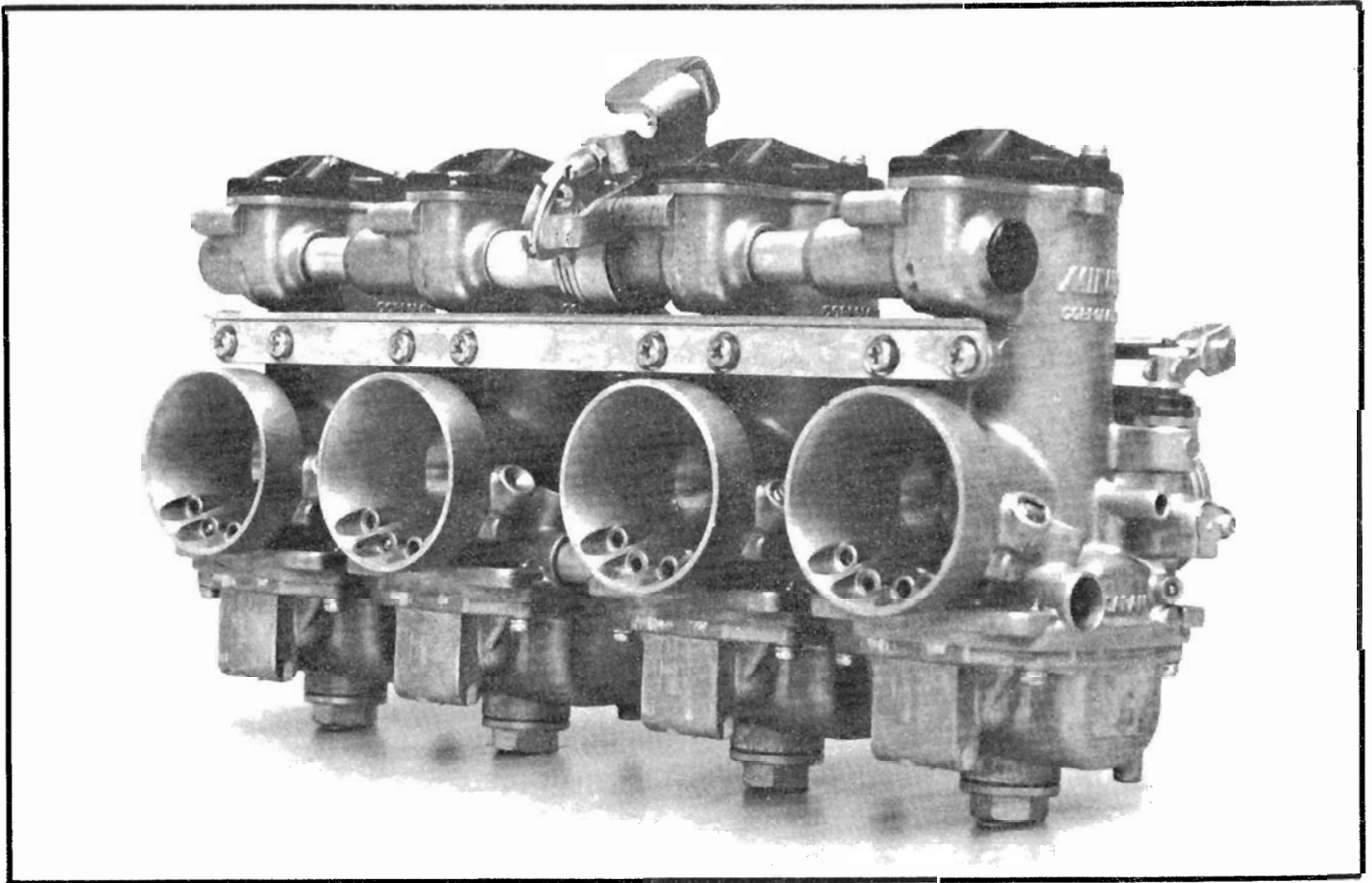


When it comes to proven performance gains, no other carburetion system for production based street bike engines can match the success of Mikuni's VM Series Smooth Bore Carburetors. These carburetors have garnered countless National Championships in America in both road racing and drag racing. In AMA Superbike racing they've powered Team Kawasaki and Team Suzuki to countless National wins, while in drag racing they've taken Team Suzuki's Terry Vance to several Superstock Championship titles. Their success record in world wide motorcycle racing is nearly immeasurable.

Mikuni VM Series Smoothbores are available in 29mm and 33mm bore sizes. They are intended for use in replacement of stock vacuum slide carburetors where they offer quicker engine response and increased airflow. This is because the VMs provide a smooth bore design without a throttle valve in the throat that hinders flow and creates turbulence. Other advantages of the VMs over stock carburetion include increased bore size for performance applications and a wide range of available jetting and tuning components for precise fuel metering under all performance applications.

We suggest the use of VM 29 Smoothbores on stock to modified 750cc inline fours for street and track applications, and on stock or mildly modified 1000cc street bikes. Use VM 33 Smoothbores on highly modified 750cc bikes for race track use only, and on mild to highly modified 100cc bikes for street or race track.

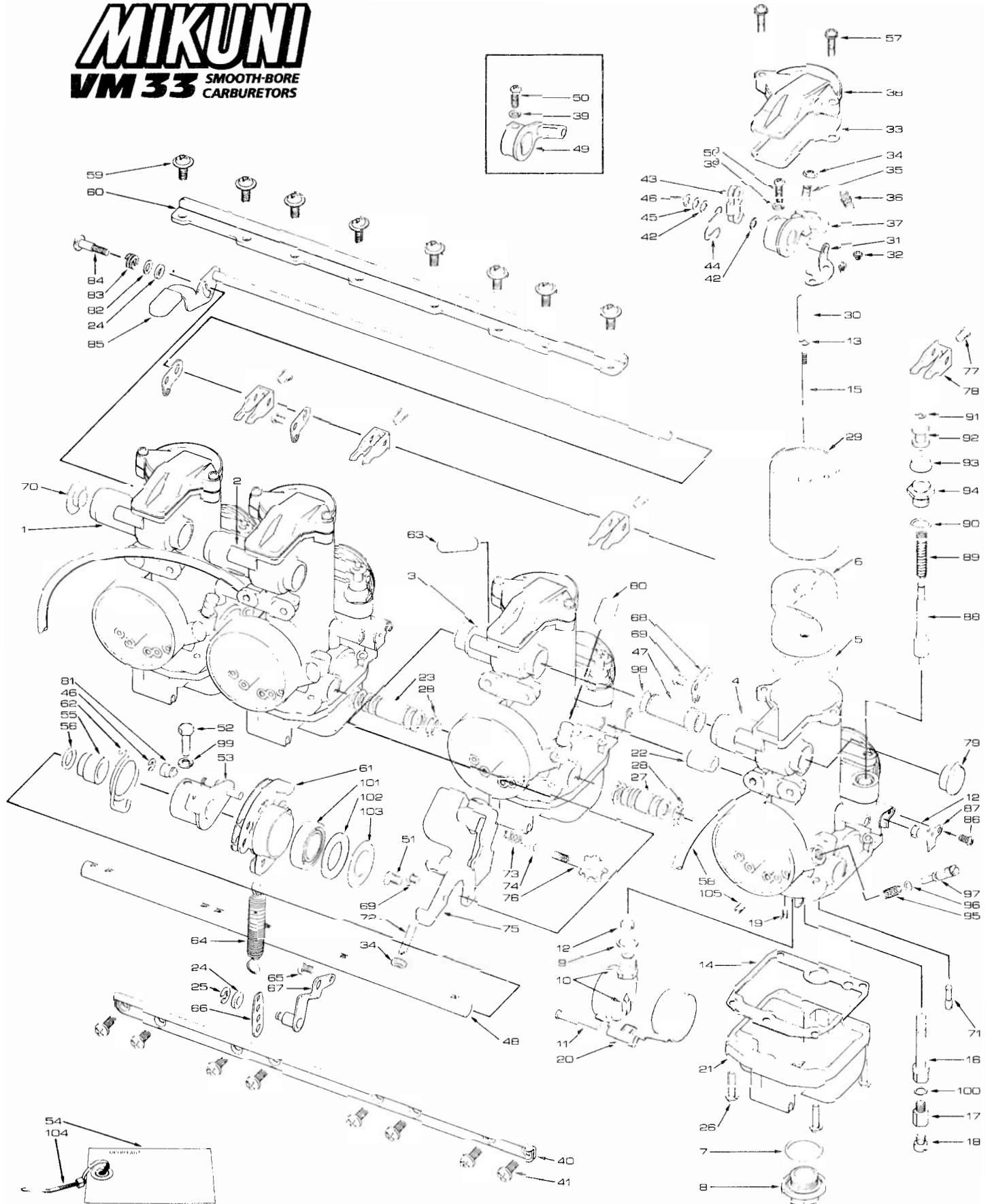
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MIKUNI
VM 33 SMOOTH-BORE
CARBURETORS



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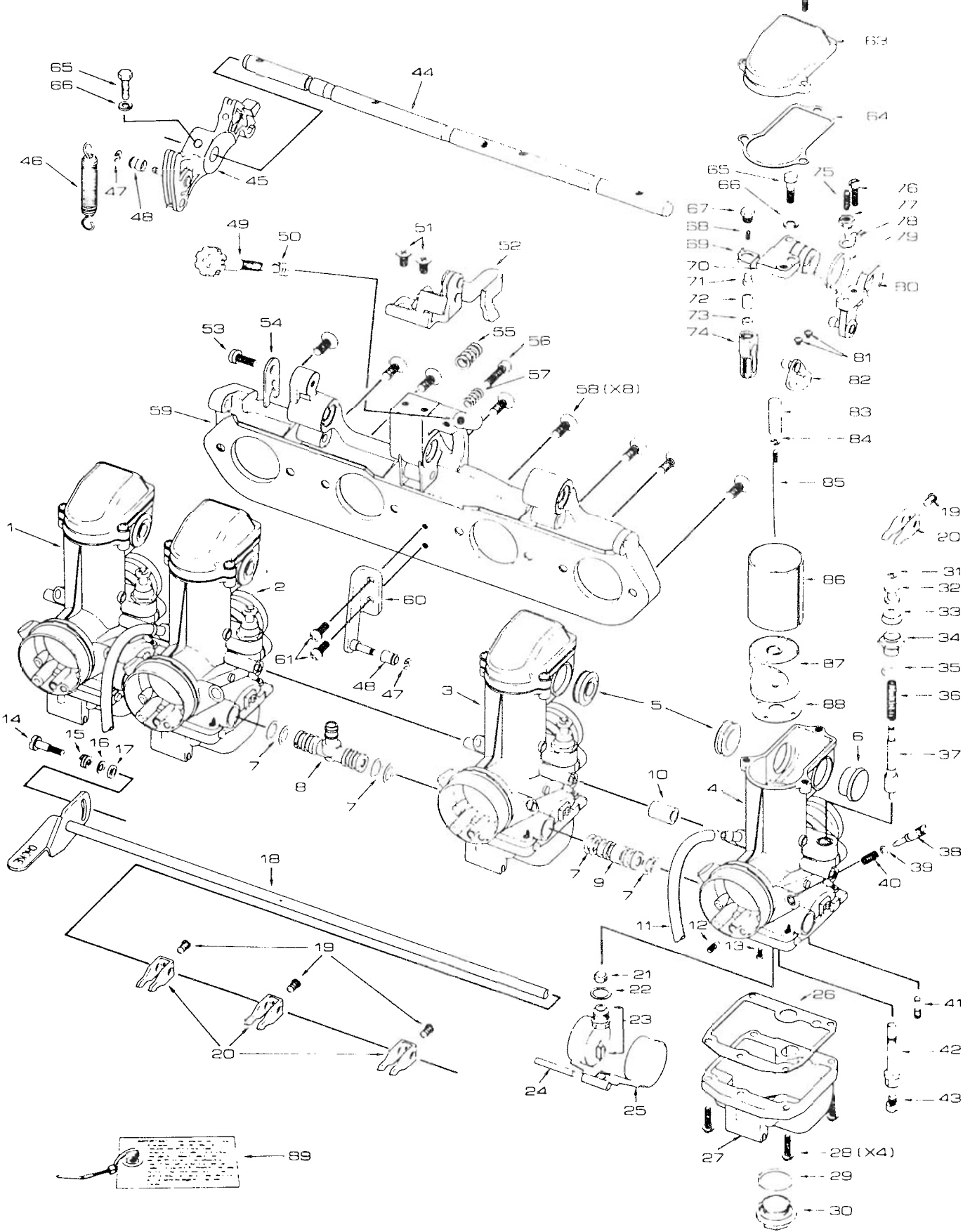


ITEM NO.	ORDER NO.	MIKUNI PART NO. & DESCRIPTION	ITEM NO.	ORDER NO.	MIKUNI PART NO. & DESCRIPTION
1.	NA	VM33SS101/01b Mixing Body	53.	002-638	VM33/26 Lever Ass'y.
2.	NA	VM33SS101/01c Mixing Body	54.		VM33/78 Name Plate
3.	NA	VM33SS102/01c Mixing Body	55.	002-639	VM33/68a Collar
4.	NA	VM33SS103/01b Mixing Body	56.	002-640	VM28/403 Seal, Felt
5.	002-600	VM33/31 Gasket	57.	002-615	CW2=0416B Screw w/ Lock Washer
6.	002-601	VM33/20 Jet Block	58.	002-641	N149.030 Hose, Air Vent
7.	002-602	BN042/64 O-Ring	59.	002-642	N138.186 Screw
8.	002-603	VM33/77 Drain Plug	60.	002-643	VM33/67 Bracket Plate, Rear
9.	002-187	B34/52 NV Washer	61.	002-644	Bell Crank Ass'y.
10.	002-604	N122.032 1.5 NV Ass'y.	62.	002-645	VM33/35 Spring
11.	002-605	VM30/160 Float Pin	63.	002-546	N148.013 Vacuum Cap
12.	002-606	VM18/233 Filter Screen	64.	002-647	VM22/349 Throttle Return
13.	002-083	VM20/369 E-Ring	65.	002-648	C2-0508-B Screw
14.	002-607	VM30/257 Gasket, Float Chamber	66.	002-649	VM33/34 Adjuster Plate
15.	002-340	J8-6DJ30 Jet Needle	67.	002-650	VM33/23 Bracket
16.	003-536	261 O-8 Needle Jet	68.	002-651	VM33/58 Choke Shaft Plate
17.	002-608	697-05001a MJ Extender	69.	002-652	C2-0408-B Screw
18.		N100/604 Main Jet	70.	002-653	VM33/63 Cap, Side
19.	002-609	C6=0307 Screw	71.		VM22/210 Pilot Jet
20.	002-501	VM26/260 Float Ass'y.	72.	002-654	N138.049a Adjuster Screw
21.	002-610	VM29/20-100 Float Chamber Body	73.	002-655	N110.209 Spring
22.	002-611	888-36003a Hose, Air Vent	74.	002-656	N141.217 Washer
23.	002-612	792-20008 Fuel Nipple	75.	002-657	VM33/43 Main Bracket
24.	002-613	VM28/268 Washer	76.	002-658	603-25001a Adjuster Screw
25.	002-614	BN38/135 E-Ring	77.	002-659	N158.052 Screw
26.	002-615	CW2=0416-B Screw w/Lock Washer	78.	002-660	VM26/435 Lever
27.	002-616	792-20007 Fuel Nipple	79.	002-661	VM33/70 Cap, Side
28.	002-617	BV30/40 O-Ring	80.	002-662	VM33/72 Fuel Cap
29.	003-198A	832-39003 1.5 Throttle Valve	81.	002-663	VM24/532 Ring
	003-198	832-39003 2.0 Throttle Valve	82.	002-664	VM28/449 Washer
30.	002-618	VM33/60 Bushing Collar	83.	002-665	VM28/293 Spring
31.	002-619	VM33/71 Bracket Ass'y.	84.	002-666	VM28/269 Screw
32.	002-527	CW2=0305 Screw w/ Lock Washer	85.	002-667	VM33/56a Choke Shaft Ass'y.
33.	002-620	VM33/32 Gasket, Top Cover	86.	002-668	C2-0306-B Screw
34.	002-621	N138.050 Adjuster Nut	87.	002-669	VM33/59 Side Plate
35.	002-622	VM33/21 Adjuster Screw	88.	002-670	VM34/510 Starter Plunger
36.	002-623	730-06005 Screw	89.	002-671	VM16/42a Plunger Spring
37.	002-624	VM33/64 Lever Ass'y.	90.	002-672	VM18/249 O-Ring
38.	002-625	776-39001 Top Cover	91.	002-673	KP/13 E-Ring
39.	002-626	W4-04-0 Lock Washer	92.	002-674	VM28/450 Ring
40.	002-627	VM33/75 Bracket Plate, Front	93.	002-084	VM20/455 Rubber Cap
41.	002-628	C2-0512-B Screw	94.	002-675	VM28/359 Guide Holder
42.	002-629	B401/10 Washer (Polyester)	95.	002-181	M12F/46a Spring
43.	002-630	VM33/45 Plate, Connecting	96.	002-676	VM14/75 O-Ring
44.	002-631	VM33/49 Spring	97.	002-677	VM26/287 Air Screw
45.	002-632	M10/56 Washer	98.	002-678	OS/05b O-Ring
46.	002-355	BSW28/70 E-Ring	99.	002-679	W4-05 Lock Washer
47.	002-633	813-28001 Collar Pipe	100.	002-680	BV23/196 Washer
48.	002-634	700-17003a Shaft	101.	002-681	VM33/61 Bearing
49.	002-635	VM33/52a Lever Ass'y.	102.	002-682	VM33/37 Seal, Felt
50.	002-636	VM33/73 Screw	103.	002-683	946-17001 Washer
51.	002-637	C5-0510 Screw	105.		BS30/97 Air Jet
52.	002-519	VM28/230 Bolt	106.	002-684	VM33/82 Restrictor

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VM 29 SMOOTH BORE CARBURETORS



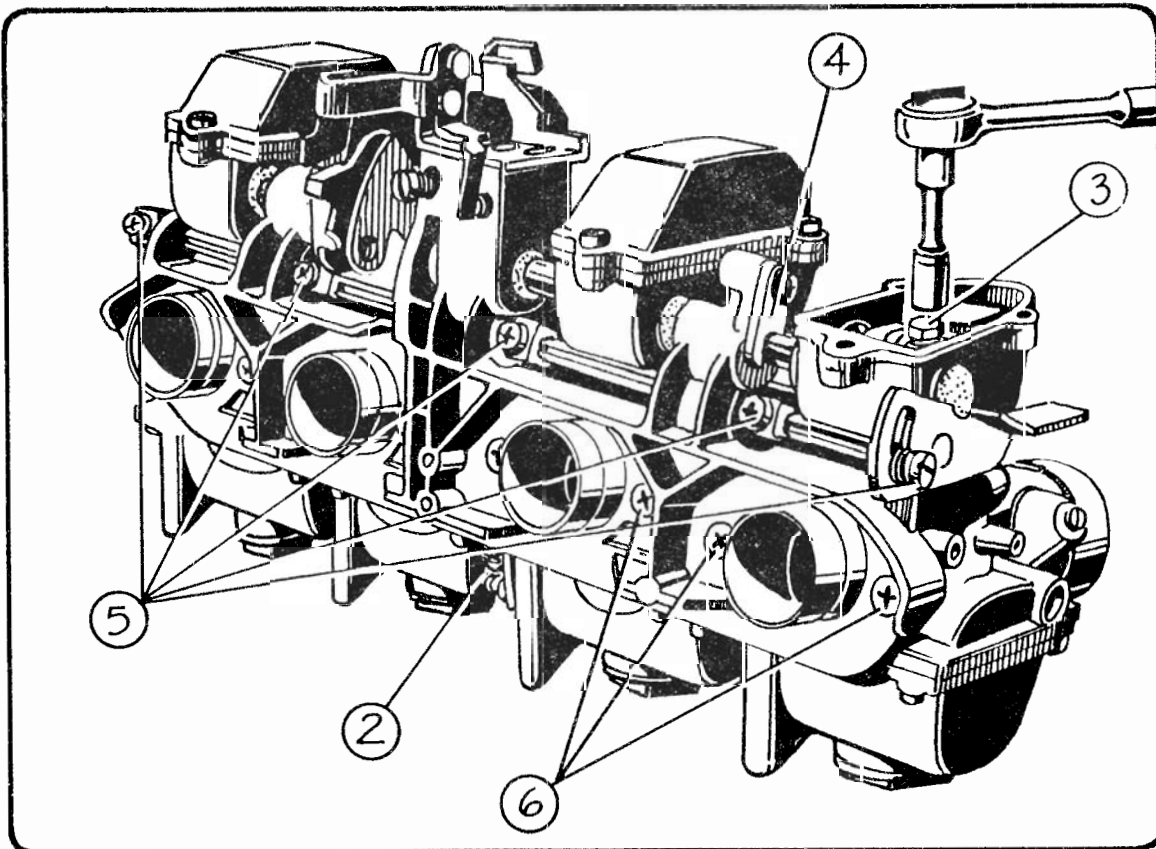
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ITEM NO.	ORDER NO.	MIKUNI PART NO. & DESCRIPTION	ITEM NO.	ORDER NO.	MIKUNI PART NO. & DESCRIPTION
1.	NA	VM29SS1/01b Mixing Body	46.	002-521	VM24/536 Spring, Thr. return
2.	NA	VM29SS2/01b Mixing Body	47.	002-355	BSW28/70 E-ring
3.	NA	VM29SS3/01b Mixing Body	48.	002-663	VM24/532 Ring, Thr. lever
4.	NA	VM29SS31/01b Mixing Body	49.		VM26/436 Screw, idle adjusting
5.	002-510	VM24/489 Seal, Rubber	50.		BNO42/31 Spring, idle adjusting
6.	002-509	VM28/559 End cap, Rubber	51.	002-637	C5=0510 Screw, bracket
7.	002-617	BV30/40 O-ring	52.	002-505	VM24/456 Bracket, throttle cable
8.		VM26/268 Fuel joint (T)	53.	002-516	CW2=0514-B Screw w/lockwasher
9.		VM26/269 Fuel joint	54.	002-517	VM28/498 Plate
10.	002-379	VM26/308 Hose, rubber (16mm)	55.		BN38/341 Spring, Shock
11.		VM15/217 Hose, Rubber air vent	56.		N115.053 Screw, Throttle Adj.
12.		BS30/97 Air jet	57.	002-655	N110.209 Spring, Throttle Adj.
13.		CW2=0307 Screw w/lockwasher	58.		C5=0614 Screw
14.	002-666	VM28/269 Screw (Starter Lvr)	59.	002-507	VM24/460 Back plate
15.	002-665	VM28/293 Spring (Starter Lvr)	60.	002-533	VM24/513 Bracket, Throttle Sp.
16.	002-664	VM28/449 Washer (steel)	61.	002-516	CW2=0514-B Screw w/lockwasher
17.	002-613	VM28/268 Washer (nylon)	62.	002-522	CW2-0414 Screw w/lockwasher, top
18.	002-511	VM24/462 Shaft, starter	63.	002-523	VM24/507 Mixing Chamber Top
19.		VM28/360 Screw (Starter Lvr)	64.	002-524	VM28/549 Gasket, M.C. Top
20.	002-660	VM26/435 Starter Lever	65.	002-519	VM28/230 Bolt
21.	002-606	VM18/233 Filter	66.	002-520	W4=05-B Lockwasher
22.	002-187	B34/52 0.5 Washer, Valve seat	67.		VM29/04 Cap screw
23.	002-503	N122.032 2.5 Needle Valve	68.		B21/29 Spring
24.	002-107	BV26/22 Float pin	69.		VM28/233 Lockwasher plate
25.	002-501	VM26/260 Float assembly	70.	002-532	VM28/554 Lever, Pull
26.	002-502	VM26/258 Gasket, Fl. Chamber	71.		VM28/195 Pin (Top)
27.	002-525	VM29/20-100 Float Chamber	72.		VM29/05 Pin (Bottom)
28.	002-615	CW2=0416-B Screw w/lockwasher	73.		VM29/06 Plate
29.	002-531	VM28/254 O-Ring (Drain plug)	74.		VM29/07 Connector
30.	002-526	VM28/253 Drain Plug	75.	002-508	VM28/593 Adjusting Screw
31.	002-673	KP/13 E-clip (Str. Plunger)	76.		B2=0416 Bolt, Link lever
32.	002-674	VM28/450 Bushing, Nylon	77.		N3=05 Nut
33.	002-084	VM20/455 Cap, rubber	78.		VM28/594 Plate, Set
34.	002-675	VM28/359 Fitting, Str. Plunger	79.		VM28/592 Spring
35.	002-672	VM18/249 O-ring, Str. Plunger	80.	002-528	VM29/17 Link lever assembly
36.	002-671	VM16/42a Spring, Str. Plunger	81.	002-527	CW2=0305 Screw w/lockwasher
37.		VM24/510 Starter Plunger	82.	002-530	VM29/08 Bracket, connecting
38.	002-506	VM26/288 Pilot air screw	83.	002-515	VM29/14 Pin, Needle retaining
39.	002-676	VM14/75 O-ring	84.	002-083	VM20/369 E-Ring
40.	002-181	M12F/46a Spring, pilot screw	85.	002-268	J8-5DL31 Jet Needle
41.		VM22/210 Pilot Jet	86.		VM29/15 Throttle Valve
42.		VM29/16 Needle Jet (261)	87.	002-500	VM29/10 Jet Block
43.		N100/604 Main Jet	88.	002-535	VM29/13 Gasket, Jet Block
44.	002-513	VM29/11 Throttle shaft	89.		VM33/78 Warning Tap
45.	002-518	VM24/533 Lever, throttle			

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THESE CARBURETORS GIVE SMOOTH ACCELERATION THROUGHOUT THE RPM RANGE WITH A VERY STRONG TOP END.



Carburetor disassembly

1. Remove the cover from each carburetor.
2. At the middle section of the carburetor assembly, unhook the throttle return spring from the pin.
3. Remove five bolts to free the throttle shaft.
4. Remove stopper plate and pull out the shaft.
5. Loosen four cross-recessed screws and also the screws in the slot. Draw out choke shaft.
6. Remove the plate. A total of 8 screws must be removed to free this plate for removal.

The foregoing procedure permits the rest of the carb assembly to be disassembled further in the usual manner.

THROTTLE CABLE SYSTEM

The VM Smoothbore carburetor system is designed to be used only in conjunction with a dual cable (push-pull type) throttle system. The use of a single cable throttle may be potentially hazardous in that it may not always allow the throttle valves to properly return to its closed position. Order No. 005-230

BASIC VM SMOOTHBORE APPLICATIONS

VM33/A-14

Suzuki GS1000, GS1100 '80-on
Kawasaki KZ1000, KZ1100 '81-on

VM29/A-7

Kawasaki KZ650, KZ900, KZ1000
Honda CB750, CB900 (adapter required)
Yamaha XS1100 (adapter required)
Suzuki GS1100 (adapter required)

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Main jet and needle jet removal:

- Remove the plug and unscrew the main jet and needle jet with a screwdriver.

Throttle valve, jet needle removal:

- Remove the top covers and the plate.
- Unscrew the throttle arm set bolts.
- Remove the throttle return spring.
- Remove the throttle shaft set plate.
- Remove the rubber caps from both sides of the carburetor assy.
- Pull the throttle shaft off to the right.
- Remove the two screws and pull out the throttle valve and jet needle.

Pilot jet removal:

- Remove float chamber body.
- Unscrew pilot jet.

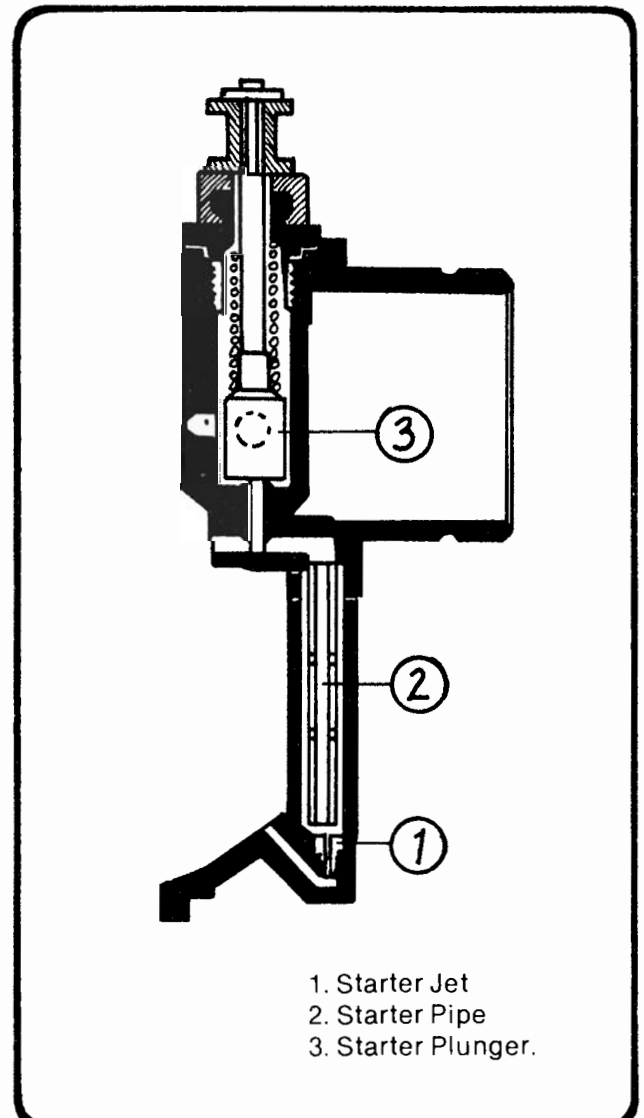
Mixture Trouble Symptoms	
mixture rich	mixture lean
Engine is sluggish	Engine overheats
Smoky exhaust	Runs better with starter lever on
Runs worse when warm	Spark plugs burned white
Spark plugs fouled black	Running is unstable
Runs better without air cleaner	No power

Starter System

The carburetor starter is a device used to provide the engine with the exceptionally rich 1:1 fuel/air mixture that is necessary to enable easy starting when the engine is cold.

The sketch shows the starter jet (1), starter pipe (2) and other functional parts of the starter system. With the throttle valve left closed and the starter plunger (3) pulled fully open, a high intake vacuum is developed at the jet opening to draw fuel from the carburetor when the engine is turned over. Fuel is measured by the starter jet, mixed with air in the starter pipe, drawn into the starter plunger chamber and mixed with starter primary air. At this point it is the most suitable mixture for starting and it has been well atomized, so the fuel is now sprayed into the main bore. There it is mixed with a small amount of fuel/air spray from the pilot system and supplied to the engine.

In order for the starter system to work properly, the throttle must be kept closed so that sufficient vacuum can be built up at the starter outlet. In addition, the starter lever must be raised fully so that the tip of the starter will unplug the fuel passage. If the throttle is opened or if the starter lever is not fully raised, the starter system will fail to operate efficiently. The starter will also not operate correctly if the air bleed hole clogs causes insufficient atomization.



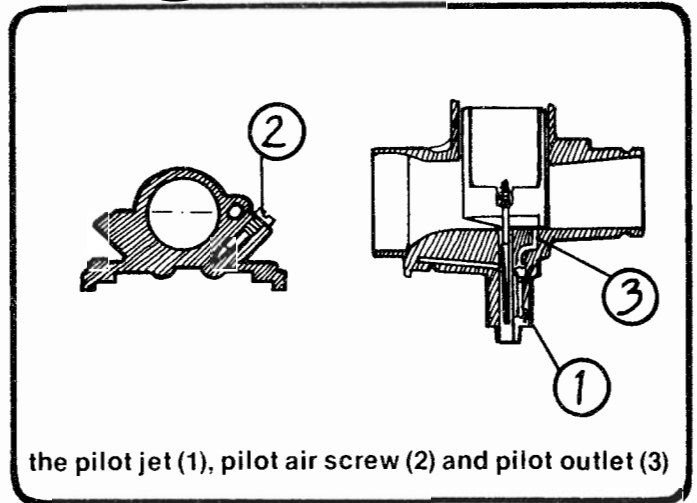
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Pilot System

The sketch shows the pilot system, which includes the pilot jet (1), pilot air screw (2) and pilot outlet (3).

The pilot system operates from zero to about one-fourth throttle opening. At small throttle openings the opening near the needle jet of the main system is comparatively wide, so there is low vacuum and almost no fuel is drawn from this jet. Near the pilot outlet, however, the air passage is narrow and a high vacuum develops, drawing a rich fuel mixture up through the pilot outlet.

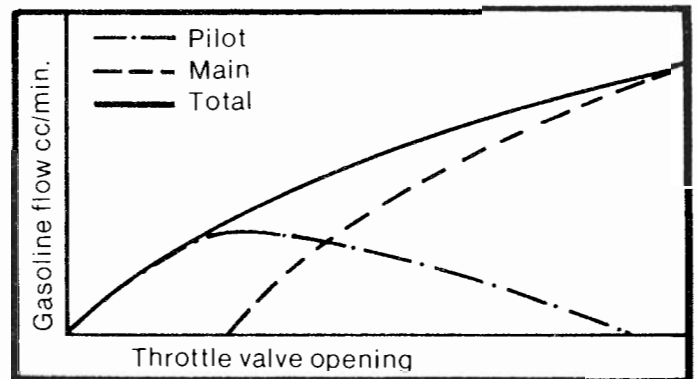
The pilot jet mixture is produced by combining the gasoline measured out by the pilot jet, with the air let in past the pilot air screw. Since the pilot jet opening is fixed, the mixture must be controlled instead by turning the pilot air screw. As the screw is backed out, the pilot air passage is opened wider and the mixture is made leaner. Turning the screw in makes the mixture richer.



the pilot jet (1), pilot air screw (2) and pilot outlet (3)

Flow Characteristics

The graph shows throttle valve opening versus gasoline flow for the main and pilot systems. If trouble occurs in the pilot system, not only are starting and low speed running affected, but the transition from pilot to main system is not smooth as the throttle is opened, causing a drop in acceleration efficiency. Pilot system trouble might be due to maladjustment, a dirty or loose pilot jet, or clogging of the pilot outlet.

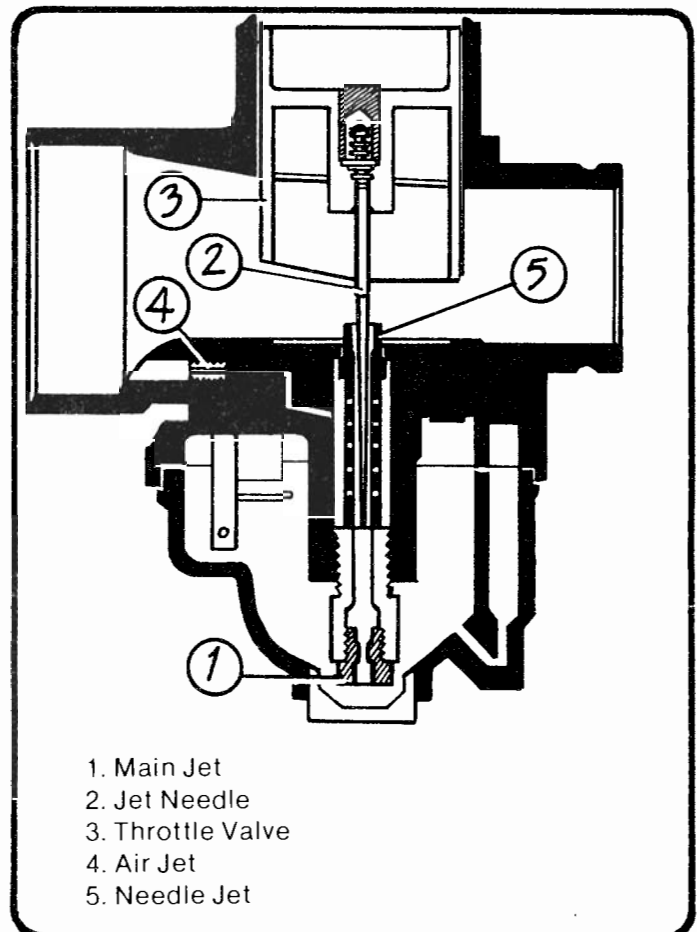


Main System

Sketch shows the main system, which consists of the main jet (1), jet needle (2), throttle valve (3), air jet (4), and needle jet (5). At one-fourth and larger throttle openings, the vacuum in the vicinity of the jet needle rises enough to cause most of the engine's fuel supply to be delivered by the main system. Gasoline passes through the main jet, through the opening between the needle jet and needle, and into the main bore to be mixed with the air flowing there.

In one side of the needle jet, there is an air bleed hole to admit air measured by the air jet. This air mixes with the gasoline and begins atomization before it ever reaches the main bore.

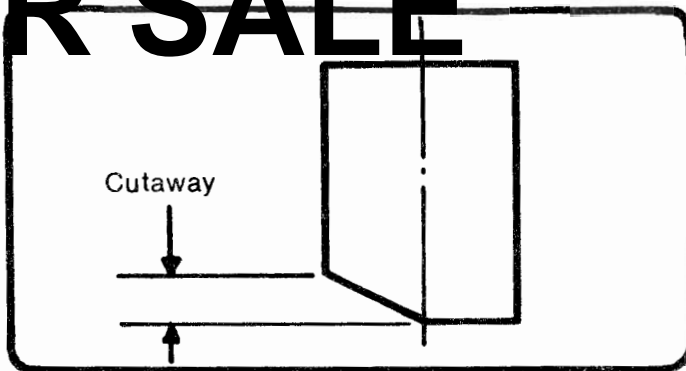
The jet needle is connected to the throttle valve, and the tapered tip of the needle extends down into the needle jet. As the throttle is raised open, the needle is lifted with it out of the jet. At one-fourth throttle opening, the tapered portion of the needle starts coming out of the jet, increasing the needle/jet clearance and thereby increasing the rate of gasoline flow above this throttle opening. Flow regulation by the needle jet is also affected by the throttle valve cutaway, a part of the lower end of the throttle valve which is shaved off to help control the amount of vacuum developed at the needle jet outlet.



1. Main Jet
2. Jet Needle
3. Throttle Valve
4. Air Jet
5. Needle Jet

At near full-throttle opening, the cross-sectional area of the needle/jet clearance becomes greater than the cross-sectional area of the main jet. At these openings the gasoline flow is limited by the size of the main jet, rather than the jet needle clearance.

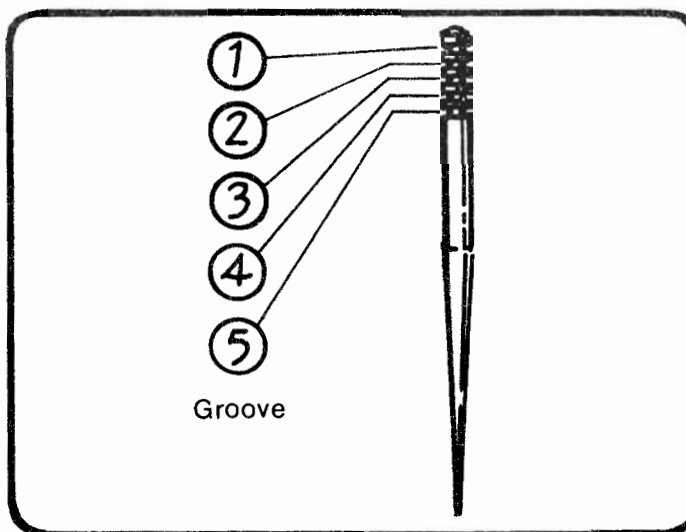
Trouble in the main system is usually indicated by poor running or lack of power at high speeds. A dirty or clogged main jet will cause the mixture to be leaner. A rich mixture could be caused by clogging of the air jet, its air passages or the air bleed hole in the bleed pipe; needle jet and needle wear (increasing clearance); or by loosening of the main jet, air bleed pipe, or the needle jet.



Jet Needle

The last number of the jet needle number ("3" of 5DL31-3) is not stamped on the needle, but is the number of the standard groove in which the E ring is clipped. The groove numbers are counted from the top of the needle, 1 being the topmost groove, and 5 being the lowest groove.

If the engine still exhibits symptoms of overly rich or lean carburetion after all maintenance and adjustments are correctly performed, the main jet can be replaced with a smaller or larger one. A smaller numbered jet gives a leaner mixture and a larger numbered jet a richer mixture. Many jets are available, but it is recommended that any change be limited to one jet size (2.5) difference from the standard jet.



JETTING:

	VM33/A-14	VM29/A-7
Main Jet	N100/604 140	N100/604 140
Main Air Jet	BS30/97 1.0	BS30/97 0.9
Jet Needle	6DJ30-4	5DL31-3
Pilot Jet	VM22/210 30	VM22/210 20
Needle Jet	261 O-8	261 O-6
Throttle Valve	832-39003 1.5	VM29/15 1.5

AIR CLEANERS

RC-0981 Oval offset flange position (VM33)	005-121
RC-1070 Tapered, center flange position (VM29)	005-110
RC-2450 Oval, offset flange position (VM29)	005-122
Crankcase Vent Air Filter (VM29 & VM33)	005-195

NOT FOR SALE

VM SMOOTHBORE REBUILD KITS

VM29mm Rebuild Kit **002-599**
 VM33mm Rebuild Kit **002-699**

VELOCITY STACKS

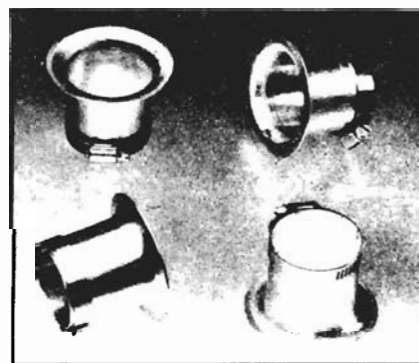
30mm VM29 Smoothbore **005-205**
 50mm **005-206**
 70mm **005-207**
 30mm step down VM29mm **005-208**
 50mm step down **005-209**
 70mm step down **005-210**

30mm VM33 Smoothbore **005-250**
 50mm **005-251**
 70mm **005-252**

FILTER SCREENS **005-200**
 for above velocity stacks

THROTTLE VALVES

VM29/15 1.5 (VM29mm) **003-168**
 VM29/15 2.0 **003-169**
 VM29/15 2.5 **003-170**
 832-39003 1.5 (VM33mm) **003-198A**
 832-39003 2.0 **003-198**
 832-39003 2.5 **003-198B**



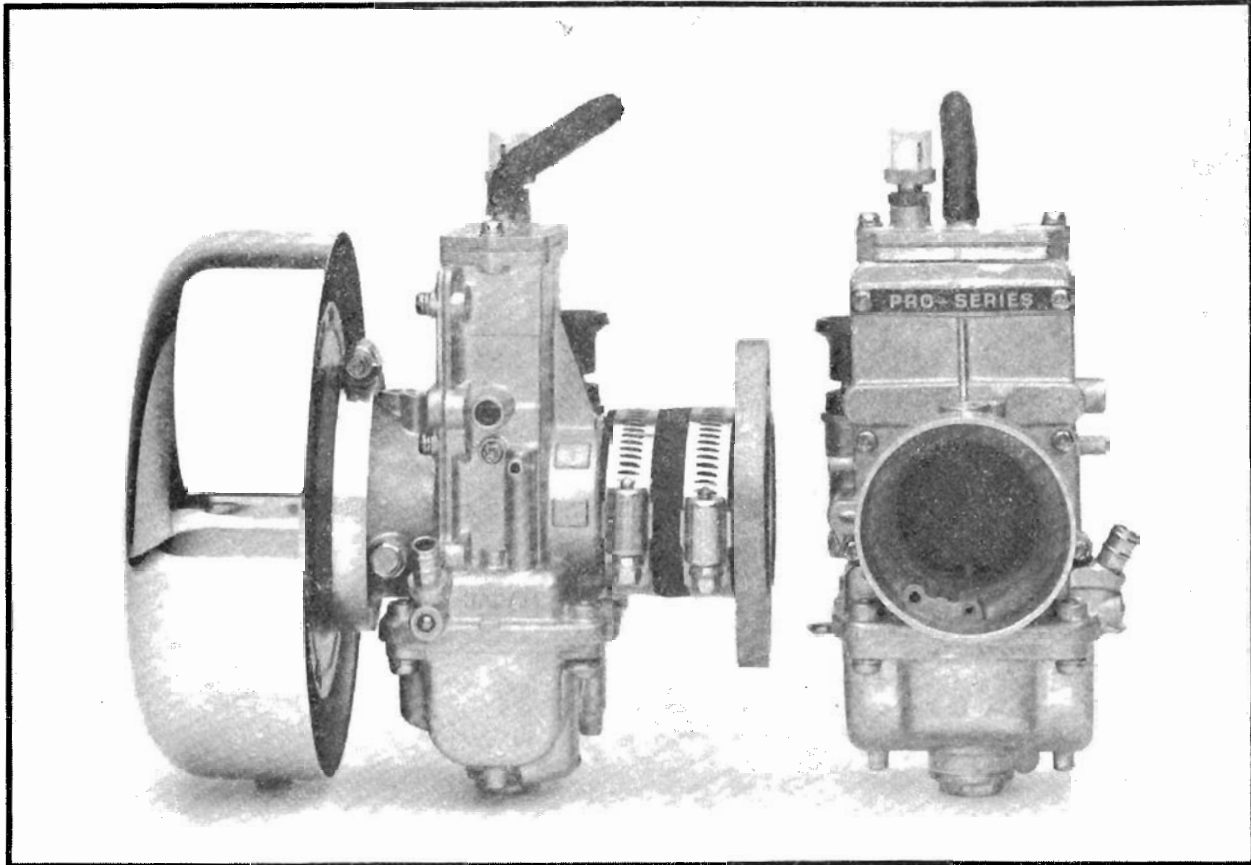
Adapter Reference Chart

MODEL APPLICATION	SMOOTHBORE MIKUNI NO.	MANIFOLD ORDER NO.
Honda CB1100 '83-on	A-2	005-056 (SM-47)
Honda CB900 '80-on	A-2	005-056 (SM-47)
Honda CB750 '79-on	A-2	005-056 (SM-47)
Honda CB750 '69-78	A-2	005-026 (SM-35)
Kawasaki GPz1100 '82-83	A-7	005-057 (SM-48)
Kawasaki KZ1100 '82-83	A-7	005-057 (SM-48)
Kawasaki KZ1000 '81-82	A-7	005-057 (SM-48)
Kawasaki KZ1000 '77-80	A-7	None
Kawasaki KZ900 '73-76	A-7	None
Kawasaki GPz750 '82-on	A-7	005-057 (SM-48)
Kawasaki KZ750 '80-on	A-7	005-057 (SM-48)
Kawasaki KZ650 '77-on	A-7	None
Suzuki GS1100 '80-on	A-12	005-057 (SM-48)
Suzuki GS1000 '80-on	A-12	005-057 (SM-48)
Suzuki GS1000 '78-79	A-12	None
Suzuki GS850 '79-on	A-12	005-057 (SM-48)
Suzuki GS750 '80-on	A-12	005-057 (SM-48)
Suzuki GS750 '77-79	A-12	None
Yamaha XS1100 '78-on	A-2	005-056 (SM-47)
Yamaha XJ900 '83-on	A-7	005-055 (SM-46)
Yamaha XJ750 '81-on	A-7	005-055 (SM-46)
Yamaha XJ650 '82-on	A-7	005-055 (SM-46)

Note: Call Sudco Carburetor Specialist for any applications not shown above.

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SUDCO MIKUNI HARLEY EVOLUTION CARB KIT



Here is the answer to age old Harley performance and carburetor problem which was pioneered by Sudco. This bolt-on kit for late model Evolution motors increases performance significantly along with making the engine more manageable and easier to ride.

The Evolution Carburetor Kit includes a highly modified Mikuni Pro Series 39mm or 41mm TM flat slide carburetor. These carburetors use standard readily available Mikuni

jetting. The performance increase they provide is across the total engine powerband.

The Evolution Carburetor Kit is a complete kit containing Pro Series TM Carburetor, extra jets, manifold, throttle assembly and cable, along with a reuseable K&N Filter and a chrome air cleaner cover.

EVOLUTION 39mm CARB KIT, Part No. 001-535

EVOLUTION 41mm CARB KIT, Part No. 001-536

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HD SERIES SMOOTHBORE CARBURETOR KIT

COMPLETE BOLT-ON 40mm KIT

Traditions in motorcycling run deep and strong. Harley Davidson understands these traditions when it comes to building America's favorite large displacement motorcycle. Traditions that Harley riders appreciate in the style, the feel, the torque and the strength of this modern American classic.

The all new HD Series 40mm Smoothbore Carburetor Kit from Mikuni American reinforces these traditions with a state-of-the-art fuel induction system. A system which greatly improves starting, rideability, power and torque for any riding application from street and touring, to custom and performance. Presently available for all Evolution engine models the new Mikuni HD Series 40mm Smoothbore Carburetor Kit offers these unsurpassed features:

- Smooth power transition from idle on up through full throttle.
- A major increase in torque and horsepower.
- Better fuel economy.
- Fully adjustable Accelerator Pump for excellent throttle response.

- Improved starting and rideability.
- Use with both stock and modified engines.
- Compact, lightweight design.
- High flowing smoothbore venturi.
- Fits all Evolution engine/chassis/fuel tank styles. Uses stock manifold.

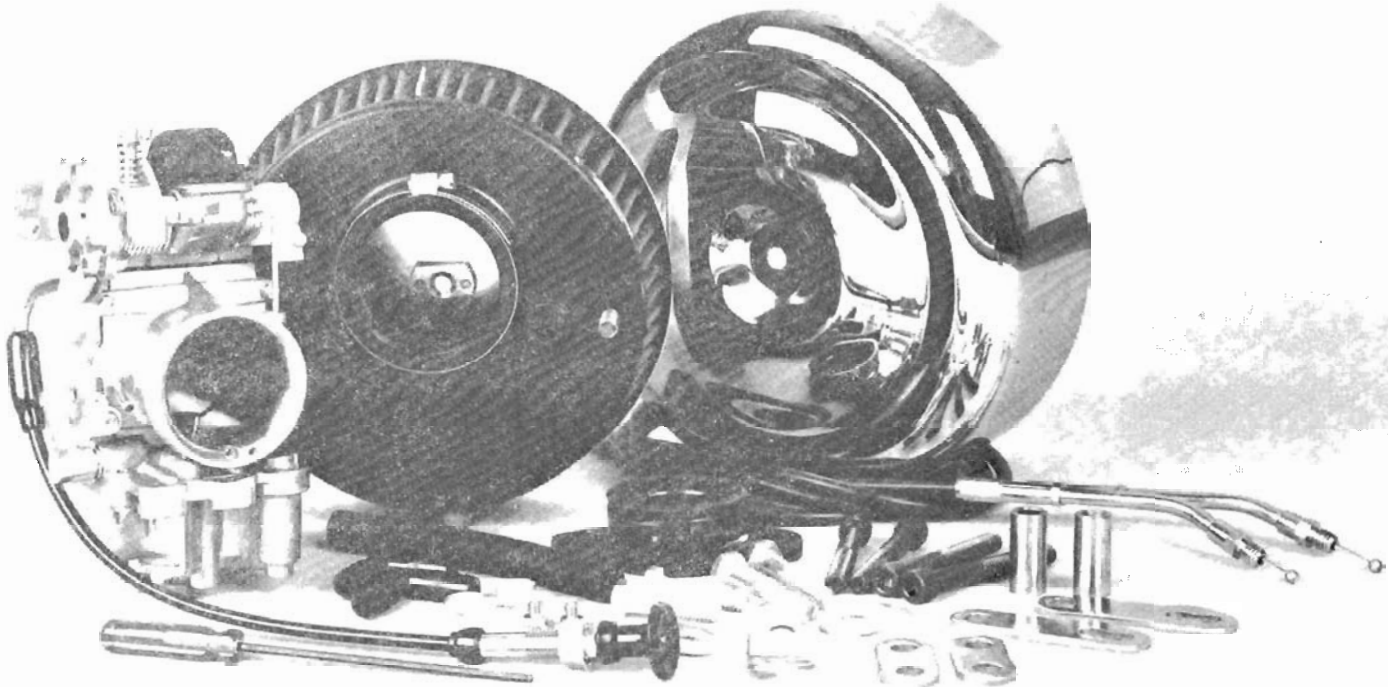
The heart of this new carburetor kit is Mikuni's new RS Series Racing Carburetor featuring a smooth bore venturi for increased power, and a fully adjustable accelerator pump for instant throttle response. Without question, this is the finest performing four-stroke motorcycle carburetor ever made. The entire kit bolts-on easily in just a couple of hours. The carburetor and chrome air cleaner assembly tucks into the bike like stock and comes jetted ready to ride.

Complete kit includes 40mm Mikuni Smoothbore Carburetor, choke and throttle cables, adapters and clamps, a K&N Filter assembly and a Chrome Filter Cover. Includes instructions for easy installation. Fits all 883, 1100, 1200, and 1340cc Evolution engines.

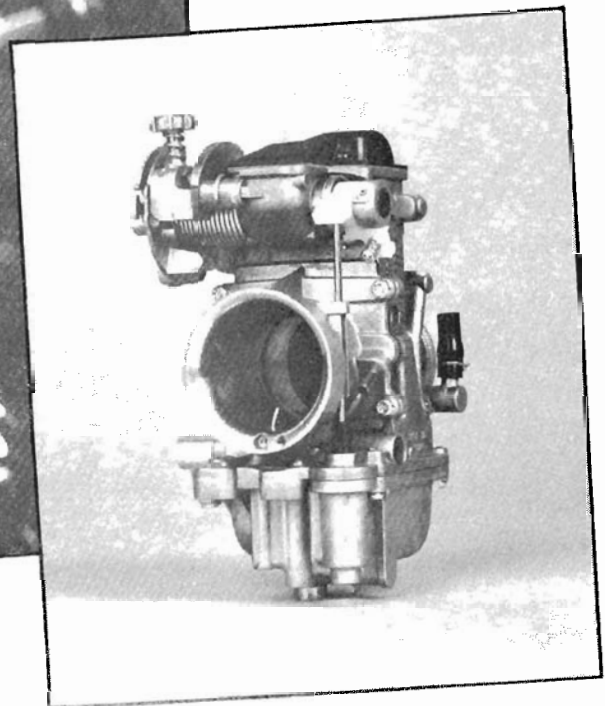
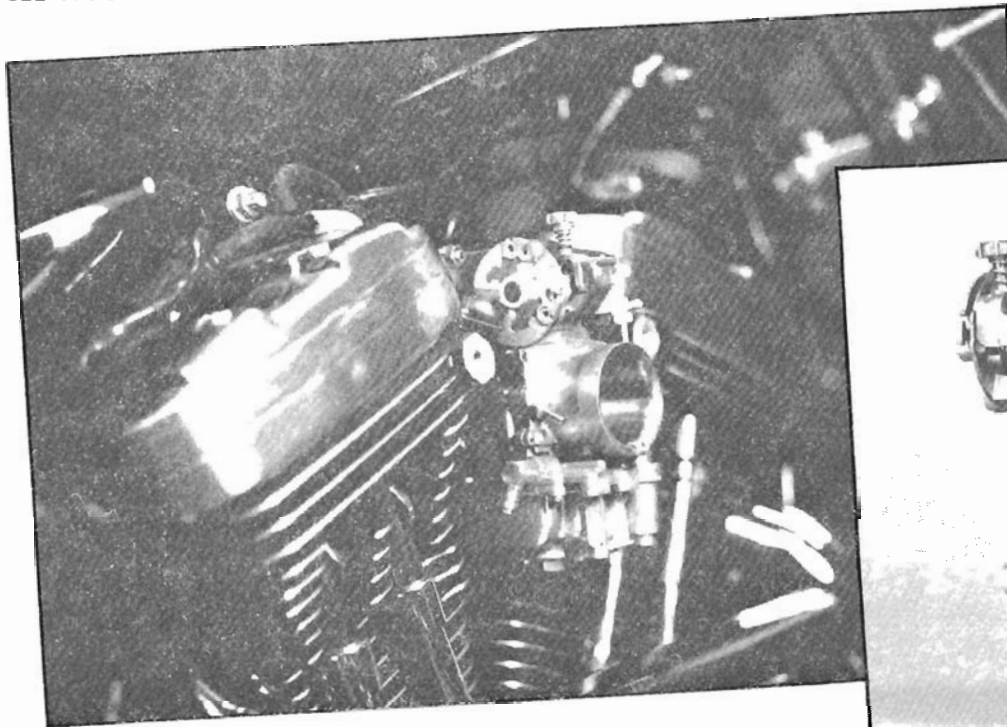
**MIKUNI HD SERIES SMOOTHBORE CARBURETOR KIT,
Part No. HD 40-6-K**



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SEE PARTS LIST PAGES 6 & 7



NOT LEGAL FOR USE IN CALIFORNIA ON MOTOR VEHICLES OPERATED ON PUBLIC HIGHWAYS OR IN OTHER STATES WHERE SIMILAR POLLUTION LAWS MAY APPLY.

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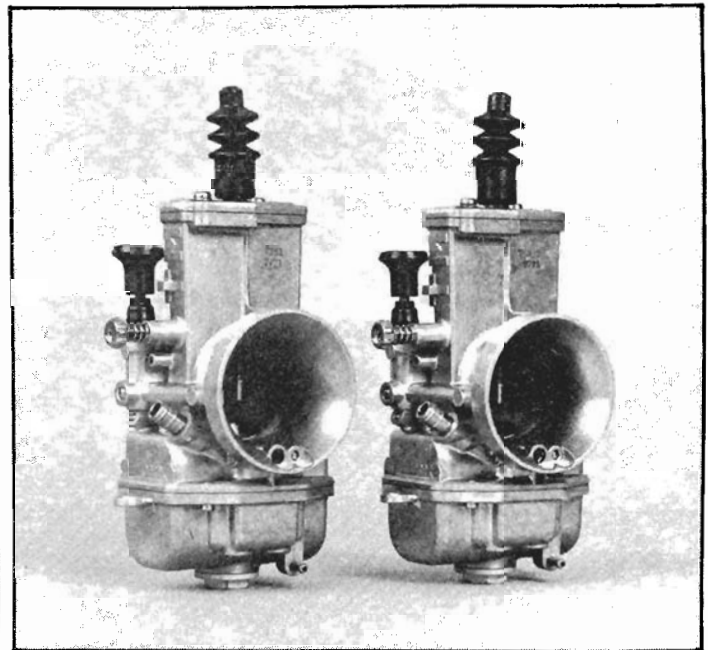
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MIKUNI TMX SERIES RACING CARBURETORS

With its introduction the Mikuni TMX Series Racing Carburetor signified a new generation of high performance carburetion from Mikuni designed particularly for 2-stroke engines in motocross, off-road bike and ATV racing applications. The TMX Series will also perform extremely well in other applications including flat track and road racing. For 4-stroke engine racing applications the TMX Series will also provide a significant performance improvement over stock carburetion systems although Mikuni recommends use of the RS Series Carburetors which were designed particularly for 4-stroke application.

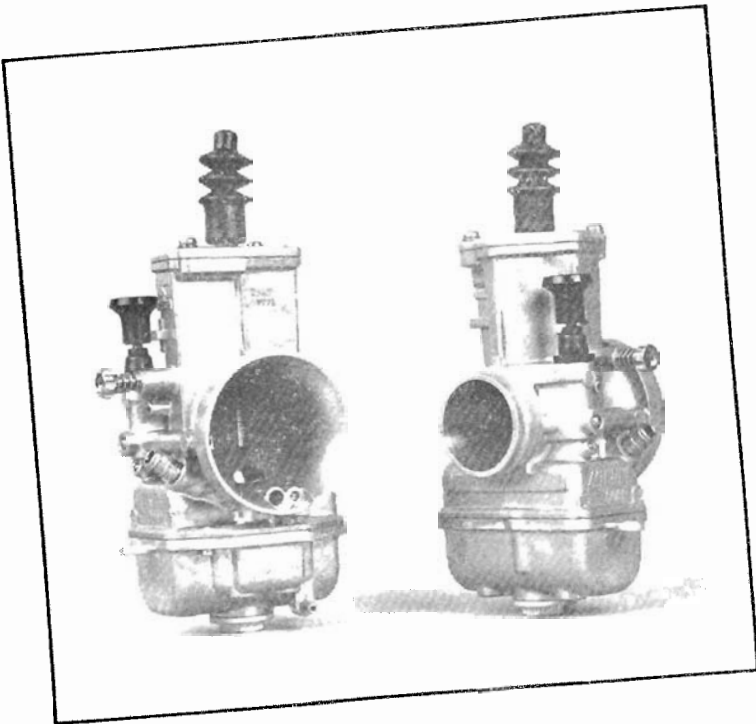
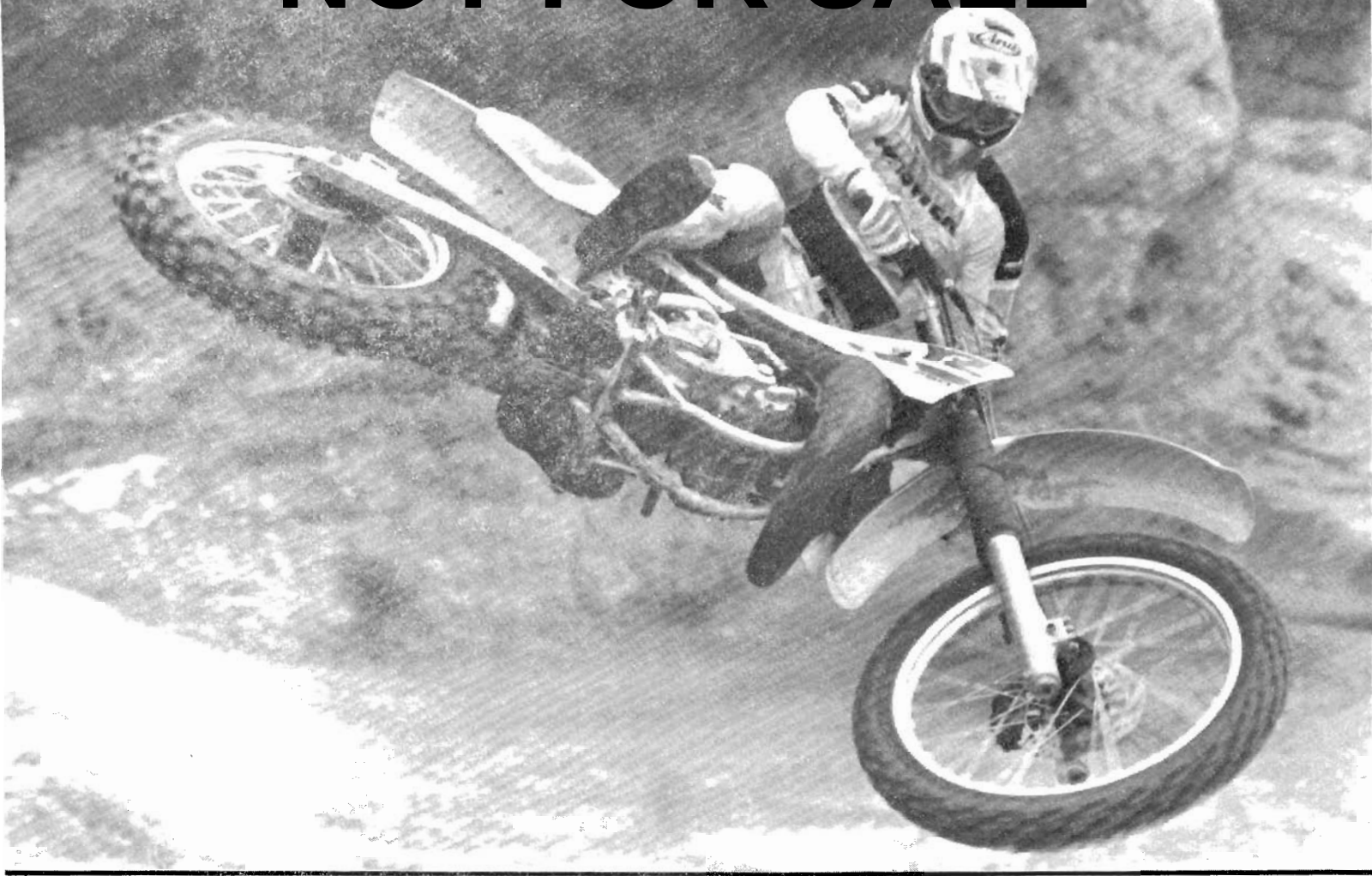
An all new design, the Mikuni TMX Carburetor features a radial flat slide design working in a smooth bore venturi that establishes a new performance standard for improved throttle response, along with a wider and stronger overall powerband from the engine. These performance gains are provided by the radial flat slide throttle valve design which produces a 40% greater boost signal from the air flowing past it for better throttle response and an increased sensitivity to tuning. Very minimum tuning changes are able to produce noticeable results in engine performance.

The TMX Carburetor is designed with a new lightweight and more compact body design with easy maintenance and tuning features. The carburetor's jet needle position may be changed easily and quickly. Access to the main jet can easily be accomplished by unscrewing the float bowl drain plug. A new float valve system with independently moving floats, working in conjunction with the main jet enclosed in a new baffle chamber allows the TMX Carburetor to perform smoothly without hesitation across the roughest terrain and under the most extreme lean angles and cornering forces.



We are positive you will be extremely satisfied with the performance gains and tuning ease Mikuni designed the TMX Series Carburetors to provide. Available in 35mm and 38mm bore sizes, we suggest using the TMX 35mm size on 125cc race engines and 250cc enduro and cross country machines. Use the TMX 38mm size on 250cc race engines and all Open Class machines.

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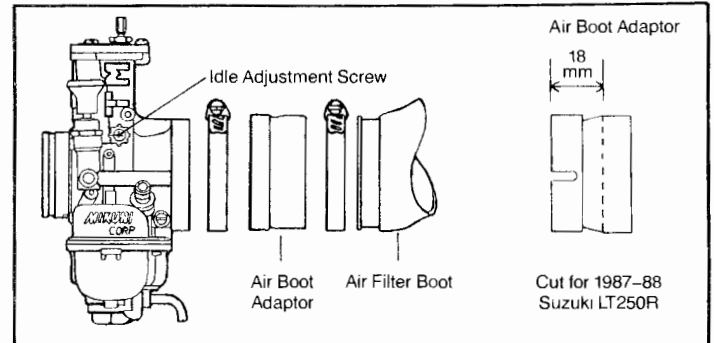
MIKUNI TMX SERIES CARBURETORS

ORDER NO.	MIKUNI	MAIN JET	PILOT JET	JET NEEDLE	THROTTLE VALVE
001-034	TMX35-1	4/042 350	VM22/210 20	6EN11-53	832-41002 6.0
001-076	TMX38-18 (47mm O.D.)	4/042 370	VM22/210 20	6EJ12-55	832-41002 3.5
001-007	TMX38-27 (44mm O.D.)	4/042 370	VM22/210 20	6EJ12-55	832-41002 3.5

TMX CARBURETOR AIRBOX ADAPTER

Supplied as standard with each TMX Series Carburetor, this Airbox Adapter is required in many applications when replacing the stock OEM carburetor with the 35mm and 38mm TMX Carburetor.

TMX CARBURETOR AIRBOX ADAPTER, Part No. 005-080



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TMX SERIES/TMX 35 and 38

GENERAL INSTRUCTIONS

Before you begin the installation of your Mikuni carburetor, take the time to read these instructions thoroughly.

WARNING: Gasoline is extremely flammable and can be explosive under certain conditions. Do not smoke. Make sure your work area is well ventilated and free from any source of flame or spark. This includes any appliance with a pilot light (i.e. a water heater in a garage).

IMPORTANT: Never remove a spark plug lead wire or fuel line while a motor is running as this can result in a fire or explosion.

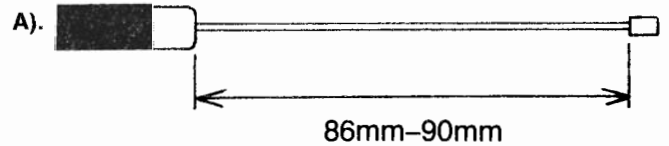
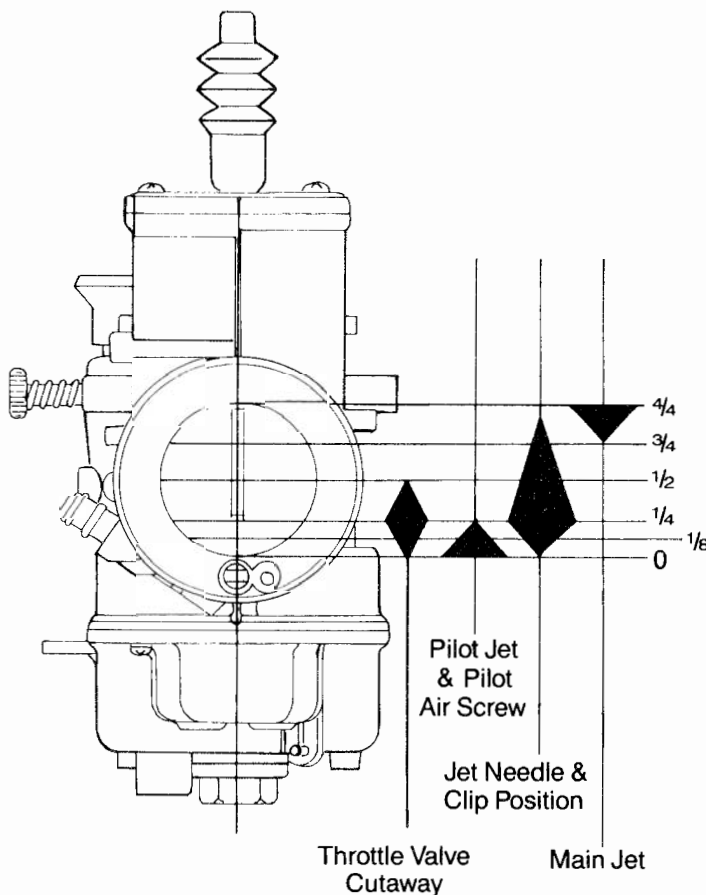
CHECK THROTTLE CABLE:

Installation of your aftermarket TMX Carburetor may require changing the stock throttle cable assembly's inner cable. To determine if your stock inner cable is the correct length, disconnect and remove the throttle cable from the carburetor. Check the inner cable's free length with the throttle control completely closed and the cable adjuster turned in all the way. Check the inner cable's free length against the drawing. If your inner cable does not have a free length between 86mm - 90mm, follow the next step to construct a new inner cable.

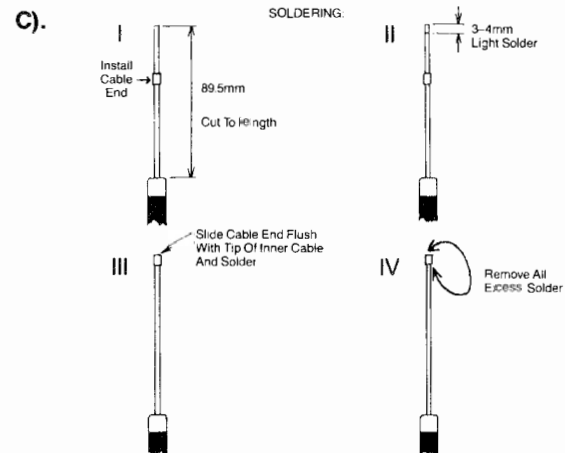
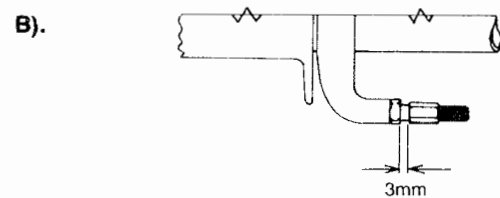
Note: All tuning of the carburetor should be done with the engine at normal operating temperature.

THROTTLE SLIDE POSITION

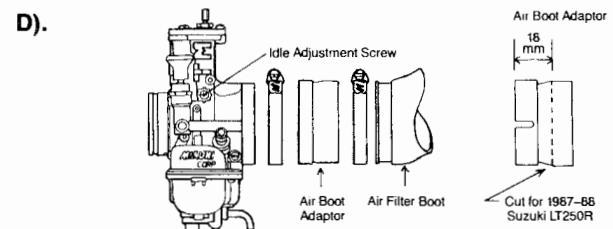
The TMX Carburetor's tuning components functional range.



- 1). Cut your stock inner cable so it can be removed from the outer casing. Note: Do not damage outer casing, but simply slide inner cable out.
- 2). Attach new inner cable supplied with your new TMX carburetor to the throttle drum and slide the new inner cable into the outer casing. Set the cable adjuster as shown in diagram B). then follow the instructions in diagram C). for cutting and soldering the inner cable.



- 3). Attach the throttle cable assembly to the TMX Carburetor.
- 4). Attach the air filter boot adapter to the carburetor as shown in D).
- 5). Install the carburetor into the intake manifold and attach the air filter boot to adapter.



- 6). **IMPORTANT:** Install fuel hose from fuel tank petcock to carburetor using hose clamps. Use $\frac{5}{16}$ " to $\frac{1}{4}$ " hose reducer if needed. If fuel hose is hard or cracked, replace it with new hose. **TURN FUEL ON AND CHECK FOR LEAKS.**
- 7). Adjust the throttle cable to manufacturer's specifications. **CAUTION:** Be sure the throttle operates smoothly and the carburetor throttle slide returns to its idle position when the handlebars are turned from lock to lock, and that the throttle cable does not pinch or bind when the handlebars are turned.

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PILOT SYSTEM The Pilot System is comprised of two adjustable components:

PILOT AIR SCREW, when turned in, enriches the fuel mixture by reducing the air flow into the Pilot System which operates from idle to approximately $\frac{1}{4}$ th open throttle. The effective adjustment range of the Pilot Air Screw is between $\frac{1}{2}$ to 2 turns out. If the Pilot Air Screw needs to be set more than 2 turns out to achieve the best idle, the next smaller size Pilot Jet is required. If less than $\frac{1}{2}$ turn is required, then a larger Pilot Jet should be used. The Pilot Air Screw should be adjusted to provide the highest engine RPM while the engine is at idle.

PILOT JET is the component supplying the majority of fuel from idle to $\frac{1}{4}$ th throttle position. The typical jet size should fall between No. 15 and No. 30. For selecting the correct Pilot Jet at idle, read the previous tuning directions for the Pilot Air Screw. If the engine appears to run too lean or too rich off of idle, the carburetor may require a size smaller or larger Pilot Jet and/or the Pilot Air Screw may require adjustment.

THROTTLE VALVE The Throttle Valve cutaway affects engine/carburetor response between $\frac{1}{4}$ th to $\frac{1}{4}$ th throttle slide position. The smaller the slide number, the richer the mixture. Available range 3.0, 3.5, 4.0, 5.0, 6.0 (richer → leaner).

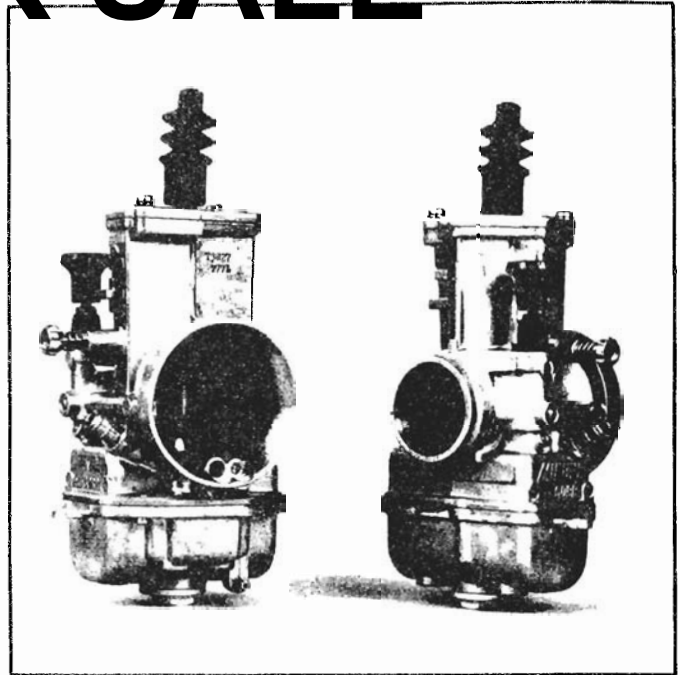
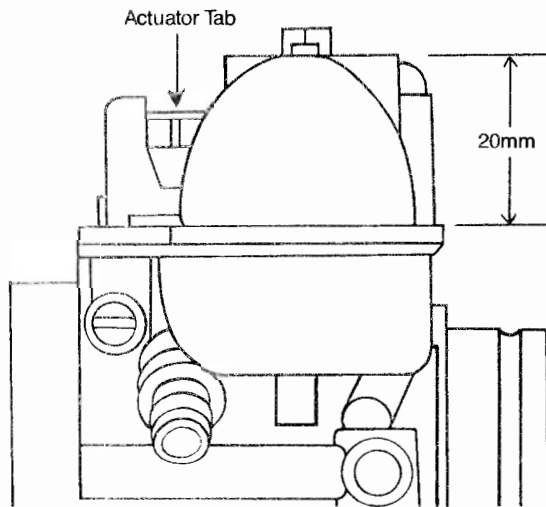
MAIN JET The Main Jet is located in the float bowl and can be removed or changed through the float bowl drain plug hole. The Main Jet controls the air/fuel mixture ratio from $\frac{3}{4}$ ths to wide open throttle position. The larger the number stamped on the Main Jet the richer the mixture.

When tuning the TMX Carburetor the tuning components being used are relative to the throttle slide position, not engine RPM or actual vehicle speed. Most tuning can be accomplished at relatively low speeds by making note of the approximate throttle position at which there appears to be a tuning problem. Make tuning adjustments by adjusting or changing the tuning component controlling the fuel mixture at that throttle slide position.

FLOAT LEVEL ADJUSTMENT

Invert carburetor and remove float bowl.

The Float Assembly's actuator tab should just begin contact with the Needle Valve Assembly when the bottom of the Float Assembly is 20mm from carburetor bottom as shown. Make required adjustments by bending actuator tab.



JET NEEDLE The Jet Needle is the tapered rod that is positioned in the throttle valve by the 'E'-Clip. The taper of the needle increases the clearance between the Jet Needle and the fixed Needle Jet outlet as the throttle is opened. As the air flow volume increases past the throttle slide, the fuel volume is also increased to maintain the correct air/fuel ratio.

NEEDLE 'E'-CLIP POSITION The position of the 'E'-Clip in the Jet Needle is used to correct or change the air/fuel ratio between $\frac{1}{4}$ th and $\frac{3}{4}$ th throttle valve position. The 'E'-Clip can be raised or lowered on the Jet Needle. To richen the fuel mixture the 'E'-Clip is lowered on the Jet Needle, raising the Jet Needle's position in the throttle slide. To lean the fuel mixture the 'E'-Clip is raised on the Jet Needle, lowering the Jet Needle's position in the throttle slide.

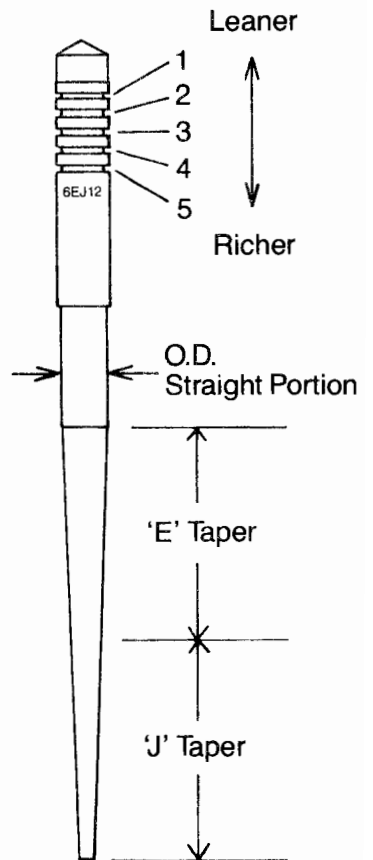
OPTIONAL JET NEEDLES To correct the fuel mixture at $\frac{1}{4}$ th to $\frac{1}{4}$ th throttle slide position it may be necessary to change the Jet Needle. The Jet Needle will have a series of numbers stamped on it.

Example: 6EJ12-55. The numbers 55 indicate that the outside diameter (O.D.) of the Jet Needle is 2.55mm. The smaller the O.D. the richer the mixture. The larger the number the leaner the mixture.

Typical Jet Needles Available:

	6EJ12-57	Leaner
	6EJ12-56	↑
TMX 38	6EJ12-55	
	6EJ12-54	↓
	6EJ12-53	Richer
	6EN11-54	Leaner
TMX 35	6EN11-53	↑
	6EN11-52	Richer

'E'-Clip Position



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MIKUNI™ SERIES FLAT VALVE CARBURETORS

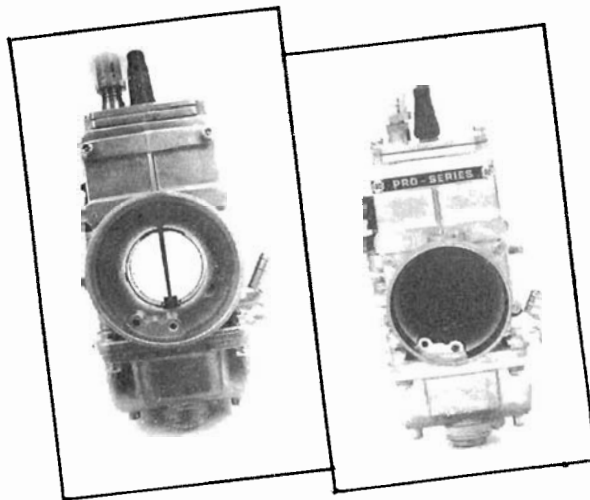
Mikuni's original flat valve (flat slide) carburetor, the TM Series Carburetors provide significant performance improvements over older design round slide carburetors. Air flows faster and smoother through the TM Series venturi due to the flat slide configuration and the jet blocks which help create a smooth bore effect. The high velocity of the air flow means a stronger vacuum at the needle jet needle, providing more precise metering and better throttle response.

POWER JET KITS

The TM Series bodies are designed to accept Power Jet Pump Kits. Power Jet Kits are usually used on carburetors in two-stroke engine applications to prevent leaning out during extended full-throttle running. Our Sudco/Mikuni Sales Specialist can assist you in setting up a Mikuni Carburetor for your particular application.

POWER JET KIT 30-34mm, Part No. 002-040

POWER JET KIT 36-44mm, Part No. 002-041



TM SERIES FLAT-VALVE CARBURETORS

ORDER NO.	CARBURETOR TYPE	MIKUNI CARBURETOR	MAIN JET	PILOT JET	NEEDLE JET	JET NEEDLE	THROTTLE VALVE	AIR JET
001-023	Spigot	VM28-418	28mm	4/042 180	VM22/210 15	175 P-8	832-33001 2.5	None
001-026	Spigot	TM32-1	32mm	4/042 250	VM22/210 45	389 Q-2	832-39012 4.0	None
001-033	Spigot	TM34-2	34mm	4/042 280	VM22/210 50	389 Q-2	832-39012 4.0	None
001-038	Spigot	TM36-2	36mm	4/042 280	VM22/210 50	389 Q-6	832-43002a 4.0	None
001-075	Spigot (H-2)	TM38-3	38mm	4/042 290	VM22/210 35	389 Q-6	832-43002a 4.0	None
001-043	Spigot	TM38-1	38mm	4/042 290	VM22/210 35	389 Q-6	832-43002a 4.0	None



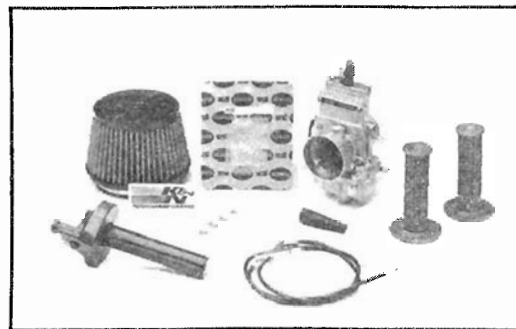
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SUDCO PRO-SERIES MIKUNI TM CARBURETORS

A carburetor that, until now, has only been available to a select few. The Pro-Series Carburetor features a proven Mikuni flat-slide carburetor with a totally redesigned hand machined venturi area. Our tests show that this carburetor's design will outflow any other factory produced carburetor by a minimum of 10% or more. This venturi design also provides a higher air speed rate at lower RPM's, which results in a much stronger, smoother, wider powerband.

Pro-Series Carburetors are available in special-set, in single, or in kit form in sizes 29mm, 33mm, 35mm, 37mm, 39mm and 41mm.



SUDCO PRO-SERIES™ CARBURETORS

001-186	Spigot	29mm
001-188	Spigot	33mm
001-190	Spigot	35mm
001-192	Spigot	37mm
001-194	Spigot	39mm
001-196	Spigot	41mm

} Comes jetted to customer's application or as requested

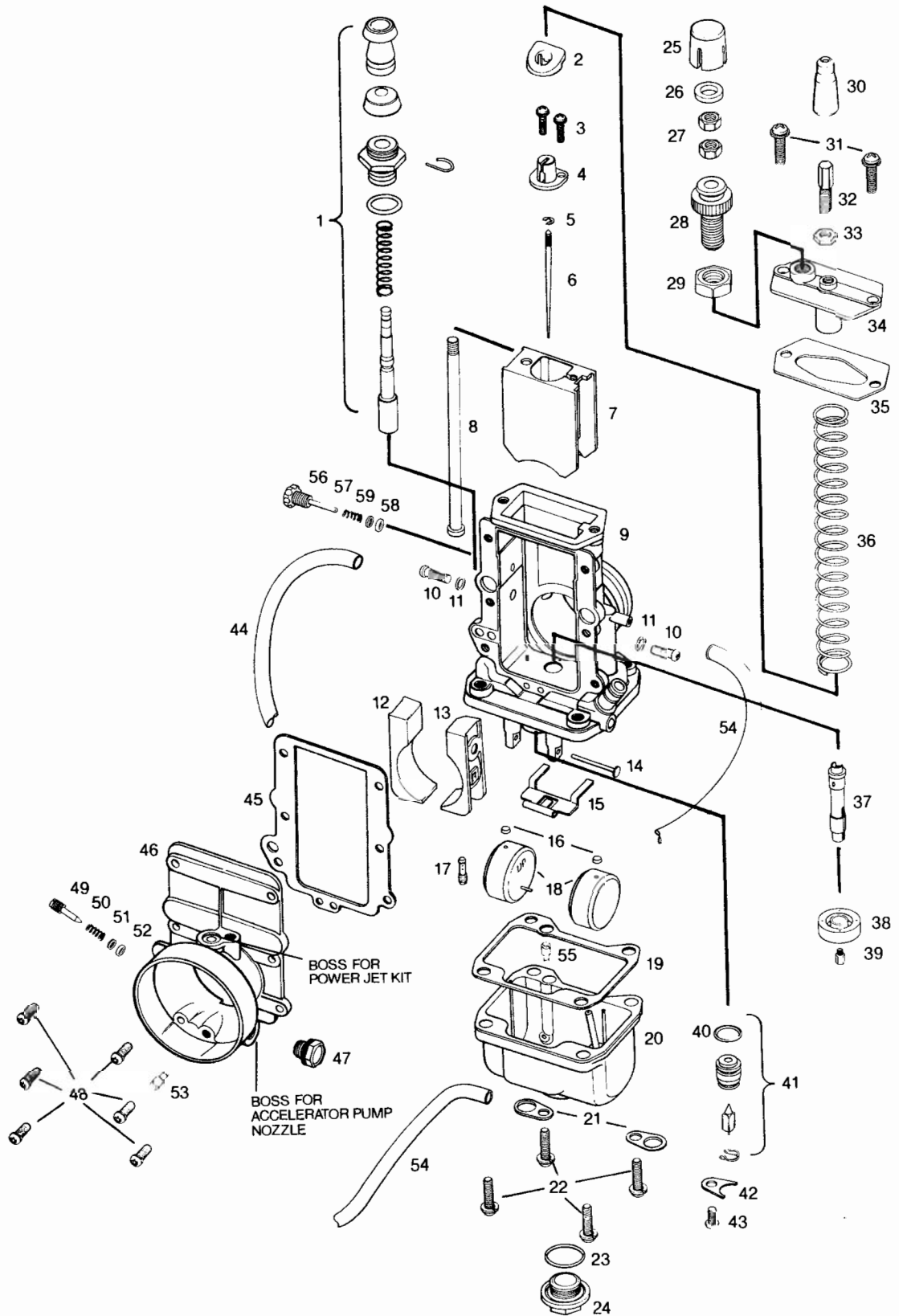
H-2 = Large Inlet

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TM SERIES PARTS

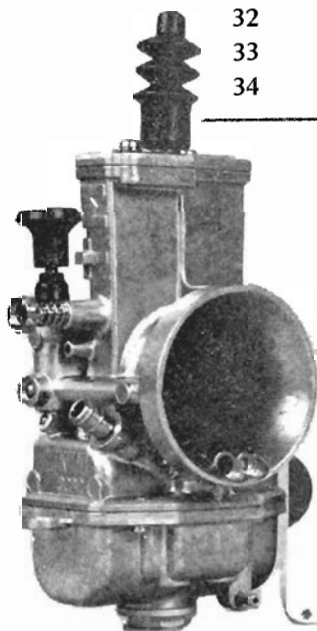
- | | | |
|---|--|---|
| 1. COMPLETE STARTER SYSTEM
002-815 VM26/116 Lever Type TM28
002-816 VM29/47 TM32, 34, 36, 38 | 28. IDLE ADJUSTER
002-728 603-68001 TM36, TM38
(Not Applicable for TM28
thru TM34) | 50. SPRING, Pilot Air Screw
002-181 M12F/46a All TM Series
(VM32/320) |
| 2. NYLON RING
002-753 VM38/153 TM36, 38 | 29. NUT
002-727 BDC36/35 TM36, TM38
(Not Applicable for TM28
thru TM34) | 51. WASHER, Pilot Air Screw
002-856 VM12/33 TM32 thru TM38
(Not Applicable for TM28) |
| 3. SCREW w/Lockwasher
002-752 CW2=0310 All TM Series | 30. RUBBER CAP
002-061 VM26/46 TM28
002-723 VM18/228 TM32 thru TM38 | 52. O-RING, Pilot Air Screw
002-858 N133/037 TM32 thru TM38
(Not Applicable for TM28) |
| 4. CABLE CONNECTOR
002-751 VM38/152 TM36, 38 | 31. SCREW w/Lockwasher
002-748 CW2=412 For All TM Series | 53. AIR JET (see chart)
BS30/97 TM28
(Air Jet on body of TM32
thru TM38 2.5) |
| 5. NEEDLE POSITIONING CLIP
002-083 VM20/369 All TM Series | 32. CABLE ADJUSTER
002-181 M18F/43a TM28
002-724 VM36/83 TM32 thru TM38 | 54. OVERFLOW HOSE
(Not Available) |
| 6. JET NEEDLE (see chart) | 33. LOCKNUT
002-065 B30/247 All TM Series | 55. STARTER JET
004-400 VM17/1002 15 TM28
004-410 VM17/1002 60 TM32
004-414 VM17/1002 80 TM34 TM36 |
| 7. THROTTLE VALVE (see chart) | 34. MIXING CHAMBER TOP
002-733 776-19002 TM36, TM38
(Not available for TM28
thru TM34) | 56. IDLE STOP SCREW
002-860 603-27002 TM28
(Not Available for TM32, 34;
Not Applicable for TM36, TM38) |
| 8. IDLE ROD
002-732 VM38/159 TM36, 38
(Not Applicable for TM28
thru TM34) | 35. GASKET, Top
002-830 VM28/1045 TM28
002-725 VM38/127 TM36, TM38
(Not Available for TM32, TM34) | 57. SPRING, Idle Screw
002-863 VM15/112 TM28
(Not Available for TM32, 34;
Not Applicable for TM36, 38) |
| 9. MIXING CHAMBER TOP
(not available) | 36. SPRING, Throttle Valve
002-832 730-15001 TM28
002-750 730-16003 TM36, TM38
(Not Available for TM32, TM34) | 58. O-RING
002-676 VM14/75 TM28
002-212 BV32/04 TM32, TM34
(Not Applicable for TM36, 38) |
| 10. SCREW, Jet Block
002-742 VM38/132 All TM Series | 37. NEEDLE JET (see chart)
175 Series TM28
389 Series TM32 thru TM38 | 59. WASHER
002-866 VM14/87 TM28
(Not Applicable for TM32 thru
TM38) |
| 11. WASHER
002-741 VM34/274 All TM Series | 38. RING, Main Jet
002-836 VM28/429 TM28
002-837 VM34/454 TM32 thru TM38 | |
| 12. JET BLOCK
002-710 VM38/144 TM38 Left
(VM38/121)
002-711 VM38/145 TM38 Right
(VM38/122) | 39. MAIN JET (4/042)
(see chart) | |
| 14. FLOAT PIN
002-605 VM30/160 All TM Series | 40. O-RING
002-509 VM28/559 TM28
002-709 KV/10 TM32 thru TM38 | |
| 15. FLOAT ARM
002-112 VM36/15 TM32 thru TM38
(Not Applicable for TM28) | 41. NEEDLE VALVE
002-840 VM24/557 2.5 TM28
002-705 786-46001 3.3 TM32 thru TM38
002-703 786-46001 1.5
002-704 786-46001 2.0
002-707 786-46001 3.5 | |
| 16. CAP, Float Guide Pin
002-718 VM26/42 All TM Series | 42. PLATE, Needle Valve
002-721 VM24/560 All TM Series | |
| 17. PILOT JET (VM22/210)
(see chart) | 43. SCREW
002-845 C2-0408 TM28
002-722 C2=0406 TM32 thru TM38 | |
| 18. FLOAT
002-113 VM24/236 TM32 thru TM38 | 44. VENT HOSE
(Not Available) | |
| 19. GASKET, Float Chamber
002-700 VM34/374 TM32 thru TM38 | 45. GASKET, Front Cover
002-847 VM28/1044 TM28 | |
| 20. FLOAT CHAMBER BODY ASSEMBLY
002-820 TM32/02-60 TM32
002-821 TM32/02-80 TM34
002-701 TM32/02-100 TM36, TM38
(VM38/121) | 46. FRONT BODY, Air Intake
(Not Available) | |
| 21. PLATE, Hose Retaining
(Not available) | 47. BOLT
002-756 BV15/27 TM38
(Not Applicable for TM28
thru TM36) | |
| 22. SCREW w/Lockwasher
002-823 CW2=0416 TM28
002-373 CW2=0516 TM32 thru TM38 | 48. SCREW
002-748 CW2=0412 All TM Series | |
| 23. O-RING
002-825 VM26/227 TM28
002-531 VM28/254 TM32 thru TM38 | 49. AIR SCREW, Pilot
002-850 VM20/584 TM28
002-720 VM24/662 TM32 thru TM38
(VM20/305) | |
| 24. DRAIN PLUG
002-827 VM28/817 TM28
002-526 VM28/253 TM32 thru TM38 | | |
| 25. CAP, Idle Adjuster
002-731 VM35/40 TM36, TM38
(Not Applicable for TM28
thru TM34) | | |
| 26. PACKING
(Not available for TM36, TM38; and
not applicable for TM28 thru TM34) | | |
| 27. NUT
002-729 N2=04 TM36, TM38
(Not Applicable for TM28
thru TM34) | | |



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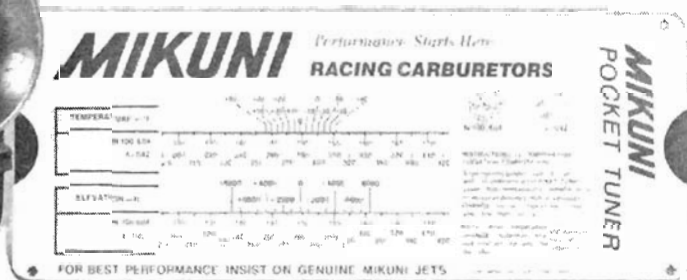
TMX SERIES PARTS

ITEM NO.	DESCRIPTION	MIKUNI NO.	ORDER NO.
1	Mixing Body	TM38SS11	N/A
2	JET NEEDLE	6 Series (see Jet Needle Chart)	
3	COVER, Carb Top	776-19014	002-451
4	LOCKNUT, Adjuster	B30/247	002-065
5	CAP, Rubber	VM34/282	002-452
6	ADJUSTER CABLE	VM30/77	002-453
7	O-RING, Top Cover	613-93009	002-454
8	E-RING, Needle Clip	BS32/126	002-455
9	RING, Retaining	TM38/54	002-456
10	ADJUSTER, Idle Stop	603-25008	002-457
11	SPRING, Idle Adjuster	N110.209	002-655
12	PLUNGER' Starter Ass'y.	TM38/57	002-458
13	SCREW, Air Adjuster	603-36002	002-459
14	SPRING, Air Screw	VM15/112	002-863
15	CHAMBER, Float Bowl	TM38/48	002-461
16	VALVE SEAT ASSEMBLY	820-26002 3.5	002-466
17	PILOT JET	VM22/210 (see Pilot Jet Chart)	
18	MAIN JET	4/042 (see Main Jet Chart)	
19	ARM, Float	VM36/15	002-112
20	NEEDLE VALVE	788-26005	002-469
21	PIN, Float Arm	VM20/315	002-470
22	O-RING, Needle Valve	KV/10	002-709
23	CAP, Float Retain.	VM26/42	002-718
24	SCREW , Top Cover	CW2=0412	002-748
25	THROTTLE VALVE	832-41002 3.5	002-473
26	SPRING, Throttle Valve	730-13019	002-477
27	HOSE VENT	888-24011	002-478
28	SCREW, Float Bowl	CW2=0308	002-479
29	HOSE, Overflow	888-23022	002-480
30	FLOAT, Left Side	859-52021	002-482
31	O-RING, Drain Plug	VM28/254	002-531
32	DRAIN PLUG	TM38/44	002-483
33	FLOAT, Right Side	859-52020	002-481
34	GASKET, Float Bowl	TM38/52	002-484



820-26002 1.8 Needle Valve Ass'y.
For watercraft and snowmobiles.
002-464

002-430 Pocket Tuner



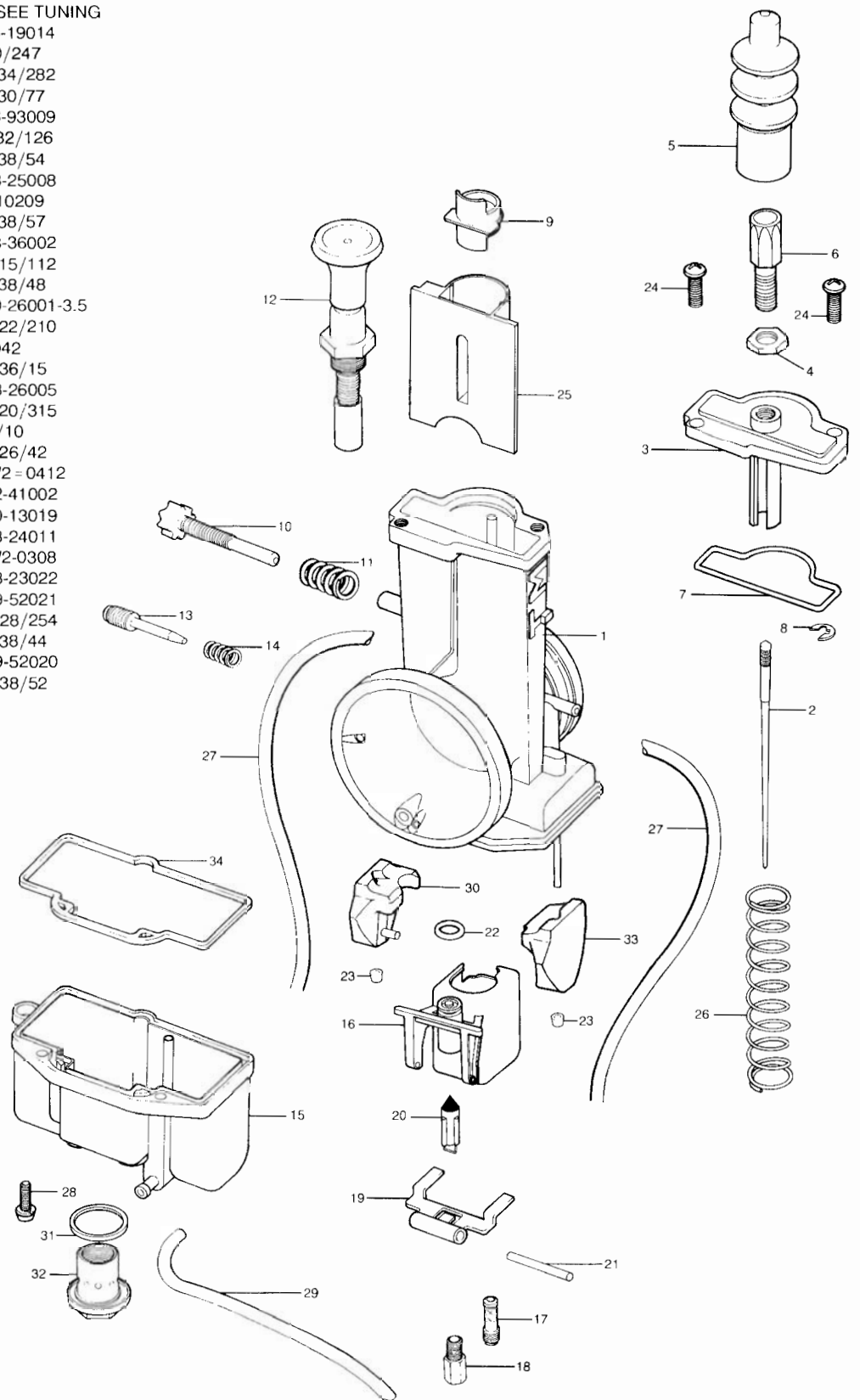
THROTTLE VALVE

TMX SERIES NOT FOR SALE

TMX 35 and 38

MIKUNI TMX SERIES PARTS LIST

No.	Description	Part Number
1	MIXING BODY CARB	TM38SS11
2	JET NEEDLE	J8-SEE TUNING
3	COVER, CARB TOP	776-19014
4	LOCK NUT, ADJUSTER	B30/247
5	CAP, RUBBER	VM34/282
6	ADJUSTER, CABLE	VM30/77
7	O-RING, TOP COVER	616-93009
8	E-RING, NEEDLE CLIP	BS32/126
9	RING, RETAINING	TM38/54
10	ADJUSTER, IDLE STOP	603-25008
11	SPRING, IDLE ADJUST	N110209
12	PLUNGER, STARTER ASSBLY	TM38/57
13	SCREW, AIR ADJUSTER	603-36002
14	SPRING, AIR SCREW	VM15/112
15	CHAMBER, FLOAT BOWL	TM38/48
16	VALVE SEAT, NEEDLE	820-26001-3.5
17	PILOT JET	VM22/210
18	MAIN JET	4/042
19	ARM, FLOAT	VM36/15
20	NEEDLE VALVE ASSBLY	788-26005
21	PIN, FLOAT ARM	VM20/315
22	O-RING, NEEDLE VALVE	KV/10
23	CAP, FLOAT RETAINER	VM26/42
24	SCREW, TOP COVER	CW2 = 0412
25	THROTTLE VALVE	832-41002
26	SPRING, T.V.	730-13019
27	HOSE, VENT	888-24011
28	SCREW, FLOAT BOWL	CW2-0308
29	HOSE, OVER FLOW	888-23022
30	FLOAT, LEFT SIDE	859-52021
31	O-RING, DRAIN PLUG	VM28/254
32	DRAIN PLUG	TM38/44
33	FLOAT, RIGHT SIDE	859-52020
34	GASKET, FLOAT BOWL	TM38/52



NOT FOR SALE

MIKUNI
TM FLAT VALVE
SMOOTH-BORE CARBURETORS

NEW

AIR BOX ADAPTER

005-075	FourTrax250X	'88
	ATC-250	'86-'87
	TRX-250	'88
	Warrior 350	'87-'88

(Flat Slides 32, 34mm and
Round Carb 30, 32, 34mm)

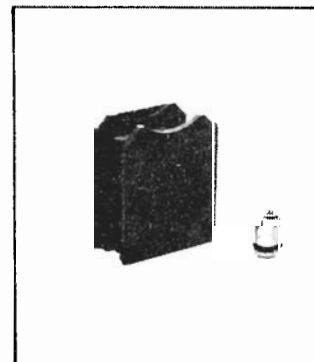
JETTING PARTS FOR TM FLAT SLIDE SERIES

THROTTLE VALVES

ORDER NO.	DESCRIPTION	
002-734	832-43002 2.5	for TM36, TM38
002-735	832-43002 3.0	
002-737	832-43002 4.0	
002-739	832-43002 5.0	
002-804	832-33002 2.0	for TM28

NEEDLE VALVES

ORDER NO.	DESCRIPTION	
002-703	786-46001 1.5	for TM32, TM34, TM36, TM38
002-702	786-46001 1.8	
002-704	786-46001 2.0	
002-705	786-46001 3.3	
002-707	786-46001 3.5	
002-840	VM24/557 2.5	for TM28



JET NEEDLES

ORDER NO.	DESCRIPTION	
002-349	6FM46	for TM36, TM38, 39Pro, 41Pro
002-712	6FJ40	
002-713	6FJ41	
002-341	6DP4	
002-273	5DP39	for TM28, TM32, TM34
002-300	6DH3	
002-299	6DH2	
002-315	6F9	

SEE JET NEEDLE SELECTION FOR COMPLETE LISTING OF SIZES AVAILABLE.

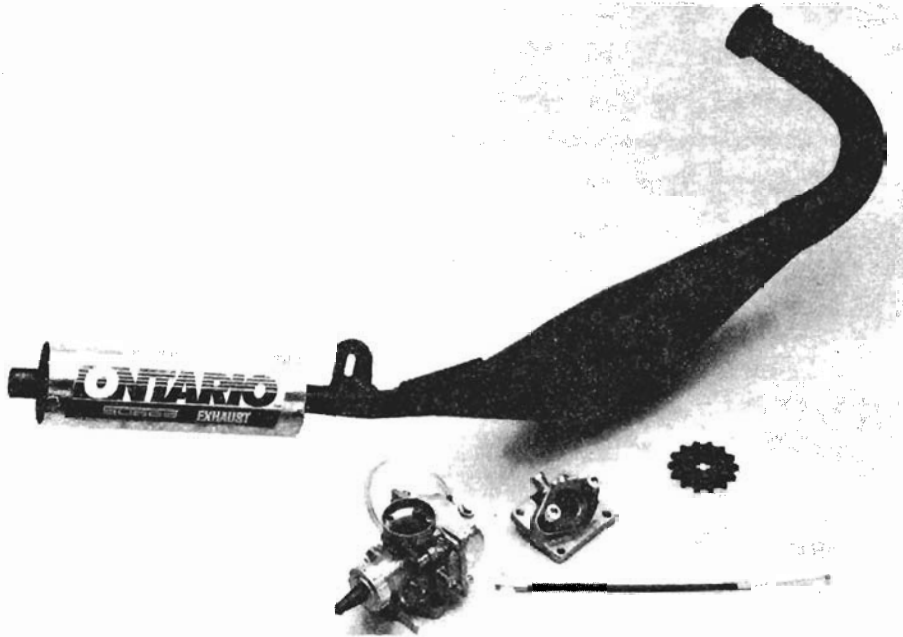
NEEDLE JETS

175 Series N-0 thru Q-8 for TM28

389 Series O-0 thru R-8 for TM32, TM34, TM36, TM38

SEE NEEDLE JET SELECTION FOR COMPLETE LISTING OF SIZES AVAILABLE.

NOT FOR SALE YAMAHA YSR50 PERFORMANCE



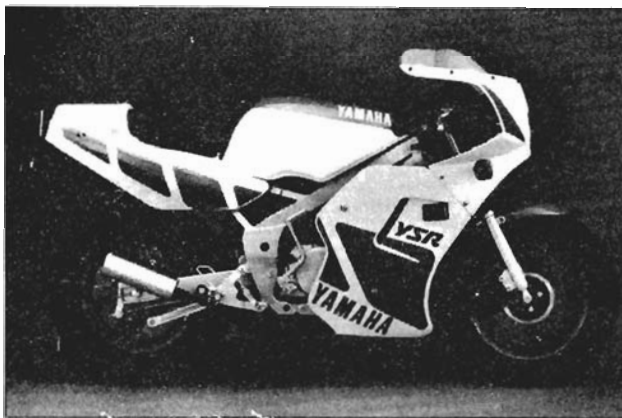
YSR50 HI-PERFORMANCE KIT

New from Sudco, a complete kit for the YSR50 which includes:

- ✓ Special pre-jetted Mikuni flange carburetor (20mm-22mm)
- ✓ Special YSR50 Manifold
- ✓ Throttle Cable
- ✓ Reeds
- ✓ 14T or 13T Countershaft Sprocket

Test Results: Up to 60 MPH top speed, very trackable throughout total RPM range. Excellent acceleration. R & D says "There's no comparison".

ORDER NO. 001-535Y



Individual items can be purchased:

- 001-007 VM22/YSR50 Mikuni Special Set Carb
- 001-005 VM20/YSR50 Mikuni Special Set Carb
- 005-105 R-1100 K&N Air Filter
- 006-417 YSR50 Sudco Super Reeds
- 005-066 YSR50 Manifold Adapter (with cable)
- 500400 Sudco-Ontario Exhaust Pipe System
- 33210114 14T Countershaft Sprocket
- 33210113 13T Countershaft Sprocket

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GSR

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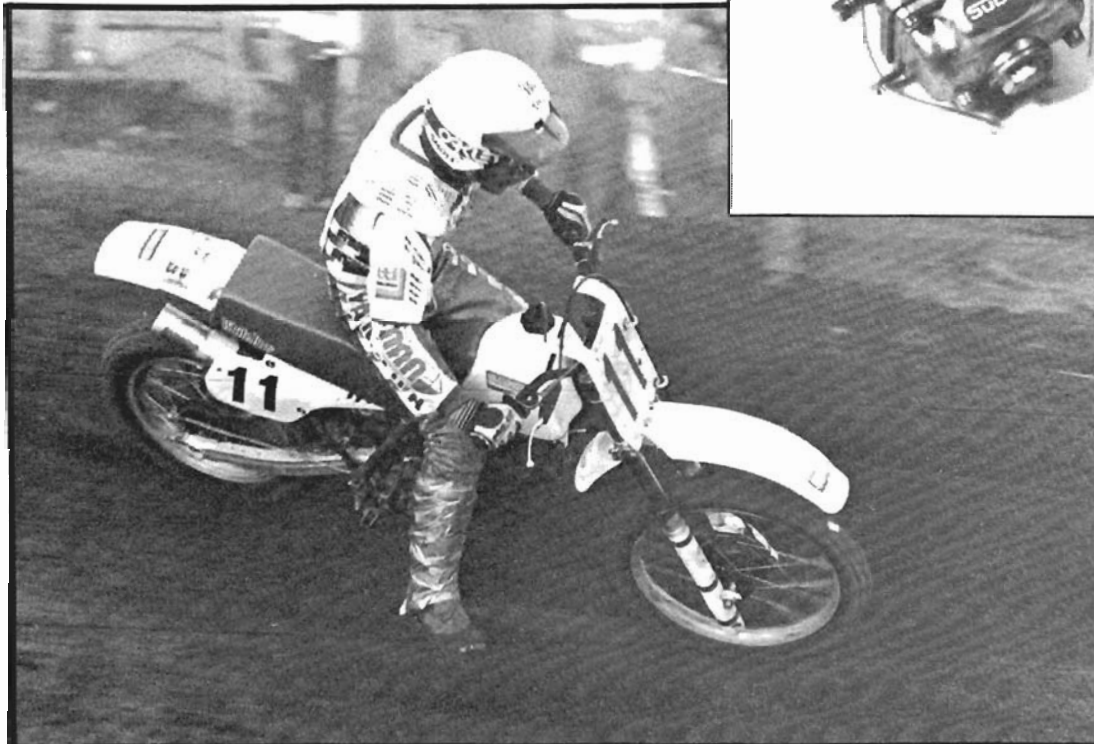
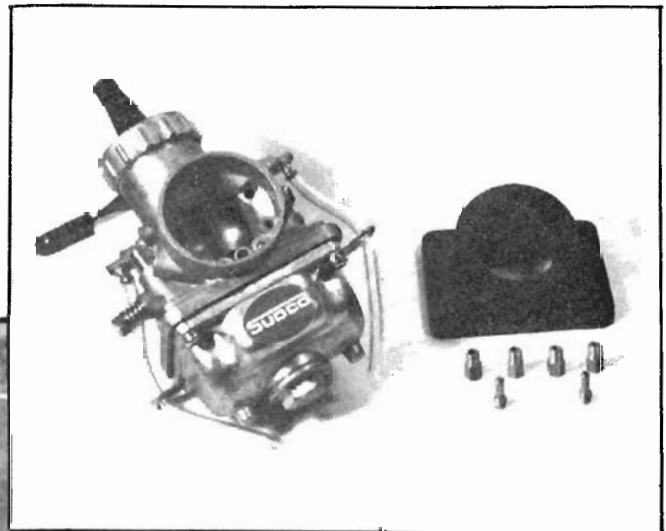
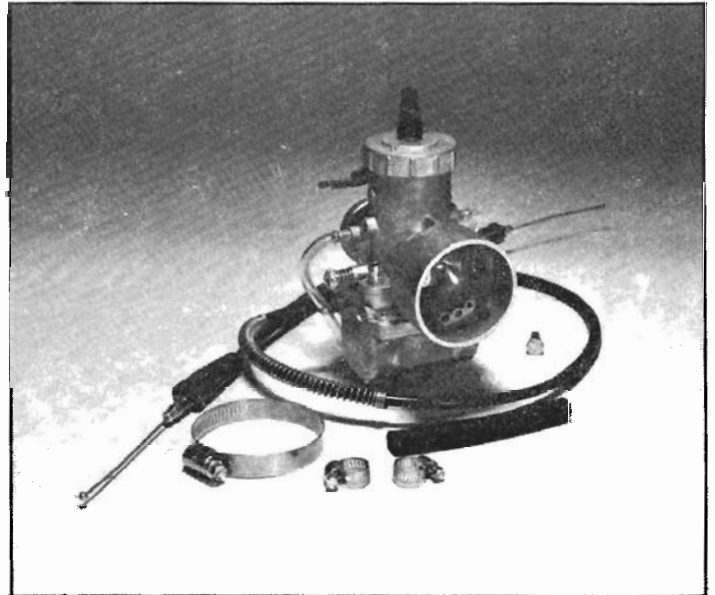
MIKUNI VM SERIES

ROUND SLIDE SINGLE CARBS

These are the most popular high performance single carburetors in the sport of motorcycling. Mikuni's VM Series round slide single carburetors have proven themselves as the performance standard for use in any single cylinder motorcycle and ATV applications for motocross, enduro and trail riding, to flat track racing and road racing on both 2-stroke and 4-stroke engines.

Performance features for the VM Series Carburetors include a large selection of bore sizes for increased fuel mixture flow to match engine modifications. And the VM Series offers a wide range of tuning components to allow precise fuel mixture metering in any application, at any throttle setting, under any riding condition.

Sudco International stocks the complete line of VM Series Carburetors in all sizes and designs, carries all replacement parts, along with the complete range of tuning components to keep your VM Series Carburetor running strong.



STANDARD ROUND MIKUNI

VM SERIES

ORDER NO	CARBURETOR TYPE	MIKUNI CARBURETOR	MAIN JET	PILOT JET	NEEDLE JET	NEEDLE	JET NEEDLE	THROTTLE VALVE	AIR JET
001-001	Clamp-On	VM18-144	4/042	80	VM22/210 30	145	O-0	VM18/158 3.0	None
001-002	Clamp-On	VM22-146	4/042	65	VM22/210 30	145	N-6	VM22/181 1.5	None
001-005	Flange	VM20-273	4/042	100	VM28/1001 22.5	239	O-6	VM20-491 2.0	VM13/04
001-007	Flange	VM22-133	4/042	100	VM22/210 30	257	N-8	VM26/21 2.0	None
001-009	Flange	VM24-92	4/042	130	VM22/210 30	193	N-8	VM26/21 2.0	None
001-020	Spigot	VM26-74	4/042	190	VM22/210 60	182	N-8	VM28/56 2.0	BS30/97
001-022	Spigot	VM28-49	4/042	200	VM22/210 60	169	N-8	VM28/56 2.5	BS30/97
001-024	Spigot	VM30-83	4/042	250	VM22/210 40	159	P-5	VM34/110 2.5	BS30/97
001-025	Spigot SB	VM30-88	4/042	190	VM22/210 60	169	P-4	VM30/176 3.0	VM13/04
001-028	Spigot	VM32-33	4/042	200	VM22/210 35	159	Q-6	VM34/110 3.0	BS30/97
001-030	Spigot Short Bell	VM34-168	4/042	260	VM22/210 35	159	Q-2	VM34/110 2.5	BS30/97
001-031	Spigot	VM34-48	4/042	240	VM22/210 40	159	Q-6	VM34/110 2.5	BS30/97
001-032	Spigot PJ	VM34-268	4/042	210	VM22/210 60	159	P-8	VM34/354 2.0	None
001-035	Spigot	VM36-4	4/042	310	VM22/210 35	159	Q-5	VM36/36 1.5	BS30/97
001-037	Spigot PJ	VM36-115	4/042	350	VM22/210 70	159	P-4	VM36/113 2.0	None
001-040	Spigot	VM38-9	4/042	330	VM22/210 30	166	Q-2	VM38/24 2.5	BS30/97
001-042	Spigot PJ	VM38-88	4/042	280	VM22/210 70	247	Q-0	VM38/76 3.0	None
001-045	Spigot	VM40-4	4/042	310	VM22/210 35	224	AA-5	VM44-23 2.5	BS30/97
001-048	Spigot	VM44-3	4/042	310	VM22/210 35	224	AA-5	VM44/23 2.5	BS30/97
MIKUNI CARBURETOR "RIGHT IDLE SCREW"									
001-050	Spigot	VM30-131	4/042	250	VM22/210 40	159	P-5	VM32/65 2.5	BS30/97
001-051	Spigot	VM32-193	4/042	200	VM22/210 35	159	Q-6	VM32/65 3.0	BS30/97
001-052	Spigot	VM34-275	4/042	260	VM22/210 35	159	Q-2	VM32/65 2.5	BS30/97
MIKUNI CARBURETORS FOR SNOWMOBILE WITH 1.5 NEEDLE VALVES									
001-029	Spigot	VM34-48 w/1.5 NV	4/042	240	VM22/210 40	159	Q-6	VM34/110 2.5	BS30/97
001-036	Spigot	VM36-4 w/1.5 NV	4/042	310	VM22/210 35	159	Q-5	VM36/36 1.5	BS30/97
001-041	Spigot	VM38-9 w/1.5 NV	4/042	330	VM22/210 30	166	Q-2	VM38/24 2.5	BS30/97
001-044	Spigot	VM40-4 w/1.5 NV	4/042	310	VM22/210 35	224	AA-5	VM44/23 2.5	BS30/97
001-047	Spigot	VM44-3 w/1.5 NV	4/042	310	VM22/210 35	224	AA-5	VM44-23 2.5	BS30/97

SB = Small Body
PJ = Power Jet

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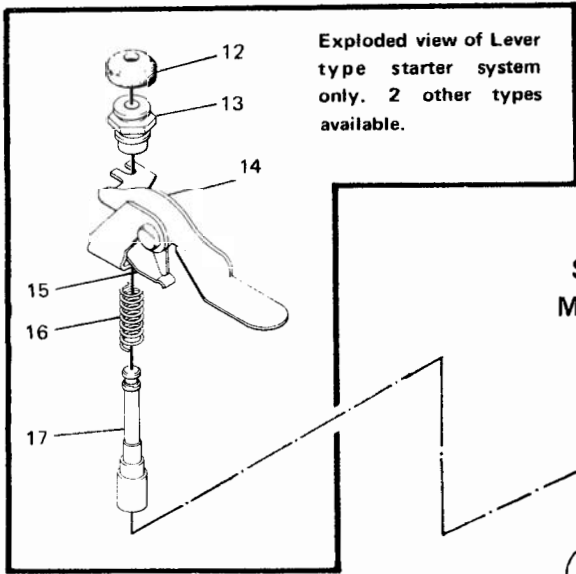
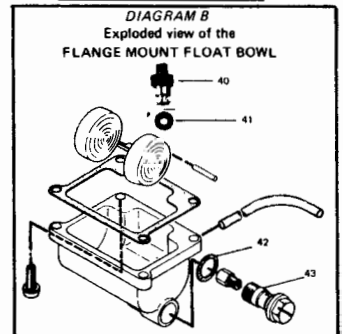
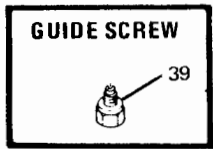
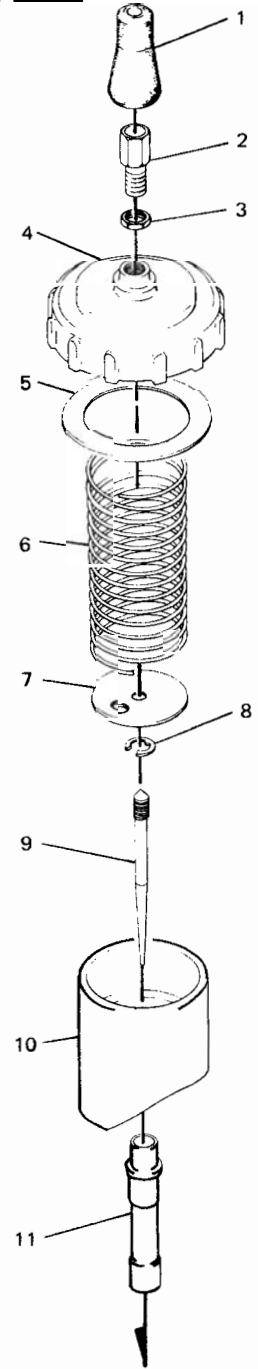
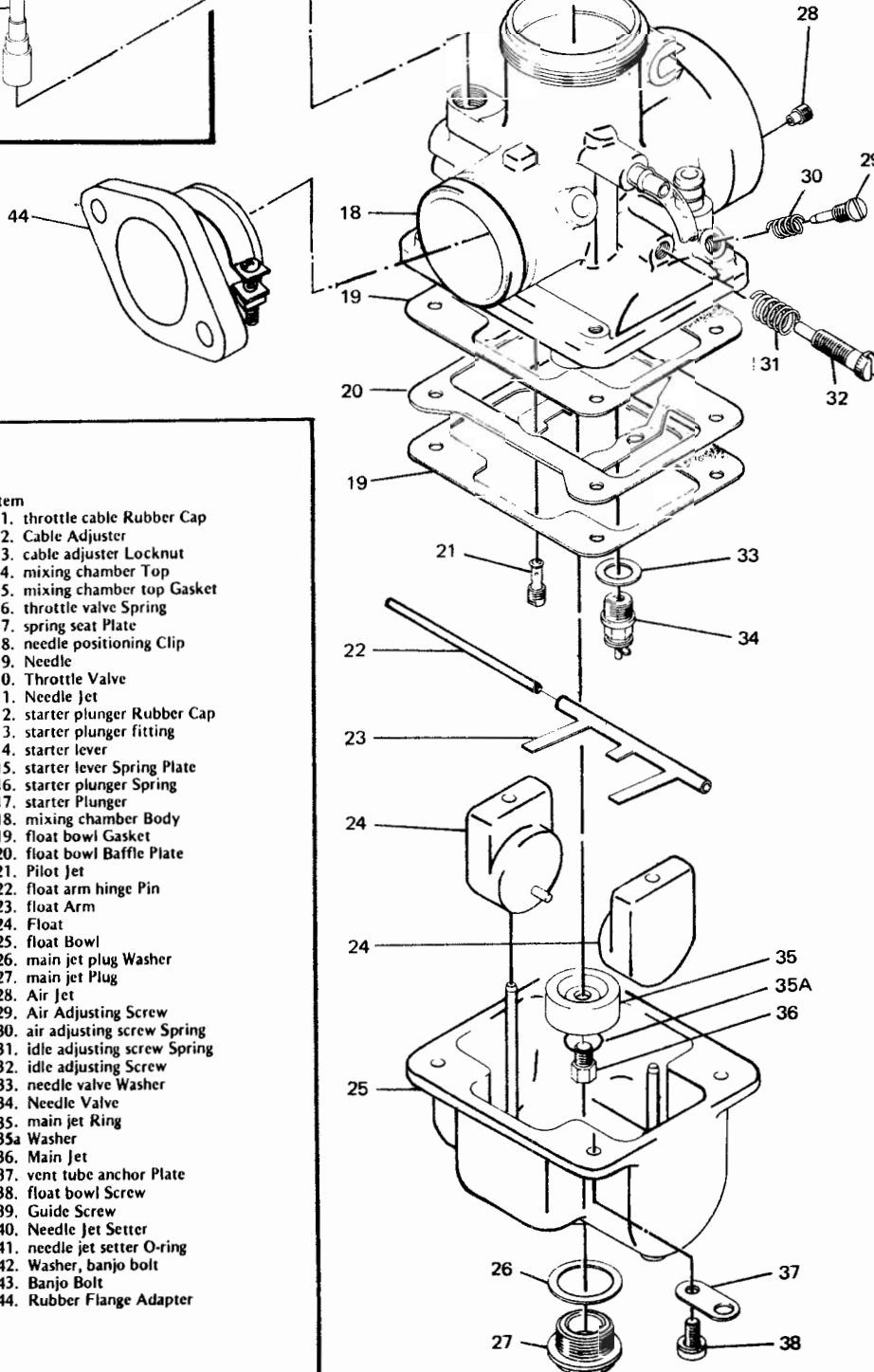


DIAGRAM A
Exploded view of a
SPIGOT MOUNT TYPE
MIKUNI CARBURETOR



- Item
1. throttle cable Rubber Cap
 2. Cable Adjuster
 3. cable adjuster Locknut
 4. mixing chamber Top
 5. mixing chamber top Gasket
 6. throttle valve Spring
 7. spring seat Plate
 8. needle positioning Clip
 9. Needle
 10. Throttle Valve
 11. Needle Jet
 12. starter plunger Rubber Cap
 13. starter plunger fitting
 14. starter lever
 15. starter lever Spring Plate
 16. starter plunger Spring
 17. starter Plunger
 18. mixing chamber Body
 19. float bowl Gasket
 20. float bowl Baffle Plate
 21. Pilot Jet
 22. float arm hinge Pin
 23. float Arm
 24. Float
 25. float Bowl
 26. main jet plug Washer
 27. main jet Plug
 28. Air Jet
 29. Air Adjusting Screw
 30. air adjusting screw Spring
 31. idle adjusting screw Spring
 32. idle adjusting Screw
 33. needle valve Washer
 34. Needle Valve
 35. main jet Ring
 - 35a Washer
 36. Main Jet
 37. vent tube anchor Plate
 38. float bowl Screw
 39. Guide Screw
 40. Needle Jet Setter
 41. needle jet setter O-ring
 42. Washer, banjo bolt
 43. Banjo Bolt
 44. Rubber Flange Adapter

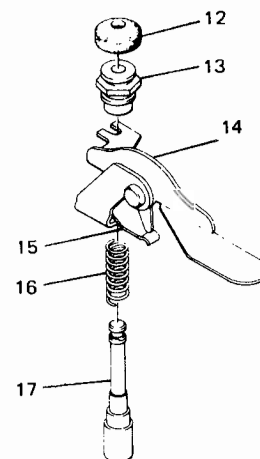
VM SEARS PARTS FOR SALE

1. throttle cable RUBBER CAP
002-061 VM26/46 All Mikuni Carbs
2. A CABLE ADJUSTER
002-062 M21/14 All Mikuni Carbs (6mm)
(M18F/43a)
002-063 VM28/256 All Mikuni Carbs (7mm)
B angled CABLE ADJUSTER (45°)
002-064 I-M22-10-3 All Mikuni Carbs
comes with Rubber Cap
C. cable adjuster RUBBER CAP
002-370 M22/18 All Mikuni Carbs
3. cable adjuster LOCKNUT
002-065 B30/247 All Mikuni Carbs
4. mixing chamber TOP
002-066 VM34/27 All 30 thru 34mm
002-067 VM36/09 All 36 and 38mm
002-068 VM44/05 All 40 and 44mm
002-235 VM26/51 All 30mm Small Body
002-236 VM26/56 All 22 and 24mm
5. mixing chamber top GASKET
Note: Must buy entire mixing chamber top.
6. throttle valve SPRING
002-069 VM24/195 All 24 and 26mm
002-070 VM28/28 30 thru 34mm Spigot
002-071 VM28/58 28mm Spigot
002-072 VM34/50 30 thru 32mm Spigot
32 and 34mm Flange
002-074 VM34/55 All 34 and 36mm
002-138 VM34/152 38mm Spigot
002-075 VM44/13 All 40 and 44mm Spigot
7. spring seat PLATE
002-076 VM26/21 24mm Flange w/left side
idle screw groove
002-077 VM26/54 26 thru 30mm Flange
002-078 VM26/55 24 and 26mm Flange
002-079 VM28/132 28mm Spigot
002-080 VM34/31 30 thru 34mm Spigot
32 and 34mm Flange
002-081 VM35/09 All 36 and 38mm Spigot
002-082 VM44/09 All 40 and 44mm Spigot
8. needle positioning CLIP
002-083 VM20/369 All Mikuni Carbs
002-355 BSW28/70 40 and 44mm Spigot
9. JET NEEDLES (see pages 45-48)
10. THROTTLE VALVES (see pages 49-52)
11. NEEDLE JETS (see pages 53-55)
12. starter plunger RUBBER CAP
002-084 VM20/455 30 thru 44mm Spigot
(VM30/302) 24 thru 34mm Flange
13. starter plunger FITTING
002-085 VM20/456 30 thru 44mm Spigot
24 thru 34mm Flange

14. starter LEVER
002-086 VM28/51a 28mm Spigot
002-135 VM28/124 30 thru 34mm Spigot
002-087 VM32/53 36 and 38mm Spigot
30 thru 34mm Flange
002-136 VM36/58 40 and 44mm Spigot
15. starter lever SPRING PLATE
002-088 VM26/09c 26 and 28mm Spigot
002-089 VM32/17 30 thru 44mm Spigot
16. starter plunger SPRING
002-090 VM14SC11/89 26 thru 44mm Spigot
002-358 VM15SC6/89 24 thru 34mm Flange
17. starter PLUNGER
002-091 VM15/62 24 and 26mm Flange
26 and 28mm Spigot
002-092 VM18/144 30 thru 44mm Spigot
30 thru 34mm Flange

LEVER TYPE STARTER SYSTEM

Complete Lever Starter System
includes items 12 thru 17



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CABLE TYPE STARTER SYSTEM

002-351 Complete Cable Type Starter System includes items A thru F

starter plunger top RUBBER CAP

A. 002-061 VM26/46 30 thru 44mm Spigot
30 thru 34mm Flange

CABLE ADJUSTER

B. 002-062 M21/14 30 thru 44mm Spigot
30 thru 34mm Flange

CABLE ADJUSTER LOCKNUT

C. 002-065 B30/247 30 thru 44mm Spigot
30 thru 34mm Flange

starter plunger FITTING

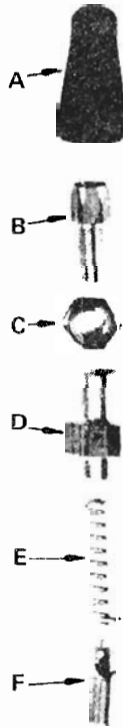
D. 002-093 VM15/37 30 thru 44mm Spigot
30 thru 34mm Flange

starter plunger SPRING

E. 002-094 VM32/69 30 thru 44mm Spigot
30 thru 34mm Flange

STARTER PLUNGER

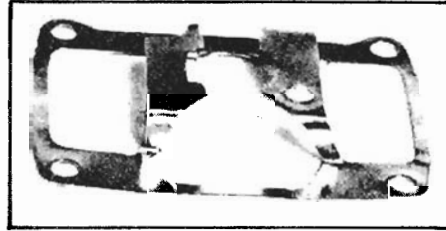
F. 002-095 VM15SC4/85 30 thru 44mm Spigot
30 thru 34mm Flange



19. float bowl GASKET

002-099 VM28/18
002-100 VM34/30
002-101 VM34/71
002-102 VM36/20
002-103 VM30/172
002-361 VM28/129

26 thru 34mm Flange
30 thru 34mm Spigot
without baffle plate
30 thru 34mm Spigot
with baffle plate
36 thru 44mm Spigot
30 Small Body Spigot
28mm Spigot



FLOAT BOWL BAFFLE PLATE

20. float bowl BAFFLE PLATE

Prevents air bubbles from developing in the fuel contained in the float bowl assembly by restricting the sloshing action of the fuel when crossing over rough terrain or when leaning the vehicle. Air bubbles would cause an inconsistent fuel-air mixture.

002-104 VM34/72 30 thru 34mm Spigot
002-105 VM36/16 36 and 38mm Spigot
002-106 VM44/12 40 and 44mm Spigot
002-362 VM34/114 30 thru 34mm Spigot

22. float arm hinge PIN

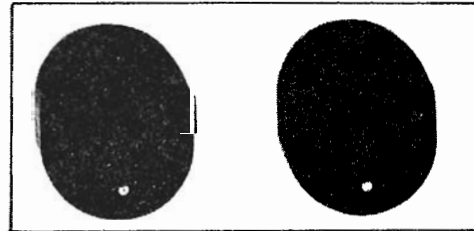
002-107 BV26/22 26 thru 44mm Spigot
24 thru 34mm Flange

23. float ARM

002-108 VM28/59 26 thru 34mm Flange
002-109 VM28/166 28mm Spigot
002-110 VM34/41 30 thru 34mm Spigot
002-111 VM34/73 30 thru 34mm Spigot
002-112 VM36/15 36 thru 44mm Spigot

24. FLOAT

Two Basic Types of Float Systems



A. Independent type - non-corrosive plastic compound. Standard in 26-44mm Spigot and Flange type carburetors. Each of the two floats rise and fall independently. This type of float system maintains a constant fuel level in the float bowl during acceleration and deceleration.

PULL-UP TYPE STARTER SYSTEM

002-352 Complete Pull-Up Type Starter System includes items A thru E

A. RUBBER CAP

002-084 VM20/455 36 thru 44mm Spigot

B. CLIP

002-096 VM14SC11/99 36 thru 44mm Spigot

C. starter plunger FITTING

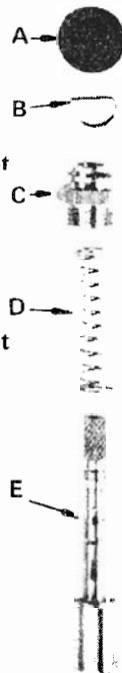
002-097 VM20/300 36 thru 44mm Spigot

D. starter plunger SPRING

002-090 VM14SC11/89 36 thru 44mm Spigot

STARTER PLUNGER

E. 002-098 VM38/06 36 thru 44mm Spigot



18. mixing chamber BODY (not available)

24. FLOAT



B. Twin float type – Brass composition. Standard in 18-24mm Flange and Clamp-on type carburetors. The floats do not act independently. They act as a unit. This design type uses a minimum amount of space and is ideal for smaller carburetors.

			Type
002-113	VM24/236	26 thru 30mm Flange	A
		36 thru 44mm Spigot	
002-114	VM24/171	24 thru 26mm Flange	B
002-115	VM28/91	24mm Flange	
002-116	VM28/164	26 and 28mm Spigot	A
002-117	VM32/55	32mm Flange	A
002-118	VM34/36	30 thru 34mm Spigot	A
002-119	VM34/61	30 thru 34mm Spigot	A
		with baffle plate	

25. float BOWL

002-121	VM34/68	30 thru 34mm Spigot with overflow vent tube
002-122	VM36/07	36 and 38mm Spigot
002-123	VM30/168	30mm Small Body Spigot

float BOWL (with adjustable metering needle)

Outside adjustment mechanism – consisting of an adjustable needle with a tapered seat which meters the fuel, and acts as a fine tuning adjuster for the main jet enabling the user to lean or enrichen the fuel mixture.

002-124	1-VM34-234	30 thru 34mm Spigot
002-125	1-VM36-102	36 and 38mm Spigot

comes with O-ring BV32/04 and
Needle Jet Setter VM36/55

26. main jet plug WASHER

002-127	4/053	30 thru 38mm Spigot
002-128	VM28/134	28, 40 and 44mm Spigot

27. main jet PLUG

002-130	VM28/133	28, 40 and 44mm Spigot
002-131	VM34/42	30 thru 34mm Spigot
002-132	VM36/14	36 and 38mm Spigot
002-133	VM26/160	30mm Small Body Spigot

28. AIR JET

Meters the air flow through the passage to and into the needle jet. It acts as a fine tuning component in regulating the fuel-air mixture. This is especially important when a bleed type needle is used.

AIR ADJUSTING SCREW

Adjusts air into the passage through the pilot jet which controls engine starting and idling. The screw should be turned out for leaner fuel mixture and turned in for richer fuel mixture.

002-180	VM20/214	26 thru 44mm Spigot 24 thru 34mm Flange
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30. air adjusting screw SPRING

002-181	M12F/46A	26 thru 44mm Spigot 24 thru 34mm Flange
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31. idle adjusting screw SPRING

002-182	M20/11	26 thru 44mm Spigot 24 thru 34mm Flange
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32. IDLE ADJUSTING SCREW

002-139	VM28/142	30mm Spigot
002-183	VM22/171	30mm Flange
		36 and 38mm Spigot
002-184	VM24/224	28, 34, 40 and 44mm 24 thru 34mm Flange
002-186	VM30/170	30mm Small Body Spigot

33. needle valve WASHER

002-187	B34/52	30 thru 44mm Spigot
002-188	VM26/55	24 thru 30mm Flange 28mm Spigot

34. NEEDLE VALVE (Needle & Seat Assembly)

Regulates the flow of fuel from the gas tank to the float bowl assembly. It remains open until there is a sufficient amount of fuel in the float bowl. It is closed by the float system.

The various sizes of needle valves determine the rate of fuel flow. The larger the size number, the greater the fuel flow at a given time.

002-230	VM26/26	1.0	24 thru 30mm Flange
002-231	VM26/26	1.5	28mm Spigot
002-189	VM26/26	2.0	
002-190	VM26/26	2.5	
002-191	VM26/26	2.8	
002-192	VM34/39	3.0	30 thru 44mm Spigot
002-193	VM34/39	3.3	32 and 34mm Flange
002-194	VM28/163	1.0	30 thru 44mm Spigot
002-195	VM28/163	1.2	32 and 34mm Flange
002-196	VM28/163	1.5	
002-197	VM28/163	1.8	
002-198	VM28/163	2.0	
002-199	VM28/163	2.5	
002-200	VM38/11	3.5	30 thru 44mm Spigot

35. main jet RING

Acts as a cup around the main jet to prevent breaking and bubbling of fuel when crossing rough terrain or leaning the vehicle.

002-201	VM28/228	28, 40 and 44mm Spigot
002-202	VM36/17	30 thru 38mm Spigot

NOT FOR SALE

- 35a. main jet WASHER
 002-203 VM20/169 All Mikuni Carbs without main jet ring
37. vent tube anchor PLATE
 002-204 VM28/79a 28 thru 44mm Spigot
 002-205 VM15/164 24 thru 34mm Flange
38. float bowl SCREW
 002-206 C2=0518 30 thru 44mm Spigot
39. GUIDE SCREW (main jet extender)
 Comes in certain carburetors only. It extends the needle jet to allow a larger needle to operate without hitting the main jet. It also performs the same function as a main jet ring.
 002-207 VM38/09 38mm Spigot with Needle Jet 166
 002-208 VM38/03 38mm Spigot with Needle Jet 196

40. NEEDLE JET SETTER
 Holds the NEEDLE JET in position.
 002-209 VM28/53 26 thru 34mm Flange
 002-210 VM24/250 22 and 24mm Flange
 002-211 VM36/55 30 thru 44mm Spigot with adj. float bowl
41. needle jet setter O-RING
 002-212 BV32/04 22 thru 34mm Flange
42. banjo bolt WASHER
 002-213 VM26/125 22mm Flange
 002-214 VM26/124 24 thru 34mm Flange
 002-215 30BIC/35 30mm Flange
 002-239 VM15/80A 28mm Spigot

43. BANJO BOLT
 Holds the main jet in position. It allows the rider to change the main jet from a more convenient angle.
 002-216 VM24/286 22 and 24mm Flange
 002-217 VM28/61A 26 thru 34mm Flange

44. RUBBER FLANGE ADAPTER (with clamp)
 002-050 VM28/200 26 and 28mm Spigot
 002-053 VM34/200 30 thru 34mm Spigot
 002-054 VM36/200 36 and 38mm Spigot
 002-057 VM44/200 40 and 44mm Spigot

RUBBER FLANGE ADAPTER (with clamp)
 SNOWMOBILE TYPE

- 002-051 VM30/200 26 and 28mm Spigot
 002-052 VM32/205 30 thru 34mm Spigot
 002-055 VM38/200 36 and 38mm Spigot
 002-056 VM40/200 40 and 44mm Spigot

MISCELLANEOUS

FLANGE O-RING

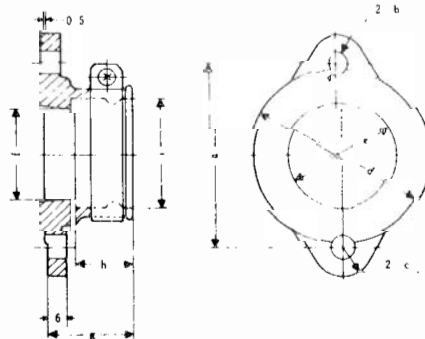
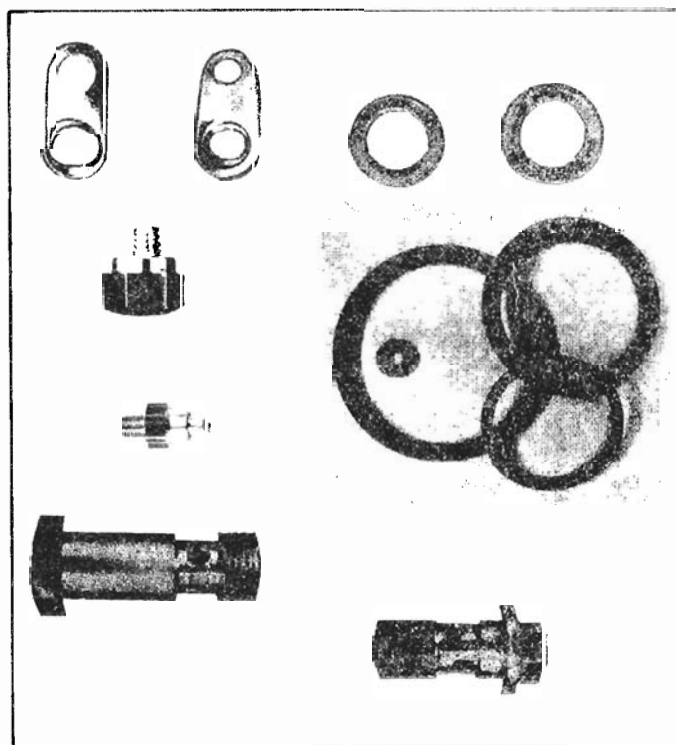
- 002-218 VM30/13 26 thru 30mm Flange
 002-219 VM32/09 32 and 34mm Flange

FUEL PUMP (for Snowmobile use)

- 002-220 DF44-211-D Single Fuel Pump
 002-221 DF52-21 Double

THROTTLE CABLES

- 657-900 Standard Throttle Cable (Harley)
 657-901 90 Throttle Cable for fatbob tank clearance
 657-902 Three-wheeler Throttle Cable
 657-903 4 into 1 cable Universal Throttle Cable
 005-230 Dual, Push/pull Throttle Assembly
 002-025 2 into 1 Cable for Accelerator Pump (ACP1)



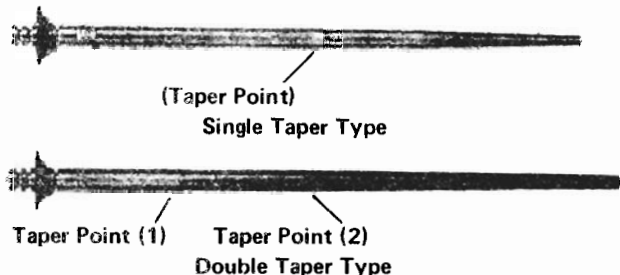
SUDCO #	a	b	c	d	e	f	g	h	i	REMARKS
002-050 VM28/200	60	8.5	10	60	31	29.5	27.5	17.5	35	26-28mm
002-051 *VM30/200	57.2	8.5	10	58	31	30	23	15	37	26-28mm
002-052 *VM32/205	74.6	8.5	10	60	35	34	32	18	40	30-34mm
002-053 VM34/200	60	8.5	10	60	37	35.5	25.0	15	40	30-34mm
002-054 VM36/200	70	8.5	10	60	39.5	38.5	25.0	15	43	36-38mm
002-055 *VM38/200	74.6	8.5	10	60	38	38	28	15	43	36-38mm
002-056 *VM40/200	74.6	8.5	10	68	47	46	32	15	52	40-44mm
002-057 VM44/200	84	8.5	10.5	67	47	46	25.5	15	52	40-44mm

NOT FOR SALE

The needle controls the amount and mixture of the fuel which is drawn in (1/4 - 3/4) throttle operation. The taper of the needle controls the amount of fuel which is drawn. For example: The thinner the taper diameter of the needle the more fuel will be drawn thus effecting a richer fuel mixture. The thicker the taper diameter of the needle the less fuel can be drawn, thus effecting a leaner fuel mixture.

Note: A Mikuni part number for a needle is a number in the following format. The part number denotes the series type, the angle of the taper, and the factory reference number.

TWO TYPES OF NEEDLES



Both types are classified according to "series". There are four "series" available. The different "series" are: #4, #5, #6 and #7.

For example:

Mikuni No. 4D3 (single taper type)

4 - series type

D - angle of taper; angle increases in relation to alphabetical progression

3 - factory reference number

Mikuni No. 4DG6 (double taper type)

4 - series type

D - angle of 1st taper

G - angle of 2nd taper

6 - factory reference number

SERIES TYPE

APPLICATION

SERIES TYPE	APPLICATION
#4	All 18mm Carburetors 22mm and 24mm Flange
#5	26mm - 32mm Spigot 28mm - 34mm Flange
#6	30mm - 38mm Spigot
#7	40mm and 44mm Spigot

9. NEEDLE

4 SERIES

ORDER NO.

002-240	4D2
002-241	4D3
002-242	4D8
002-243	4D10
002-244	4D20
002-245	4DH7
002-246	4DH11
002-247	4DH22
002-248	4DG6
002-249	4E1
002-251	4EJ4
002-252	4F6
002-253	4F10
002-257	4J13
002-258	4L6
002-260	4P3

7 SERIES

ORDER NO.

002-329	7F6
002-330	7H2
002-332	7DH2
002-333	7F7
002-334	7E1
002-336	7DH3
002-345	7DH5
discontinued	7F2

5 SERIES

ORDER NO.

002-261	5C4
002-262	5CN3
002-263	5D1
002-265	5D6
002-266	5DH21
002-267	5D120
002-268	5DL31
002-269	5DL13
002-270	5DP2
002-271	5DP7
002-272	5DP10
002-273	5DP39
002-274	5E13
002-275	5EH7
002-276	5EJ11
002-277	5EJ13
002-278	5EJ15
002-279	5EL9
002-280	5EP6
002-281	5F3
002-282	5F4
002-283	5F15
002-284	5F15
002-285	5F16
002-286	5F18
002-287	5F21
002-348	5F54
002-288	5FJ9
002-343	5FJ10
002-289	5FL7
002-290	5FL11
002-291	5FL14
002-292	5FP8
002-293	5GL3
002-294	5I4
002-295	5J6
002-296	5J9
002-297	5L1
007-001	5FP17

6 SERIES

ORDER NO.

002-298	6CF1
002-299	6DH2
002-300	6DH3
002-301	6DH4
002-302	6DH7
002-303	6DH8
002-340	6DJ30
002-304	6DP1
002-305	6DP5
	(same as 6DP17)
002-307	6DP10
002-308	6DP11
002-309	6DP17
002-311	6F3
	(replaced by 5F54)
002-312	6F4
002-313	6F5
002-314	6F8
002-315	6F9
002-316	6F13
002-317	6F15
002-318	6F16
002-319	6F21
002-320	6F22
002-321	6FJ6
002-322	6FJ11
002-324	6FL14
002-344	6FL25
002-325	6J1
002-326	6J3
002-327	6L1
002-328	6N1
002-349	6FM46
002-712	6FJ40
002-713	6FJ41

Note: 9 Series needles see RS Smoothbore section

NOT FOR SALE

QUICK REFERENCE CHART

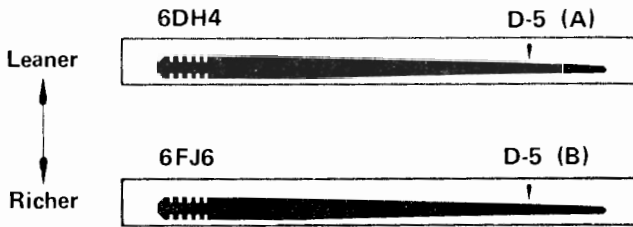
FOR NEEDLE SELECTION

QUICK REFERENCE CHART FOR NEEDLE SELECTION (Average Performance Chart)

Note: The following listing of needles are simply the *average* performance of a needle between 1/4 and 3/4 throttle opening. Needles are constructed such that at a given point on a needle, (for example, at 3/4 throttle opening), the needle *may* be found to perform *richer* at this given point when compared to the same given point on another needle, but according to the *average* performance chart, the needle should perform *leaner*.

For example:

Average Performance Chart

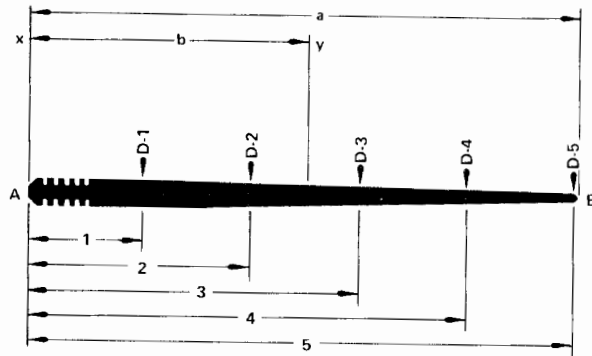


At D-5 (A), the taper diameter is 1.915, at D-5 (B), the taper is 2.040; the taper diameter at D-5 (A) is *smaller* than D-5 (B). At this *given point* of throttle opening (3/4), needle 6DH4 will run slightly *richer* than needle 6FJ6, but the *average* performance will still be that 6DH4 will be a *leaner* needle because it will perform *leaner* at *more* given points than a 6FJ6. Consequently, if you are concentrating on a *specific* throttle opening for *competition* use, be certain to check the *taper diameter* at that *point* of throttle opening.

NEEDLE TAPER DIAMETER DIMENSION CHART (A)

(a) = Needle Length (mm)
(b) = Length between point (x) and the taper point (Y)

1 = 10mm D-1, -2, -3, -4,
2 = 20mm -4, -6 are the
3 = 30mm actual taper
4 = 40mm diameters at those
5 = 50mm given points in
millimeters.



For a more detailed and comprehensive explanation of the various needles as to their taper diameters at given points, see NEEDLE TAPER DIAMETER DIMENSION CHARTS.

D-1 through D-5 indicates diameter (mm) at each point.

	a	b	D-1	D-2	D-3	D-4	D-5
4D3	50.3	25.3	2.511	2.511	2.421	2.253	2.100
4D8	50.3	22.8	2.519	2.519	2.381	2.211	2.060
4E1	50.3	28.0	2.515	2.515	2.345	2.127	1.924
4DG6	50.3	24.0	2.518	2.518	2.405	2.119	1.850
4DH7	50.3	23.0	2.518	2.518	2.386	2.098	1.790
4F15	50.3	26.5	2.512	2.512	2.400	2.120	1.881
4J13	50.2	24.0	2.513	2.513	2.230	1.800	1.400
4L6	50.3	24.5	2.515	2.515	2.178	1.660	1.190
4F6	50.5	25.3	2.514	2.514	2.406	2.145	1.876
4L13	45.1	25.0	2.518	2.516	2.339	1.842	
4F10	50.2	24.5	2.513	2.513	2.385	2.135	1.877
4J11	41.5	21.3	2.512	2.506	2.188	1.776	
4P3	50.5	25.0	2.510	2.506	2.436	2.284	2.122

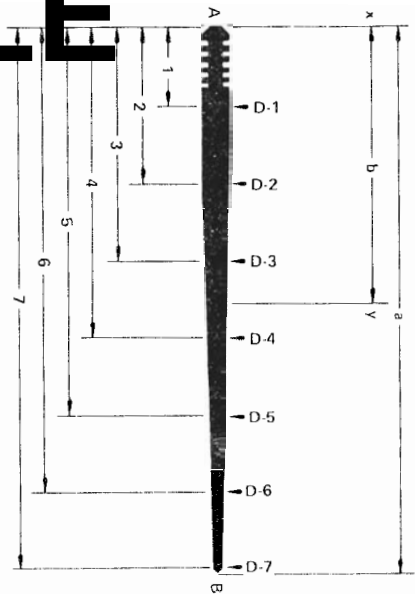
NOT FOR SALE

7J1	70.5	39.5	2.50	2.50	2.50	2.48	2.06	1.63	1.24
7E1	70.6	36.0	2.50	2.50	2.50	2.42	2.18	1.97	1.76
7DH5	72.2	27.4	2.98	2.98	2.94	2.78	2.44	2.08	1.72
7F7	72.3	33.1	2.99	2.99	2.99	2.80	2.54	2.28	2.02
7F6	72.3	29.0	3.00	3.00	2.95	2.68	2.41	2.14	1.87
7H2	72.3	28.9	3.00	3.00	2.92	2.57	2.23	1.86	1.50
7J2	72.3	28.8	3.00	3.00	2.90	2.46	2.01	1.56	1.12
7DH3	72.5	28.1	2.98	2.98	2.96	2.80	2.47	2.11	1.76
7DH2	75.3	31.6	2.99	2.99	2.99	2.84	2.66	2.27	1.92

D-1 through D-7 indicates diameter (mm) at each point.
 (a) = Needle Length (mm)
 (b) = Length between point (x) and the taper point (y)

1 = 10mm
 2 = 20mm
 3 = 30mm
 4 = 40mm
 5 = 50mm
 6 = 60mm
 7 = 70mm

D-1, -2, -3, -4, -5, -6, -7 are the actual taper diameters at those given points in millimeters



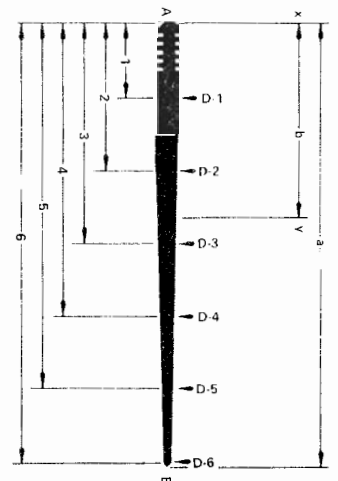
NEEDLE TAPER DIAMETER DIMENSION CHART (B)

	a	b	D-1	D-2	D-3	D-4	D-5	D-6
5D6	59.3	27.5	2.515	2.515	2.460	2.290	2.120	
5FJ9	59.2	35.0	2.517	2.517	2.517	2.364	2.021	
5DI20	59.1	28.2	2.520	2.520	2.479	2.311	1.980	
5F3	58.0	27.4	2.519	2.519	2.419	2.135	1.863	
5EH7	57.6	28.5	2.517	2.517	2.473	2.210	1.848	
5EI3	57.5	29.5	2.515	2.515	2.484	2.197	1.803	
5EJ13	57.8	26.5	2.519	2.519	2.431	2.210	1.766	
5DL13	60.2	32.0	2.515	2.515	2.515	2.362	1.922	1.463
5EJ11	60.3	28.5	2.515	2.515	2.515	2.241	1.839	1.420
5EL9	60.3	27.0	2.517	2.517	2.441	2.221	1.780	1.248
5FL11	60.3	28.2	2.518	2.518	2.438	2.175	1.740	1.256
	60.2	33.0	2.513	2.513	2.513	2.245	1.780	1.120
5FL14	58.0	28.0	2.520	1.520	2.440	2.170	1.735	
5FL7	58.0	28.0	2.518	2.518	2.440	2.170	1.735	
5DP7	57.6	26.4	2.512	2.512	2.440	2.259	1.580	
5J6	58.0	27.5	2.518	2.518	2.340	1.890	1.450	
5L1	58.0	27.0	2.518	2.518	2.330	1.811	1.297	
5C4	55.1	24.0	2.516	2.516	2.448	2.310	2.179	
5F18	58.0	27.0	2.521	2.521	2.515	2.257	2.006	
5J9	58.0	27.0	2.522	2.520	1.432	1.996	1.505	
5F12	51.5	23.3	2.021	2.021	1.882	1.631	1.375	
5D1	53.5	27.6	2.510	2.510	2.496	2.338	2.169	
5DP2	60.3	32.4	2.515	2.514	2.513	2.418	2.067	1.418
5I4	60.0	27.0	2.514	2.509	2.442	2.071	1.690	1.332
5D5	57.6	30.0	2.513	2.513	2.510	2.366	2.205	

D-1 through D-6 indicates diameter (mm) at each point
 (a) = Needle Length (mm)
 (b) = Length between point (x) and the taper point (y)

1 = 10mm
 2 = 20mm
 3 = 30mm
 4 = 40mm
 5 = 50mm
 6 = 60mm

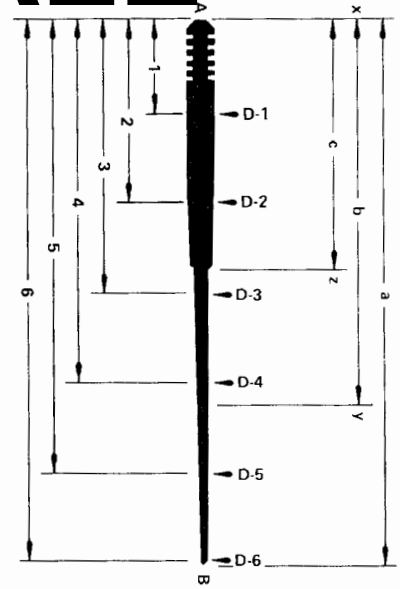
D-1, -2, -3, -4, -5, -6 are the actual taper diameters at those given points in millimeters



NOT FOR SALE

NEEDLE TAPER DIMENSION CHART (D)

	a	b	c	D-1	D-2	D-3	D-4	D-5	D-6
6F5	62.3	38.1	19.0	2.515	2.456	2.454	2.364	2.098	1.840
6F4	62.3	32.0	19.4	2.515	2.442	2.436	2.206	1.939	1.678
6F8	62.3	34.0	21.5	2.512	2.512	2.386	2.214	1.945	1.688
6FJ11	62.3	36.0	18.7	2.519	2.481	2.481	2.367	2.030	1.610
5F16	59.1	36.7	18.5	2.519	2.489	2.489	2.372	2.104	
5DH21	52.3	30.1	16.5	2.515	2.470	2.465	2.328	2.024	
6F16	64.6	31.2	18.4	2.520	2.404	2.400	2.201	1.941	1.679



D-1 through D-6 indicates diameter (mm)

at each point.

(a) = Needle Length (mm)

(b) = Length between point (x) and the taper point (y)

(c) = Length between point (x) and the pronounced taper point (z)

1 = 10mm D-1, -2, -3, -4,
 2 = 20mm -5, -6 are the
 3 = 30mm actual taper
 4 = 40mm diameters at those
 5 = 50mm given points in
 6 = 60mm Millimeters

NEEDLE TAPER DIMENSION CHART (C)

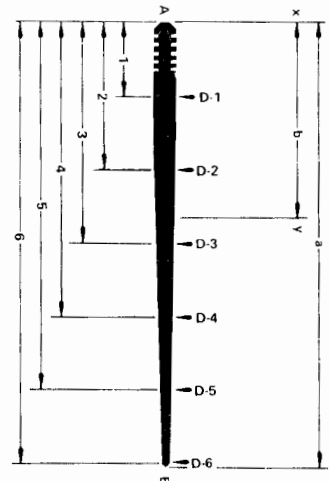
	a	b	D-1	D-2	D-3	D-4	D-5	D-6
6F3	60.5	34.2	2.51	2.51	2.51	2.31	2.05	
6CF1	61.5	29.5	2.51	2.51	2.42	2.24	1.97	1.71
6DH8	62.1	22.8	2.51	2.51	2.38	2.14	1.78	1.45
6FL25	62.1	24.6	2.51	2.51	2.37	2.10	1.64	1.14
6F21	62.1	30.7	2.50	2.50	2.50	2.25	1.98	1.72
6F15	62.2	29.1	2.50	2.50	2.47	2.19	1.92	1.66
6FL14	62.2	27.6	2.51	2.51	2.44	2.18	1.72	1.21
6DH7	62.2	28.5	2.51	2.51	2.50	2.31	2.00	1.68
6H1	62.3	37.5	2.51	2.51	2.51	2.41	2.04	1.69
6DH2	62.3	28.0	2.51	2.51	2.46	2.29	2.00	1.66
6F9	62.3	28.9	2.51	2.51	2.47	2.21	1.94	1.67
6FJ6	62.3	35.2	2.50	2.50	2.50	2.37	2.04	1.60
6DH3	62.3	22.0	2.51	2.51	2.45	2.28	1.94	1.60
6J3	62.3	36.7	2.51	2.51	2.51	2.35	1.91	1.45
6L1	62.3	37.0	2.51	2.51	2.51	2.33	1.82	1.31
6DP5	62.3	32.1	2.51	2.51	2.51	2.37	1.83	1.14
6N1	62.3	37.0	2.51	2.51	2.51	2.27	1.67	1.05
6DP1	62.3	28.9	2.51	2.51	2.47	2.31	1.74	1.07
6DH4	62.3	25.5	2.52	2.52	2.44	2.25	1.91	1.57

D-1 through D-6 indicates diameter (mm) at each point.

(a) = Needle Length (mm)

(b) = Length between point (x) and the taper point (y)

1 = 10mm D-1, -2, -3, -4,
 2 = 20mm -5, -6 are the
 3 = 30mm actual taper
 4 = 40mm diameters at those
 5 = 50mm given points in
 6 = 60mm millimeters



	a	b	D-1	D-2	D-3	D-4	D-5	D-6
6F22	62.4	35.2	2.51	2.40	2.40	2.25	1.98	1.71
6DP10	62.4	26.5	2.51	2.51	2.44	2.26	1.56	.89
6J1	64.0	36.2	2.51	2.51	2.51	2.33	1.91	1.49
6F13	64.2	32.8	2.50	2.46	2.46	2.24	1.97	1.70
6DJ30	64.7	26.3	2.51	2.51	2.45	2.09	1.66	1.24
6FM46	68.6	37.6	2.51	2.51	2.51	2.43	2.12	1.54
6FJ40	68.6	35.4	2.50	2.50	2.50	2.36	1.96	1.47
6FJ41	68.6	37.6	2.51	2.51	2.51	2.43	2.14	1.69

10. THROTTLE VALVE (SLIP-ON)

The throttle valve affects the air/fuel mixture ratio between 1/8 and 1/4 throttle, and especially between 1/8 and 1/4 throttle.

NOT FOR SALE

Throttle valves come in various sizes. The sizes are called cutaway. The larger the cutaway (size), the leaner the fuel mixture. The smaller the cutaway (size), the richer the fuel mixture. For example,

THREE TYPES OF THROTTLE VALVES

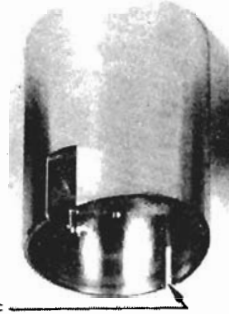
Right side idle screw groove type.
- comes in brass and aluminum

GUIDE PIN GROOVE



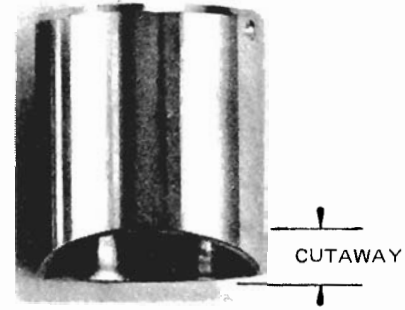
Left side idle screw groove type.
- comes in brass and aluminum.

GUIDE PIN GROOVE

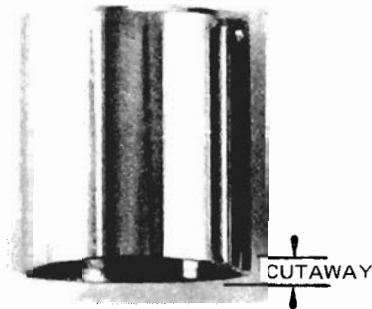


No idle screw groove type.
- comes in aluminum.
- primarily for road racing use.

GUIDE PIN GROOVE



This throttle valve has a 3.0 cutaway; it will create a leaner fuel-air mixture than the below pictured throttle valve.



This throttle valve has a 1.0 cutaway; it will create a richer fuel-air mixture than the above pictured throttle valve.

ORDER NO.	MIKUNI NO.	COMPOSITION	IDLE GROOVE POSITION	GUIDE PIN POSITION	GUIDE PIN GROOVE TYPE	WIDTH	APPLICATION
003-001	VM26/21	0.5	Aluminum	Left	Right	Narrow	24&26 Clamp-On 24&26 Flange
003-002		1.0					
003-003		1.5					
003-004		2.0					
003-005		2.5					
003-006		3.0					
003-007		3.5					
003-008	VM28/56	0.5	Brass	Left	Right	Narrow	26&28 Spigot
003-009		1.0					
003-010		1.5					
003-011		2.0					
003-012		2.5					
003-013		3.0					
003-014		3.5					
003-015	VM28/57	0.5	Brass	Right	Left	Narrow	26&28 Spigot
003-016		1.0					
003-017		3.0					
003-018		3.5					
003-019	VM28/19	0.5	Aluminum	Right	Narrow	2.05	28 Clamp-On
003-020		1.0					
003-021		1.5					
003-022		2.0					
003-023		2.5					
003-024		3.0					
003-025		3.5					

NOT FOR SALE

THROTTLE VALVES (VM)

ORDER NO.	MIKUNI NO.	COMPOSITION	IDLE GROOVE POSITION	GUIDE PIN POSITION	GUIDE PIN GROOVE TYPE	WIDTH	APPLICATION	
003-026 003-027 003-028 003-029 003-030 003-031 003-032	VM28/80	0.5 1.0 1.5 2.0 2.5 3.0 3.5	Aluminum	Left	Right	Narrow	2.05	28&30 Flange 28 Clamp-On
003-033 003-034 003-035 003-036 003-037 003-038 003-039	VM28/81	0.5 1.0 1.5 2.0 2.5 3.0 3.5	Aluminum	Right	Left	Narrow	2.05	28&30 Flange 28 Clamp-On
003-040 003-041 003-042 003-043 003-044	VM28/90	1.5 2.0 2.5 3.0 3.5	Aluminum		Right	Narrow	2.05	28&30 Flange 28 Clamp-On
003-045 003-046 003-047 003-048 003-049 003-050 003-051	VM28/156	0.5 1.0 1.5 2.0 2.5 3.0 3.5	Brass	Left	Right	Narrow	2.05	32&34 Flange 30,32,34 Spigot
003-052 003-053 003-054 003-055 003-056	VM28/210	1.0 1.5 2.0 2.5 3.0	Aluminum		Right	Narrow	1.98	Z1 '72-74
003-057 003-058 003-059 003-060	VM28/490	1.0 1.5 2.0 2.5	Aluminum		Right	Narrow	1.98	Z1 KZ900
003-061 003-062 003-063 003-064	VM30/120	1.5 2.0 2.5 3.0	Brass	Left	Right	Narrow	2.05	28&30 Flange 28 Clamp-On
003-065 003-066 003-067 003-068 003-069	VM32/06	1.0 1.5 2.0 2.5 3.0	Aluminum		Right	Narrow	2.05	30,32,34 Spigot 32&34 Flange
003-070 003-071 003-072 003-073 003-074 003-075 003-076	VM32/22	0.5 1.0 1.5 2.0 2.5 3.0 3.5	Aluminum	Left	Right	Narrow	2.05	30,32,34 Spigot 32&34 Flange
003-077 003-078 003-079 003-080 003-081 003-082	VM32/23	1.0 1.5 2.0 2.5 3.0 3.5	Aluminum	Right	Left	Narrow	2.05	30,32,34 Spigot 32&34 Flange

NOT FOR SALE

THROTTLE VALVES (VM)

ORDER NO.	MIKUNI NO.	COMPOSITION	IDLE GROOVE POSITION	GUIDE PIN POSITION	GUIDE PIN GROOVE TYPE	WIDTH	APPLICATION
003-083 003-084 003-085 003-086	VM32/65 1.5 2.0 2.5 3.0	Brass	Right	Left	Wide	2.60	30,32,34 Spigot 32&34 Flange
003-087 003-088 003-089 003-090 003-091	VM30/176 1.0 1.5 2.0 2.5 3.0	Brass	Left	Right	Wide	2.05	30 Small Body Spigot
003-092 003-093 003-094 003-095 003-096	VM34/54 1.5 2.0 2.5 3.0 3.5	Brass		Left	Narrow	2.05	30,32,34 Spigot 32&34 Spigot
003-097 003-098 003-099 003-100 003-101 003-102 003-103	VM34/110 0.5 1.0 1.5 2.0 2.5 3.0 3.5	Brass	Left	Right	Wide	2.60	30,32,34 Spigot 32&34 Flange
003-104 003-105 003-106 003-107 003-108 003-109 003-110	VM36/13 0.5 1.0 1.5 2.0 2.5 3.0 3.5	Brass	Left	Right	Narrow	2.05	36 Spigot
003-111 003-112 003-113 003-114 003-115 003-116	VM36/18 1.0 1.5 2.0 2.5 3.0 3.5	Brass	Right	Left	Narrow	2.05	36 Spigot
003-117 003-118 003-119 003-120 003-121	VM36/26 1.5 2.0 2.5 3.0 3.5	Brass	Right	Left	Narrow	2.60	36 Spigot
003-122 003-123 003-124 003-125 003-126 003-127 003-128	VM36/36 0.5 1.0 1.5 2.0 2.5 3.0 3.5	Brass	Left	Right	Wide	3.05	36 Spigot
003-182 003-183	VM36/39 2.5 3.0	Brass	Right	Left	Wide	3.05	36 Spigot
003-129 003-130 003-131 003-132 003-133	VM38/02 0.5 1.0 1.5 2.0 2.5	Brass	Right	Left	Narrow	2.05	38 Spigot

NOT FOR SALE

ORDER NO.	MIKUNI NO.	COMPOSITION	IDLE GROOVE POSITION	GUIDE PIN POSITION	GUIDE PIN GROOVE TYPE	WIDTH	APPLICATION
003-134 003-135 003-136 003-137 003-138 003-139 003-140	VM38/10 0.5 1.0 1.5 2.0 2.5 3.0 3.5	Brass	Left	Right	Narrow	2.05	38 Spigot
003-141 003-142 003-143 003-144 003-145 003-146 003-147	VM38/24 0.5 1.0 1.5 2.0 2.5 3.0 3.5	Brass	Right	Left	Wide	3.05	38 Spigot
003-148 003-149 003-150 003-151 003-152	VM38/52 1.5 2.0 2.5 3.0 3.5	Brass	Left	Right	Wide	3.05	38 Spigot
003-153 003-154 003-155 003-156 003-157 003-158 003-159 003-160	VM40/02 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0	Aluminum	Left	Right	Wide	3.05	40&44 Spigot
003-161 003-162 003-163 003-164 003-165 003-166	VM44/08 1.5 VM44/23 1.5 2.0 2.5 3.0 3.5	Zinc Brass	Left Left	Right Right	Narrow Wide	2.50 3.05	40&44 Spigot 40&44 Spigot



11. NEEDLE JET

The needle jet is the main fuel passage to the main jet (venturi) of a Mikuni carburetor. Depending on the *inside diameter* of a specific needle jet, this will also affect the function of the needle. Therefore, needle jets and needles act together as the main system in controlling the amount and mixture of the fuel which is drawn in mid-range (1/4 - 3/4) throttle operation.

TWO BASIC TYPES OF NEEDLE JETS

Note: For detailed information on needle jet types and function see (pg. 26) of the tuning section.

PRIMARY TYPE



"P"

BLEED TYPE



"B"

On the following application chart, it is noted that certain needle jets require a specific type of main jet because there are two types of main jets (4/042 & N100/604) that have different fuel flow rate characteristics. Also, needle jets are available not only in types, but in *series* and *sizes*. Mikuni *series numbers* for needle jets show the actual outside dimensional characteristics of the needle jet. Their *sizes* (inside diameter *size*) within each *series* are listed according to a *letter-number combination*. The *letter* shows the inside diameter size in increments of .050mm.

For example, the difference between P-2 and O-2 is that the inside diameter of needle jet size O-2 is .050mm greater than P-2.

The *number* shows the inside diameter size in increments of .010mm.

For example, the difference between P-2 and P-4 is that the inside diameter of needle jet size P-4 is .010mm greater than P-2.

Exception: (-5) is measured as an increment increase of .005mm. For example, the difference between P-4 and P-5 is that the inside diameter of needle jet size P-5 is .005mm greater than P-4.

FIGURE A

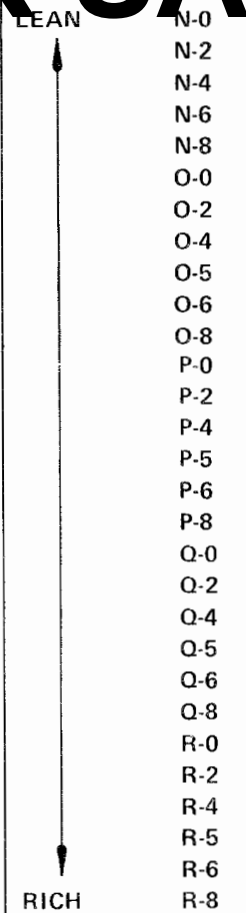
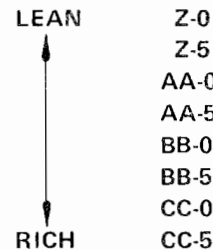


FIGURE B

For Mikuni Series No. 224



Note: Letters Z, AA, BB, and CC are sizes in increments of .050mm. Numbers 0 & 5 are sizes in increments of .025mm.

SERIES	SIZE	TYPE	CARBURETOR APPLICATION
159	O-0 thru R-8	P	30 - 36mm Spigot
166	O-0 thru R-8	P	38mm Spigot
159	N-0 thru Q-8	P	28, 30mm Small Body Spigot
171	O-0 thru Q-5	P	30mm Flange
172	O-0 thru Q-8	P	28mm Flange
175	N-0 thru Q-8	B	28mm Spigot, TM28 Flat
176	N-0 thru Q-8	B	30 - 36mm Spigot
182	N-0 thru Q-8	P	26mm Spigot
188	O-0 thru Q-8	P	32mm Flange, Kawasaki
192	N-0 thru O-8	P	26mm Flange
193	N-0 thru O-8	P	24mm Flange
205	O-0 thru Q-8	P	34mm Flange
211	N-0 thru Q-8	P	Kaw KR250/350/750
224	Figure "B"	P	40 - 44mm Spigot
235	O-0 thru Q-8	P	30mm Flange
247	P & Q only	P	Yamaha 250, YZ400, IT400
258	O & P only	B	Yamaha TT, SR, XT500 Suzuki DR, SP, GS550 GS750/850, Kaw KZ650/1000
261	N-8 thru Q-8	B	VM29 and VM33 Smoothbore
309	O-0 thru R-8	P	TM32, 34, 36, 38, 41 Pro- (Flat Slide's)
499	P-2 thru Q-4	B	TM33 Flat Slide Smoothbore
568	O-6 thru P-8	B	RS34, 36, Smoothbores
568	Y-0 thru Z-6	B	RS38, 40 Smoothbores

P = Primary
B = Bleed Type

NOT FOR SALE

159

ORDER NO.	SIZE
003-200	N-4
003-201	N-6
003-202	N-8
003-203	O-0
003-204	O-2
003-205	O-4
003-206	O-6
003-207	O-8
003-543	O-5
003-209	P-2
003-210	P-4
003-211	P-5
003-212	P-6
003-213	P-8
003-214	Q-0
003-215	Q-2
003-216	Q-4
003-217	Q-5
003-218	Q-6
003-219	Q-8
003-220	R-0
003-221	R-2
003-222	R-3
003-223	R-4
003-224	R-5
003-225	R-6
003-226	R-8

156

ORDER NO.	SIZE
003-227	O-0
003-228	O-2
003-229	O-4
003-545	O-5
003-230	O-6
003-231	O-8
003-232	P-0
003-233	P-2
003-234	P-4
003-235	P-5
003-236	P-6
003-237	P-8
003-238	Q-0
003-239	Q-2
003-240	Q-4
003-241	Q-6
003-546	Q-5
003-242	Q-8
003-243	R-0
003-244	R-2
003-245	R-4
003-246	R-5
003-247	R-6
003-248	R-8
003-544	N-6

159

ORDER NO.	SIZE
003-249	N-0
003-250	N-2
003-251	N-4
003-252	N-6
003-253	N-8
003-254	O-0
003-255	O-2
003-256	O-4
003-257	O-5
003-258	O-6
003-259	O-8
003-260	P-0
003-261	P-2
003-262	P-4
003-263	P-5
003-264	P-6
003-265	P-8
003-266	Q-0
003-267	Q-2
003-268	Q-4
003-269	Q-6
003-270	Q-8
003-551	R-8

172

ORDER NO.	SIZE
003-271	N-0
003-272	N-2
003-273	N-4
003-274	N-6
003-275	N-8
003-276	O-0
003-277	O-2
003-278	O-4
003-279	O-6
003-280	O-8
003-281	P-0
003-282	P-2
003-283	P-4
003-284	P-6
003-285	P-8
003-286	Q-0
003-287	Q-2
003-288	Q-4
003-289	Q-6
003-290	Q-8
003-291	R-0

ORDER NO.	SIZE
003-292	O-0
003-293	O-2
003-294	O-4
003-295	O-6
003-296	O-8
003-297	P-0
003-298	P-2
003-299	P-4

175

ORDER NO.	SIZE
003-300	N-0
003-301	N-2
003-302	N-4
003-303	N-6
003-304	O-0
003-305	O-2
003-306	O-4
003-307	O-6
003-308	O-8
003-309	P-0
003-310	P-2
003-311	P-4
003-312	P-5
003-313	P-6
003-314	P-8
003-315	Q-0
003-540	Q-2
003-316	Q-4
003-317	Q-6
003-318	Q-8
003-319	R-0
003-320	R-2
003-321	R-4
003-322	R-6
003-323	R-8

176

ORDER NO.	SIZE
003-324	N-0
003-325	N-2
003-326	N-4
003-327	N-6
003-328	N-8
003-329	O-0
003-330	O-2
003-331	O-4
003-332	O-5
003-333	O-6
003-334	O-8
003-335	P-0
003-336	P-2
003-337	P-4
003-338	P-5
003-339	P-6
003-340	P-8
003-341	Q-0
003-342	Q-2
003-343	Q-4
003-344	Q-6
003-345	Q-8
003-346	R-0
003-347	R-2
003-348	R-4
003-349	R-5
003-350	R-6
003-351	R-8

182

ORDER NO.	SIZE
003-352	N-0
003-353	N-2
003-354	N-4
003-355	N-6
003-356	N-8
003-357	O-0
003-358	O-2
003-359	O-4
003-360	O-6
003-361	O-8
003-362	P-0
003-363	P-2
003-364	P-4
003-365	P-6
003-366	P-8
003-367	Q-0
003-368	Q-2
003-369	Q-4
003-370	Q-6
003-371	Q-8

183

ORDER NO.	SIZE
003-372	N-0
003-373	N-2
003-374	N-4
003-375	N-6
003-376	N-8
003-377	O-0
003-378	O-2
003-379	O-4
003-380	O-5
003-381	O-6
003-382	O-8
003-383	P-0
003-384	P-2
003-385	P-4
003-386	P-6
003-387	P-8
003-388	Q-0
003-389	Q-2
003-390	Q-4
003-391	Q-6
003-392	Q-8

188

ORDER NO.	SIZE
003-393	O-0
003-394	O-2
003-395	O-4
003-396	O-5
003-397	O-6
003-398	O-8
003-399	P-0
003-400	P-2
003-401	P-4
003-402	P-5
003-403	P-6
003-404	P-8
003-405	Q-0
003-406	Q-2
003-407	Q-4
003-408	Q-5
003-409	Q-6
003-410	Q-8

NOT FOR SALE

192

93

96

205

211

ORDER NO.	SIZE
003-411	N-8
003-412	O-0
003-413	O-2
003-414	O-3
003-415	O-4
003-416	O-5
003-417	O-6
003-418	O-8
003-419	P-0
003-420	P-2
003-421	P-4
003-422	P-6
003-423	P-8
003-548	N-0

ORDER NO.	SIZE
003-424	N-0
003-425	N-2
003-426	N-4
003-427	N-6
003-428	N-8
003-429	O-0
003-430	O-2
003-431	O-4
003-432	O-6
003-433	O-8
003-434	P-0
003-435	P-2
003-436	P-4
003-437	P-6
003-438	P-8

ORDER NO.	SIZE
003-439	O-0
003-440	O-2
003-441	O-4
003-442	O-5
003-443	O-6
003-444	O-8
003-445	P-0
003-446	P-2
003-447	P-4
003-448	P-5
003-449	P-6
003-450	P-8
003-451	Q-0
003-452	Q-2
003-453	Q-4
003-454	Q-5
003-455	Q-6
003-456	Q-8

ORDER NO.	SIZE
003-457	O-0
003-458	O-2
003-459	O-4
003-460	O-5
003-461	O-6
003-462	O-8
003-463	P-0
003-464	P-2
003-465	P-4
003-466	P-6
003-467	P-8
003-468	Q-0
003-469	Q-2
003-470	Q-4
003-471	Q-5
003-472	Q-6
003-473	Q-8

ORDER NO.	SIZE
003-474	N-0
003-475	N-2
003-476	N-4
003-477	N-6
003-478	N-8
003-479	O-0
003-480	O-2
003-481	O-4
003-482	O-6
003-483	O-8
003-484	P-0
003-485	P-2
003-486	P-4
003-487	P-6
003-488	P-8
003-489	Q-0
003-490	Q-2
003-491	Q-4
003-492	Q-6
003-493	Q-8

235

ORDER NO.	SIZE
003-503	P-6

243

ORDER NO.	SIZE
003-504	O-4
003-550	O-5
003-505	O-6
003-506	O-8
003-507	P-6
003-508	P-8
003-509	Q-0

247

ORDER NO.	SIZE
003-510	P-0
003-511	P-2
003-512	P-4
003-513	P-5
003-514	P-6
003-515	P-8
003-516	Q-0
003-517	Q-2
003-518	Q-4
003-519	Q-5
003-520	Q-6
003-521	O-8
003-553	R-0
003-554	R-2
003-555	R-4
003-556	R-6
003-557	R-8

224

ORDER NO.	SIZE
003-495	Z-0
003-496	Z-5
003-497	AA-0
003-498	AA-5
003-499	BB-0
003-500	BB-5
003-501	CC-0
003-502	CC-5
003-560	Q-5

258

ORDER NO.	SIZE
003-522	O-0
003-523	O-2
003-524	O-4
003-525	O-6
003-526	O-8
003-527	P-0
003-528	P-2
003-529	P-4
003-530	P-6
003-531	P-8

389

ORDER NO.	SIZE
003-570	O-0
003-571	O-2
003-572	O-4
003-573	O-6
003-574	O-8
003-575	P-0
003-576	P-2
003-577	P-4
003-578	P-6
003-579	P-8
003-580	Q-0
003-581	Q-2
003-582	Q-4
003-583	Q-6
003-584	Q-8
003-585	R-0
003-586	R-2
003-587	R-4
003-588	R-6
003-589	R-8

261

ORDER NO.	SIZE
003-532	O-0
003-533	O-2
003-534	O-4
003-535	O-6
003-536	O-8
003-537	P-0
003-538	P-2
003-539	P-4
003-549	P-8

499

ORDER NO.	SIZE
003-606	P-2
003-609	P-8
003-610	Q-0
003-611	Q-2
003-612	Q-4

568

ORDER NO.	SIZE
003-663	Y-0
003-664	Y-2
003-665	Y-4
003-666	Y-6
003-667	Y-8
003-668	Z-0
003-669	Z-2
003-670	Z-4
003-671	Z-6

568

ORDER NO.	SIZE
003-650	O-6
003-651	O-8
003-652	P-0
003-653	P-2
003-654	P-4
003-655	P-6
003-656	P-8

NOT FOR SALE

21. PILOT JET

The Pilot Jet controls starting, idling and low speed operation until approximately 1/4 throttle. It performs throughout the full range of throttle operation.

MIKUNI NO.	SIZES	APPLICATION
VM22/210	15-80 in increments of 5, with the exception of 17.5 For example, 15, 17.5, 20, 25, 30 etc.	Most Mikuni Carburetors
VM28/213	15-40 in increments of 5.	Z-1 '72 Mikuni Carb.
VM28/486	15-50 in increments of 5.	'73-'78 Z1, GS750 RS36,38,40
VM28/1001	15-65 in increments of 5.	22 Flange (1000cc, 2 cycle, 1 cylinder, Yamaha)
BS30/96	30-60 in increments of 2.5	OEM CV Carbs.



VM22/210

ORDER NO.	SIZE
004-001	12.5
004-002	15
004-003	17.5
004-004	20
004-005	22.5
004-006	25
004-007	27.5
004-008	30
004-009	35
004-010	40
004-011	45
004-012	50
004-013	55
004-014	60
004-015	65
004-016	70
004-017	75
004-018	80
004-067	85
004-068	90
004-069	95

VM28/213

ORDER NO.	SIZE
004-019	15
004-020	17.5
004-021	20
004-022	22.5
004-023	25
004-024	30
004-025	35
004-026	40
VM28/1001	
ORDER	
004-039	15
004-050	17.5
004-040	20
004-051	22.5
004-041	25
004-042	30
004-043	35
004-044	40
004-045	45
004-046	50
004-047	55
004-048	60
004-049	65

VM28/486

ORDER NO.	SIZE
004-028	15
004-029	17.5
004-030	20
004-031	22.5
004-032	25
004-033	27.5
004-034	30
004-035	35
004-036	40
004-037	45
004-038	50
BS30/96	
ORDER	
NO.	
SIZE	
004-054	30
004-055	32.5
004-056	35
004-057	37.5
004-058	40
004-059	42.5
004-060	45
004-061	47.5
004-062	50
004-063	52.5
004-064	55
004-065	57.5
004-066	60

28. AIR JET

Meters the air flow through the passage to and into the needle jet. It acts as a fine tuning component in regulating the fuel-air mixture. This is especially important when a bleed type needle jet is used.

MIKUNI NO.	APPLICATION
BS30/97	26 thru 44mm Spigot

Sizes Available: .5, .7, 1.0, 1.2, 1.3, 1.5, 1.7, 2.0.

MIKUNI NO.	APPLICATION
B42/55	OEM CV Carbs.

BS30/97

ORDER NO.	SIZE
002-150	0.5
002-151	0.6
002-152	0.7
002-153	0.8
002-154	0.9
002-155	1.0
002-156	1.1
002-157	1.2
002-158	1.3
002-159	1.4
002-160	1.5
002-161	1.6
002-162	1.7
002-163	1.8
002-164	1.9
002-165	2.0

B42/55

ORDER NO.	SIZE
002-166	160
002-167	165
002-168	170
002-169	175
002-170	200
002-171	210

36. MAIN JETS

The main jet meters the amount of fuel entering the needle jet. Main jets control the fuel flow at the full throttle opening. The size numbers of the main jets run from smaller (leaner) to larger (richer). For example, if a 4/042 #150 main jet is being used, and a leaner main jet is required, one would use a #145 or lower.

MIKUNI

NO.	TYPE	SIZES
4/042	LARGE HEX	#50-200 in increments of 5 —fits needle jets 159, 166, 176, 183, 188, 192, 193, 205, 211, 224



MIKUNI

NO.	TYPE	SIZES
N100/604	LARGE ROUND	#50-250 in increments of 2.5 —fits needle jets 171, 188, 196



MIKUNI

NO.	TYPE	SIZES
M10/14	SMALL HEX	#50-200 in increments of 5 —fits needle jets same as large hex type



MIKUNI

NO.	TYPE	SIZES
N102/221	SMALL ROUND	#50-200 in increments of 2.5 —fits needle jets same as large round type



NOT FOR SALE

ORDER NO.	SIZE
004-255	50
004-256	52.5
004-267	55
004-268	57.5
004-269	60
004-270	62.5
004-271	65
004-272	67.5
004-273	70
004-274	72.5
004-275	75
004-276	77.5
004-277	80
004-278	82.5
004-279	85
004-280	87.5
004-281	90
004-282	92.5
004-283	95
004-284	97.5
004-285	100
004-286	102.5
004-287	105
004-288	107.5
004-289	110
004-290	112.5
004-291	115
004-292	117.5
004-293	120
004-294	122.5
004-295	125
004-296	127.5
004-297	130
004-298	132.5
004-299	135
004-300	137.5
004-301	140
004-302	142.5
004-303	145
004-304	147.5
004-305	150
004-306	152.5
004-307	155
004-308	157.5
004-309	160
004-310	162.5
004-311	165
004-312	167.5
004-313	170
004-314	172.5
004-315	175
004-316	177.5
004-317	180
004-318	182.5
004-319	185
004-320	187.5
004-321	190
004-322	192.5
004-323	195
004-324	197.5
004-325	200

ORDER NO.	SIZE
004-160	50
004-161	52.5
004-162	55
004-163	57.5
004-164	60
004-165	62.5
004-166	65
004-167	67.5
004-168	70
004-169	72.5
004-170	75
004-171	77.5
004-172	80
004-173	82.5
004-174	85
004-175	87.5
004-176	90
004-177	92.5
004-178	95
004-179	97.5
004-180	100
004-181	102.5
004-182	105
004-183	107.5
004-184	110
004-185	112.5
004-186	115
004-187	117.5
004-188	120
004-189	122.5
004-190	125
004-191	127.5
004-192	130
004-193	132.5
004-194	135
004-195	137.5
004-196	140
004-197	142.5
004-198	145
004-199	147.5
004-200	150
004-201	152.5
004-202	155
004-203	157.5
004-204	160
004-205	162.5
004-206	165
004-207	167.5
004-208	170
004-209	172.5
004-210	175
004-211	177.5
004-212	180

ORDER NO.	SIZE
004-213	182.5
004-214	185
004-215	187.5
004-216	190
004-217	192.5
004-218	195
004-219	197.5
004-220	200
004-221	202.5
004-222	205
004-223	210

ORDER NO.	SIZE
004-224	50
004-225	55
004-226	60
004-227	65
004-228	70
004-229	75
004-230	80
004-231	85
004-232	90
004-233	95
004-234	100
004-235	105
004-236	110
004-237	115
004-238	120
004-239	125
004-240	130
004-241	135
004-242	140
004-243	145
004-244	150
004-245	155
004-246	160
004-247	165
004-248	170
004-249	175
004-250	180
004-251	185
004-252	190
004-253	195
004-254	200

LARGE HEX
4/042

ORDER NO.	SIZE
004-070	50
004-071	55
004-072	60
004-073	65
004-074	70
004-075	75
004-076	80
004-077	85
004-078	90
004-079	95
004-080	100
004-081	105
004-082	110
004-083	115
004-084	120
004-085	125
004-086	130
004-087	135
004-088	140
004-089	145
004-090	150
004-091	155

ORDER NO.	SIZE
004-092	160
004-093	165
004-094	170
004-095	175
004-100	180
004-101	185
004-102	190
004-103	195
004-104	200
004-105	210
004-106	220
004-107	230
004-108	240
004-109	250
004-110	260
004-111	270
004-112	280
004-113	290
004-115	300
004-116	310
004-117	320
004-118	330

ORDER NO.	SIZE
004-119	340
004-120	350
004-121	360
004-122	370
004-123	380
004-124	390
004-125	400
004-126	410
004-127	420
004-128	430
004-129	440
004-130	450
004-131	460
004-132	470
004-133	480
004-134	490
004-135	500
004-137	520
004-139	540
004-141	560
004-143	580

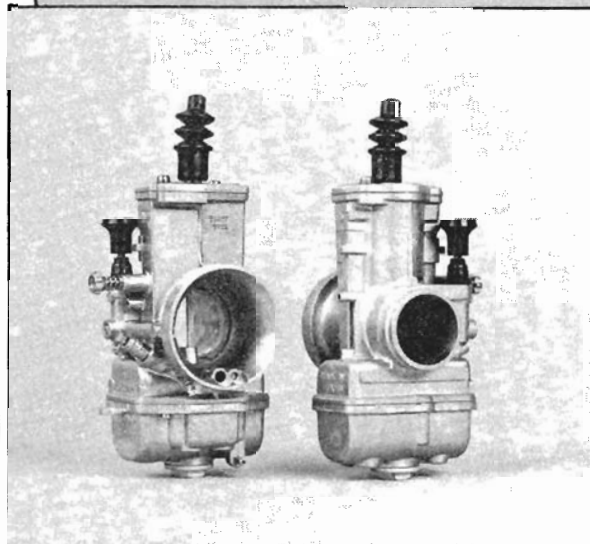
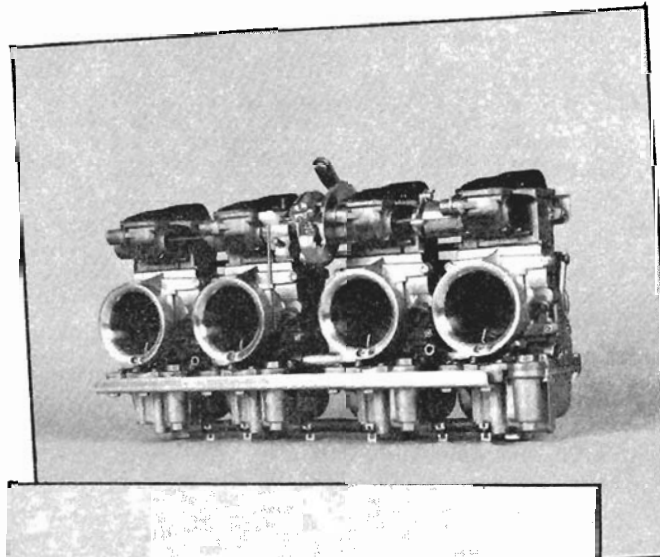
ORDER NO.	SIZE
004-145	600
004-146	620
004-147	640
004-148	650
004-149	660
004-150	680
004-151	700
004-152	710
004-153	720



NOT FOR SALE

SUDCO SPECIAL SET MIKUNI CARBURETORS

Sudco can "Special Set Up" any Mikuni Carburetors for your particular application. Below is the information you will need to provide our Carburetor Specialist Technicians so they can provide you with the correct carburetor and jetting. PLEASE NOTE: CARBURETION CHANGES AND JETTING MODIFICATIONS ARE FOR USE ONLY ON RACING MACHINES OR SIMILAR OFF-ROAD VEHICLES WHERE POLLUTION LAWS ARE NOT IN EFFECT. NOT LEGAL FOR VEHICLES OPERATED ON PUBLIC HIGHWAYS IN THE STATE OF CALIFORNIA OR OTHER AREAS WHERE SIMILAR POLLUTION LAWS MAY APPLY.



The following information is necessary when ordering specifications.

"SPECIAL SET" carburetors to your

- 1) TYPE OF CARBURETOR (*Clamp-On, Flange Mount, Spigot Mount, Power-Jet, Flat-Slide, Smoothbore, etc.*)
- 2) SIZE OF CARBURETOR (mm)
- 3) JETTING SPECS (if known)

Main Jet
Pilot Jet
Needle Jet
Jet Needle
Throttle Valve
Air Jet

Starter System (*Lever Type, Cable Type, Pull-Up Type*)
Power Jet (*for Power Jet Carburetor only*)

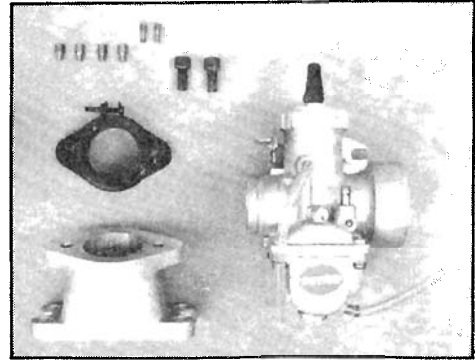
When the carburetor JETTING IS NOT KNOWN for your requirements, please give the following information when ordering:

- 1) CARBURETOR SIZE (mm)
- 2) TYPE OF CARBURETOR (*Clamp-On, Flange Mount, Spigot Mount, Power-Jet, Flat-Slide, Smoothbore, etc.*)
- 3) APPLICATION (*Model, year and cubic centimeters*)
- 4) LIST ANY MODIFICATIONS ON MOTORCYCLE
- 5) TYPE OF MOTORCYCLE USE (*Street, Drag, Road Race, Moto-X, Enduro, Desert, etc.*)
- 6) TYPE OF FUEL USED
- 7) CLIMATE CONDITIONS (*please indicate if high altitude, etc.*)

For any technical questions please contact SUDCO CARBURETOR SPECIALIST TECH for helping you in your carburetor and jetting selection. Most popular settings are already listed in our Special Set Carburetor section, however, if you cannot locate your application or if you have modifications to the motorcycle it is necessary to follow the above guidelines to insure receiving the proper jetting and at the closest range possible.

~~SUDCO~~ ~~NO CUSTOM SETS~~ MIKUNI CARBURETORS

Listed below are just a few of the many pre-jetted custom Mikuni performance carburetor applications that are available from Sudco. Our Carburetor Specialist Technicians have tested and pre-jetted these recommended carburetor applications for the vehicles listed. Other vehicles not listed below may also be available. Please contact our Carburetor Specialist Technicians and provide them with the information required for "Sudco Special Set Mikuni Carburetors."



HONDA

ATC90/110 VM20, 22, 24
 ATC185 VM28, TM28
 ATC200X VM28, TM28, 30SB
 ATC200M VM28, TM28, 30SB
 ATC250R VM36, TM38, TMX38, 41Pro
 ATC250SX VM32
 ATC350X VM36, 38

FourTrax 125 VM26
 FourTrax 200 TM28
 FourTrax 250X VM32, TM32, TM34
 FourTrax 250R TM38, TMX38, 41Pro
 FourTrax 300X VM36

Odyssey VM38, TM38

XR75 VM24
 XR80 VM24
 XR100 VM24, 26
 XR200 VM26, VM28, TM28, VM30
 XR250 VM32, TM32, VM34, TM34
 XR500 VM36, TM36, VM38, TM38
 XR600 TM38, 41Pro
 CR80 30SB, TM32
 CR125 TM36
 CR250 VM36, TM36, VM38, TM38
 41Pro

CR500 TM38, 41Pro

TR200 VM28, TM28

SUZUKI

LT125 VM26
 LT185 TM28
 LT230 Quad TM28, VM30
 LT250 Quad TMX38, 41Pro
 LT300 VM36
 LT500 Quad TM38, TMX38, 41Pro
 RM80 VM30, TM32
 RM125 TM36
 RM250 TM38, TMX38, 41Pro
 RM465 TM38, 41Pro
 RM500 TM38, TMX38, 41Pro

KAWASAKI

KLT110 VM20, 22
 KLT160 VM26
 KLT200 TM28
 KXT250 TM36, TM38, TMX38,
 41Pro
 KSF250 Mojave VM36
 KFX250 Tecate TMX38, 41Pro
 KLF220 Bayou VM32, TM32
 KX60 30SB
 KX250 TM38, TMX38, 41Pro
 KX500 TM38, TMX38, 41Pro

KDX250 TM36, TM38
 KDX420 TM38

YAMAHA

YSR50 VM20, 22
 YFM80 VM20
 YFM100 VM24
 YFM200 Blaster TMX35
 YFM225 TM28, 30SB, VM30
 YFM350 VM34, 36
 YFZ350 Banshee TM34, TMX35
 YFM350XT VM36
 Warrior
 YZ80 30SB, TM32
 YZ125 TM36
 YZ250 TM36, TM38, TMX38
 YZ400 TM38
 YZ465 TM38, 41Pro
 YZ490 TM38, TMX38, 41Pro

XT/TT225 TM32, TM34
 XT/TT350 TM36

BW200 TM28
 350 Big Wheel VM32, TM32, VM34, TM34,
 VM36, TM36

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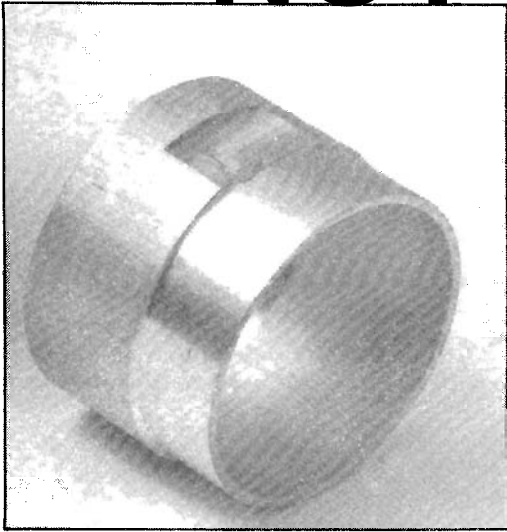
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SPECIAL APPLICATION MANIFOLDS

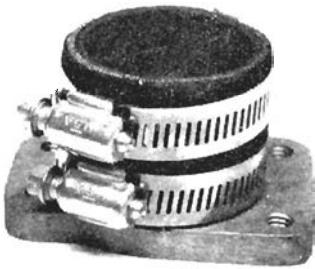
Application	Carb (mm)	Order No.
BULTACO		
70mm stud spacing Late Model	30, 32, 34 36, 38	005-002 005-004
CZ		
360/400	34	005-008
125	30, 32, 34	005-010
HARLEY		
Sportster 900/1000	36, 38	005-013
Shovelhead	36, 38	005-013
Sportster 900/1000	40, 44	005-014
Shovelhead	40, 44	005-014
Knucklehead, Panhead	36, 38	005-015
Knucklehead, Panhead	40, 44	005-016
HONDA		
ATC90/110	22	005-023
ATC90/110	24, 26	005-024
ATC185 (to '85)	28	005-063
ATC200X (to '85)	28	005-064
ATC200X ('86-on)	28	005-065
ATC250R	34	*005-053
ATC250R	36, 38, 39I ro, 41Pro	*005-054
Odyssey	30, 32, 34 36, 38, 39Pro, 41Pro	*005-052
XR250	34	005-067
XR350	34	005-067
CB750 (pre '79 SOHC)	29 Smoothbore	005-026
CB750/900 DOHC	29 Smoothbore	005-056
HUSKY		
Late Model (reed valve)	36, 38	005-032
Air Box Adapter	30, 32, 34	005-033
KAWASAKI		
KZ650 to 1100 ('77-on)	29 Smoothbore	005-057
ZX600 Ninja	TM33 Smoothbore	TM33/10301-2
NORTON		
Single	32, 34	*005-037
SUZUKI		
QuadSport	28	005-064
GS1100 ('80-on)	29 Smoothbore	005-057
TRIUMPH		
Bonneville ('69 mid - '72)	30, 32, 34	005-043
Bonneville ('69 earlier)	30, 32, 34	005-044
TR6, TR7 Single (to '81)	30, 32, 34	005-045
Bonneville Flange Mount (mid '72 to mid '78)	30, 32, 34	005-060
YAMAHA		
YSR50	20, 22	005-066
XS1100 ('78-on)	29 Smoothbore	005-056

* Rubber Flange required

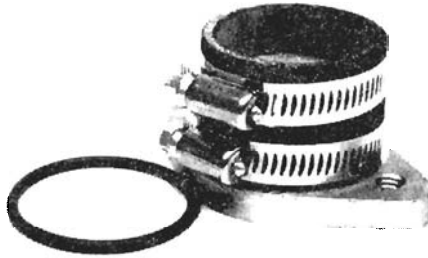
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TMX AIR BOX ADAPTER
adapts to most motorcycles
005-080 (TMX38)



005-015



005-013



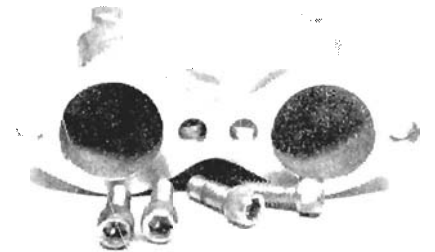
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005-026



005-045



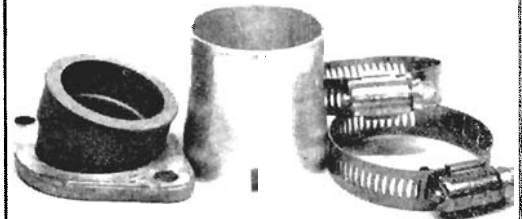
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005-054



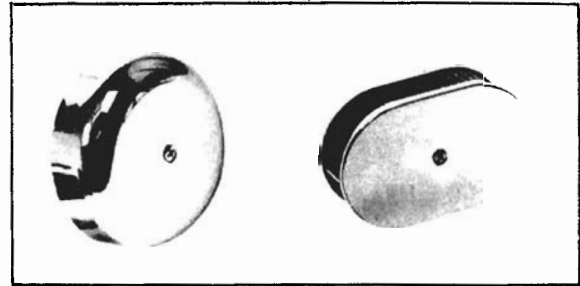
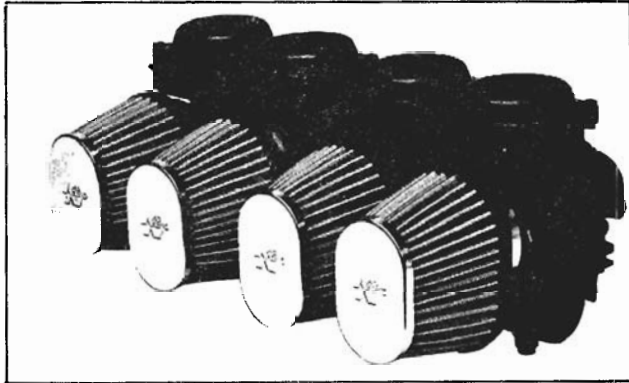
005-065



005-064

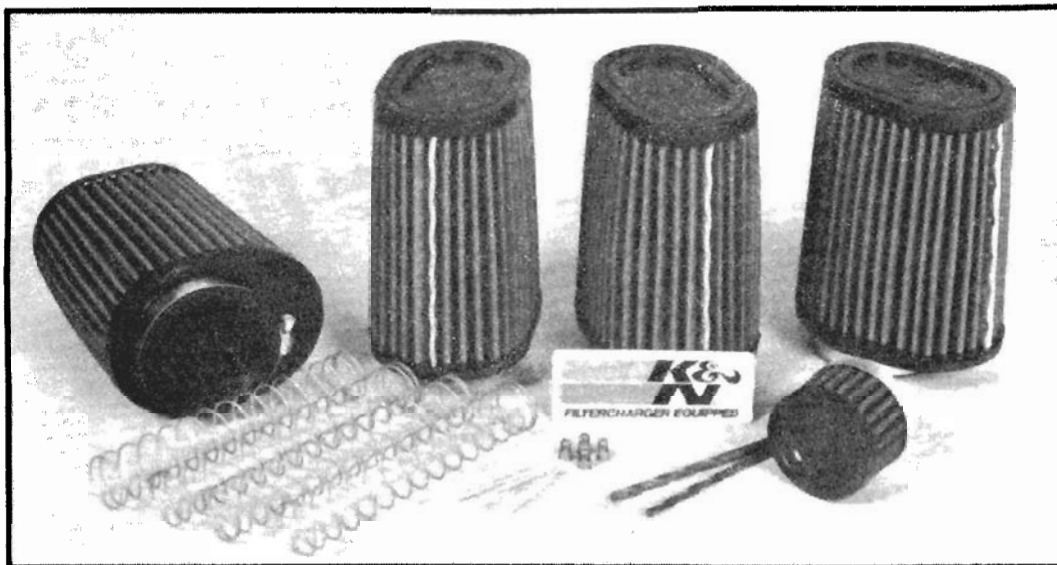
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UNIVERSAL K&N AIR FILTERS



DESCRIPTION/APPLICATION	CARB MM	ORDER NO.
SMOOTHBORE CARBURETORS		
RC-1070 Tapered, center flange position, chrome end caps (1-3/4")	29mm	005-110
RC-2450 Oval, offset flange position, chrome end caps (1-3/4")	29mm	005-122
RC-0981 Oval, offset flange position, chrome end caps (2-1/8")	RS36-40 VM33 35-39CR	005-121
RC-1820 Oval, offset flange position, chrome end caps (2") (use for stock GSXR750/1100 ; 600 Ninja)	29-33CR	005-140
HARLEY-DAVIDSON		
RC-0850 5" open round, chrome	36, 38mm	005-100
RC-092 5" open round, chrome (Keihin Flowmaster 40mm)	40, 44mm	005-101
RK-380B 6" chrome bonnet (Keihin Flowmaster)	40mm, 41Pro	005-150
HONDA		
RU-0200 XR-185, XR200	28mm	005-112
R-1100 ATC90/110/185 (must remove stock air box)	24-28mm	005-105
RU-0600 ATC-250R	34mm	005-113
RU-0800 ATC-250R	36-38mm	005-116
RU-1770 ATC-250R oversized, angled	36-39mm	005-123
HA-2440 ATC250R '85-86	38mm	005-134
KAWASAKI		
RU-0200 KLT-200	28mm	005-112
KA-1760 KXT-250 Tecate	38mm	005-130
YAMAHA		
RU-0500 Trimoto	30mm	005-108
YA-3200 YTM200 , YFM200 Moto-4	26mm	005-135
YA-3250 Tri-Z 250	28mm	005-133
SUZUKI		
RU-0500 LT230 Quadport	28, 30SB	005-108
RU-1770 LT250R Quadra	35-41Pro	005-125

NOT FOR SALE



For all 3-wheel and 4-wheel ATV's. No modifications required. K&N replacement air filters fit "right-in" your standard airbox.

Superior filtration, maximum endurance before service is required. Now you can play or race all day without worrying about your ATV choking up. Washable — Reusable — High Flow Used by all the Factory Race Team Winners

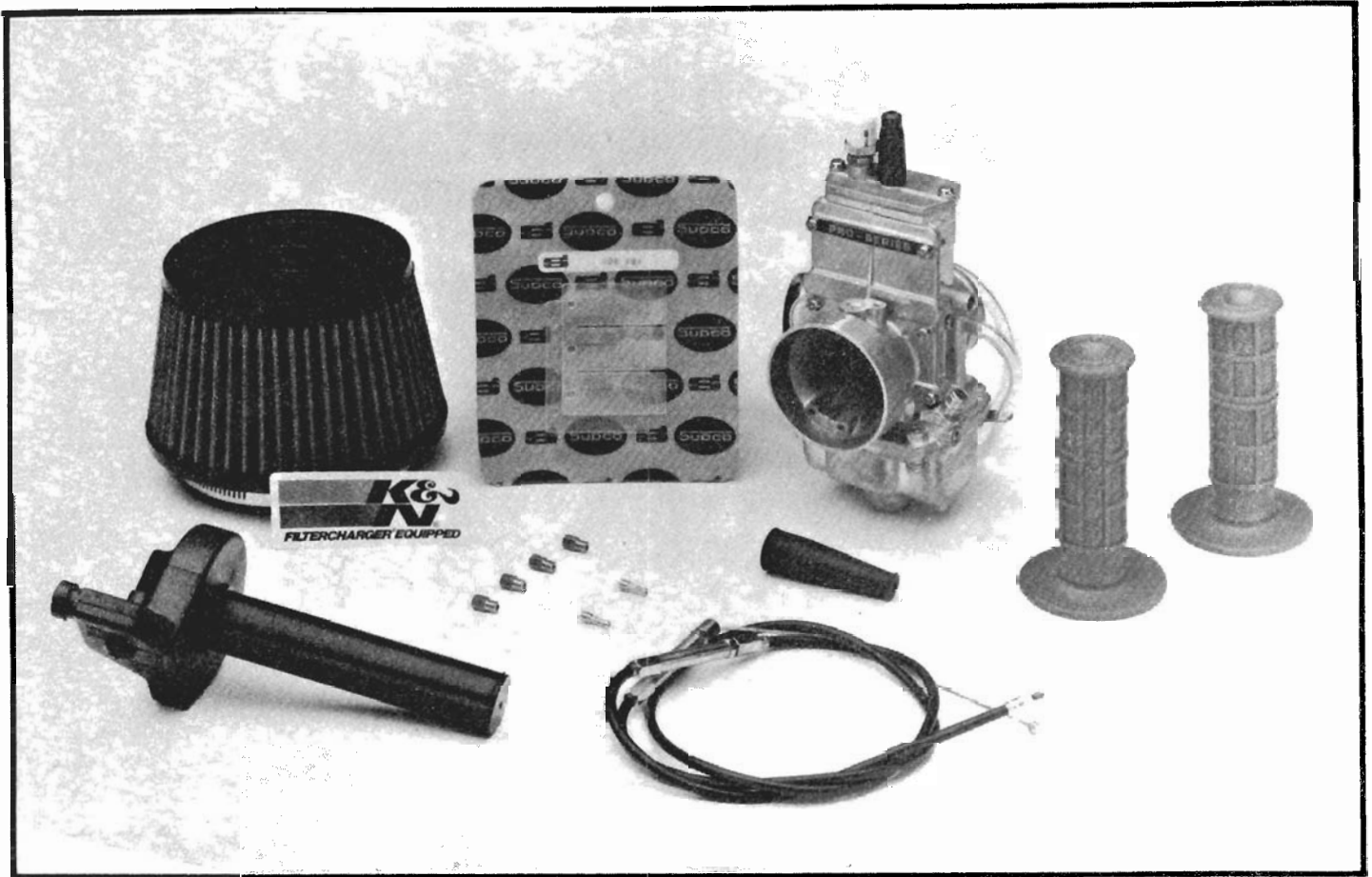
APPLICATION	YEAR	ORDER NO.	APPLICATION	YEAR	ORDER NO.
HONDA			KAWASAKI		
ATC-90**	70-78	005-105 (R-1100)	KLF-185	85	005-148 (KA-1483)
ATC-110**	82	005-105 (R-1100)	KLT-110	84-85	005-148 (KA-1483)
ATC-110	83-85	005-125 (HA-0510)	KLT-160	85	005-148 (KA-1483)
ATC-125M	84-85	005-125 (HA-0510)	KLT-200	81-84	005-129 (KA-1400)
ATC-185S	83	005-125 (HA-0510)	KLT-250	82-86	005-148 (KA-1483)
ATC-200S	85	005-125 (HA-0510)	KXT-250 Tecate	84-85	005-130 (KA-1760)
ATC-200	83	005-125 (HA-0510)	KXT-250 Tecate	86	005-149 (KA-1780)
ATC-200E	84	005-141 (HA-0584)	KLF300 Bayou	87	005-148 (KA-1483)
ATC-200X	83-84	005-126 (HA-2420)	SUZUKI		
ATC-200X	86-87	005-147 (HA-2003)	ALT-125	83-86	005-131 (SU-1600)
ATC-250ES	85-87	005-142 (HA-0585)	LT-125	83-87	005-131 (SU-1600)
(Big Red)			LT-250R Quad	85-88	005-137 (SU-4250)
ATC-250R	81-82	005-127 (RU-1780)	LT-230S Quad	85-88	005-138 (SU-4230)
ATC-250R	83-84	005-144 (HA-2410)	LT230E Quad	87-88	005-138 (SU-4230)
ATC-250R	83-84	005-128 (HA-2460)	LT500R Quad	87-88	005-160 (SU-4500)
(X-large)			YAMAHA		
ATC-250R	85-86	005-134 (HA-2440)	YSR50	87-88	005-105 (R-1100)
ATC-250SX	85-87	005-143 (HA-0910)	YT125 Trimoto	82-85	005-151 (YA-3175)
ATC350X	85-86	005-136 (HA-3350)	YT175 Trimoto	82-83	005-151 (YA-3175)
Odyssey	77-84		YFM200 Moto-4	84-88	005-132 (YA-3225)
Odyssey	85-86	005-145 (HA-4350)	YTM225DX Tri	86-88	005-132 (YA-3225)
(FL350R)			YTM225 Moto-4	86-87	005-135 (YA-3200)
TRX-125	84-85	005-125 (HA-0510)	Tri-Z 250	85-86	005-133 (YA-3250)
TRX-200	84	005-141 (HA-0584)	Tri-Z 250 **	85-86	005-165 (RC-2000)
TRX-250	85-86	005-144 (HA-2410)	YFM350X	87-88	005-153 (YA-4350)
FourTrax 125	87-88	005-156 (HA-4200)	(Warrior)		
FourTrax 200SX	86-88	005-156 (HA-4200)	YFZ350 Banshee	87-88	005-152 (YA-3502)
FourTrax 250X	87-88	005-157 (HA-2504)			
FourTrax 250	86-87	005-144 (HA-2410)			
FourTrax 250R	86-88	005-146 (HA-4250)			
FourTrax 350	86-88	005-155 (HA-4435)			
(4x4)					

**Universal clamp-on air filter. Must remove air box to install.

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NOT FOR SALE

SUDCO/MIKUNI PERFORMANCE KIT



ORDER NO. PERFORMANCE KIT
SUZUKI
001-520S LT230 Quadport
 TM28 Flat-Slide
 Manifold, K&N Air Filter,
 Magura Thr. Ass'y.,
 Throttle Cable, Grips,
 (2) Pilot Jets, (4) Main Jets

001-518S1 LT-250R (85-88)
 TM38 Flat-Slide
 Magura Throttle Assembly,
 Throttle Cable, Grips,
 (2) Pilot Jets, (4) Main Jets,
 Main Jet Wrench

KAWASAKI
001-517K1 KXT-250 Tecate
 TM38 Flat-Slide
 Magura Throttle Assembly
 Throttle Cable, Grips,
 (2) Pilot Jets, (4) Main Jets

ORDER NO. PERFORMANCE KIT
001-502H1 ATC200X (86-87)
 TM28 Flat-Slide
 Manifold, Air line hose
 adapter, (2) Pilot Jets,
 (4) Main Jets, Magura
 Throttle Ass'y., Throttle
 Cable, Grips, Main Jet
 Wrench

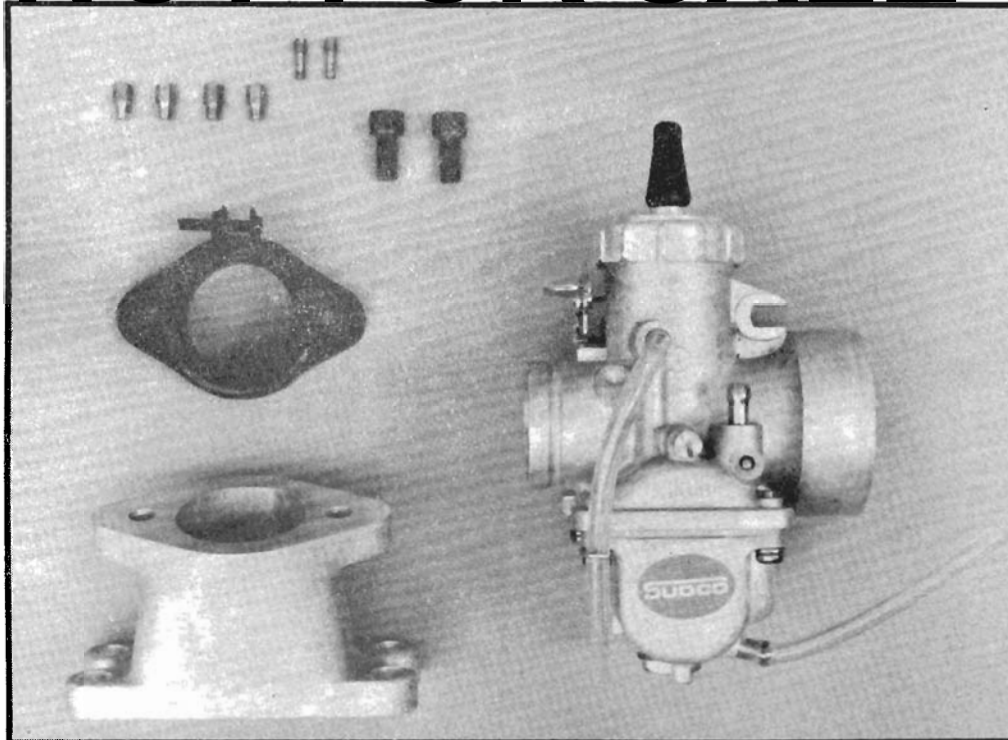
(available for 83-85 also)

001-538H FourTrax 250X (87-88)
 TM34 Flat-Slide
 Rubber Flange, Air Box
 Adapter, Magura Throttle
 Assembly, Throttle Cable,
 (2) Pilot Jets, (4) Main Jets,
 (1) Hose, (2) Clamps

001-504H1 Odyssey 350 (85-86)
 TM38 Flat-Slide
 (2) Pilot Jets, (4) Main Jets,
 Main Jet Wrench

NOT FOR SALE

SUDDCO/MIKUNI PERFORMANCE KIT



NORTON

Order No.	Application
001-250	750-850 Twin 32mm
001-251	750-850 Twin 34mm
001-252	750-850 Single 34mm
001-253	750-850 Single 36mm
001-254	750-850 Single 38mm

(above kits come with Manifold, Rubber Flanges, Allenhead Screws, Pilot Jets, Main Jets)

TRIUMPH

001-278	64-68 Bonneville 30mm
001-279	64-68 Bonneville 32mm
001-280	64-68 Bonneville 34mm
001-275	69-mid'72 Bonn. 30mm
001-276	69-mid'72 Bonn. 32mm
001-277	69-mid'72 Bonn. 34mm

(above kits comes with Manifold, Air Cleaner, Hose Clamps, Pilot Jets, Main Jets)

001-290	73-78 Bonneville 30mm
001-291	73-78 Bonneville 32mm
001-292	73-78 Bonneville 34mm
001-293	47-81 TR6/TR7 30mm
001-294	47-81 TR6/TR7 32mm
001-295	47-81 TR6/TR7 34mm

(above kits come with Manifold, Rubber Flange, Air Filter, Pilot Jets, Main Jets)

HARLEY

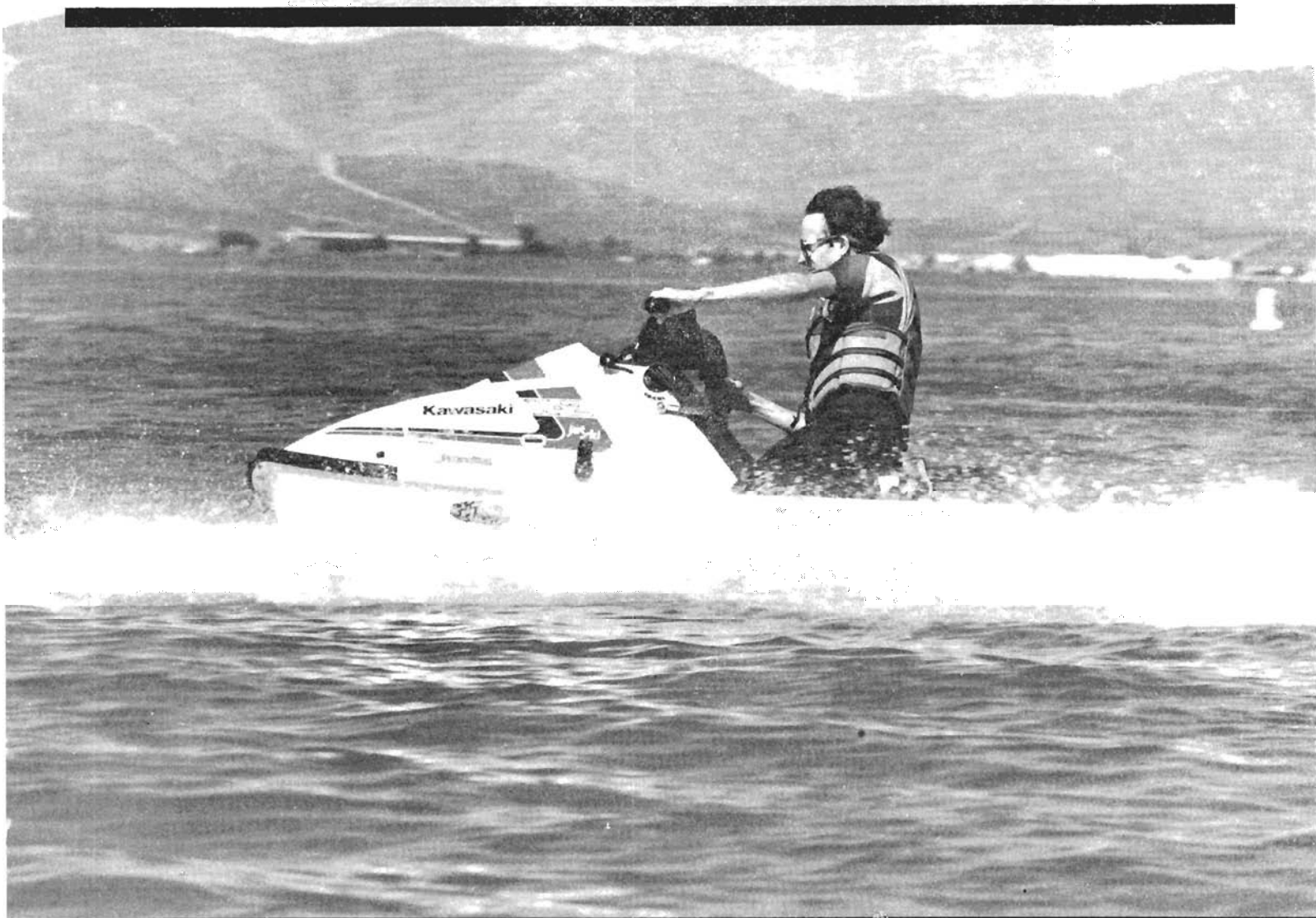
001-200	HDS-101 38mm
	Sportster/Shovelhead
001-201	HDS-102 38mm
	Knucklehead/Panhead
001-204	HDS-101A 40mm
	Sportster/Shovelhead
001-207	HDS-102A 40mm
	Knucklehead/Panhead
001-202	HDS-101B 44mm
	Sportster/Shovelhead
001-205	HDS-102B 44mm
	Knucklehead/Panhead
001-203	HDS-101ACP 38mm
	Sportster/Shovelhead with Pumper Kit
001-206	HDS-102ACP 38mm
	Knucklehead/Panhead with Pumper Kit

(above kits comes with Manifold, Air Filter, Cable, Hose Clamps, Pilot Jets, Main Jets)

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MIKUNI JET SKI CARBURETORS



SUDCO PRO-SERIES CARBURETOR

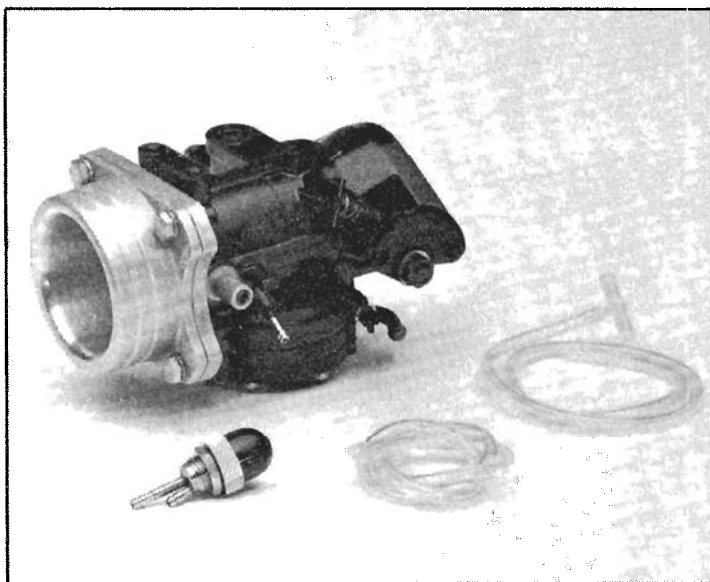
Sudco takes Mikuni's big bore BN 44mm carburetor and reworks it for increased performance, hand machining it out to a larger 45mm venturi. It's matched up to a machined aluminum manifold and provides some serious bolt-on performance gains when used along with other engine modifications like a tuned pipe, performance water box and cylinder or head machining. Use on 440/550/650 Kawasaki Jet Skis.

SUDCO PRO-SERIES CARBURETOR

Pro-Series for Jet Ski is a proven Mikuni Jet Ski carburetor hand machined for a larger venturi.

Order No.

45mm Pro Jet Ski Carb 001-198



NOT FOR SALE

STOCK JET SKI CARBURETORS

Sudco carries the complete line of Mikuni Jet Ski Carburetors and replacement parts. Jet Skis are equipped with either the BN 38mm or BN 44mm Mikuni Carburetors as stock. For increased performance you can install a BN 44 on an engine that was equipped with a BN 33 if done in conjunction with other engine modifications like porting, the installation of a high performance exhaust system and water box. For BN 44 equipped engines, Sudco's Pro-Series 45mm Jet Ski Carburetor with matching manifold is the winning ticket for increased performance.

MIKUNI JET SKI CARBURETORS

MM	CARBURETOR	
38MM	BN38-34-35	001-090
44MM	BN44-40-12	001-049

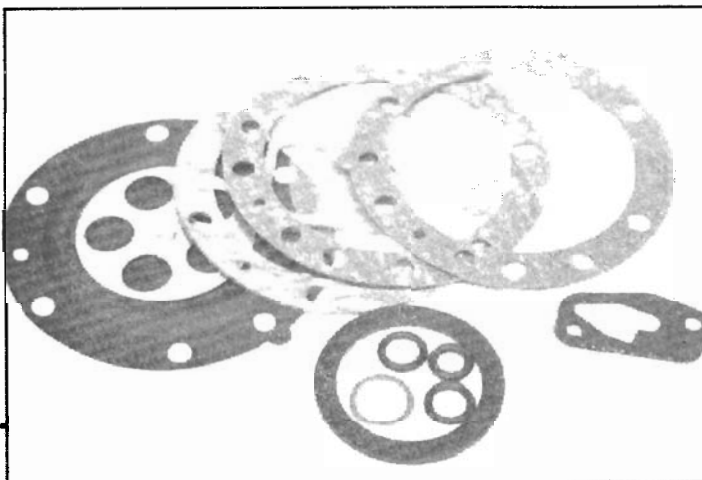
BN38-34-35 for JS440 ('85 & earlier) Wave Runner and Wave Jammer.

BN44-40-12 for JS550.

CARB REBUILD KIT & AIR FILTER

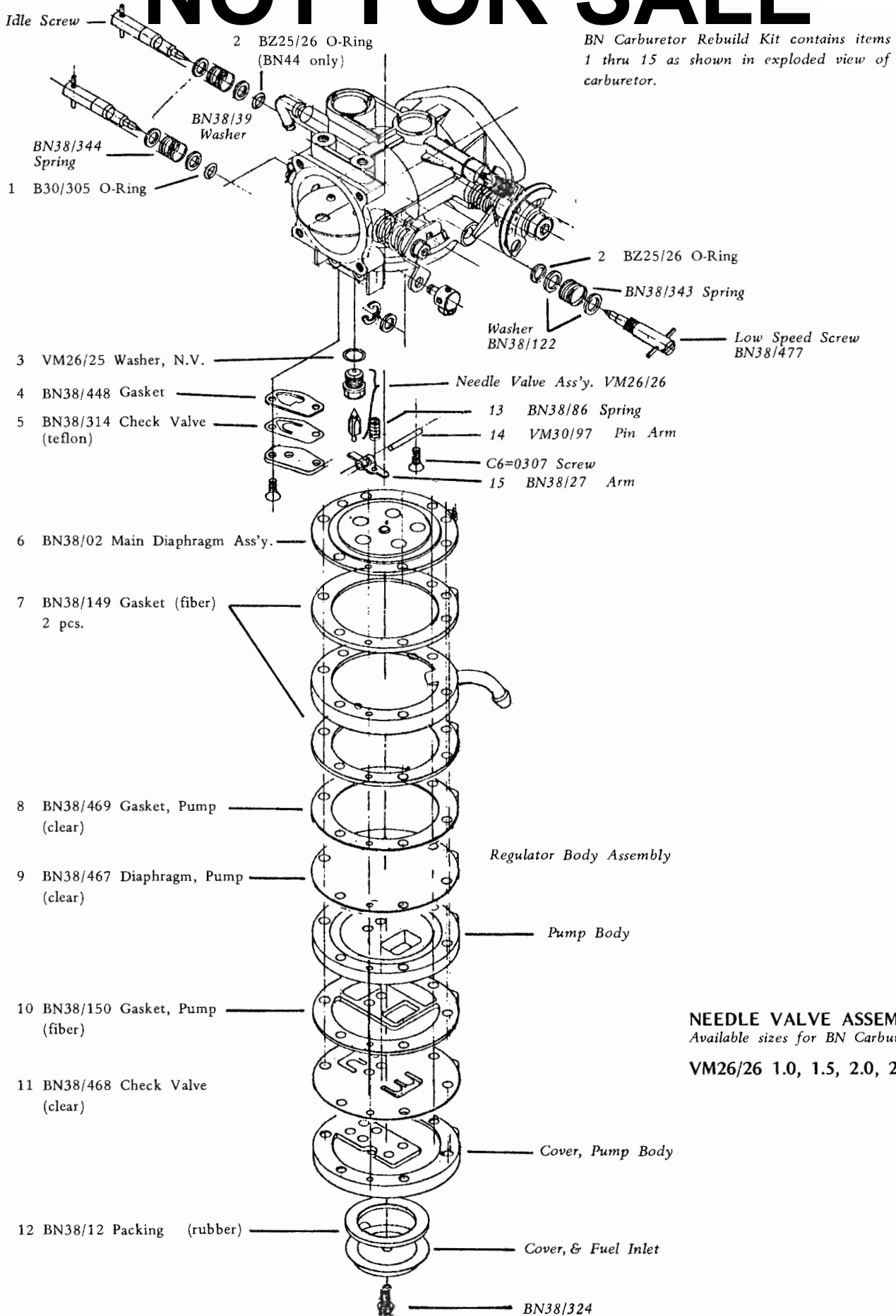
	ORDER NO.
MK-BNN 38mm/44mm Rebuild Kit	025-650
RC-2000 K&N Air Filter Recommended with Mikuni carburetor	005-165

BN Carburetor Rebuild Kit includes items 1 thru 12 shown in exploded view of the BN carburetor.



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BN Carburetor Rebuild Kit contains items 1 thru 15 as shown in exploded view of carburetor.

NEEDLE VALVE ASSEMBLY
 Available sizes for BN Carburetor
 VM26/26 1.0, 1.5, 2.0, 2.5, 2.8

NOT FOR SALE

BN CARBURETOR (Diaphragm Type)

The BN type carburetor for watercraft can be mounted at any angle because they are floatless carburetors, using a diaphragm instead of the conventional floats. These carburetors are equipped with a fuel pump and are easily started under any weather conditions.

PUMP SYSTEM

When the crank chamber of the engine comes under depression, pressure in the pump chamber drops. This pressure drop in the pump chamber opens the inlet check valve, allowing fuel in the fuel tank to be drawn into the pump chamber. When the crank chamber comes under positive pressure, the outlet check valve is opened and fuel in the pump chamber is forced into the starting well.

The pump performs one operation, each of suction and discharge per engine revolution, supplying fuel necessary for engine operation.

INLET NEEDLE SYSTEM

With the combined functions of the inlet needle, control lever, spring and main diaphragm, fuel is sent to the metering chamber.

When the crankcase comes under depression and suction port opens, air flows in through the air cleaner and carburetor. The air flow creates depression which is conducted to the metering chamber through the check valve and causes the main diaphragm to momentarily move. As a result, the boss of the main diaphragm raises one end of the control lever. At that moment, the inlet needle opens and allows fuel in the starting well to flow into the metering chamber.

The amount of fuel that flows into the metering chamber is determined by the seat diameter of the inlet needle, the clearance between the control lever and the main diaphragm boss.

FUEL CONTROL SYSTEM

Combustion during engine operation is controlled by the idle mixture screw at idling, by the low speed mixture screw in the low speed range, and by the high speed mixture screw in the intermediate to high speed range.

IDLE MIXTURE SCREW

Tightening this screw decreases the clearance and reduces the fuel flow rate. On the other hand, if you increase the clearance you increase the flow rate. Turn screw in steps of 1/8 turn until you find position.

LOW SPEED MIXTURE SCREW

This controls fuel flow for the low speed range. Fuel flow is controlled in the same manner as the idle mixture screw.

HIGH SPEED MIXTURE SCREW

This screw controls fuel flow for the intermediate and high speed range. Fuel flow is controlled in the same manner as with the idle mixture screw.

NOT FOR SALE MIKUNI SNOWMOBILE CARBURETORS AND PARTS

FLAT-VALVE CARBURETORS

ORDER NO	CARBURETOR TYPE	MIKUNI	MAIN JET	PILOT JET	NEEDLE JET	JET NEEDLE	THROTTLE VALVE	AIR JET
001-023	Spigot	VM28-418	4/042 180	VM22/210 15	175 P-8	5DP39	832-33001 2.5	None
001-026	Spigot	TM32-1	4/042 250	VM22/210 45	389 Q-2	5FP17	832-39012 4.0	None
001-033	Spigot	TM34-2	4/042 280	VM22/210 50	389 Q-2	5FP17	832-39012 4.0	None
001-038	Spigot	TM36-2	4/042 280	VM22/210 50	389 Q-6	6FJ40	832-43002a 4.0	None
001-075	Spigot (H-2)	TM38-3	4/042 290	VM22/210 35	389 Q-6	6FJ40	832-43002a 4.0	None
001-043	Spigot	TM38-1	4/042 290	VM22/210 35	389 Q-6	6FJ40	832-43002a 4.0	None

Note: These carburetors replace the standard CV and Butterfly type carbs.

PRO-SERIES CARBURETORS

001-186	Spigot	29mm	Comes jetted to customers application or as requested					
001-188	Spigot	33mm	"	"	"	"	"	
001-190	Spigot	35mm	"	"	"	"	"	
001-192	Spigot	37mm	"	"	"	"	"	
001-194	Spigot	39mm	"	"	"	"	"	
001-196	Spigot	41mm	"	"	"	"	"	

H2 = Large Inlet

TM (Flat-Valve) carburetors and Pro-Series do not include the needle valve for snowmobile use. Please order the needle valve size of your selection when placing order. Sizes available are 1.5, 1.8, 2.0.

Exploded Views of these carburetors and complete parts listings are located in the motorcycle section of this manual. Locate your size carburetor and/or jet type for selection.

STANDARD ROUND MIKUNI

001-029	Spigot	VM34-48	w/1.5 NV	4/042 240	VM22/210 40	159 Q-6	6FJ6	VM34/110	2.5	BS30/97	2.0
001-036	Spigot	VM36-4	w/1.5 NV	4/042 310	VM22/210 35	159 Q-5	6FJ6	VM36/36	1.5	BS30/97	2.0
001-041	Spigot	VM38-9	w/1.5 NV	4/042 330	VM22/210 30	166 Q-2	6DP1	VM38/24	2.5	BS30/97	0.5
001-044	Spigot	VM40-4	w/1.5 NV	4/042 310	VM22/210 35	224 AA-5	7F7	VM44/23	2.5	BS30/97	0.5
001-047	Spigot	VM44-3	w/1.5 NV	4/042 310	VM22/210 35	224 AA-5	7F7	VM44/23	2.5	BS30/97	0.5

NOT FOR SALE

MIKUNI FUEL PUMP Repair Kits

Order No.

002-220 DF44-2II-D Single

002-221 DF52-21 Dual

REPAIR KITS

002-223 for DF52

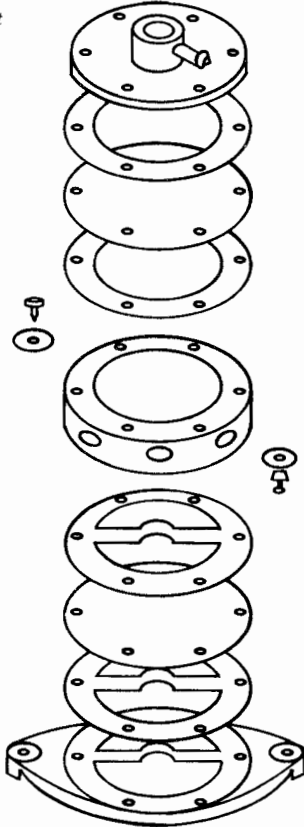
002-225 for DF44

Fuel Pump Repair Kits contain all the necessary components to rebuild your Mikuni fuel pump to factory specifications.

DF52 Repair Kit

DF44/26 Grommet

DF52/27 Valve



Packing (thick asbestos)
DF52/105

Diaphragm (transparent film)
DF52-48/10

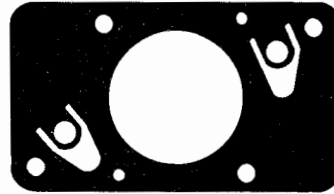
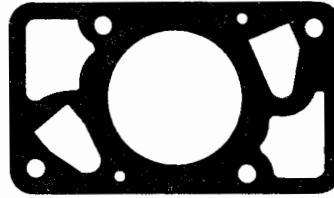
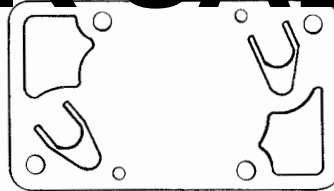
Packing (thin rubber)
DF52-48/05

DF44/26 Grommet
DF52/27 Valve

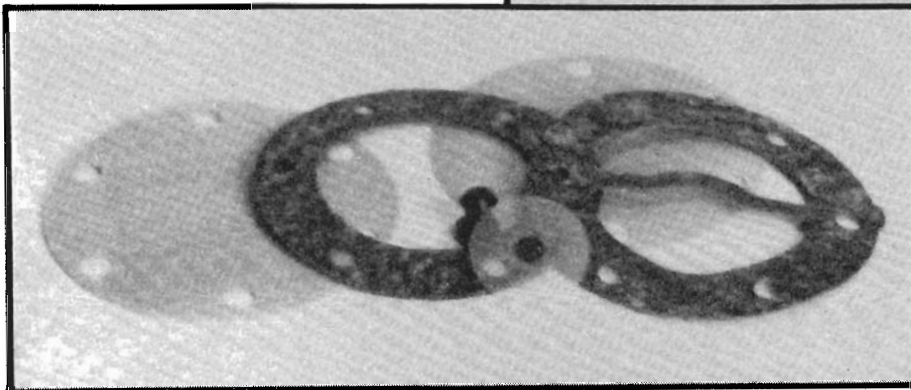
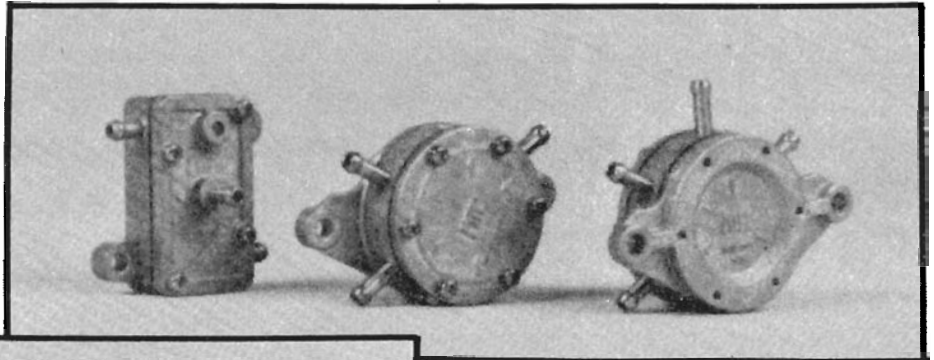
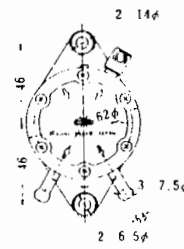
Packing (thin rubber)
DF52/113

Diaphragm (transparent film)
DF42-48/10 (formerly DF52/10)

Packing (thick asbestos)
DF52/36a



DF52



NOT FOR SALE

SNOWMOBILE OEM CARBURETORS REFERENCE CHART

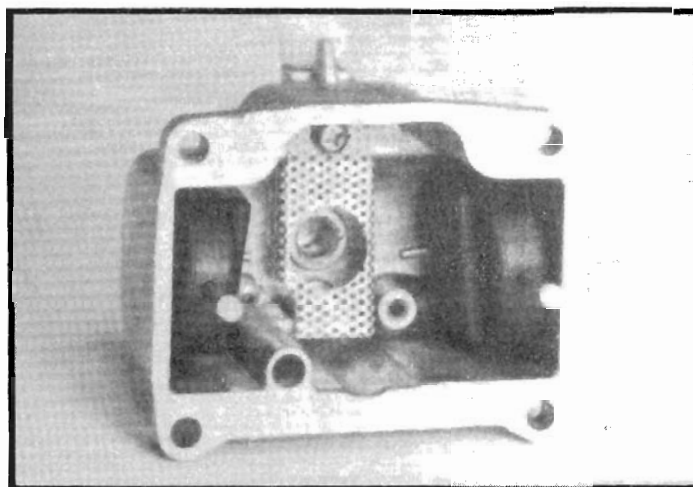
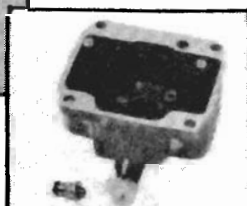
(These carbs can be replaced by TM and Pro-Series; including the Mikuni butterfly type)

ARCTIC CAT	1988	1989
Jag 340	VM30	VM34
Jag 400	VM34	VM34
Panther	VM34	VM34
Super Jag	VM34	VM34
Cougar	VM34 (2)	VM34 (2)
El Tigre 5000	VM34 (2)	VM34 (2)
Pantera	VM34 (2)	VM34 (2)
Cheetah Touring	VM34 (2)	VM34 (2)
El Tigre 6000	VM38 (2)	VM38 (2)
Cheetah (L/C)	VM34 (2)	
Wildcat	VM38 (2)	
Wildcat 650		VM40 (2)

SKIDOO	1988	1989
Elan 250	VM28	VM28
Citation LS LSE	VM34	VM34
Tundra	VM34	VM34
Dundra LT	VM34	
Safari	VM34	VM34
Safari 503	VM34 (2)	
Safari Cheyenne		VM34 (2)
Voyager		VM34 (2)
Stratos	VM34 (2)	
Formula MX	VM34 (2)	VM34 (2)
Formula MX LT	VM34 (2)	VM34 (2)
Escapade	VM34 (2)	VM34 (2)
Mach I	VM38 (2)	
Alpine II	VM30	VM30

YAMAHA	1988	1989
Exciter	VM38 (2)	VM38 (2)
Phazer Deluxe		B38-32 (2)
XLV		B38-32
VK540		B38-34

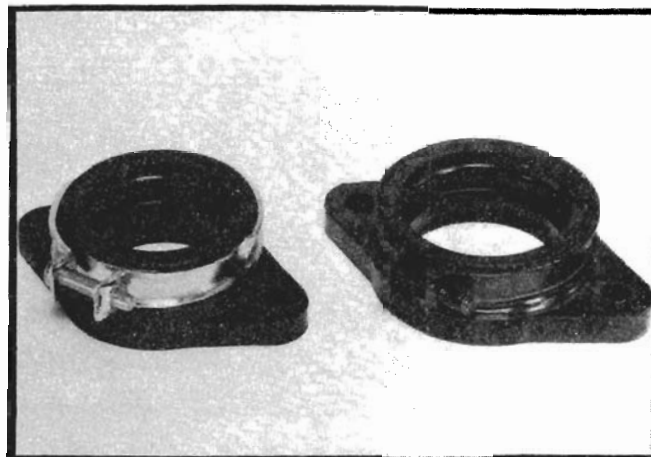
POLARIS	1988	1989
Star	VM30	VM30
Sprint	VM30 (2)	VM30 (2)
Star Track	VM30	VM30
Indy Sport	VM30 (2)	VM30 (2)
Long Trak	VM30	VM30
Indy Trail	VM34 (2)	VM34 (2)
Indy 400	VM34 (2)	VM34 (2)
Indy Classic	VM38 (2)	VM38 (2)
Indy 650	VM38 (3)	VM38 (3)



float BOWL (with adjustable metering needle)

Outside adjustment mechanism – consisting of an adjustable needle with a tapered seat which meters the fuel, and acts as a fine tuning adjuster for the main jet enabling the user to lean or enrichen the fuel mixture.

002-124	I-VM34-234	30 thru 34mm Spigot
002-125	I-VM36-102	36 and 38mm Spigot



RUBBER FLANGE ADAPTER (with clamp)
SNOWMOBILE TYPE

002-051	VM30/200	26 and 28mm Spigot
002-052	VM32/205	30 thru 34mm Spigot
002-055	VM38/200	36 and 38mm Spigot
002-056	VM40/200	40 and 44mm Spigot

SUDCO/MIKUNI POWER JET KITS

ORDER NO.	APPLICATION
002-040	VM30 thru 34mm Spigot
002-041	VM36 thru 44mm Spigot

The power jet operates on vacuum, providing a precisely metered amount of fuel to flow throughout the entire power band.

comes with O-ring BV32/04 and
Needle Jet Setter VM36/55

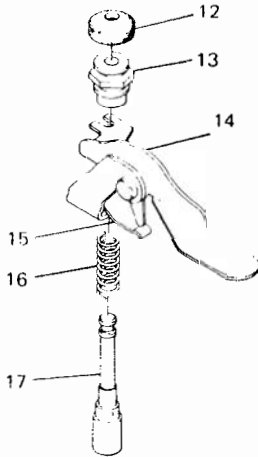
Starter systems for compression or placement on cable lever type.

NOT FOR SALE

LEVER TYPE STARTER SYSTEM

Complete Lever Starter System
includes items 12 thru 17

002-350A	36 thru 44mm
002-350B	30 thru 34mm
002-350C	28mm
002-350D	26mm

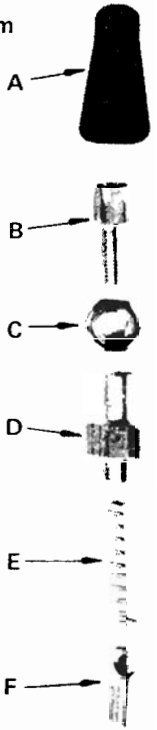


- 12. starter plunger RUBBER CAP
002-084 VM20/455 30 thru 44mm Spigot
(VM30/302) 24 thru 34mm Flange
- 13. starter plunger FITTING
002-085 VM20/456 30 thru 44mm Spigot
24 thru 34mm Flange
- 14. starter LEVER
002-086 VM28/51a 28mm Spigot
002-135 VM28/124 30 thru 34mm Spigot
002-087 VM32/53 36 and 38mm Spigot
30 thru 34mm Flange
002-136 VM36/58 40 and 44mm Spigot
- 15. starter lever SPRING PLATE
002-088 VM26/09c 26 and 28mm Spigot
002-089 VM32/17 30 thru 44mm Spigot
- 16. starter plunger SPRING
002-090 VM14SC11/89 26 thru 44mm Spigot
002-358 VM15SC6/89 24 thru 34mm Flange
- 17. starter PLUNGER
002-091 VM15/62 24 and 26mm Flange
26 and 28mm Spigot
002-092 VM18/144 30 thru 44mm Spigot
30 thru 34mm Flange

CABLE TYPE STARTER SYSTEM

002-351 Complete Cable Type Starter System
includes items A thru F

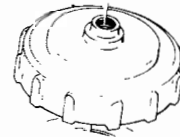
- starter plunger top RUBBER CAP
A. 002-061 VM26/46 30 thru 44mm Spigot
30 thru 34mm Flange
- CABLE ADJUSTER
B. 002-062 M21/14 30 thru 44mm Spigot
30 thru 34mm Flange
- CABLE ADJUSTER LOCKNUT
C. 002-065 B30/247 30 thru 44mm Spigot
30 thru 34mm Flange
- starter plunger FITTING
D. 002-093 VM15/37 30 thru 44mm Spigot
30 thru 34mm Flange
- starter plunger SPRING
E. 002-094 VM32/69 30 thru 44mm Spigot
30 thru 34mm Flange
- STARTER PLUNGER
F. 002-095 VM15SC4/85 30 thru 44mm Spigot
30 thru 34mm Flange



- angled CABLE ADJUSTER
002-064 I-M22-10-3 All Mikuni Carbs
- cable adjuster RUBBER CAP
002-370 M22/18 All Mikuni Carbs



- mixing chamber TOP
002-066 VM34/27 All 30 thru 34mm
002-067 VM36/09 All 36 and 38mm
002-068 VM44/05 All 40 and 44mm
002-235 VM26/51 All 30mm Small Body
002-236 VM26/56 All 22 and 24mm



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MAIN JETS

The main jet meters the amount of fuel entering the needle jet. Main jets control the fuel flow at the full throttle opening. The size numbers of the main jets run from smaller (leaner) to larger (richer). For example, if a 4/042 #150 main jet is being used, and a leaner main jet is required, one would use a #145 or lower.

MIKUNI

NO.	TYPE	SIZES
4/042	LARGE HEX -fits needle jets	#50-200 in increments of 5 (e.g. 50, 55, 60, etc) #200-500 in increments of 10 (e.g. 200, 210, 220, etc.) # 500-710 in increments of 30



MIKUNI

NO.	TYPE	SIZES
N102/221	SMALL ROUND, -fits needle jets same as large round type	#50-200 in increments of 2.5



LEAN

(small number)



(large number)

RICH

PILOT JET

The Pilot Jet controls starting, idling and low speed operation until approximately 1/4 throttle. It performs throughout the full range of throttle operation.

MIKUNI NO.

SIZES

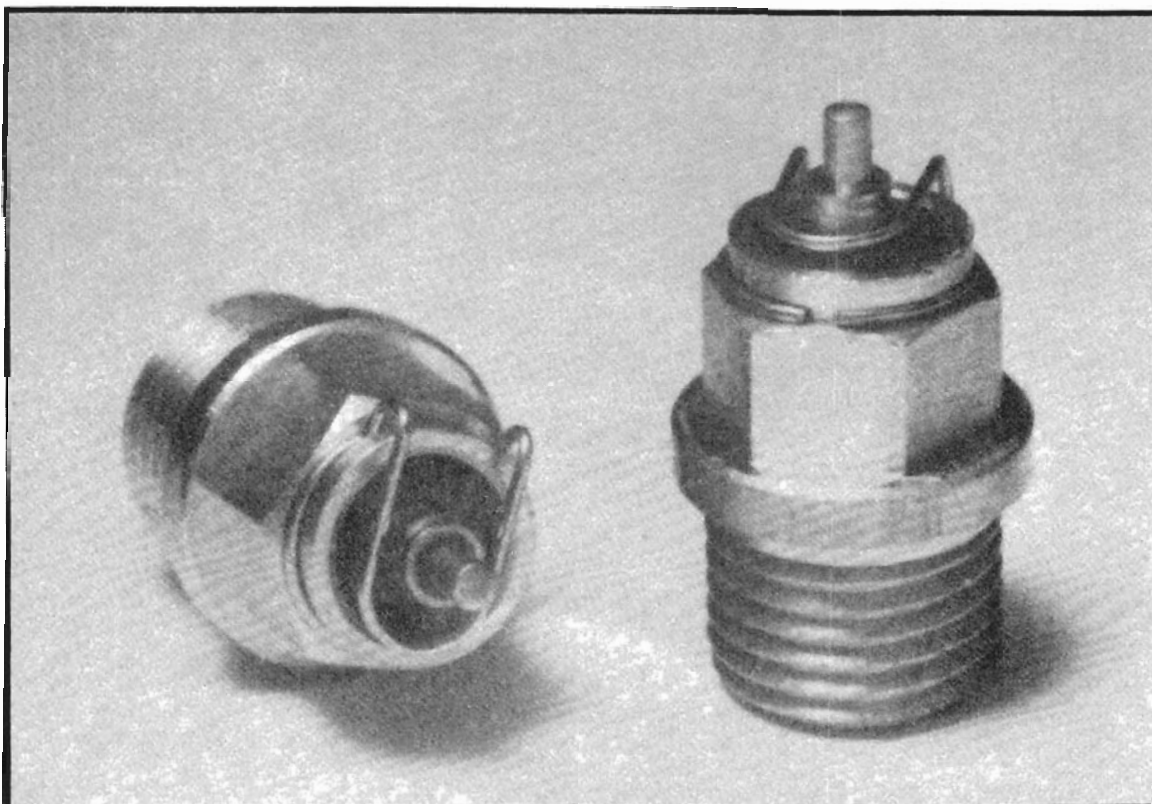
VM22/210

#15-80 in increments of 5, with the exception of 12.5, 17.5, 22.5, 27.5
For example, #15, #17.5, #20, #25, #30, etc.



NEEDLE VALVE

002-231	VM26/26	1.5	24mm - 30mm Flange 28mm Spigot
002-196	VM28/163	1.5	30mm - 44mm Spigot 32mm & 34mm Flange
002-703	786-46001	1.5	TM32 thru TM38 Flat 39Pro, 41Pro
002-702	786-46001	1.8	same as above
002-704	786-46001	2.0	same as above



NOT FOR SALE

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ACCESSORIES FOR ALL MIKUNI CARBURETORS

MIKUNI CARBURETOR SPECIAL TOOL KIT

This handy little kit contains all the tools necessary to make jetting changes, perform normal maintenance, and to completely disassemble and rebuild any Mikuni carburetor. Included is a multi-purpose wrench with ruler markings, a screwdriver with assorted blades and sockets, and a socket wrench for main jets, all in a plastic carrying case.

MIKUNI SPECIAL TOOL KIT, Part No. 002-402

MAGURA UNIVERSAL 314 DUO THROTTLE ASSEMBLY

Here's a universal 1/4-turn quick throttle for ATV and dirt bike applications. Twist throttles like this Magura allow better handling and engine throttle control than stock thumb throttles on ATVs.

MAGURA 314 DUO THROTTLE, Part No. 005-225
THROTTLE CABLE FOR MAGURA, Part No. 657-902B

PRO VENTS

Pro Vents are a set of snap-in screened vent holes that are installed on the side of a motorcycle or ATV's plastic airbox to increase airflow to the carburetor. Stock airbox breathing capacity must be increased for any performance engine modifications including a higher capacity flowing carburetor.

PRO VENTS AIR BOX SCREENS, Part No. 005-001

MIKUNI POCKET TUNER

A handy pocket-size slide calculator which can be used to determine required jetting changes in Mikuni carburetors due to changes in ambient temperature, altitude, or both. The Pocket Tuner is applicable to both single and multi-carburetor applications on two-stroke and four-stroke engines. It also comes with a guide for determining rich or lean carburetor conditions.

MIKUNI POCKET TUNER, Part No. MK-4550-TNR

SUDCO SPARE JET CARRIER

You can store 22 spare main jets in a molded neoprene rubber carrier complete with special jet removal tool.

MAIN JET CARRIER, Part No. 002-405

FUEL FILTER

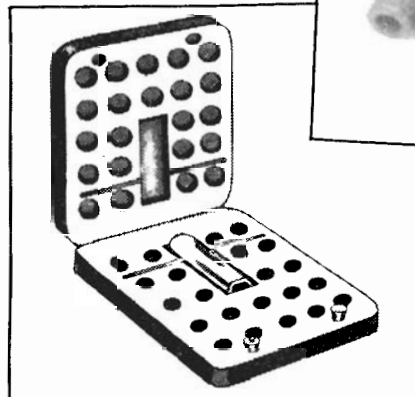
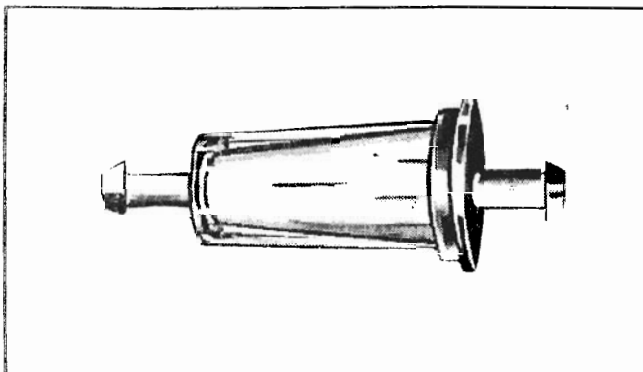
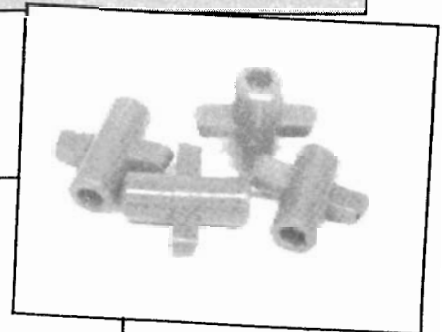
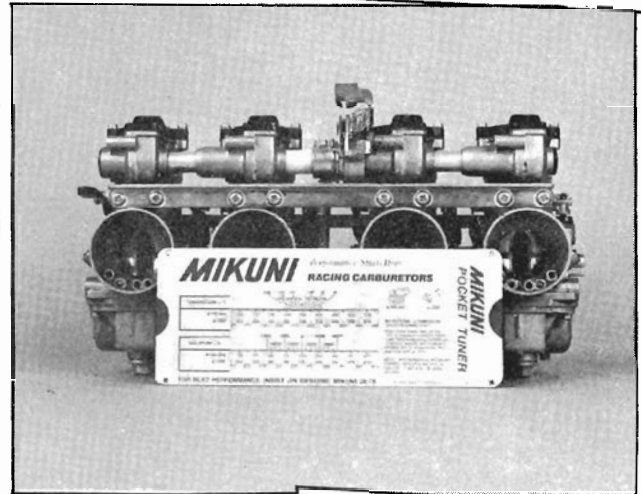
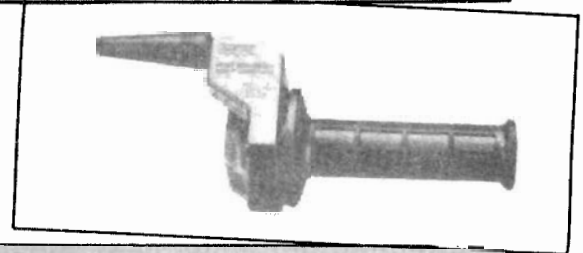
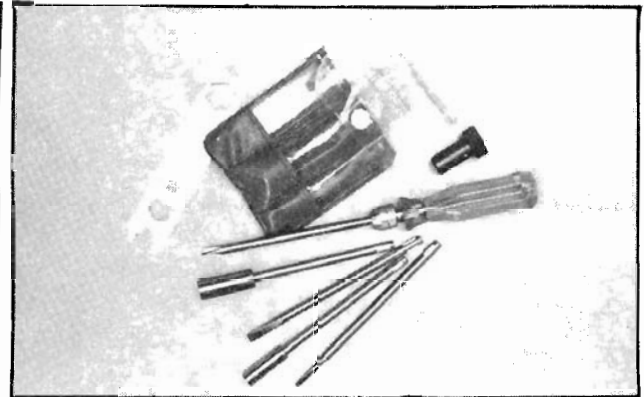
1/4" Plastic inline fuel filter.

FUEL FILTER, Part No. 002-425

MAIN JET WRENCH

Made of high impact plastic. Fits all standard Mikuni carburetor main jets.

MAIN JET WRENCH, Part No. 002-401



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MIKUNI RACE TEAM APPAREL

Now that you've got a set of Mikuni RS Series Racing Carburetors you qualify as an official member of the Mikuni Race Team! You can even look like a team member with our official team apparel that includes T-Shirts, Sport Shirts, Caps and Jacket. Constructed of medium weight insulated nylon with zippered pockets, the Daytona Race Team Jacket is colored silver with black trim and has knitted cuffs.

MIKUNI T-SHIRT, SILVER, S, M, LG, XLG,

Part No. MK-407-3

MIKUNI T-SHIRT, TURQUOISE, S, M, LG, XLG,

Part No. MK-407-4

MIKUNI KNIT SPORT SHIRT, SILVER, S, M, LG, XLG,

Part No. MK-407-3

MIKUNI CORDUROY CAP, SILVER, ONE SIZE,

Part No. MK-408-3

MIKUNI CORDUROY CAP, SILVER, ONE SIZE,

Part No. MK-408-7

MIKUNI DAYTONA TEAM JACKET, SILVER, S, M, LG, XLG,

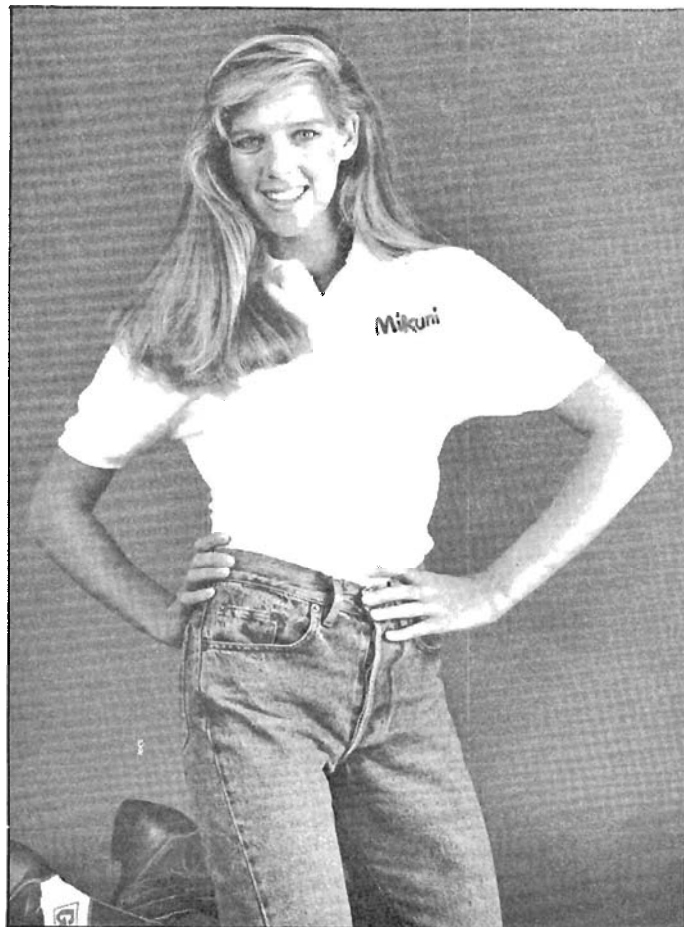
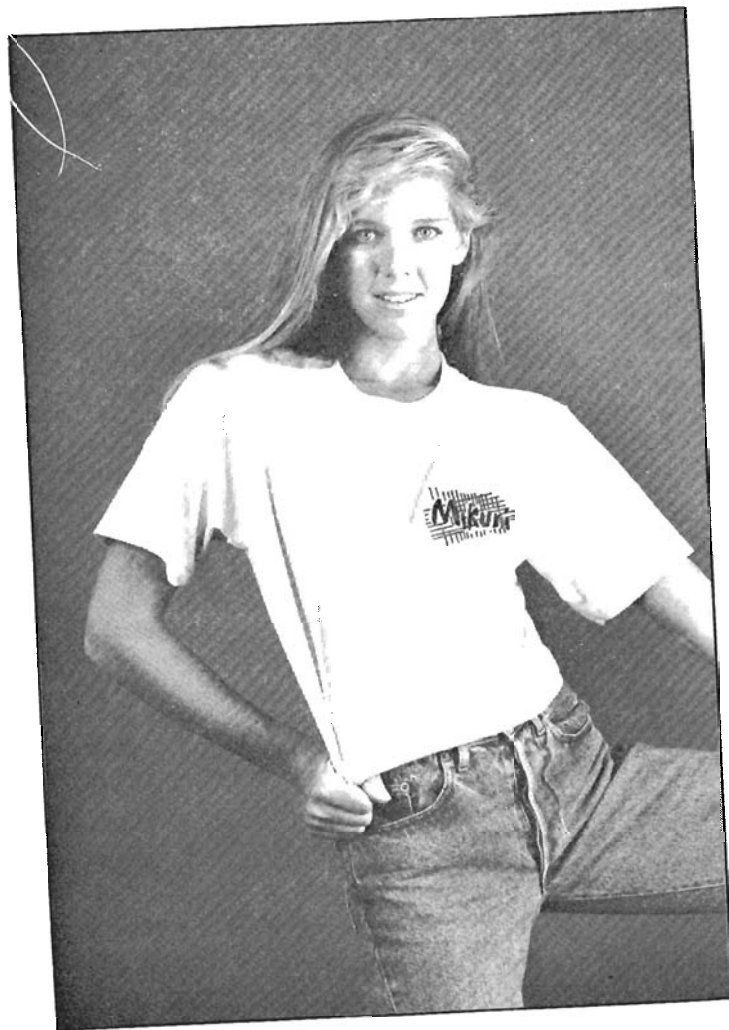
Part No. MK-520-7

MIKUNI DECAL KIT, ASSORTMENT OF 17,

Part No. MK-502-ASTMT

MIKUNI EMBLEM PATCH, RED/WHITE/BLUE,

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TUNING MIKUNI

CARBURETORS VM & TM

This manual is intended as a guide for users of Mikuni carburetors who want to learn the basic methods of tuning and adjusting to obtain top performance and fuel economy. The arrows that appear in the drawings in this text show the direction in which air, fuel, and air-fuel mixture flows.

Information herewith obtained from Mikuni engineering data and manuals.

1. CARBURETOR FUNCTION

The function of a carburetor is to deliver a combustible air-fuel mixture to the engine. However, in order to be effective, it must first break the fuel into tiny particles (in the form of vapor) and then mix the fuel with air in a proper ratio so it can burn without leaving excess fuel or air.

2. AIR-FUEL MIXTURE (Fig. 1)

The mixture of the air-fuel ratio is generally expressed by its relative weight proportion. For example, the amount of air required for complete combustion of 1 gram of fuel under normal conditions is:

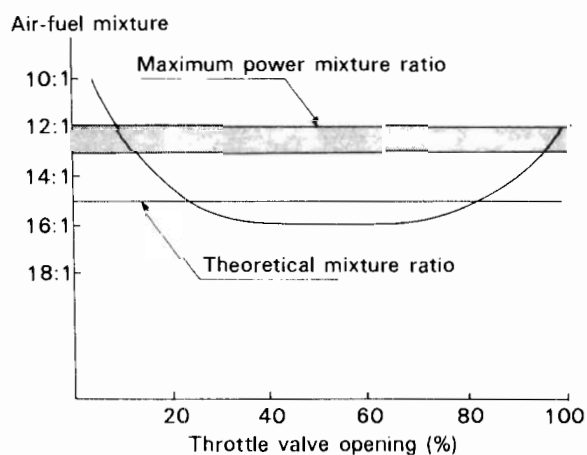
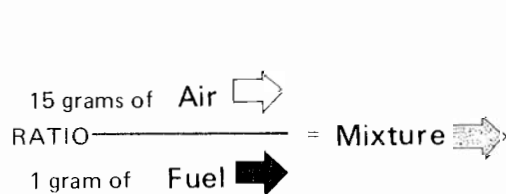


Fig. 1

In reality, varying mixture ratios are required for the engine depending on operating conditions. Although the required mixture ratio varies more or less with the type of engine, its cooling efficiency, etc., the mixture ratio shown in fig. 1 is required for ordinary engines. In the high speed range the ratio of about 12 to 13 grams of air for 1 gram of fuel produces the maximum output. However, in the case of an engine with low cooling efficiency, a somewhat richer mixture (10 to 12 grams of air against 1 gram of fuel) may be required to prevent seizure of the engine.

3. FUNCTIONS AND CONSTRUCTION

MIKUNI VM-TYPE CARBURETORS

Motorcycle engines are operated under a wide range of conditions, from idling with the throttle valve (Fig. 2 (1)) remaining almost closed, to the full load (the maximum output) with the throttle valve fully opened. In order to meet the requirements for the proper mixture ratio under these varying conditions, a low-speed fuel system (the pilot system) and a main fuel system (the main system) are provided in Mikuni VM-type carburetors.

A – The Pilot System

Low-speed fuel system (Fig. 2 and Fig. 3)

Since the engine is operated with the throttle valve almost closed at idling or in the low speed range, the velocity of air flowing through the needle jet (2) is slow. Consequently, a vacuum strong enough to draw fuel from the needle jet in

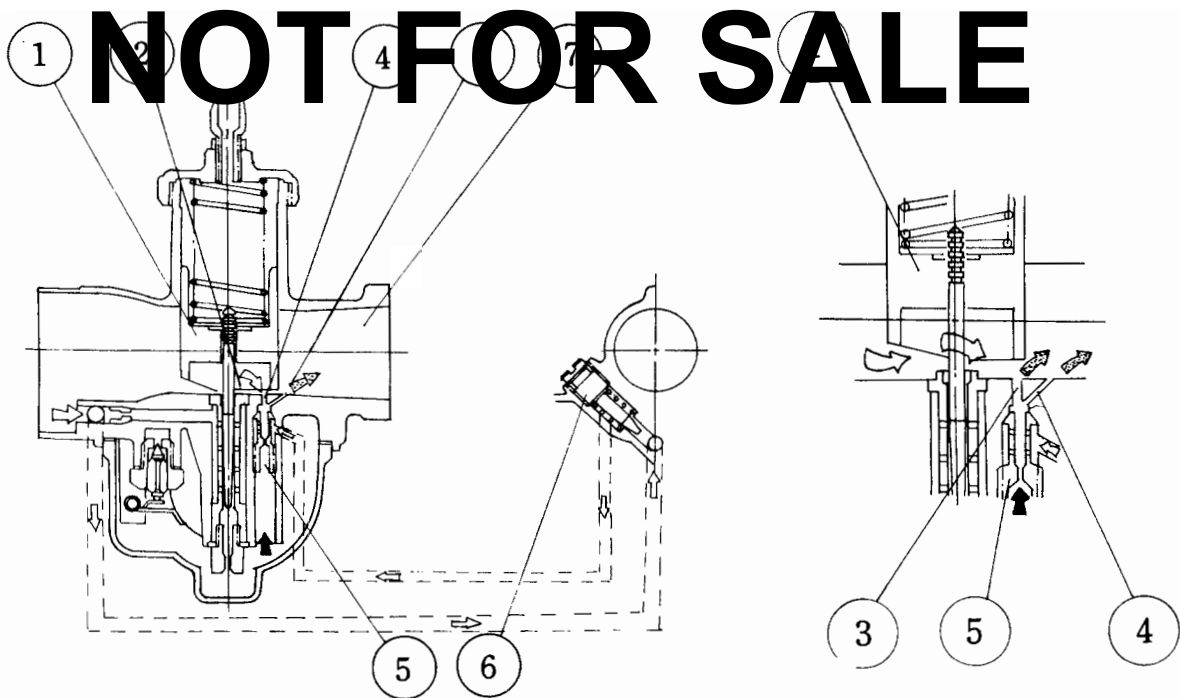


Fig. 2

Fig. 3

the main fuel system is not created. The fuel supply during this low speed operation is controlled by means of the pilot outlet (3) and the bypass (4) that are situated near the intake port. At idle, when the throttle valve is slightly opened, fuel metered by the pilot jet (5) is mixed with air adjusted in a proper amount by the air screw (6) and is broken into fine particles (vapor).

The mixture is again mixed with fuel coming from the bypass and is drawn into the pilot outlet to mix with air flowing through the main bore (7). The fuel mixed with air at this stage then goes into the engine. When the throttle valve is opened slightly during low speed operation, the pilot outlet alone cannot supply the required fuel and the shortage has to be made up with fuel injected from the bypass. The adjustment of the mixture ratio during this stage is made by the pilot jet and the air screw, in the case of a two-hole type fuel system (fig. 3). While at low speed operation if full throttle is initiated a similar shortage of fuel exists and during this transition from low to medium or low to high the fuel again has to be injected from the bypass until enough (vacuum) can be created to draw fuel from the main fuel system. There is also a one-hole type low speed fuel system mainly used for carburetors having a small main bore (fig. 4). The process of producing the air-fuel mixture and of adjusting the mixture ratio are the same as in a two-hole type low speed system.

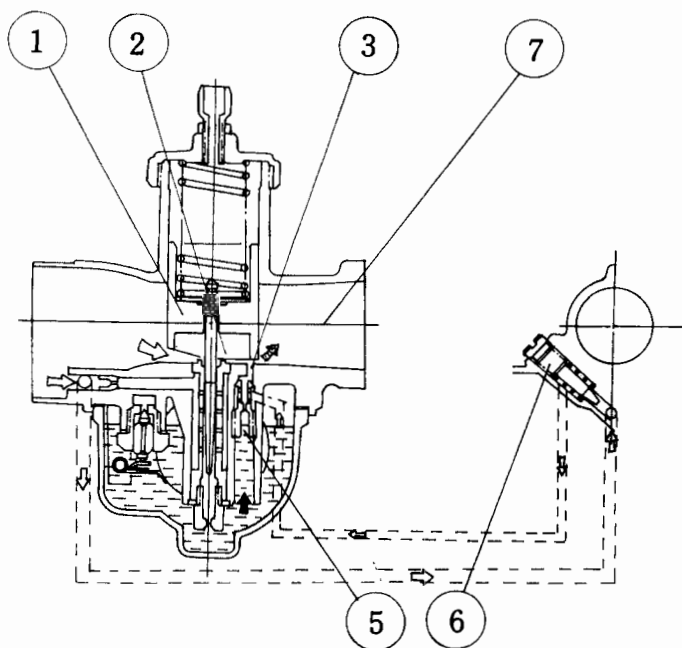


Fig. 4

B – Main Fuel System

On Mikuni VM-type carburetors, the pilot system and the main system are of independent construction.

The fuel flow in these two systems is shown in fig. 5. There are two types of main fuel system; one is a *primary type* used widely for 2-cycle engines and the other is a *bleed type* which is normally used for 4-cycle engines as well as for rotary valve 2-cycle engines.

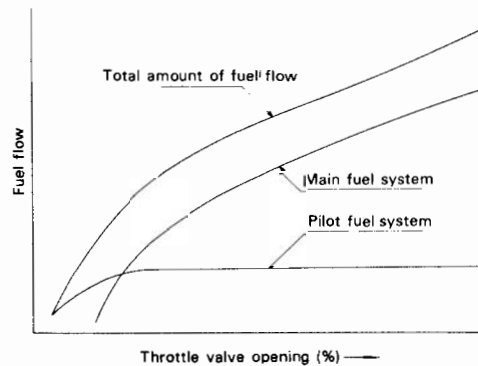


Fig. 5

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Primary type (Fig. 6)

When the throttle valve is opened about 1/4 or more, the velocity of air flowing through the needle jet (10) increases and also the vacuum increases to the point where fuel can be sucked in. When the opening of throttle valve (1) is between a quarter and three quarters, fuel passes through the main jet (9) and, after being metered in the clearance between the needle jet and the needle (11), it is mixed with air that is metered by the air jet (12) and atomization of the fuel is accelerated.

The mixture is then injected, after mixing with air flowing through the main bore (7), to the engine in the optimum air-fuel ratio. During this process of operation, the cutaway of the throttle valve serves to control the vacuum on the needle jet, thereby regulating the amount of fuel that is injected to the engine. When the throttle valve is opened more than three quarters for high speed operation, fuel is metered chiefly by the main jet (9).

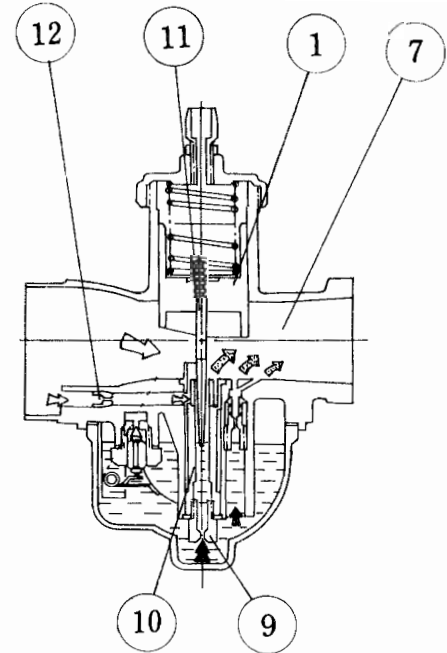


Fig. 6

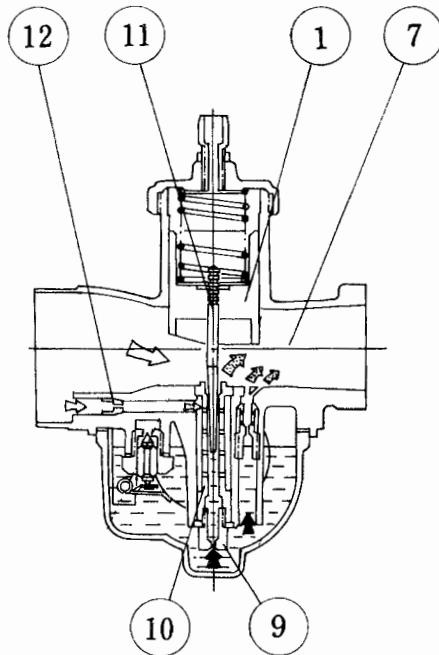


Fig. 7

Bleed type (Fig. 7)

The construction of the bleed-type (10) main fuel system is the same as that of the primary type, except for the bleed holes that are provided in the needle jet.

In the case of the primary type, air that comes from the air jet is mixed with fuel that is metered by the needle jet and the needle. The bleed type, on the other hand, is designed to hold air in the body section of the needle jet and there the air and fuel are metered.

C — Float System (Fig. 8)

The float system serves to maintain a constant level of fuel in the bowl. Fuel flows through the needle valve (14) and enters the float chamber (15). As the fuel enters the float chamber, the float (16) moves upward to its pre-determined level because of buoyancy. When the fuel reaches the pre-determined level, the needle valve begins to close due to the lever action of the float arm rising as the float attains buoyancy, thus shutting off the supply of fuel.

The fuel level in the bowl controls the amount of fuel which is metered to make the optimum fuel mixture. For example, too high a level allows more fuel than necessary to leave the needle jet enriching the mixture. Too low a level results in a leaner mixture, as not enough fuel leaves the needle jet. Therefore, the pre-determined fuel level should not be changed arbitrarily.

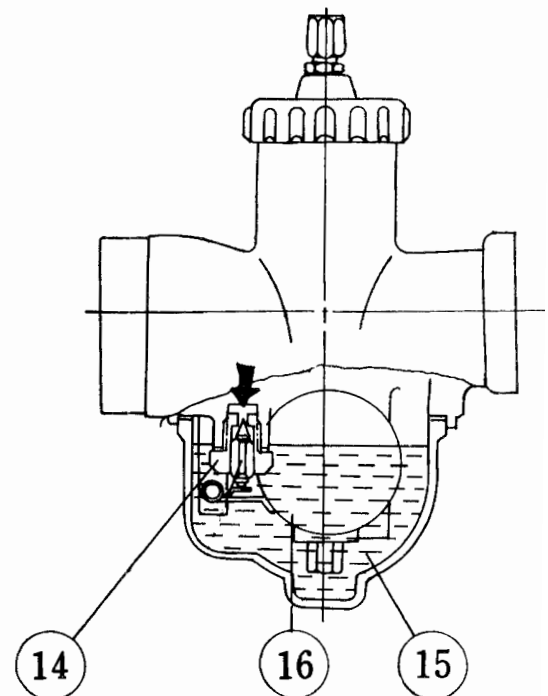


Fig. 8

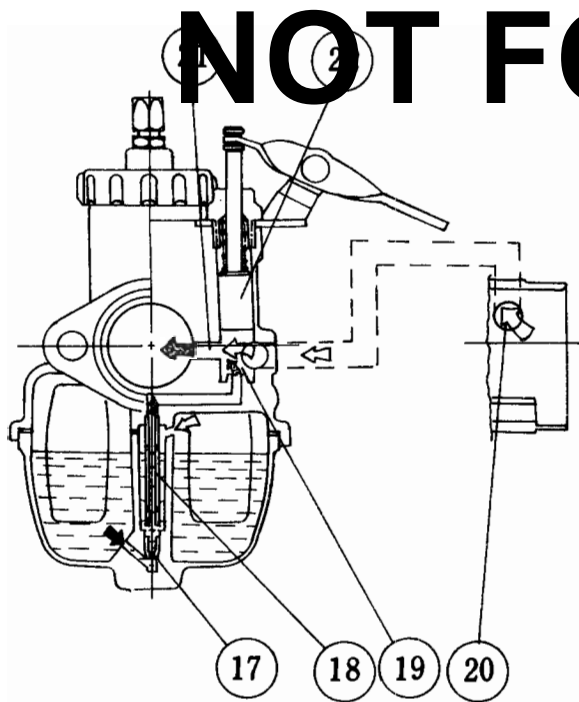


Fig. 9

D – Starter System (Fig. 9)

In place of the choke the starter system is employed for Mikuni carburetors. In the starter type, fuel and air for starting the engine are metered by entirely independent jets. The fuel metered by the starter jet (17) is mixed with air and is broken into tiny particles in the emulsion tube (18). The mixture then flows into the plunger area (19), mixes again with air coming from the air intake port for starting and is delivered to the engine in the optimum air-fuel ratio through the fuel discharge passage (21). The starter is opened and closed by means of the starter plunger (22). Since the starter type is constructed so as to utilize the vacuum of the inlet passage (20), it is important that the throttle valve is closed, when starting the engine. *At temperatures above 68°F, the engine can be started without using the starter.*

4. TUNE UP & CARBURETOR SELECTION

Tuning up normally means a process of accurate and careful adjustment to obtain maximum engine performance, although it means in a broad sense an economical improvement in fuel consumption. Improvement of power output of the engine depends on the amount of air drawn into the cylinder per unit time. A practice generally followed for engine tune-up includes:

- (1) To improve suction efficiency and exhaust efficiency by remodeling the intake and exhaust system
- (2) To improve combustion efficiency by raising the compression ratio
- (3) To increase the number of revolutions by adjusting the ignition timing

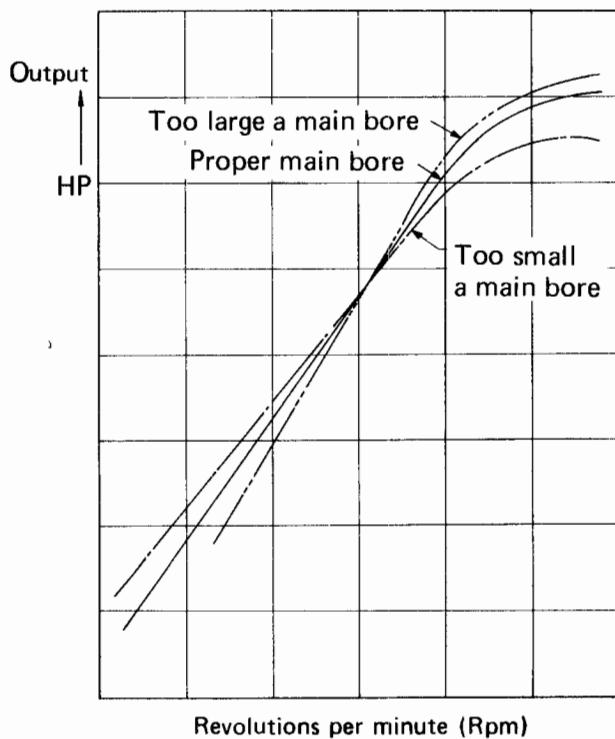
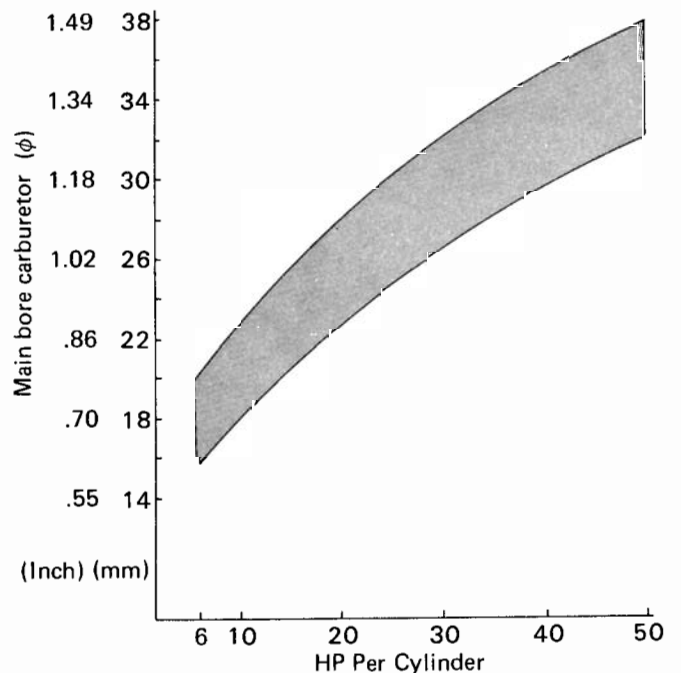


Fig. 10



Note : These are merely reference values on the basis of one cylinder and one carburetor.

Fig. 11

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- (4) Generally speaking carburetor tuning is done in four stages: idle, low speed, mid-range, and high speed. On the Mikuni each stage is controlled by a separate component simplifying the tuning process.

Just as we need to take balanced meals of high calories in our daily life, the engine cylinders need to take sufficient air and fuel mixed in proper amounts. The function of a carburetor is to prepare and supply a mixture of fuel vapor and air to the engine cylinders in the proper ratio for efficient combustion.

A – Carburetor Main Bore Size SELECTION

One of the prerequisites for improving the output is to use a carburetor with as large a main bore as possible. However, a large main bore alone does not necessarily improve the output. As shown in fig. 10, it is true that a large main bore improves the power output in the high speed range. However in the slow speed range, the output rather drops. The main bore size selection should be determined by various factors such as: (1) whether the vehicle is intended for racing, (2) the design of the engine, (3) driving technique of the driver, (4) the driver's preference, etc. In addition, the maximum output, the maximum torque and the minimum number of revolutions for stable engine operation must also be taken into account. Fig. 11 shows the values which we have obtained through out experience over the years.

Since the engine comes in a wide variety of types, the values given in fig. 11 should be taken only as reference values.

5. CARBURETOR SETTING

Once the main bore size of the carburetor is determined, a test (normally referred to as setting or matching) to select the proper jet or setting part should be made. The size of the jet is determined by measuring the output in a bench or in a chassis dyno test. For racing, it is best to determine the proper size of the jet on the racing course, because the following points must be taken into account.

- The altitude (atmospheric pressure), temperature and humidity of the racing course
- The operation of the engine based on the topography of the racing course

A – Selection of the Main Jet

First, do the following on a flat road.

- Select the largest main jet (the limit of a rich mixture) which can give you the maximum revolutions per minute (the maximum speed). In this case, select the engine speed according to the dimensions of the test course.
- Compare the gain in speed that you can obtain by quick acceleration from a constant speed of 25-30 MPH to maximum desired speed, by using different sizes of main jets.
- Check the exhaust fumes and read the spark plug (selection of the spark plug should be made based on the thermal value that would best suit power output of the engine).

Next, compare, on the racing course, the test results you obtained from the above. The points to be checked, among others, are:

- Smooth and steady operation of the engine at as high a speed as possible under varying operating conditions such as shifting of the gears, changes in road conditions, ascending and descending slopes, etc.
- Sustained operation at low speeds and at heavy engine load.
- Sustained operation at high speeds (without knocking or seizure).

CAUTION: Selection of *too lean* a main jet may cause severe engine overheating, and subsequent piston seizure.

Fig. 12 shows comparison of fuel flow curves. The straight line is for Model C main jet and the dotted line for Model A and B main jets. In each model of main jet, different sizes within the range of $\pm 10\%$ were tried.

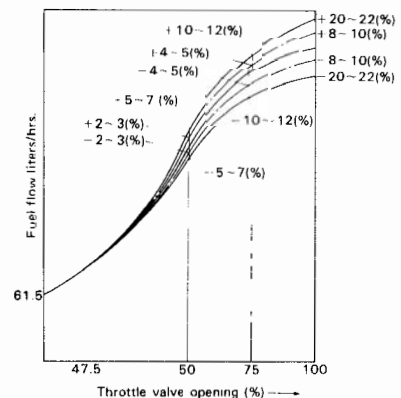


Fig. 12



A

Large Hex Type



B

Small Hex Type



C

Large Round Type

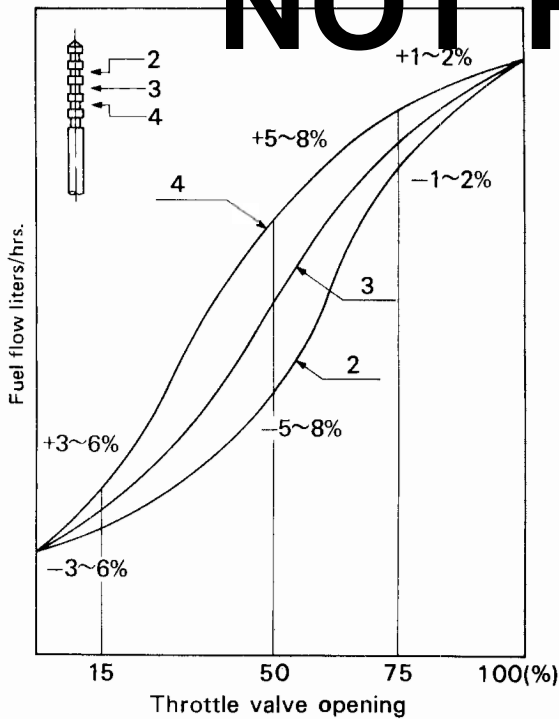


Fig. 13

B – Selection of NEEDLE JET and NEEDLE (Fig. 13 & 14)

A carburetor with a piston-type throttle valve is also called a variable venturi-type carburetor. In this type of carburetor, the needle jet and the needle serve to control a proper air-fuel mixture ratio during the so-called medium throttle valve opening (between 1/4 and 3/4 opening). The right combination of needle jet and needle will have a big bearing on the engine performance at partial load. The jet needle tapers off at one end and the clearance between the needle and the needle jet increases as the throttle valve opening gets wider. The air-fuel mixture ratio is controlled by the height of needle positioning clip that is inserted into one of the five slots provided in the head of the needle. The variation of fuel flow based on the height of the clip is shown in fig. 13.

C – PILOT JET and the Low Speed Fuel System (Fig. 15 & 16)

In the low speed fuel system of the carburetor, the pilot outlet and the bypass have holes whose size is in relation to the main bore of the carburetor. Hence, the adjustment and selection of the pilot jet and the air screw is important. Turn the throttle a little at no-load operation and see if the engine revolution increases smoothly. If the pilot jet is too small, increase in the engine speed will be slow and irregular. Too big a pilot jet, on the other hand, would give rise to heavy exhaust smoke as well as a dull exhaust noise. If you cannot maintain the speed in the range of 12-25 MPH with the throttle held constant, the pilot jet is too small.

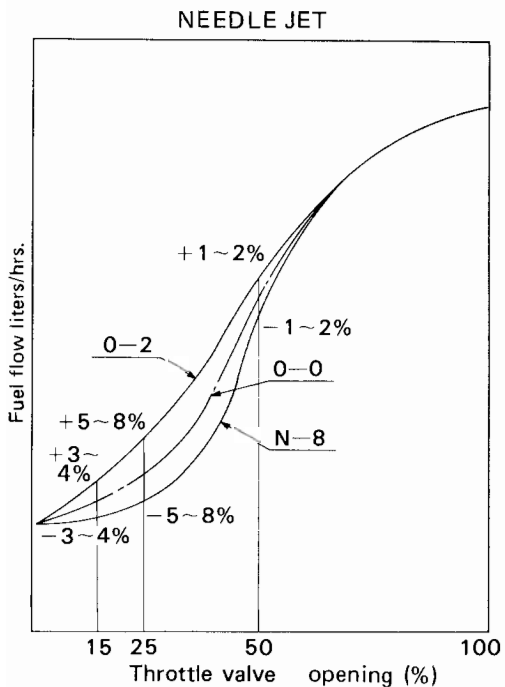


Fig. 14

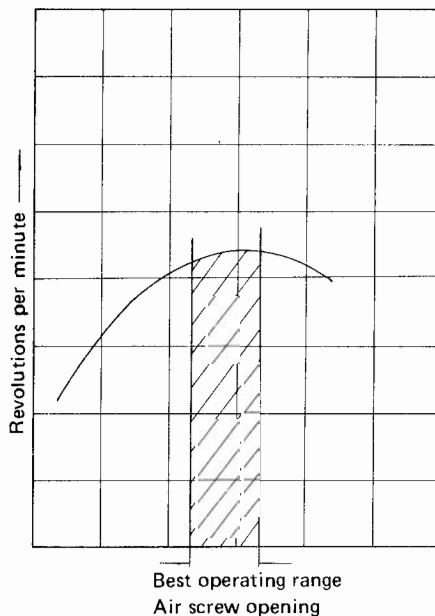


Fig. 15

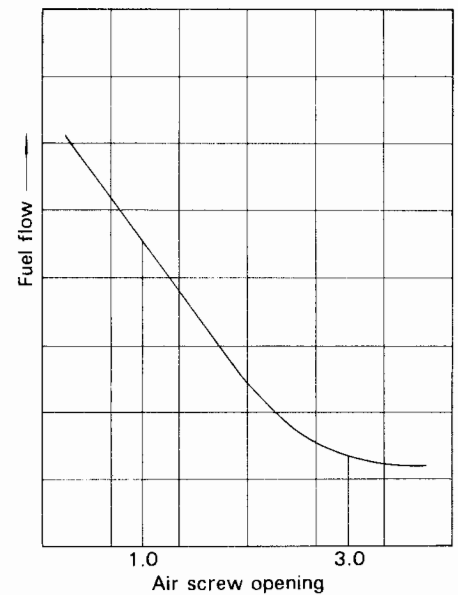


Fig. 16

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Selection and setting of the air screw should be made in the following manner. First, warm up the engine adequately and set the idle screw so that the engine revolution at idling will be about 10-20% higher than the number of revolutions you are aiming at. Then, turn the air screw left and right (between 1/4 and 1/2 turn) and select the position where the engine revolution reaches the maximum. Adjust the idle screw to bring down the engine revolution to your target speed for idling. After this adjustment of the idle screw is made, select once more the position where the engine revolution reaches the maximum, by turning the air screw left and right (between 1/4 and 1/2 alternately). At this point, attention should be paid to the following points.

(1) If there is a certain range in the opening of the air screw where fast engine revolution can be obtained, (for instance, the number of revolutions does not change in the range of 1-1/2 to 2.0 turn), for better performance you should select approximately 1-1/2 turns.

(2) To determine the "fully closed" position of the air screw, turn the air screw slightly. *Excessive tightening of the air screw would damage the seat.* The position where the air screw comes to a stop should be considered the "fully closed" position. The maximum number of turns in the opening of the air screw *must be limited to 3.0*. If the air screw is opened over 3.0 turns, the spring will not work and the air screw can come off during operation of the vehicle. Fig. 16 shows the fuel flow curve in relation to the opening of the air screw.

D — The CUTAWAY Size of the THROTTLE VALVE (Fig. 17)

The size of the cutaway of the throttle valve affects the air-fuel mixture ratio when the degree of the throttle valve opening is between 1/8 and 1/2, especially in the range of 1/8 and 1/4 opening. As the cutaway gets larger in size, with the throttle valve opening kept unchanged, air inflow resistance is reduced and causes the amount of air intake to increase, resulting in a lean mixture. On the other hand, the smaller the size of the cutaway, the richer the air-fuel mixture will become. Interchange of the cutaway is made, when the low speed fuel system is out of balance with the main fuel system.

Fig. 17 shows the fuel flow curve in relation to the size of the cutaway.

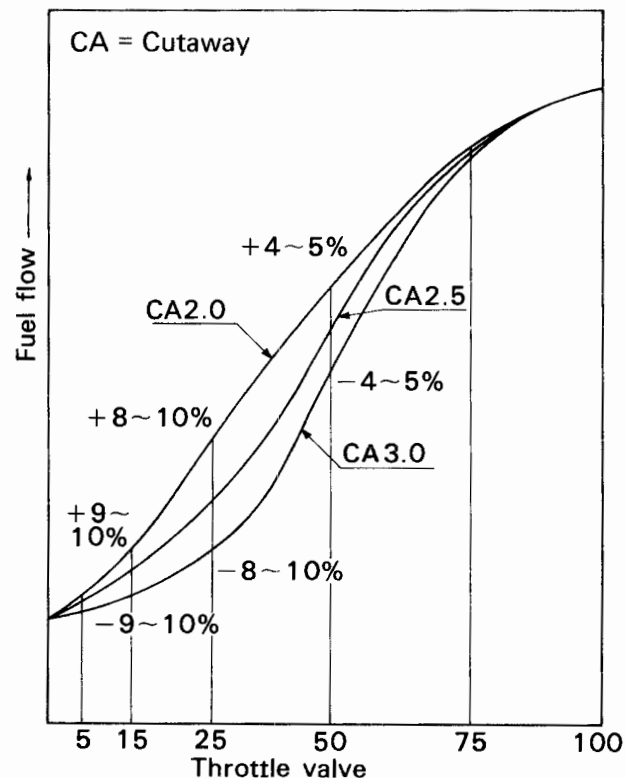


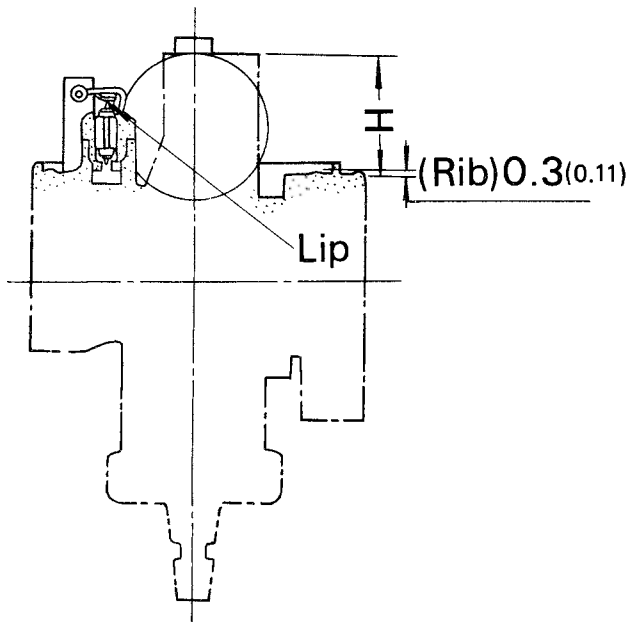
Fig. 17

6. MAINTENANCE

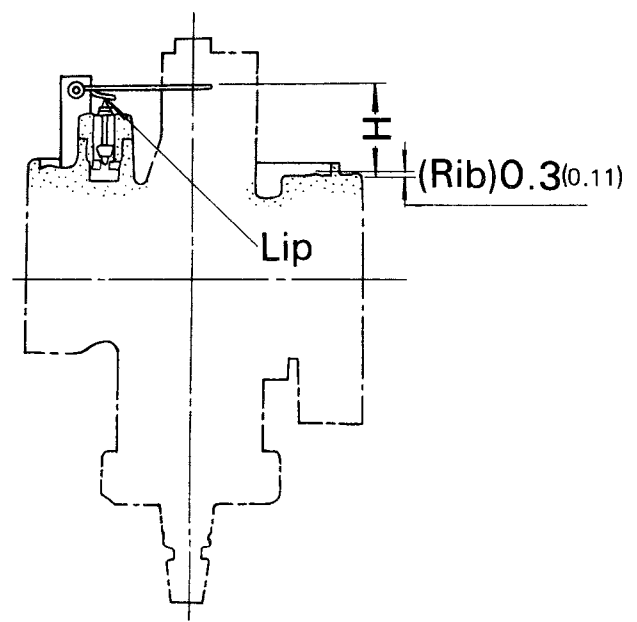
A carburetor consists of various precision-machined parts such as jets, needles, valves, etc. Therefore, care should be exercised, when removing jets or disassembling the carburetor for cleaning.

- (1) Proper tools should be used for disassembling and reassembling of jets. Handle each part carefully to avoid scratches, bending, etc.
- (2) Wash the jets and the carburetor properly in solvent and blow them out with compressed air.
- (3) For carburetors whose main jet can be replaced from the outside, an "O" ring is used to prevent leakage of fuel. When you fit the "O" ring, apply a little lubricant or fuel to the "O" ring.
- (4) It is important to maintain the fuel level in the carburetor. Do not touch the float arm, when disassembling the carburetor. If the float arm is bent accidentally, adjust the height of rib to the specified measurement (refer to fig. 18).

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Twin float type



Independent float type

Model	VM26 -74	VM28 -49	VM30 -44	VM32 -33	VM34 -20	VM36 -4	VM38 -3	VM40 -1	VM44 -1
H (Inch)	.59~.66	.59~.66	.86~.94	.86~.94	.86~.94	.66~.74	.66~.74	.66~.74	.66~.74
(mm)	15~17	15~17	22~24	22~24	22~24	17~19	17~19	17~19	17~19

Fig. 18

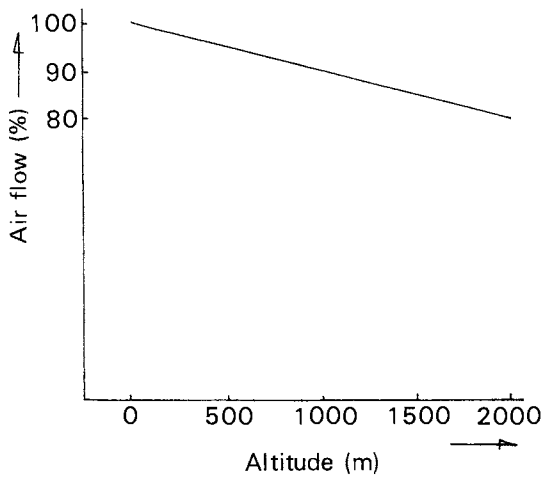


Fig. 19

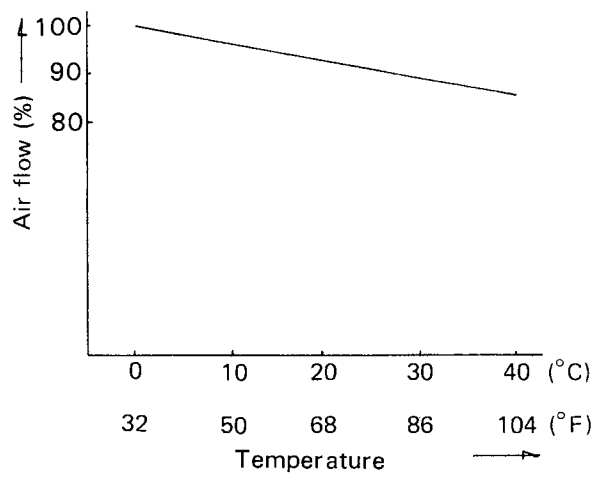


Fig. 20

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7. TUNING THE CARBURETOR FOR RACING

The maximum output of the engine depends on:

- (1) The amount of air drawn into the cylinders
- (2) Whether an air-fuel mixture is delivered to the cylinders in a proper ratio

Since the amount of air that is drawn into the carburetor varies with the temperature, the atmospheric pressure, humidity, etc., the mixture ratio is also changed. It is important, therefore, that the fuel flow be adjusted in accordance with the altitude of the racing course and meteorological conditions prevailing at a given time.

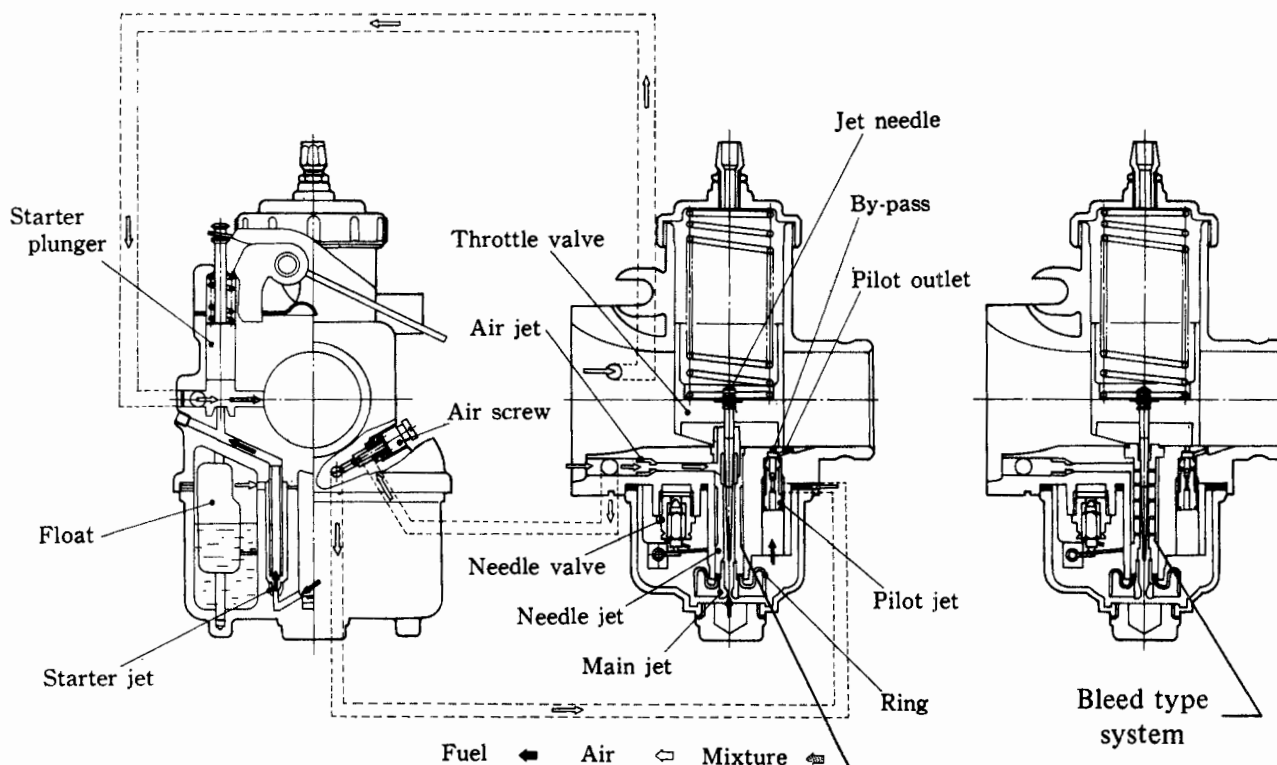
A – INCOMING AIR in Relation to Meteorological Conditions

The amount of air drawn into the cylinders is influenced by such factors as the altitude, the temperature, the humidity, etc. Suppose that the amount of air sucked into the cylinders at an elevation of zero is taken as 100 (the temperature and humidity in this case are considered constant). The amount of air in question decreases in proportion to a rise in elevation as shown in fig. 19. Reduction in the amount of air drawn into the cylinders changes the air-fuel mixture ratio, with the result that the power output drops markedly. Fig. 20 shows the relations between a rise in temperature and the amount of air drawn into the cylinders (in this case, the atmospheric pressure (elevation) and the humidity are considered unchanged and the amount of air going into the cylinders at 32°F (0°C) is taken as 100). In the case of the engine for racing where the maximum output is constantly called for, it is best to tune up the engine by making a matching test of the carburetor in accordance with the temperature and other conditions on the racing course.

8. ENGINE TROUBLE SHOOTING

When the carburetor setting is not correct or out of tune various irregularities in engine performance are noticeable. These irregularities can be traced to two basic causes:

- (1) When air-fuel mixture is too rich:
 - a) The engine noise is dull and intermittent.
 - b) Engine performance grows worse when the starter is opened.
 - c) Engine performance grows worse when it gets hot.
 - d) If removal of the air cleaner improves engine performance somewhat.
 - e) The exhaust gases are heavy.
 - f) The spark plug is fouled (black wet deposit around electrode).
- (2) When air-fuel mixture is too lean:
 - a) The engine overheats.
 - b) The performance improves when the starter (choke) is opened.
 - c) Acceleration is poor.
 - d) Spark plug burns (blistered white insulator).
 - e) The revolutions of the engine fluctuates and a noticeable lack of power.



CARBURETOR TROUBLESHOOTING CHART

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PROBLEM	POSSIBLE CAUSE	CORRECTION
HARD STARTING.	Incorrect use of choke.	Correct use of choke.
	Incorrect air-fuel mixture adjustment.	Set mixture adjustment screw in accordance with owner's manual or shop manual instructions.
	Clogged fuel filter.	Clean filter.
	Clogged low speed fuel jets.	Disassemble carburetor and chemically clean.
	Clogged vent in fuel tank cap.	Unclog vent or replace cap.
	Float stuck.	Remove float bowl, check float operation, and correct or replace.
	Float damaged or leaking.	Replace float.
	Incorrect float level.	Set float height in accordance with shop manual specifications.
	Intake air leak.	Check carburetor mounting flanges for air leaks.
	Ignition problem.	Repair, replace, or adjust as necessary.
Low cylinder compression.	Repair, replace, or adjust as necessary.	
POOR IDLE OR STALLING.	Idle speed adjustment(s) set too low.	Adjust idle rpm in accordance with specifications in owner's manual or shop manual.
	Idle speed adjustments are unequal (twin carburetor models and multi-carburetor models using individual throttle stop adjustments).	Equalize throttle stop settings.
	Clogged idle & low speed air bleed.	Disassemble carburetor and chemically clean.
	All causes listed under "HARD STARTING."	
IDLE MIXTURE ADJUSTMENT IS INEFFECTIVE. CARBURETOR DOES NOT RESPOND TO MOVEMENT OF THE IDLE MIXTURE SCREW.	Idle speed set too high.	Adjust idle speed in accordance with specifications in owner's manual or shop manual.
	Clogged low speed air-bleeds.	Disassemble carburetor and chemically clean.
	Damaged mixture adjustment needle.	Replace mixture adjustment needle.
	Mixture adjustment needle "O" ring is not sealing (models using "O" ring).	Replace "O" ring.
	Damaged mixture adjustment needle seat.	Replace carburetor.
	All carburetor problems listed under "HARD STARTING."	

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PROBLEM	POSSIBLE CAUSE	CORRECTION
SLOW RETURN TO IDLE.	Idle speed set too high.	Adjust idle speed in accordance with specifications in owner's manual or shop manual.
	Idle speed adjustments are unequal (twin carburetor models and multi-carburetor models using individual throttle stop adjustments).	Equalize throttle stop settings.
	Throttle valve sticking.	Clean and inspect throttle valve and return spring. Replace if necessary.
	Throttle linkage sticking.	Clean and inspect throttle linkage and return spring. Lubricate, repair, or replace as necessary.
	Throttle cable binding.	Correct routing or replace cable as necessary.
ENGINE SURGES WHEN CRUISING AT A CONSTANT SPEED.	Incorrect air-fuel mixture adjustment.	Low Speed - Low speed jet size change. Intermediate - Jet needle height adjustment or primary main jet size change.
	Vacuum piston sticking.	Clean and inspect vacuum piston and return spring. Replace if necessary.
ENGINE DOES NOT DEVELOP FULL POWER, OR MISSES ON ACCELERATION.	Incorrect use of choke.	Correct use of choke.
	Clogged air cleaner.	Clean or replace.
	Incorrect air-fuel mixture adjustment.	Low Speed - Low speed jet size change. Intermediate - Jet needle height adjustment. High Speed - Main jet size change.
	Throttle valves not synchronized (models with two or more carburetors).	Adjust throttle valve synchronization.
	Clogged fuel filter.	Clean filter.
	Clogged fuel jets.	Disassemble carburetor and chemically clean.
	Clogged air bleeds.	Disassemble carburetor and chemically clean.
	Fuel jets loose.	Tighten fuel jets.
	Fuel jet "O" rings leaking (models using "O" rings).	Replace "O" rings.
	Float stuck.	Remove float bowl, check float operation, and correct or replace.
	Float damaged or leaking.	Replace float.
	Incorrect float level.	Set float height in accordance with shop manual specifications.
	Vacuum piston sticking.	Clean and inspect vacuum piston and return spring. Replace if necessary.
	Vacuum piston diaphragm ruptured.	Replace vacuum piston assembly.
	Ignition problem.	Repair, replace, or adjust as necessary.
Low cylinder compression.	Repair, replace, or adjust as necessary.	

NOTE: It may be necessary to change carburetor jets to correct the air-fuel mixture ratios under the following circumstances:

- Exhaust system modifications
- Air cleaner alteration or removal
- Altitude changes
- Temperature and humidity changes

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