

OFNA/PICCO .21 O-1 BP #51217 SG SHAFT WITH BOOST CHAMBER



Stop!! Carburetor screws are preset by factory.... Do not change until you read break-in instructions

NEW ENGINE BREAK-IN

Your OFNA engine is extremely tight when the piston is at the top of the stroke and turning the crankshaft by hand. This is normal for a new ABC type engine. The piston and sleeve are matched for fit and the top of the sleeve is tapered for a tight fit. As you run your engine, this tightness should diminish. There is no cause for alarm, because as the engine warms up, the brass sleeve will expand faster than the aluminum piston and the engine will turn freer.

As with any new engine, there are many high spots and tight fits in the matching process. High spots create hot spots that must be broke-in. Therefore, the break-in process is very important to provide good service by the OFNA engine. So, you must run the engine rich (COOL) for the first three tanks of fuel. We recommend using one gallon of 20% BLUE THUNDER or BYRON'S 2000 as break-in fuel. Other break-in type fuels or added oil is NOT needed. DO NOT OVER REV THE ENGINE WHEN FIRST STARTING, this could break the piston and over heat sleeve. Let engine run at a fast idle for one tank to break-in connecting rod bearing before starting full break-in. Let engine cool down before continuing and never stop engine with piston at top of the cylinder. This cool down period is for heat cycling the parts.

Break-in the engine in the car, by running the engine at a rich master needle setting (1 turn out from flush or more if needed). Run the car from a slow to fast speed with short bursts of speed. You need to buildup a little heat (warm to the touch) in the engine, but not too hot. In a rich setting (2 or more turns), the engine will run cold. In the leaner setting (2 or less turns), the engine runs hotter. Do not heat up the engine too much at this time, let it cool down if too hot. After about one (1) tank, turn the Master Needle Valve, clock wise, 1/8 of a turn leaner or clockwise. Keeping the fuel tank full, continue the process until you slowly turn the Master Needle Valve, 1/8 of turn each time, too a leaner point and in which the engine runs at high RPM and power, but still keep max temp. of 250 deg. F. At this point you must stop, too lean of a setting will heat up engine and damage the piston. A normal operating temperature is around 210 to 250 Deg. Temperatures of 300 Deg. and above will damage engine and shorten life.

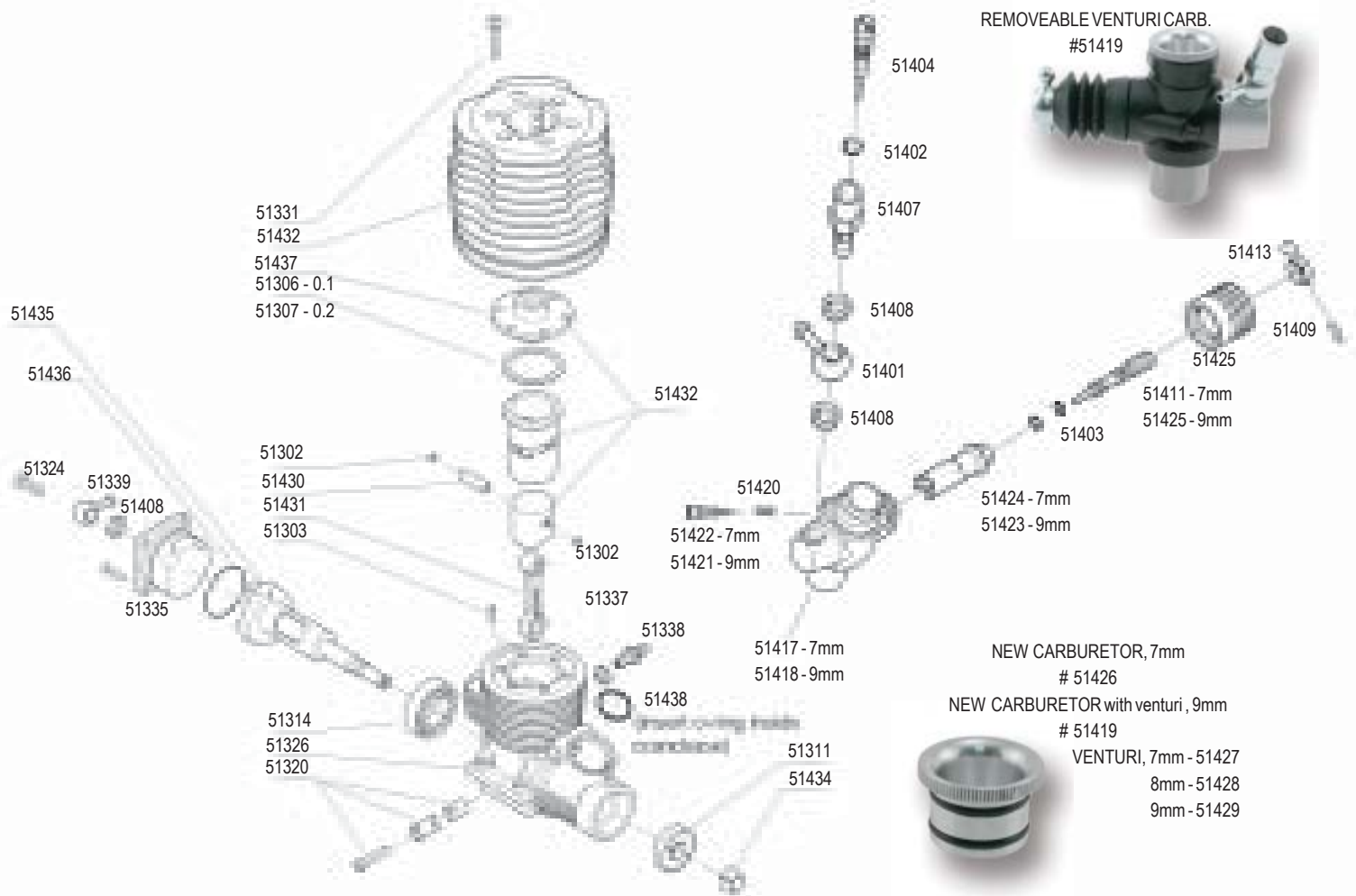
STARTING NEEDLE SETTINGS

Master Needle Valve - main control for fuel mixture. Set at 3 to 3 1/2 turns from closed or flush with collar. Adjust this needle for maximum RPM and power without being too lean or too hot. Make sure you start at bottom of needle seat!!

Barrel Needle (Low Speed) - 7mm Carburetor, factory setting is " Turn needle in until it stops, do not over tighten. Now, turn out counter clockwise 10.5 to 11.5 turns. This needle is in the center of the carburetor barrel and provides throttle response. It is not the idle adjustment. Turning screw "IN" is Lean and "Out" is Rich. Do not adjust this needle until the Master Needle is set for power and best performance. This needle will only effect throttle response, so adjust needle until throttle response is clean with little or no delay. Once set, do not continue to turn (lean) needle further. This is important since continuing to turn needle will only increase engine temp, at lower RPM, which will throw off engine overall tuning.

Barrel Stop Screws - Used for adjusting Idle. Set for 1/16th inch gap to start new engines. You can open more for faster idle.

***USE LONG GLOW PLUG WITHOUT IDLE BAR,
(OFNA/PICCO #51007 PLUG) IS RECOMMENDED***



PICCO .21 O-1bp ENGINE PARTS

PICCO CARBURETOR PARTS (NEW NYLON BODY) STARTING JANUARY 2002

51430	WIRST PIN, O-1BP	3.95	51417	CARB BODY, NEW, NYLON 7mm	39.95
51302	RETAINER, WRIST PIN	0.95	51418	CARB BODY, NEW, NYLON, WITH 9mm VENTURI	39.95
51303	PIN REF., CYLINDER	0.95	51404	NEEDLE, MASTER SPORT & COMP 21 & O-1	2.95
51431	CONNECTING ROD, O-1BP	58.95	51402	O-RING, M.NEEDLE, 2 PCS.	0.95
51326	OFNA CASE, O-1 .21, BLACK	185.95	51407	HOUSING, MASTER NEEDLE	3.95
51432	OFNA HEAD, O-1 BP	95.95	51408	WASHERS, ALUM. 2 PCS.	1.95
51433	CYL / PISTON, .21 O-1 BP	195.95	51401	FUEL FITTING	2.95
51306	HEAD GASKET, 23x16,4x0,1	0.95	51420	SPRING, AIR SCREW	1.95
51307	HEAD GASKET, 23x16,4x0,2	0.95	51421	SCREW, AIR SCREW REG. P21 9mm	1.95
51320	CARB LOCKING PIN, ALL ENGINES	4.95	51422	SCREW, AIR SCREW REG. P21 7mm	1.95
51331	SCREWS, HEAD, ALL ENGINES	6.95	51423	DRUM BARREL, 9mm CARB	16.95
51324	SCREW POST, BOOST BOTTLE NIPPLE	8.95	51424	DRUM BARREL, 7mm CARB	16.95
51311	BEARING, FRONT SPORT & COMP.21 & O-1'S	19.95	51403	O-RINGS, 4x2mm 6 PCS.	2.95
51434	CONE, O-1BP, SG	0.95	51409	SET SCREW, 3x3mm	0.95
51435	CRANKSHAFT, .21 O-1BP, SG	109.95	51411	MIN NEEDLE, 7mm CARB	7.95
51314	BEARING, INSIDE SPORT & COMP .21 & O-1'S	29.95	51425	MIN NEEDLE, 9mm CARB	7.95
51436	SEAL, REAR COVER	1.95	51413	BALL JOINT CAP	7.95
51335	REAR COVER PLATE BOOST CHAMBER	44.95	51415	BARREL BOOT, SILICONE	3.95
51437	BUTTON, HEAD INSERT O-1BP	31.95	51426	CARBURETOR, COMPLETE 7mm	66.95
51337	FUEL FITNG GASKET, 2 PCS.	0.95	51419	CARBURETOR, COMPLETE 9mm VENTURI	68.95
51338	FUEL FITNG TORQUE	2.95	51427	VENTURI, 9mm, 2 O-RINGS	13.95
51408	WASHERS, ALUM. 2 PCS.	1.95	51428	VENTURI, 8mm, 2 O-RINGS	13.95
51339	NIPPLE, FUEL FITTING	0.95	51429	VENTURI, 7mm, 2 O-RINGS	13.95
51438	O-RING, CARB. CASE PORT	1.95			

OFNA/PICCO .21 O-1 RV & BP ENGINE 7 & 9MM CARBURETOR ADJUSTMENTS

This special carburetor has the high heat nylon body to counter act heat from the engine that may boil the fuel before entering the engine. Over heated fuel causes tuning problems that are hard to resolve. This new design will give you much better performance.

IDLE GAP - Shown in fig 1, you can see the idle gap.
Adjust idle screw to increase or lower engine idle. Never let barrel fully close or adjust idle from only radio.
FACTORY SETTING - .5mm (.20)



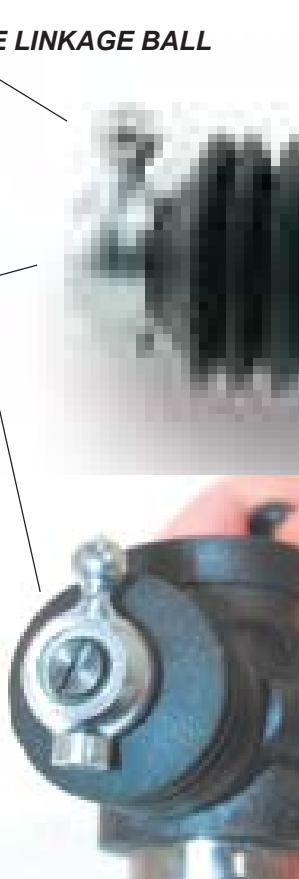
figure 1

IDLE SCREW

FLUSH

THROTTLE LINKAGE BALL

figure 2



FUEL INLET NIPPLE

LOW END NEEDLE - Shown fig. 2 is the Low End Needle, which is preset by Picco. You can adjust this needle after break-in if needed. When turning this needle, make only small 1/16 turns.
FACTORY SETTING - TURN IN UNTIL STOPS, DO NOT OVER TIGHTEN. TURN COUNTERCLOCKWISE 10.5 TO 11.5 TURNS

MASTER NEEDLE - Adjust this needle for best power and temp. The preset setting should be 3 to 3 1/8 OUT. It is recommended to turn this needle "OUT" during break-in (richer mixture) if engine is too hot.
FACTORY SETTING - flush

ONE YEAR LIMITED WARRANTY

OFNA/PICCO ENGINE MODELS COMP (#51215) AND O-1 COMP (#51216/7) ARE COVERED BY A ONE YEAR LIMITED. THIS WARRANTY IS LIMITED TO THE BELOW MENTIONED REQUIREMENTS AND IS NOT NEGOTIABLE. IT IS THE JUDGEMENT AND DISCRETION OF OFNA TECHNICAL DEPARTMENT IF AN ENGINE IS COVERED UNDER THIS WARRANTY, MEETING THE BELOW REQUIREMENTS.

THIS WARRANTY COVERS COMPONENT BREAKAGES FOR PISTON, CONNECTING ROD OR CRANKSHAFT FOR ONE YEAR. OFNA WILL REPAIR THE ENGINE FREE OF CHARGE, EXCLUDING SHIPPING AND HANDLING, WITH PROOF OF PURCHASE RECEIPT. THE WARRANTY IS FOR PARTS BREAKAGE DUE TO MANUFACTURING DEFECTS AND DOES NOT COVER THE FOLLOWING ENGINE FAILURES AND/OR PROBLEMS.

- ENGINE WEAR DUE TO USE
- OVER HEATING ENGINE, CAUSING LOSS OF PERFORMANCE
- OVER HEATING ENGINE, CAUSING LOW COMPRESSION
- HIGH RPM OR SUSTAINED RPM DUE TO RUN-A-WAY
- HIGH RPM AND MISHANDLING OF ANY KIND
- FAILURE TO BREAK-IN ENGINE PROPERLY BEFORE HIGH RPM
- WATER IN FUEL CAUSING RUST INSIDE ENGINE
- RUST INSIDE ENGINE
- DUST OR DIRT INSIDE ENGINE
- SCRATCHES IN ENGINE CAUSED BY DIRT OR DUST
- DAMAGED PISTON DUE TO PISTON STOP DEVICES
- DAMAGED CYLINDER EXHAUST PORT DUE TO PISTON STOP DEVICE
- DAMAGED PISTON DUE TO GLOW PLUG FAILURE
- LOOSE FLYWHEEL CAUSING OVER RPM BREAKAGE
- RUNNING ENGINE WITHOUT FLYWHEEL
- BREAKAGES AT HIGH RPM WITHOUT ENGINE LOAD
- ANY CUSTOM MODIFICATIONS

FOR ALL ENGINES NOT COVERED BY WARRANTY OR VOID OF THIS WARRANTY, SEND YOUR ENGINE TO OFNA RACING AT THE ADDRESS BELOW. ENGINES NOT DEEMED UNDER WARRANTY WITH BE CHARGED A REBUILD FEE OF \$65.00. THIS FEE MUST BE PAID IN ADVANCE PRIOR TO STARTING REPAIRS. NO COD'S, CREDIT CARDS ONLY.

THIS WARRANTY IS NOT TRANSFERABLE AND WILL NOT BE EXTEND BEYOND THE ORIGINAL PURCHASE DATE. WHEN SENDING YOUR ENGINE FOR SERVICE, MAKE SURE THE RETURN SLIP IS FILLED OUT IN FULL, OTHERWISE YOUR ENGINE WILL BE RETURNED. ALWAYS **INSURE** YOUR PACKAGE. OFNA IS NOT RESPONSIBLE FOR LOST PACKAGES IF NOT SIGNED FOR BY OFNA. DO NOT FORGET YOUR PROOF OF PURCHASE RECEIPT FOR ALL WARRANTY CLAIMS.

IT IS NOT NECESSARY TO REMOVE CLUTCH OR ENGINE MOUNTS, BUT RECOMMENDED YOU DO SO. BUT, DO NOT SEND MANIFOLD/PIPE OR CAR KIT WITH PRIOR PERMISSION FROM TECHNICAL DEPT MANGER.

**OFNA RACING (949) 586-2910
TECHNICAL DEPT.
22692 GRANITE WAY, STE. B
LAGUNA HILLS, CA 92653**

ENGINE RETURN INFORMATION SLIP (ENGINE MUST BE FULLY ASSEMBLED WHEN SENT)

NAME _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

HOME TEL: () _____ (MUST HAVE)

WHAT IS THE PROBLEM:

(MUST HAVE PURCHASE RECIEPT?)