

TROUBLESHOOTING GUIDE

Outlined below are the proper procedures for diagnosis and correction of operating problems related to your Mikuni TMX Series Carburetor.

CHECK FOR:

OVERFLOW

1. Worn inlet valve or dirty inlet valve seat.
2. Improper fuel level in float bowl.
3. Damaged float bowl O-ring gasket.
4. Loose float bowl.

POOR IDLING

1. Idle speed improperly adjusted.
2. Clogged bypass.
3. Clogged pilot jet.
4. Loose pilot jet.
5. Air leaking into system.

POOR ACCELERATION

1. Clogged pilot jet.
2. Fuel level too low.

HARD STARTING

1. Choke not operating properly.
2. Generally dirty carburetor.
3. Loose carburetor hose clamp.
4. Fuel overflow.

POOR PERFORMANCE

1. Idle speed improperly adjusted.
2. Fuel overflow.
3. Main jet loosened.
4. Air leak in intake system.
5. Dirty or clogged carburetor or air cleaner.

POOR HIGH SPEED PERFORMANCE

1. Loose main jet.
2. Improper fuel level in float chamber.
3. Dirt lodged in strainer in fuel tank.
4. Clogged main jet.

ABNORMAL COMBUSTION (FUEL MIXTURE)

1. Generally dirty carburetor.
2. Dirty or clogged fuel line.
3. Air leaking into system.

LOSS OF POWER (LEAN)

1. Clogged fuel line.
2. Dirty fuel tank.
3. Air leaking into system.
4. Clogged fuel filter in fuel tank.
5. Generally dirty carburetor.

LOSS OF POWER (RICH)

1. Dirty air cleaner element.
2. Throttle cable not working.
3. Correct jetting for change of altitude operation.
4. Loose jets.

REMEDY:

1. Replace valve or clean valve seat.
2. Adjust float tabs for correct fuel level.
3. Replace O-ring
4. Tighten.

1. Adjust idle speeds.
2. Clean.
3. Clean jet.
4. Tighten jet.
5. Tighten manifold and/or hose clamps.

1. Clean.
2. Adjust level of float assembly.

1. Clean or replace plunger.
2. Disassemble and clean.
3. Tighten.
4. Inspect float assembly and inlet valve and adjust or replace.

1. Adjust idle.
2. Inspect float assembly and inlet valve and adjust or replace.
3. Inspect main jet and tighten.
4. Tighten manifold and/or hose clamps.
5. Clean.

1. Inspect main jet and tighten.
2. Adjust float assembly for correct fuel level.
3. Clean strainer.
4. Clean.

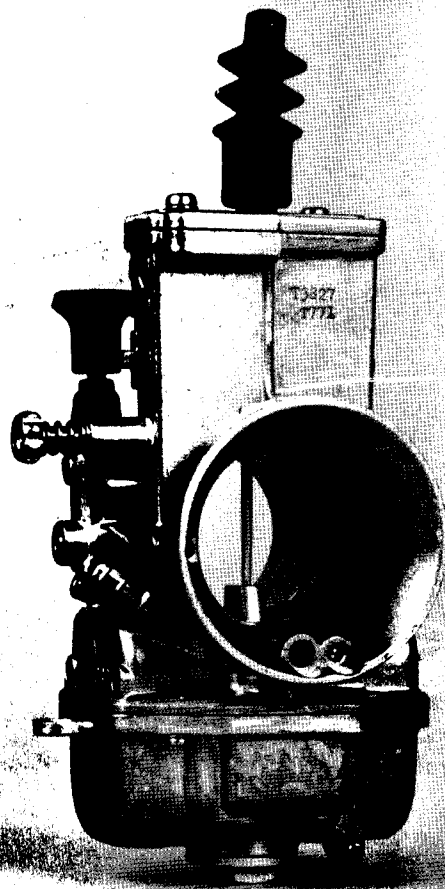
1. Disassemble and clean.
2. Clean fuel line or replace.
3. Check mounting nuts or hose clamps for tightness.

1. Clean.
2. Clean.
3. Check mounting nuts or hose clamps for tightness.
4. Clean fuel filter.
5. Disassemble and clean.

1. Clean or replace air cleaner element.
2. Check throttle cable and adjust or replace.
3. See tuning.
4. Tighten jets.

MIKUNI

TMX SERIES CARBURETOR



MIKUNI AMERICAN CORPORATION

Motorcycle Carburetor Division

8910 Mikuni Avenue, Northridge, CA 91324-3496 USA

OWNER'S MANUAL

INTRODUCTION

MIKUNI TMX SERIES RACING CARBURETOR



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.

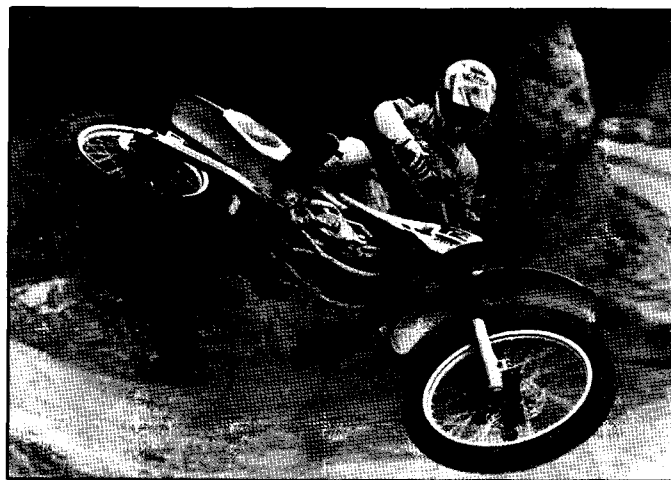
Congratulations on your selection of the Mikuni TMX Carburetor for your particular high performance application. We are positive you will be extremely satisfied with the performance gains and tuning ease we designed it to provide.

ALWAYS RIDE WITH CARE AND SAFETY BOTH ON AND OFF THE RACE TRACK. Never ride without a helmet, eye protection, and proper protective clothing. Mikuni TMX Series Carburetors are legal in California ONLY FOR RACING VEHICLES WHICH MAY NEVER BE USED UPON A PUBLIC STREET OR HIGHWAY. In other states check for similar laws which may apply.

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INSTALLATION

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).

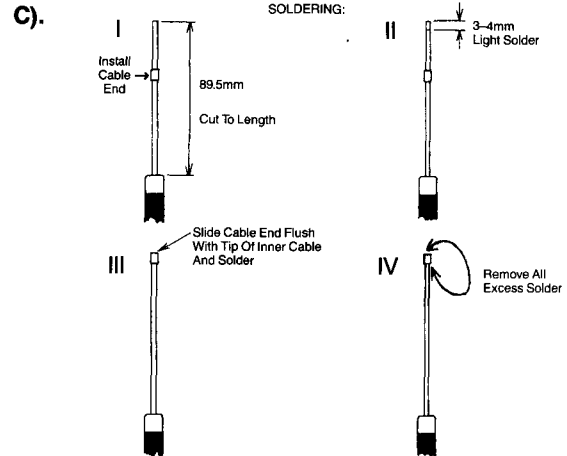
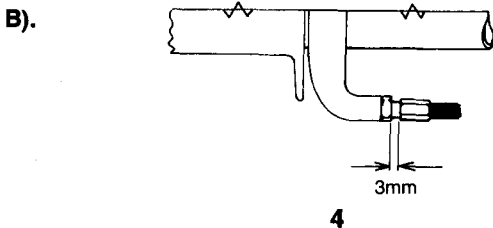
IMPORTANT: Never remove a spark plug lead wire or fuel line while a motor is running as this can result in a fire or explosion.

CHECK THROTTLE CABLE:

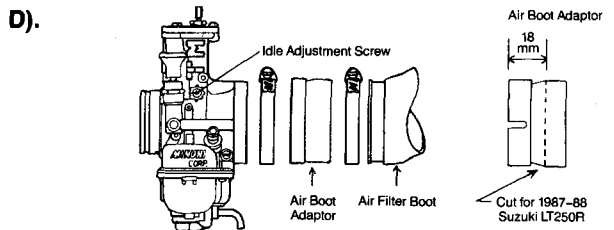
Installation of your aftermarket TMX Carburetor may require changing the stock throttle cable assembly's inner cable. To determine if your stock inner cable is the correct length, disconnect and remove the throttle cable from the carburetor. Check the inner cable's free length with the throttle control 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.



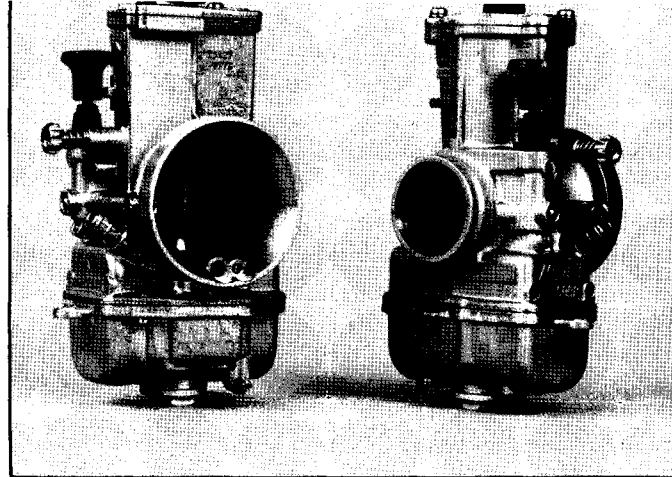
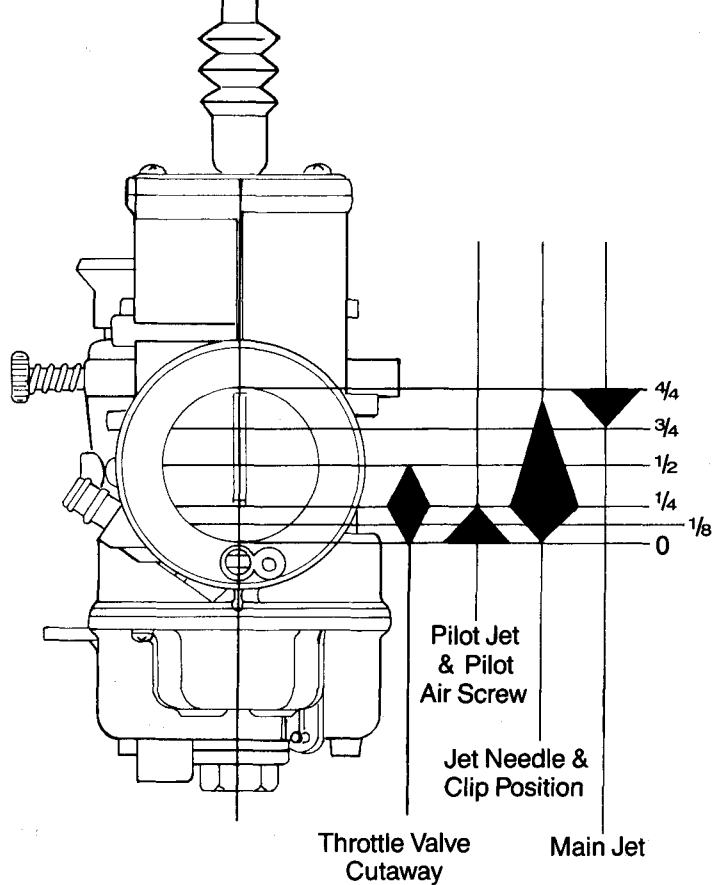
- 1). Cut your stock inner cable so it can be removed from the outer casing. Note: Do not damage outer casing, but simply slide inner cable out.
- 2). Attach new inner cable supplied with your new TMX carburetor to the throttle drum and slide the new inner cable into the outer casing. Set the cable adjuster 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.



FUEL METERING CIRCUITS

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

PILOT AIR SCREW, when turned in, richens 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.

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.

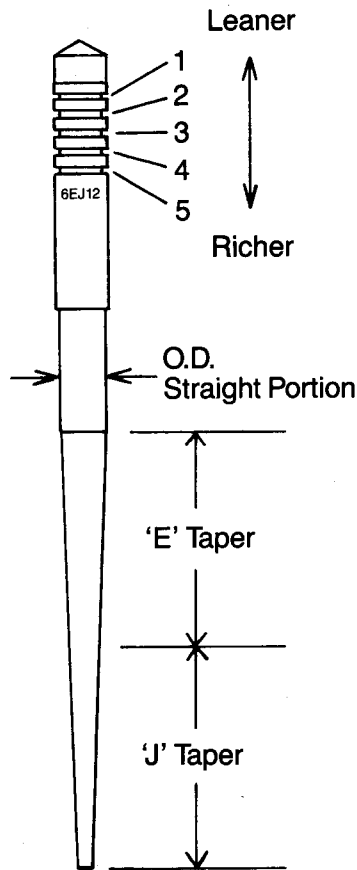
OPTIONAL JET NEEDLES To correct the fuel mixture at $\frac{1}{8}$ th to $\frac{1}{4}$ th throttle slide position it may be necessary to change the Jet Needle. The Jet Needle will have a series of numbers stamped on it.

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
<hr/>		
	6EN11-54	Leaner
TMX 35	6EN11-53	↕
	6EN11-52	Richer

'E'-Clip Position



THROTTLE VALVE The Throttle Valve cutaway affects engine/carburetor response between $\frac{1}{8}$ 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).

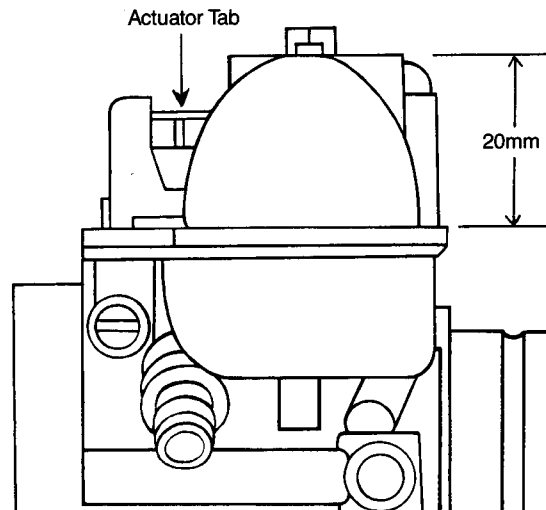
MAIN JET The Main Jet is located in the float bowl and can be removed or changed through the float bowl drain plug hole. The Main Jet controls the air/fuel mixture ratio from $\frac{3}{4}$ ths to wide open throttle position. The larger the number stamped on the Main Jet the richer the mixture.

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.



TMX SERIES/TMX 35 and 38

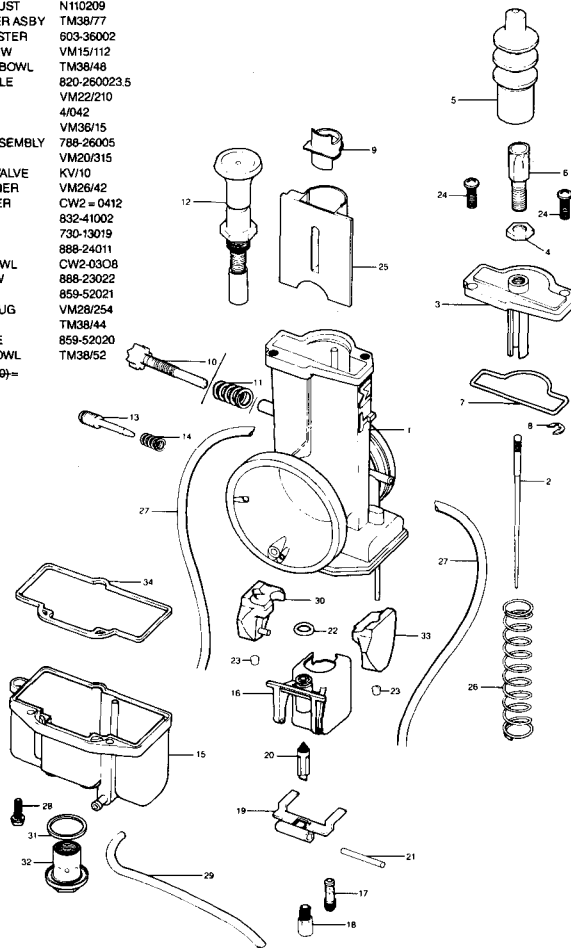
MIKUNI TMX SERIES PARTS LIST

No. Description	Part Number
1 MIXING BODY CARB	999-999
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 ASBY	TM38/77
13 SCREW, AIR ADJUSTER	603-36002
14 SPRING, AIR SCREW	VM15/112
15 CHAMBER, FLOAT BOWL	TM38/46
16 VALVE SEAT, NEEDLE	820-260023.5
17 PILOT JET	VM22/210
18 MAIN JET	4/R42
19 ARM, FLOAT	VM38/15
20 NEEDLE VALVE ASSEMBLY	789-26005
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

PART NUMBER ~~(999-999)~~ = NO AVAILABLE STOCK

TMX CARB PART NUMBERS

	BORE SIZE	SPIGOT Q.D.
TM35-1	35mm	40mm
TM38-27	38mm	44mm
TM38-18	38mm	47mm



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MIKUNI ACCESSORIES

ORDERING INFORMATION

All Mikuni accessories are available from your local motorcycle parts dealer, Mikuni distributor, or direct by mail from Mikuni American. No phone orders, please. Mail your order with certified check, money order, VISA or MASTERCARD information. California residents include 6 1/2% CA sales tax.

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 TURNER
Part No. MK-550-TNR \$2.95

MIKUNI RACE TEAM APPAREL

MIKUNI T-SHIRT, SILVER
S, M, LG, XLG, \$9.95

Part No. MK-407-3

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

Part No. MK-407-4 \$9.95

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

Part No. MK-407-3 \$17.95

MIKUNI VENTED CAP
SILVER, ONE SIZE,

Part No. MK-408-3 \$5.95

MIKUNI CORDUROY CAP
SILVER, ONE SIZE,

Part No. MK-408-7 \$12.95

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

Part No. MK-520-7 \$49.95

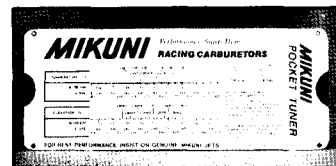
MIKUNI DECAL KIT

ASSORTMENT OF 17,

Part No. MK-502-ASTMT \$9.95

MIKUNI EMBLEM PATCH
RED/WHITE/BLUE,

Part No. MK-505-1 \$2.00



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