



\$3.95 U.S.

12%-15% increase in air flow and air speed. That's "out-of-this-world" technology!

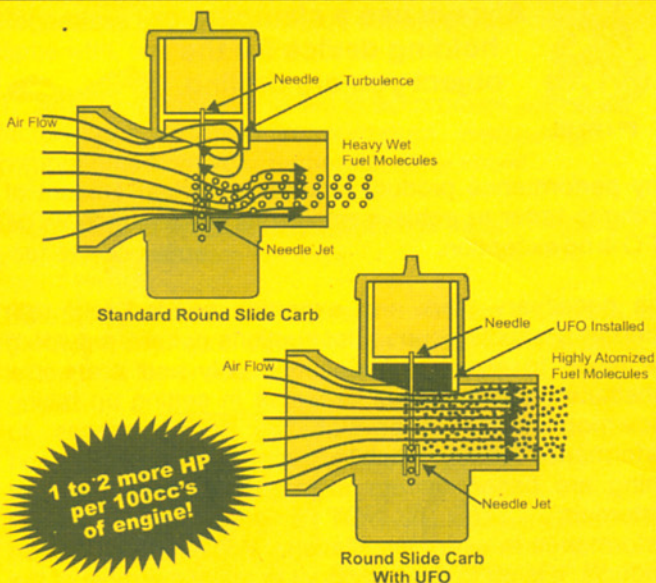


U.F.O.TM

PATENTED

Ultimate Flow Optimizer

INSTRUCTION MANUAL



The U.F.O. is a simple, trouble free, aerodynamic piece that fits Mikuni roundslide carburetors from 32mm through 44mm. The U.F.O. makes a normal round slide carburetor out perform the more expensive flat slide carburetor by eliminating turbulence and increasing air flow and velocity by 12%-15% and by centralizing engine vacuum on the needle jet.

The carburetor can deliver a highly atomized fuel charge at lower RPMs than any other carburetor. This increases horsepower and torque.

- More horsepower
- Exceptional throttle response
- Broader power band
- Less sensitive to temperature, altitude and jetting changes
- Cooler running engine
- Superior fuel atomization
- Cleaner emissions
- Improved fuel efficiency

! WARNING !

READ BEFORE INSTALLATION

Personal injury and damage to property can result from the improper installation of any product, including the U.F.O. Kit. Read instructions thoroughly prior to installation. When working with combustible liquids such as gasoline, always have a fire extinguisher available.

Always use safety glasses when drilling and tapping.



FIRE

Always use a clamping or holding device for the object you are drilling.



Any performance product requires a certain amount of tuning in order to achieve maximum performance. The UFO is no exception.

The necessary work and expertise needed to install different products varies. Instructions (where provided) are given to assist in installation only and are not a substitute for mechanical expertise in setting up racing snowmobiles or other vehicles. References to performance gains, reliability, ease of installation and tuning are based on our experiences as well as our customers'. This is NOT a guarantee of similar performance in every installation. While we sell proven products, it is up to the individual to make the most of the products in their application.

If you do not have the necessary skills to install the U.F.O.s and tune your carburetors or clutching, have a qualified dealer or repair shop install them for you and make necessary adjustments.

TECHNICAL ASSISTANCE

Please read this manual completely prior to making a tech call.

BASELINE SETTINGS

VERY IMPORTANT!

You must have a good baseline to start with.

Make sure your machine starts, idles and runs properly **BEFORE** beginning UFO installation. The time you spend now will pay off later.

INSTRUCTIONS

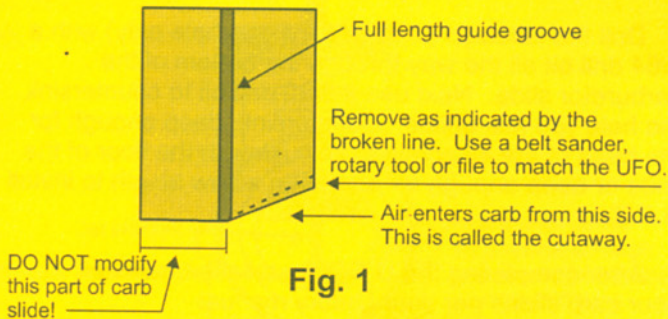
32mm-34mm or 36mm-38mm or 40mm-44mm carbs

Regardless of the size of slide cutaway, your carburetor came with, use a 3.5 UFO disc.

1. Remove carburetor slides in accordance with the factory service manual for your brand. Remove all components from your carburetor slide valve.

DO NOT purchase a new slide. It is easy to modify your existing slide.

YOU MUST remove the excess metal from your slide to match the UFO size. A belt or disc sander works best, but a metal file or rotary grinder can be used.



2. Insert the six hole locator disc (Drill Guide) on the bottom side of your carburetor slide. Align the notch in the disc with the full length guide groove in the carburetor slide.

Note: When drilling, it is recommended that you use a drill press and vice to ensure accuracy and safety.

INSTRUCTIONS

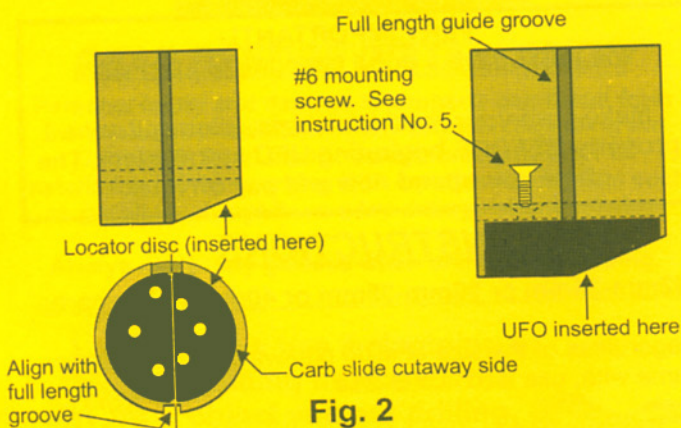


Fig. 2

3. Select the hole position that aligns best with your carburetor slide and aligns with the U.F.O. on the underside of the slide. There are six screw boss locations in the UFO. If any boss on the UFO is in the way of your cable, simply remove the boss by drilling it out or remove it with a rotary grinding tool.
4. Carefully mark and center punch the hole you select.
5. Drill the selected position (Drill one hole only) with a 9/64 drill bit all the way through the bottom of the carburetor slide. Next use a 9/32 drill bit to countersink the hole you just drilled. Countersink, deep enough for the head of the #6 screw to sit flush with the floor of the slide or deep enough for adequate screw length to install U.F.O.s.
6. After completing the U.F.O. installation, reinstall your carb slides per your factory manual.
7. The carburetor needle itself never leaves the center of the U.F.O., making it impossible to disconnect from your slide.

Make sure the slides travel the full stroke up and down with no hesitation or binding.

"OPTIONAL" AIR BLEED CIRCUIT

If sled is running fine without air bleed, leave it alone! When you get down to a #15 pilot or lower and are still too rich on idle circuit, this is a case when the air bleed would be used. Another option is to solder the pilot jet shut.

1. Remove needle jet nozzle.
2. Drill a hole as low as possible through the needle jet "nozzle" using a #55 size drill bit. DO NOT START WITH A BIT LARGER THAN #55 (.052). See Fig. 3

A larger air bleed may be used in place of or in addition to smaller pilot jets. We have used a #55, #50, #45, #40 air bleeds (smaller number = larger size). Increasing the size of the air bleed circuit is the same as reducing your pilot jet size. There is no exact formula for this procedure as it varies with different engines and jetting combinations. We have never found it necessary to use an air bleed larger than a #40.

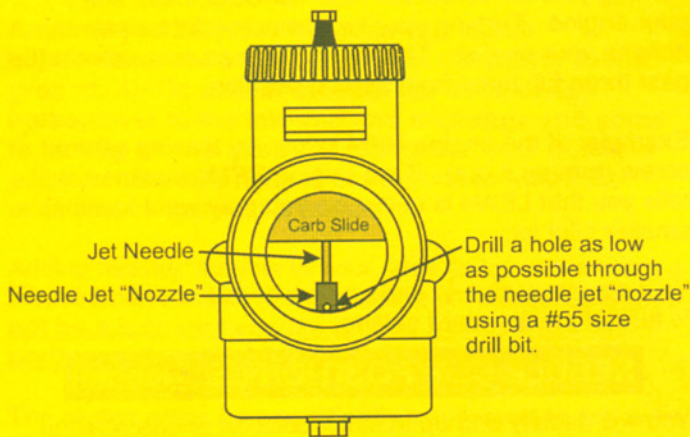


Fig. 3

PILOT JET

Install a pilot jet approximately half the size of your original jet size. For example, if your stock machine came with a #50 pilot jet, install a #25. Start your engine and let it idle. Make sure it idles at the proper RPM when warm.

Why do we reduce the pilot jet so radically?

The U.F.O. draws fuel so efficiently that fuel is drawn up between the needle and the nozzle as well as the pilot circuit. We lower the pilot to correct for the excess fuel being delivered via the needle and nozzle.

If your engine is idling too high, you are lean.

If your engine is idling too low, you are rich.

Correct the idling RPM by changing to the correct pilot jet size. You should be within a couple of jet sizes if you did a good job on your baseline settings.

AIR SCREW

Your air screw can be used as a good indicator, telling you whether you need to go up or down on pilot jets. Turning your air screw out (counter-clockwise), leans your engine. Turning your air screw in (clockwise) richens your engine. The air screw does not calibrate past three full turns from seated position.

Example: If the engine RPM is low, try leaning your air screw (turning it out). If the engine RPMs increase, it tells you that LEAN is better, so you may want to install a smaller pilot jet.

Your air screw should end up plus or minus (+ or -) ¼ to ½ turn of the standard setting.

NEEDLE CLIP POSITION (Jet Needle)

You will usually end up in stock position or one position richer. Try stock setting first and adjust as necessary. Lowering the clip richens the needle setting.

MAIN JET

The factory recommended main jet is always safe to run and is usually on the rich side.

U.F.O. Traits

Due to the highly atomized nature of the fuel/air mixture, we have found the following:

- ✘ When properly tuned, spark plugs will read much lighter than normal. Piston wash near the transfer ports will not appear at all or will be very minimal.
- ✘ The engine will be far less sensitive to temperature or altitude changes.
- ✘ You will get extremely quick throttle response.
- ✘ With UFOs, EGT temperature is reduced when letting off the throttle.
- ✘ Without UFOs temperature increases when completely letting off the throttle.

Clutch Adjustments

**CLUTCH ADJUSTMENTS WILL BE NECESSARY
IN ORDER TO GAIN FULL ADVANTAGE OF THE
INCREASED HORSEPOWER DELIVERED BY
THE UFOs.**

Anytime you increase horsepower, clutch adjustments are necessary to get the power to the ground. UFOs deliver most of the additional horsepower to the low-end and midrange and some to the top end. It stands to reason that your clutching adjustments would need to correspond to where the additional horsepower is added.

Adding heavier weights to your drive clutch or installing a different helix or spring combination or "clutch kit" will not be adequate because it does not address the portion of the powerband that is affected.

The clutch must be specifically calibrated to follow the horsepower in the range that the engine delivers it. This is simple physics. The *Thunder Shift or Heavy Hitter Kits* can be easily and accurately adjusted to get the power to the ground.

See back page of these instructions for more info on Thunder Shift Kit and Heavy Hitters.

TPI Valves

PAT. PEND.

"Make it flow, make it go!"

The Total Performance Intake Valves increase your power, improve throttle response and fuel efficiency by controlling your air flow. Gives 3-4 jet sizes of adjustment using recommended number of valves.

"Low-Boy" Style

"knobby" Style



Closed

Partially Open

Full Open



"Low-Boy" Style: \$19.95 ea.

"Knobby" Style: \$16.95 ea.

Thunder Shift

"HEAVY HITTERS"

PATENTED

**Gets the power to the ground on the
New Hi-Performance Machines !!**



Get massive belt squeeze without machining your clutch!

Thunder Shift Heavy Hitters are fully adjustable, heavy mass clutch weights that can be adjusted a full 15 grams in .4 gram increments for precise clutch tuning. You can adjust your low end, midrange and top end, separately. Made for machines that normally require weights in the high 50 grams up to more than 70 grams of weight. These are the highest quality highest-tech weights available at any price!

THUNDER SHIFT KIT

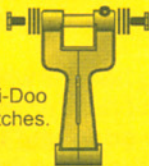
PATENTED

Gets the power to the ground !!

Fully adjustable clutch weights for precision tuning!



Fits: Arctic Cat,
Polaris, Comet
and Yamaha YXR
clutches.



Fits: Ski-Doo
TRA clutches.

Prices starting at just \$89.99!

TRA arm not included

No other weight matches the THUNDER SHIFT KIT in quality, performance and value. Save valuable time and money while increasing performance.

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