**PREDATOR 6000**
930 c.f.m.

**Performance Model**

The Predator (Model 6000) has been built for a long and full life. It is entirely metric except for the fuel inlet (Part #5016).

The Predator carburetor is of a complete variable venturi design. It is the most responsive, best low-end torque application carburetor available on the market today, with the added benefit of more c.f.m. as necessary. The Predator is capable of flowing up to 930 c.f.m.; but works strictly off of the air demand of the engine and meters the fuel in a direct relationship to that demand. In other words, if an engine requires 600 c.f.m. to pull a certain load, the Predator will, through the use of its variable venturi air doors, allow only this much air and a corresponding amount of fuel to enter the intake manifold. Therefore, the engine is never "under" of "over" carbureted at any given engine rpm or load.

The primary benefits of the Predator are centered around appearance and function. There are no jets to change, no leaking power valves, no internal gaskets to swell (other than the accelerator pump diaphragm). Adjustments are easily mastered and rebuilding, when necessary, is a snap. The Predator 6000 is relatively maintenance free—one less thing to tune and repair.

Each 6000 series Predator is packaged with an air filter adapter, adapter installation hardware, a fuel line adapter, stud washers two alternate cam profiles and a height gauge. For those seeking maximum appearance, the Predator is available fully chrome plated. The standard finish is ball burnish. Also offered factory-equipped with special idle circuit, or set up for alcohol.

Predator carburetor.....6000PXP
Chrome Predator carburetor.....6000PXC
Alcohol Predator carburetor.....6000PXA
Predator with idle circuit.....6000PXI

**APPLICATIONS**

The current day Predator is designed for practically any application including Drag Racing, Circle Track, Mud Bogs, Boats, Off-Road, Tractor Pulls, Show Cars, and Hill Climbs. The Predator 6000 carburetor is adaptable to a variety of four-barrel applications by utilizing a base plate with fastener slots. This design makes the Predator a universal fit for both Holley square-flange and factory-type spread-bore applications. In fact, the Predator can be mounted in any direction with respect to the fuel bowl; i.e. fuel bowl to the front, rear or either side. The primary mounting factor is the fuel pickup in the carburetor's bowl.

For street applications of the 6000PXP, where frequent braking is a consideration, we recommend that the fuel bowl be pointed to the rear to ensure fuel delivery under deceleration. Owners of drag race, circle track and off-road vehicles, on the other hand, will find that the Predator works best with the fuel bowl point forward (due to vehicle rise upon acceleration). In either case, a bell crank is required for proper throttle linkage hookup (see ). For owners of the 6000PXI, proper mounting position is fuel bowl forward.

The Predator's flow and idle capabilities make it ideal for fueling 300 to 500 cubic-inch engines. When installed on an engine within this range the Predator will permit idle speeds as low as 800 to 1200 rpm.

While bountiful low-end torque will be felt after bolting on a Predator, the carburetor generally won't be as fuel efficient as your present fuel mixer. This is due to the fact that our factory-installed cam is designed to meter an air/fuel ratio of approximately 12.5 to 13:1 throughout the entire rpm range. This contributes to the Predator's high torque and smooth power band characteristics. Dual-purpose carburetors, on the other hand, are set up to deliver approximately 14:1 in the idle to off-idle range and enrich the mixture on the top end, a compromise at best.

**Single 4-bbl.**
The installation of a Predator 6000 on any performance-oriented application will produce a noticeable improvement in throttle response. A slotted base plate permits attachment to any four-barrel intake manifold.

**Carburetor Spacers**
Due to the Predator's use of a fuel-metering block positioned over two rectangular throttle blades, the air/fuel mixture flowing down the center tends to be richer than that on the outer sides. To provide additional manifold volume for the mixture to homogenize, we recommend the use of a carburetor spacer, especially on dual-plane manifold applications. We've found that a 1" or 2" spacer works exceptionally well

**Nitrous**
We've found nitrous oxide to be a perfect compliment to the incredible performance characteristics of the Predator. When a plate-type nitrous system is employed, the plate also acts as a carburetor spacer promoting better air-fuel mixtures for maximum horsepower.

**Tunnel Ram**
By combining the Predator's low-end torque characteristics with the top-end charge of a tunnel ram, the performance enthusiast can have the best of both worlds. Add to this the use of variable venturi carburetors and you can see why a Predator-topped tunnel ram application can be the perfect solution for street/strip excitement.

**Blower**
Superchargers, whether of the 6-71, mini, or draw-thru turbocharger type, perform a dual-purpose function. In addition to their air compressing qualities, superchargers help to ensure complete homogenization of the air-fuel mixture.

## TECHNICAL DATA

Carburetor Mounting Positions for Specific Applications

The Predator base plate is designed to accept the bolt pattern and opening of most four-barrel-type manifolds. In fact, the Predator can be mounted in any direction with respect to the fuel bowl; e.g., fuel bowl to the front, rear or either side. HOWEVER, IT IS IMPORTANT TO FOLLOW THIS CARB MOUNTING POSITION GUIDE FOR PROPER FUEL DISTRIBUTION AND OPTIMUM PERFORMANCE.

Chart 1

| APPLICATION CHART | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | * Street/Strip | | | Drag Racing (PXI not Advised) | | | Circle Track/Off Road (PXI not Advised) | | |
| | | A | B | C | A | B | C | A | B | C |
| **Single Plane** | PXP | Rear | 6082 | 1" | Front | 5080 | 2" | Front | 5080 | 2" |
| | PXI | Front | K5080 | 1" | | | | | | |
| **Dual Plane** | PXP | Rear | 6082 | 1" | Side = None Front = 5080 | | 1" or 2" | Side = None Front = 5080 | | 1" or 2" |
| | PXI | Front | K5080 | 1" | | | | | | |
| **Tunnel Ram** | PXP | Any | As Needed | None | Any | As Needed | None | Any | As Needed | None |
| **Turbo charged draw-thru** | PXP | Any | As Needed | None | Any | As Needed | None | Any | As Needed | None |
| **Blower (GMC)** | PXP | Any | As Needed | None | Any | As Needed | None | Any | As Needed | None |

* Only vehicles that are exempt from E.P.A. and A.R.B. standards

KEY: A. **Fuel Bowl Mounting Direction** of carburetor fuel bowl cover with respect to engine.

B. **Recommended Predator Bell Crank**—A linkage adapter that allows the carburetor to be turned 90 and still maintain the standard linkage hook -up. This will allow the bowl to be mounted to the front (Part #5080) or the rear (Part #6082) of the engine.

C. **Recommended carb spacer.**

If there are any questions on mounting position, please call your dealer.

## FUEL REQUIREMENTS

The fuel metering system in this Predator is designed for gasoline. That is, any blend or octane of gasoline. The normally aspirated Predator can breathe 930 c.f.m. (cubic feet per minute) of air, so the fuel requirement is very demanding, and it is absolutely imperative that the following requirements be met for maximum performance.

Each Predator has a brass inlet fuel fitting and a 1/2" -20-thread inverted flare hose adapter (3/8" hose size). An A/N adapter (Predator part #5096 adapts to No. 6 braided hose (see Accessory Page).

Chart 2

| FUEL FLOW REQUIREMENTS FOR MAXIMUM PERFORMANCE | | |
|---|---|---|
| **Fuel Pump** | 70 GPH or 420 lbs. per hour | |
| **Fuel Regulator** | 6 or 7 PSI flowing (wide open throttle) | |
| **Fuel Line** | Tank to Pump | Pump to Regulator Regulator to Carb. |
| | 1/2" I.D. hose or #8 A/N | 3/8" I.D. hose or #6 A/N |
| **Fuel Filter** | In-line will work but a canister high volume is best. | |
| **Multiple Carb Set-ups** | Separate pumps, lines and regulators should be used. | |
| **For large demand motors such as race boats, tractor pullers, etc., our Fuel Bowl Extension (Part #6085) is recommended.** | | |

## AIR CLEANER ADAPTER

The air cleaner adapter (#6075) will receive a standard 5-inch housing. If the application demands a scoop over the carburetor air inlet, a special adapter may be ordered (#6083). This will prevent air turbulence. (See Accessories.)

The A/C adapter wing nut, stud and bridge nut are metric thread size 6mm. If desired, the bridge nut can be tapped to 1/4-20. It is advisable to secure stud with an additional nut.

### FLOAT HEIGHT SETTING

FIG. 1 Correct float adjustment for fuel height is checked with carburetor inverted. Use float gauge provided with carburetor. Float arm may be bent up or down to obtain proper measurement (1.20 inches).

### FLOAT DROP SETTING

FIG. 2 With carburetor upright, allow float to drop to full down position. Use a small rod no larger than 7/64-inch diameter to push ball in inlet fitting completely open. (Push in.) The clearance between the ball and float arm tang should be 0.002 inch to 0.005 inch. The bottom of the arm tang may be bent to obtain proper measurement.

## INSTALLATION PROCEDURES

Float adjustment: It is advisable to check the float for height and drop before proceeding further. See Figs. 1 & 2

## MOUNTING

When the determination has been made for best mounting position (see Chart #1), install the base gasket. Either studs or cap screws may be used to attach the Predator to the manifold. Special thick oversize washers are supplied with the Predator and MUST be used under the bolt head, cap screw, or nut. Torque bolts down evenly. Do no exceed eight-foot-pounds or 96-inch-pounds.

## FUEL LINE

Install fuel line to carb as outlined in Chart #2.

NOTE: When first filling the fuel bowl, caution must be used to slowly fill by turning the fuel pump on and off. This precaution is necessary to ensure proper seating of the gross jet fuel inlet.

## LINKAGE

The throttle arm attached to the Predator will fit most linkage to one of the available points on the throttle arm. Keep in mind a satisfactory ratio for the driver when installing the linkage. The closer the attachment to the throttle shaft, the quicker the throttle will react on the Predator relative to the throttle pedal. For the most positive "feel" use the outermost hole for the linkage. A throttle return spring must be used on all applications for positive throttle return.

Bell-crank recommendations (see Chart #1).

On multiple carb set-ups: All carbs are calibrated and match flowed (direct from the factory). Carburetor linkage should be installed prior to touching any adjustment screws in order to maintain proper synchronization of carbs.

## STARTING THE ENGINE

Mounted at the side of the Predator is an accelerator pump which delivers a small amount of fuel to the engine for cold starts. The fuel bowl must be allowed to fill before the accelerator pump is operative. The pump is activated by linkage from the throttle arm and functions with the opening of the throttle plates.

## COLD START PROCEDURE

When starting a cold engine, follow these simple steps. Depress the throttle all the way to the full open position two or three times. This will squirt fuel directly into the intake manifold which primes your engine for starting. After the priming, just open the throttle slightly past the idle position and crank the engine, holding this throttle position until the engine fires. Some engines may need more priming than others but usually two or three strokes will be sufficient priming.

## FINAL ADJUSTMENTS

There are three adjustments which may be performed with the unit on the engine. These include:

1) Curb Idle Adjuster: This screw is in direct contact with the throttle linkage and increases the engine speed by turning clockwise. It decreases the engine speed by turning counterclockwise. The idle adjuster is the Phillips head screw that is visible through the rectangular slot in the cover from which the throttle linkage protrudes.
2) Idle Mixture Control: This adjustment is to be made after the engine reaches operating temperature.

   The adjusting screw is found on top of the fuel bow.

**TURN THE ADJUSTER CLOCKWISE FOR RICHER MIXTURE.**

**TURN THE ADJUSTER COUNTERCLOCKISE FOR A LEANER MISTURE.**

Adjust for fastest rpm at idle.

CAUTION: The mixture adjustment screw is very sensitive. It is usually not necessary to turn more than one-quarter to one-half turn either way to trim mixture.

Make this adjustment with the engine running. Some resistance may be encountered since this screw is moving the metering block, but this is normal.

(Mixture Adjustment
Screw Diagram)

IMPORTANT:
When adjusting the screw clockwise to the richer side, changes can be noticed at one-eighth of a turn intervals.

However, when adjusting counterclockwise to the leaner direction, the ball socket in the metering block can have up to one-half turn of play in it.

To properly adjust to the lean direction: Turn screw one-half turn counterclockwise (to remove play) plus additional one-eighth turn (or desired adjustment); and immediately compensate back one-half turn clockwise to the richer side to properly secure adjustment. If a mixture is desired, repeat process.

NOTE: The mixture adjustment screw on top of the fuel bowl is used for idle and off-idle mixture control (approximately 2,500 rpm). It does not adjust mixture at midrange and wide open throttle. Mixture changes for midrange and wide open throttle are made by changing the main metering cam.

3) Main Metering Cam: The main metering cam is located inside the fuel bowl and is programmed for the complete operation range from idle through top end. *The cam may be changed for richer or leaner metering of fuel at higher air flow areas (approximately 3000 rpm and up). The idle and off-idle profile section of all three cams (one in the fuel bowl and two packed with the Predator) are the same.* The higher the lift (see Chart #3) the richer the 3000 and up rpm range.

**CAM GUIDE**

No. 1 = Standard Cam
No. 2 = +10% richer
No. 3 = +15% richer
No. 4 = +20% richer
No. 5 = +25% richer
No. 6 = +30% richer
No. 7 = +35% richer (Cams 1, 2, & 3 shown here as examples)

The Predator can easily be modified for use with a vacuum advance-type distributor. Simply drill a 0.60" orifice through the housing, then enlarge the hole (drill only about half-way through the housing) to accommodate a piece of brass tubing (generally 1/8") for the vacuum line. A press fit is desired, but if the tube can be wiggled, use epoxy to seal it in position.

**Vacuum advance port should be located 3" back and 3/4" up from right corner of front**

## SPARK PLUG READING

In MOST applications when the Predator is set up correctly (provided that all other engine functions are correct, i.e., timing, type of fuel, fuel pressure, heat range of spark plugs, etc.) upon immediate shutdown of the motor following a wide-open throttle run, the spark plugs should read clean. However, when plug readings show a lean condition, change to a richer cam. Conversely, if the plugs read rich, go to a leaner cam. With a little experience, cam changes (if needed) will become very simple.

## CHANGING THE METERING CAM

1) Remove the fuel bowl cover. Be careful to catch the fuel as it comes out.

2) Remove the two Phillips head screws holding the cam in place.

3) Pull the cam straight out being careful not to lose the ball on the end of the metering rod.

4) Install the desired cam by inserting the cam on the shaft. Insert the adjustment

holding screw barely snug. Insert the adjustment locking screw through the cam slot barely snug. Be careful that the ball is still on the metering shaft.

5) Line up the indexing point on the top of the metering block with the line on the cam. Tighten the adjustment screws. (See Diagram .)

6) Reinstall the fuel bowl cover.

7) Readjust mixture if necessary. (Refer to Adjustment #2, Mixture Control.)

**ILLUSTRATION**

*Measure the distance from the top surface of the carburetor down to the top of the screw adjuster. Adjust screw to obtain 0.310 to 0.320 inch, 5/16 inch is average setting. This will give the correct vertical setting for correct cam alignment. The line on cam should be centered directly over top of ball in metering plunger.*

## CAM RECOMMENDATIONS

Provided that the maximum fuel flow requirements (outlined on Chart ) have been met, the chart below will satisfy almost all applications. Given that no two applications are the same, a slight variance from this chart may be necessary. These recommendations are general guidelines. Cams are available in 5% increments to 35% richer. Custom nozzle bars are available in 5% increments leaner or richer.

Chart

| | | **APPLICATION** | | |
|---|---|---|---|---|
| | **Elevation** | *Street/Strip | Drag Racing | Circle Track/Off Road |
| Naturally Aspirated | Sea Level to 3000 Feet | #1 CAM | #1 CAM | #1 CAM |
| | 3000 feet to 5000 feet | Nozzle Bar | -10% to -15% | -10% to -15% |
| | 5000 feet to 7000 feet | Nozzle Bar | -15% to -20% | -15% to -20% |
| | 7000 feet and higher | Nozzle Bar | -20% to -25% | -20% to -25% |
| Turbo Charged with Blowers | Sea Level to 3000 feet | #1, 2 or 3 CAM | #1, 2 or 3 CAM | #1, 2 or 3 CAM |

*Only vehicles that are exempt from E.P.A. and A.R.B. standards

## TUNING TIPS

### 6000-PXP TUNING TIP

Start engine. Let the engine warm up to operating temperature. Set engine idle to at least 1000 rpm with the Phillips screw (on side of carburetor). Now, using your thumb, press open the top air doors 1/8th inch and release quickly.

1) If engine rpm drops momentarily, motor is too lean, turn top screw clockwise 1/4 turn.

2) If engine rpm increases momentarily, motor is too rich, turn top screw counterclockwise 1/4 turn.

Continue operating (1) or (2) until engine rpm remains constant after opening and closing the air doors. Now set the Phillips screw on the side of the carburetor to desired rpm.

## 6000-PXI TUNING TIP

Start engine. Let the engine warm up to operating temperature. With the idle circuit screw (on the side of carburetor) completely closed, set engine idle to 1000-1200 rpm with the Phillips screw (on the side of carburetor). Now, using your thumb, press open the top air doors 1/8th inch more than it already is and release quickly.

1) If engine rpm drops momentarily, motor is too lean. Turn top screw clockwise 1/8-1/4 turn.

2) If engine rpm increases momentarily, motor is too rich, turn top screw counterclockwise 1/8-1/4 turn.

Repeat the process of depressing and releasing the doors and adjusting the top screw until engine rpm drops SLIGHTLY (to 900-950 rpm) before gradually rising back to 1000-1200. Now begin to back out the idle circuit screw (on the side of the carburetor), engine rpm will begin to increase. Continue turning the screw until engine rpm stops increasing (usually 1/4 turn to one full turn).

## SQUEEZING MORE POWER FROM THE VARIABLE VENTURI CARB

By Dutch Williams

*Reprinted courtest of* **4-Wheel & Off-Road** *magazine*

Over the years, the Predator variable-venturi carburetor has achieved nearly cult status among four-wheelers. Its versatility, durability, and throttle response have built the Predator's reputation. And while there are thousands of these distinctive, square-faced carburetors in the field, the care and feeding of them has remained a somewhat well-kept secret.

Fortunately, the Predator is adaptive to its environment. The carb's variable-venturi design allows it to deliver anything from390 C.F.M. right up to 930 c.f.m., depending on engine demand. Typically, a Predator right out of the box will be set up properly for

most applications. Predator also flow checks every carb that comes off the production line to ensure proper operation.

Getting optimum performance from the Predator is in itself a fairly easy task, requiring little time, no special tools and no jets (since the Predator doesn't have jets).

To learn how to properly tweak these units, we spoke with Dale Barlet, whose firm manufactures the carbs. According to Barlet, the most common mistake made with the Predator is installing it improperly. The carb's square shape and throttle shaft position can easily lend itself to a sideways mount situation to match up with existing throttle linkage. However, for most street and four-wheel-drive applications, the Predator should be installed bowl-forward and a special bellcrank linkage used. Unfortunately, when the carb is mounted sideways on a relatively short intake manifold, the fuel distribution is less than ideal.

Fuel pressure is another important consideration. For best results, seven to eight pounds is recommended. Likewise, use of an inline filtering device is insurance against potential problems.

The heart of a Predator, much like an engine, is a camshaft. The carb comes with three metering cams to choose from—Number 1 being the baseline standard, and Numbers 2 and 3 being 10 and 15 percent richer, respectively. For those who desire only a very minor increase in richening the curve, the cam can be advanced slightly. The metering cams essentially control the mixture in the mid range and top end.

To lean the carburetor down, one should install a spray bar with smaller holes. The Predator is shipped with a spray bar fitted with .039-inch orifices, and models with .035- and .027-inch holes are also stocked. They can be special ordered in custom sizes, or blanks can be obtained by the do-it-yourselfer.

It is important to note that the changes to the spray bar hold true across the entire operating range of the carburetor, while the cam controls things from around 3000 rpm up. For changes in bottom- or top-end characteristics, there are several other simple modifications that can be made.

The amount of fuel fed to the carburetor at low end is controlled by a small setscrew in the top of the bowl, and adjustments actually change the position of the metering block in relation to the spool. Turning it clockwise will richen the idle, and a counterclockwise rotation leans it down. Because there is a ball socket on the adjusting screw, it is recommended that the final adjustment always be done in a clockwise mode to assure proper seating.

Verifying the idle mixture adjustment is a fairly straightforward procedure. When the motor is warm, the tuner should push down on one of the air doors in a short, swift manner. If the motor stumbles, stalls, or backfires, the idle mixture is too lean, and the

idle mixture screw should be turned clockwise in quarter-turn increments until the symptoms disappear.

Conversely, should the motor respond lazily when the air door is pushed, it's too rich, and the idle mixture screw should be backed off in quarter-turn increments until there are no perceptible changes.

Idle speed is adjusted with a small Phillips screw on the side of the carb, partially hidden by the accelerator pump linkage. The standard Predator can get down to between 800 and 1000 rpm, depending on engine characteristics, while those units equipped with the special idle circuit mod (6000PXI) can usually get down to about 600 rpm.

**To richen or lean the mixture at the bottom end, when the carb comes off idle, the Predator offers a unique adjustment in the form of varying the tension on the air doors. This is done by removing the back cover, unhooking the spring from the air door attachment pin, rotating it to increase or decrease tension, and re-hooking the spring.**

By increasing the tension on the air doors, the carb will be richer off idle, which can improve throttle response and low-end torque. This change will also lean out the midrange and top end. Loosening the Predator's air door tension will do the opposite, resulting in a leaner bottom end and a richer top.

This phenomenon is mostly attributable to the position of the air doors and velocity of the incoming air as it relates to drawing fuel out of the nozzle bar. More tension keeps the area smaller, creating a large pressure drop inside the plenum, which draws out more fuel proportionately. Conversely, open throttle flow with the doors opening slower created a leaner condition at the top end. These characteristics have been verified by extensive testing on Predator's own dyno.

Ground-up rebuilds are similarly straightforward. The Predator is just about the easiest carb on the market to rebuild, given the relatively small number of parts and operations required to do the job. A few of the key areas to watch include making sure the plunger (spool) activated by the metering cam moves up and down freely in the metering block by removing any varnish buildup; verifying that the air doors fall open with the spring disconnected (clean the bushings if required); and making sure the hook end of the spring does not pinch the air door attachment pin and hamper movement.

Other precautions include making sure the AV Backfire Covers (rubber flaps) lie flat on the air doors and the throttle plates are properly seated. This is done by holding the carb up to a light source, opening the doors fully, and checking for uneven light leaks. To make adjustments, simply loosen the screws in the shaft, move the butterflies as required, and retighten the screw. Use Loctite or a similar substance for added security.

| PART # | QTY. | DESCRIPTION |
|---|---|---|
| 6001 | 1 | BODY |
| 6002 | 1 | FUEL BOWL COVER |
| 6003 | 1 | BODY END PLATE |
| 6004 | 1 | BASE PLATE |
| 6005 | 1 | DUST COVER |
| 6006 | 1 | ACCELERATOR PUMP COVER |
| 6007 | 2 | AIR VALVE PLATE |
| 6008 | 2 | THROTTLE PLATE |
| 6009 | 2 | AIR VALVE RETAINER PLATE |
| 6013 | 1 | THROTTLE ALIGNMENT LINK |
| 6014 | 1 | AIR VALVECALIGNMENT LINK |
| 6015 | 1 | DEFLOOD LINK |
| 6017 | 1 | AIR VALVE LINKAGE PLATE ASSY R.H. |
| 6019 | 1 | AIR VALVE LINKAGE PLATE ASSY. L.H. |
| 6020 | 1 | CAM ADJUSTMENT PLATE |
| 6021 | A/R | SCREWS |
| 6022 | A/R | NUTS & WASHERS |
| 6023 | A/R | FASTENERS |
| 6024 | A/R | MISCELLANEOUS |
| 6034 | 1 | THROTTLE SHAFT ASSY. L.H. |
| 6036 | 1 | AIR VALVE SHAFT L.H. |
| 6037 | 1 | THROTTLE ARM |
| 6040 | 1 | ACCEL. PUMP ACTUATOR ARM ASSY. |
| 6042 | 1 | ACCELERATOR PUMP LINK |
| 6043 | 2 | GASKET - END PLATE |
| 6045 | 1 | GASKET - FUEL BOWL |
| 6046 | 1 | GASKET - AIR CLEANER ADAPTER |
| 6047 | 1 | GASKET - BODY |
| 6051 | 1 | DIAPHRAGM ASSY. - ACCEL. PUMP |
| 6052 | 1 | METERING SPOOL |
| 6054 | 2 | SCREW - METERING BLOCK |
| 6060 | 1 | AIR VALVE TENSION SPRING LINK |
| 6063 | 1 | SPRING - FLOAT |
| 6064 | 1 | SPRING - AIR VALVE TENSION |
| 6065 | 1 | SPRING - METERING POUCH |
| 6066 | 1 | SPRING - THROTTLE ADJMT. SCREW |
| 6067 | 1 | SPRING - ACCEL. PUMP DIAPHRAGM |
| 6068 | 1 | SPRING - ACCEL. PUMP CHECK |
| 6069 | 1 | SPRING - THROTTLE RETURN |
| 6070 | 1 | SPRING - ACCEL. PUMP RETURN |
| 6072 | 1 | GASKET- FUEL INLET VALVE |
| 6073 | 1 | FLOAT |
| 6074 | 1 | FLOAT ARM |

| | | |
|---|---|---|
| 6075 | 1 | VELOCITY AIR CLEANER ADAPTER |
| 6076 | 4 | WASHER |
| 6078-1 | 1 | CAM (STANDARD) |
| 6080 | 1 | A/C ADAPTER BRACKET ASSEMBLY |
| | | |
| 5003 | 1 | FUEL NOZZLE BAR |
| 5007 | 1 | FUEL METERING BLOCK |
| 5009 | 1 | FUEL METERING ADJUSTMENT SCREW |
| 5016 | 1 | FUEL INLET VALVE |
| 5017 | 1 | FUEL INLET ADAPTER |
| 5021 | 2 | AIR VALVE BACKFIRE COVER |
| 5046-5 | 1 | GASKET - AIR CLEANER |
| 5046-7 | 2 | SPRING WASHER - METERING BLOCK |
| 5047-14 | 3 | HAIRPIN CLIP - FLOAT |
| 5076 | 1 | GASKET - MANIFOLD |

## SUGGESTIONS
## FOR SERVICE & OVERHAUL PROCEDURES

Please refer to exploded view of carburetor
for location of parts

### DISASSEMBLY

1) Remove air cleaner adapter (6075) & gasket (6046).

2) Remove fuel bowl cover & gasket.

3) Remove clip (5047-14), spring (6063) & float (6073/74) taking notice of spring positioning. At this time it would be advisable to shake the float to determine if it has developed any leaks.

4) Remove the metering cam (6078-1) & cam adjustment plate (6020). (The cam adjustment plate may require a tug with pliers as it is slightly press fit into the shaft.

5) Remove the metering block (5007), being careful not to drop the ball or the spool. Care must be taken to release the metering block from the ball/socket adjustment screw. Grip the square portion (left side of block) with a pair of pliers and pull straight out while turning the mixture adjustment screw (6057 slightly back and forth. Note the "O" ring at the rear of the metering block and keep track of the special spring washers used with the metering block mounting screws. It is not necessary to remove the adjustment screw (6057).

6) Remove fuel inlet (5016), adapter (5017), & washer (6072).

7) Remove clip from accelerator pump link (6042) and disengage linkage. Remove accelerator pump cover (6006) noting the small spring & check ball at the top & the location of the O-ring. Also note that the top screw on the cover uses a special sealing washer. Remove the diaphragm assembly (6051) & spring (6067).

8) Remove base plate (6004) & gasket (6047).

9) Remove the screws holding the A.V. link plates (6017/19) & disengage the plates.

10) Remove the throttle plates (6008). **Be sure to mark which is right and/or left & which end is forward.** (They must go back in their original places.)

11) At this time you may remove the linkages from the throttle shafts or remove the shafts & linkages as an assembly. The choice is yours. In either case, observe the spring positions. (A.V. tension screw (6060) need not be removed.)

12) Remove the end plate (6003 & gaskets (6043). Note: It may be necessary to tap on the end plate lightly, do not damage the inside (flat) surface.

13) Mark air valve plates (6007) (as with throttle plates) & remove them & their associated parts from the shaft.

14) Remove nozzle bar (50093) and O-ring.

**CAUTION: Do not soak O-rings, gaskets, or A.V. backfire covers (5021) in carburetor cleaner. It is recommended that these items be replaced at overhaul time (kit #K-6047). Do not soak end plate (6003) in carburetor cleaner or throttle bearing seals may be damaged or destroyed.**

## REASSEMBLY

NOTES:
(a) Please observe special precautions & procedures noted throughout this section.
(b) The use of a nonpermanent, thread-locking adhesive (i.e., blue locktite) is recommended for all screws.

1) Install new 3/8 dia. O-ring (6024-7) in counterbore in carb. throat & press nozzle bar (5003) into place with hole end toward O-ring.

2) Slide air valve shafts (6035 & 6036) into bushings at top of carb throat. Note that the shafts are cut with a small diameter at each end. The end with the longer small diameter cut goes forward, through the bushings, and into the fuel bowl.

3) Place new end plate gaskets on the throat ends, slide end plate (flat side toward throat) over A.V. shafts and into place taking care to align nozzle bar nubs with end plate

holes.

4) Tighten end plate screws. (Check alignment of end plate gaskets before tightening screws.)

5) Install air valve plates (6007) with countersunk screws (6021-7), new backfire covers (5021), & retainer plates (6009) in their original positions.

6) Install throttle return spring (6069) in recess at lower left hand corner of end plate & slide throttle shafts (6032 & 6034) & linkage assembly into place. (Do not hook up throttle spring until after installing throttle plates.)

7) Attach A.V. links to their respective shafts & hook up A.V. tension spring. If tension spring link was removed or tension was altered, use the following procedure for setting:
   a) Adjust tension spring screw so that air valve plates just touch touch nozzle bar.
   b) Turn tension screw 1/2 turn tighter.

8) Before installing throttle plates (6008), back out the idle speed screw (6021-4) 3 or 4 turns.

9) Install throttle plates in their original positions (you did mark them, didn't you?) and leave screws slightly loose. Press lightly where plates join in the center to center them up & tighten screws.

10) Hook throttle return spring (6069 onto linkage.

11) Turn idle speed screw (6021-4) in until it touches linkage & then go 1/4 turn more. You should see a slight gap between the throttle plates. This sets initial idle

12) If the throttle stop screw (6021-10) has been disturbed, adjust it so that the throttle plates are parallel to the throat sides when fully open.

13) Install base plate (6004) & gasket (6047) ensuring that the notched end of the gasket coincides with the notch in the base plate. (Before tightening the screws be sure that the throttle plates will not bind or rub when opened.)

    Note: Base plate may be shifted slightly before tightening screws.

14) Accelerator pump installation is as follows:
   a) Use a small dab of grease to hold the o-ring (6024-8) in place.
   b) Drop check ball (6024-3) into hole in top of pump cover and insert check spring (6068).
   c) Place the diaphragm assembly (6051) against the accelerator pump cover & align the holes.

d) Set the pump diaphragm spring (6067) in its recess & put the pump cover & diaphragm assembly in place taking care to depress the small check spring as you do so.

e) Attach screws (6021-3). Note the special sealing washer (6022-8) used with the top screw.

f) Using the clip provided, attach the accelerator pump link (6042) to the accelerator pump arm.

g) Accelerator pump discharge volume is adjustable at the throttle linkage end of the accelerator pump rod. The top position is the maximum volume position.

15) Metering Block Installation:

a) Use a small amount of grease to hold o-ring (6024-7) into recess in back of metering block.

b) Place metering spoon spring (6065) onto metering spool (6052) & slide spool & spring into hole at the top of the block. Install the ball (6024-1) in the spool socket.

c) Install the block into the carburetor using screws (6054) and spring washers (5046-7). Note: Block will go in easier if the fuel metering adjustment screw is rotated back & forth while applying light pressure at the socket nub.

d) For mixture adjustment & cam alignment refer to illustration and procedure.

16) Install float & spring w/clip (5047-14) and adjust as necessary (See illustration.)

17) Attach fuel bowl cover (6002) & gasket (6045).

18) Attach dust cover (6005) with shorter screw (6021-2).

19) Mount air cleaner adapter (6075), gasket (6046), & a/c adapter bracket assembly (6080) to top of carb.

20) Install fuel inlet valve (5016) & gasket (6072).

21) Install fuel inlet adapter (5017) or a/n adapter for #6 a/n line (Be sure to hold fuel inlet valve with a suitable wrench while tightening adapter so as not to over-torque inlet valve.)

## GENERAL INSPECTION OF CARBURETOR

1) Check throttle plates for freedom of movement.

2) With a thumb, crack the A/V plates a 1/4" away from the nozzle bar. Mechanically actuate throttle and inspect accelerator pump action. Fuel should splash against nozzle bar during initial acceleration.

3) Remove A/C adapter (#6075).

4) Remove dust cover (#6005).

5) Remove fuel bowl cover (#6002).

6) Inspect for dirt in fuel bowl and fuel inlet (#5016).

7) With a thumb, press A/V plates wide open. Check for freedom of movement. Also, during this movement, inspect metering spool ball (#6024-1) to make certain that it is both smooth and constant at all times against the surface of the fuel metering cam (#6078).

8) Make sure that float is not full of fuel by removing and shaking it.

9) Install float and check adjustment.

10) Inspect all screws on carb (with the exception of adjustment screws #6057, 6021-4, and 6021-10) to make sure they are tight. Non-permanent thread-locking adhesive should be used to properly secure screws.

11) Replace fuel bowl cover.

12) Replace dust cover.

13) Replace A/C adapter.

14) Inspection complete.

## TROUBLESHOOTING
### Symptoms of Carburetor Being Adjusted Too Rich

1) Excessive black smoke at exhaust and excessive fuel consumption.

2) Engine loads up on gasoline at idle speed indicated by fouled or wet spark plugs.

3) Engine response to acceleration is very sluggish.

4) Popping or missing in exhaust system when trying to accelerate car quickly.

5. Dark color on insulator or spark plugs.

**Corrections For Above Problem**

All of the above may be corrected by the adjustor at the top of the fuel bowl or by changing the metering cam. Idle and slow speed corrections are corrected by the adjustment screw and high-speed corrections by changing the metering cam. (See instructions.) A small adjustment maybe needed for the air door tension spring; (See instruction.)

Incorrect fuel float setting may also allow carburetor to meter too rich. (See Figure-Float Height Setting.)

Excessive fuel pump pressure will raise fuel level in bowl and cause rich metering. Do not exceed 9 p.s.i. on fuel pump pressure. Always use a filter in the fuel line to prevent the fuel inlet valve from being stuck or plugged. If debris or dirt prevents valve from closing properly, fuel level will raise and cause rich metering or may cause fuel to overflow into engine.

**Symptoms Of Carburetor Being Adjusted Too Lean**

1) When accelerator pedal is depressed and engine hesitates, stumbles, stalls or backfires back through carburetor.

2) When engine is difficult to start.

3) When engine rpm at idle surges or varies up and down.

4) When accelerating at wide open throttle, engine r.p.m. is slow to peak out or acceleration is slow.

5) When car encounters sharp left or right turns and engine surges or stumbles.

6) When spark plugs show burned electrodes, blistered insulator or signs of excess heat.

**Corrections For Carburetor Being Adjusted Too Lean**

Symptoms 1, 2, and 3 can be corrected by adjusting slot-head screw on top of carburetor fuel bowl richer. This is accomplished by turning the screw clockwise Caution: adjust a small amount at a time Don't adjust more than 1/8 turn before trying the acceleration or driving car. If screw is adjusted too much, carburetor may become too rich and produce black smoke and fuel consumption will be increased.

Symptoms 4 and 6 can be corrected by changing metering cam. Install next richer cam. (Refer to section on changing metering cams.) Sometimes dirt may get into fuel bowl and become lodged between metering plunger and housing. It is usually necessary to remove metering block assembly and clean thoroughly. Too low of a float setting will also cause a lean condition. (Refer to float adjustment section.)

Symptom 5 can be corrected by installing reverse bell-crank #6082; or by installing the Idle Circuit Kit (part #6087) with #5080 bell-crank.

Many times the symptoms of a carburetor being too lean is actually a poor fuel pump, dirty fuel filter, or the fuel lines too small in diameter. The Predator carburetor requires a fuel pump that delivers at least 350 pounds per hour of flow. Pressure should be set at 7 p.s.i. static. Flowing pressure should be 6-7 p.s.i. for street; 8-9 p.s.i. for racing. **For high-fuel demand motors, use part #6085, Fuel Bowl Extension Kit.**

## TECHNICAL FEATURES

Every carburetor is hand built, inspected for quality control, then flow tested to ensure optimum performance. Our inspection process consists of a check for fit and finish, the freedom of moving parts, precise seating of the needle and seat assembly, and proper operation of the accelerator pump. In addition to these procedures, every fifth Predator 6000 is run through a battery of dyno tests consisting of the following items. Smooth idle test at 1000 rpm (6% CO maximum). An idle/off idle test (1000-2000 rpm - smooth acceleration, no load). The mid range test 3000 rpm loaded to 200 lb. ft. torque). Followed by a wide open throttle jaunt (3800 rpm and maximum torque load.). We then repeat our idle/off idle test and complete the session with a hard acceleration test. Every carburetor must pass all applicable tests before it's packaged for shipping, a process which has greatly contributed to the Predator's amazingly low return rate.

### Accelerator Pump

The Predator 6000 features a dual diaphragm accelerator pump to solve a past leaking problem.

### Rear Linkage View

Removing the rear cover's Allen head retaining screw exposes the carburetor's internal linkage system. Independent horizontal rods link each pair of doors together. The slotted vertical rod opens the air doors slightly when the throttle is depressed to aid engine starting. Air door spring tension can be adjusted if necessary.

### Idle Circuit

Developed for those applicatins where a very low engine idle is preferred, Predator's new idle circuit provides desired control. It is available factory-installed in new carburetors, and offered in kit form for retrofit into any Predator 6000-series model. The installation requires drilling holes using a supplied templ;aste and nospecial maching work is necessary. Te standard Predator provides acceptable characteristics in most applications, however, factors such as engine soize, type camsaft, etc., have a direct bearing. Call factory-direct (732-367-8487) for additional technical information.

Idle Circuit Kit.....K-6087
Carb w/Special Idle Circuit....6000PXI

**Bell-Crank Kits**

For best results, the Predator should be mounted on the engine with the fuel bowl forward (drag racing etc.) or toward the rear (off-road). To facilitate hooking up throttle linkage in these installations, Predator offers special bell-crank kits.

Bell Forward Kit.....R5080
Bowl Rearward (4x4) Kit.....K-6082

**Air FiltersB**

Predator has developed its own line of highly efficient filters that feature multiple stages of reticulated foam with different porosities to allow "depth loading." System offers improved air flow and filtration while eliminating surface loading and soot plating. Replacement elements are available.

Predator Filter Assembly 14" dia. x 3"
Ideal for street applications.....A-2003
Good for mud-boggers, etc.....A-2008
Replacement Air Filter 14"x3"...A-103
Ram/Tech Single Carb (Black, High Polish, Bare Aluminum...A-6000
Ram/Tech Dual Carb (Black, High Polish, Bare Aluminum.....A-6001
Ram/Tech Replacement Filters.....A-6010

**Rebuild Kit**

We recommend rebuilding your Predator on a yearly basis to remove any accumulated dirt and varnish., Our rebuild kit provides everything you will need for reassembly including all gaskets, O-rings, two air door flaps.

Predator Rebuild Kit.....K-6001

**Extra Overhaul Parts**

By ordering part number 6002, you receive all of the replacement parts included in our rebuild kit, plus a new nozzle bar, metering block and spool. Fitted with these additional parts, your predator will provide trouble-free performance for many years to come.

Predator Overhaul Kit.....K-6002
Additional Accessories
No. 6AN Fuel Line Adaptor.....5096
Air Straightener.....6083
Gasket Kit.....5046PP

**Fuel Bowl Extension Kit**

To provide optimum performance in high-demand applications, Predator has developed a fuel bowl extension kit that increases the capacity by 50% and adds a second fuel inlet. This extension is a bolt-on retro fit to current 6000 series Predator carburetors. Required for alcohol conversions.

Fuel Bowl Extension Kit.....K-6085

**Alcohol Conversion Kit**
Predator has developed an effective fuel distribution system for alcohol (methanol) applications. It is fast becoming the "in" carburetor for many oval track classes and increasingly popular with E.T. Bracket drag racers who appreciate the extra power and reduced operating costs of alcohol as compared to expensive racing gasoline. The kit can easily be retrofitted to any 6000 series Predator and requires not much more than drilling holes using a furnished template and installing the pieces. Extended fuel bowl included. A complete alcohol carburetor is available as well.

Alcohol Predator Carburetor (complete).....6000PXA
Alcohol Conversion Kit.....K-6086

## *If you're really serious about getting all you can get...*

It should go without saying that no two applications are identical. Therefore, the information provided in this chart is for the experienced mechanic as a guide to the variables involved in tuning your engine for the medium performance available. Changing a nozzle bar dramatically changes the fuel flow; changing a cam is trimming or fine-tuning the flow. Changing a nozzle bar will take some time it's not usually done at the track. Changing a cam is easy; it can allow you to make adjustments for changes in weather conditions, etc. If your application requires a nozzle bar 10% richer (from standard) you should seriously consider adding one of our Fuel Bowl Extensions. Be sure to review the air door discussion, tension adjustments can absolutely get the last little bit of time off your ET's.

***...Dale Barlet***