

SNAP 100

MAINTENANCE MANUAL

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1. OPERATING INSTRUCTIONS

FUEL

- Snap 100 has a two-stroke engine that requires a gasoline-oil mixture.
- Use gasoline with a pump octane number of 92 or higher .if “knocking” or “pinging” occurs, try a different brand of gasoline or a higher octane grade..
- Premix gasoline and oil in a ratio of 40:1. Prepare the fuel mixture in a clean container fig.1 , and shake unitl thoroughly mixed before filling the fuel tank.
- USE A GOOD QUALITY OF SYNTHETIC 2-STROKE OIL

CAUTION:

To much oil will cause excessive smoking and spark plug fouling. Too little oil will cause engine damage or premature wear. Mix fuel in a ratio of 40 parts gasoline to 1 part oil (40:1)

- Vegetable oils separate from gasoline more easily than mineral oils, especially in cold weather. It is advisable to use synthetic oil.

CAUTION:

- Do not mix vegetable end mineral based oils.

WARNING

- Gasoline is extremely flammable and is esplosive under certain conditions. Perform this operation in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where gasoline is drained or stores and where the fuel tank is reflued.

FUEL 92/98 octane	Sintetic oil
liters	cl
0,5	0,125
1	0,25
2	0,50
3	0,75
4	10
5	1,5
10	25

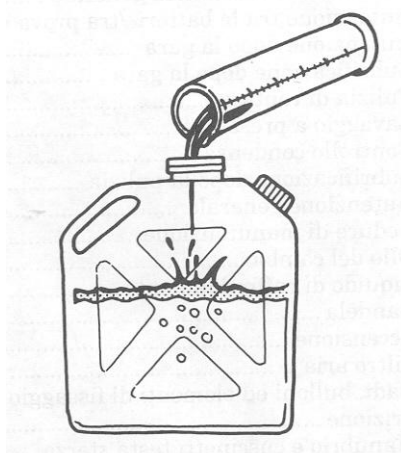


fig.1

1.1 BASIC OPERATION

- In the 2-stroke motors like the Snap100, is of absolute importance the corrected carburation to avoid seizure to the piston (not covered from guarantee).

<p>Start the Engine</p> <p>WARNING</p> <ul style="list-style-type: none"> • Never run the engine in an enclosed area. The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death. • Attempting to start the engine without the riducer provokes the outbreak of the clutch and can cause injury or damages. • Never run the engine in an without propeller. • The starter attempt can carry to the spin of the propeller and therefore to possible lesions. • The motor in run emits disturbs electromagnetic. <p><u>Cold Engine Starting:</u></p> <ol style="list-style-type: none"> 1. To carry in pressue the circuit of the gasoline, to help itself pressing the push-button (fig.2). 2. To appeal the starter and to delicately pull hardly after the harder point (to try repeatedly for being sure). 3. To pull the grip with energy, without throttle in. . 4. In case of lacked starter to repeat the procedure without to accelerate . 5. Allow the engine to warm up for at least 2 minutes before riding off, preferably until the side of the cylinder is very warm to the touch through your riding glove. Slowly increase rpm and don't blip the trottle warning the engine is important to prevent cold seizures 	<p><u>Warm Engine Starting:</u></p> <ol style="list-style-type: none"> 1. To appeal the starter and to delicately pull hardly after the harder point 2. To pull the grip with energy, without throttle in. <p><u>Stopping The Engine</u></p> <ol style="list-style-type: none"> 1. Depress and hold the engine stop button until the engine stops completely <p><u>Break-in Procedure :</u> Following proper break-in procedure helps censure that some of the most important and expensive components on your new Snap100 will provide maximum performance and service life. (Also follow proper break-in procedure for a newly rebuilt engine)</p> <ol style="list-style-type: none"> 1. Do not hold the throttle in one position for more than a few seconds. It's a better to roll the throttle on and off, without gain too height and force too much a motor 2. Use the motor for features of 10 minute to the time and to leave to cool it. 3. After two hours of I use or approximately 10 liters of gasoline the motor you have ended the break.- 4. This same procedure should be followed each time <ul style="list-style-type: none"> • Piston is replaced • Cylinder is replaced • Crankshaft or crak bearings are replaced
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CISCOMOTORS SNAP 100S

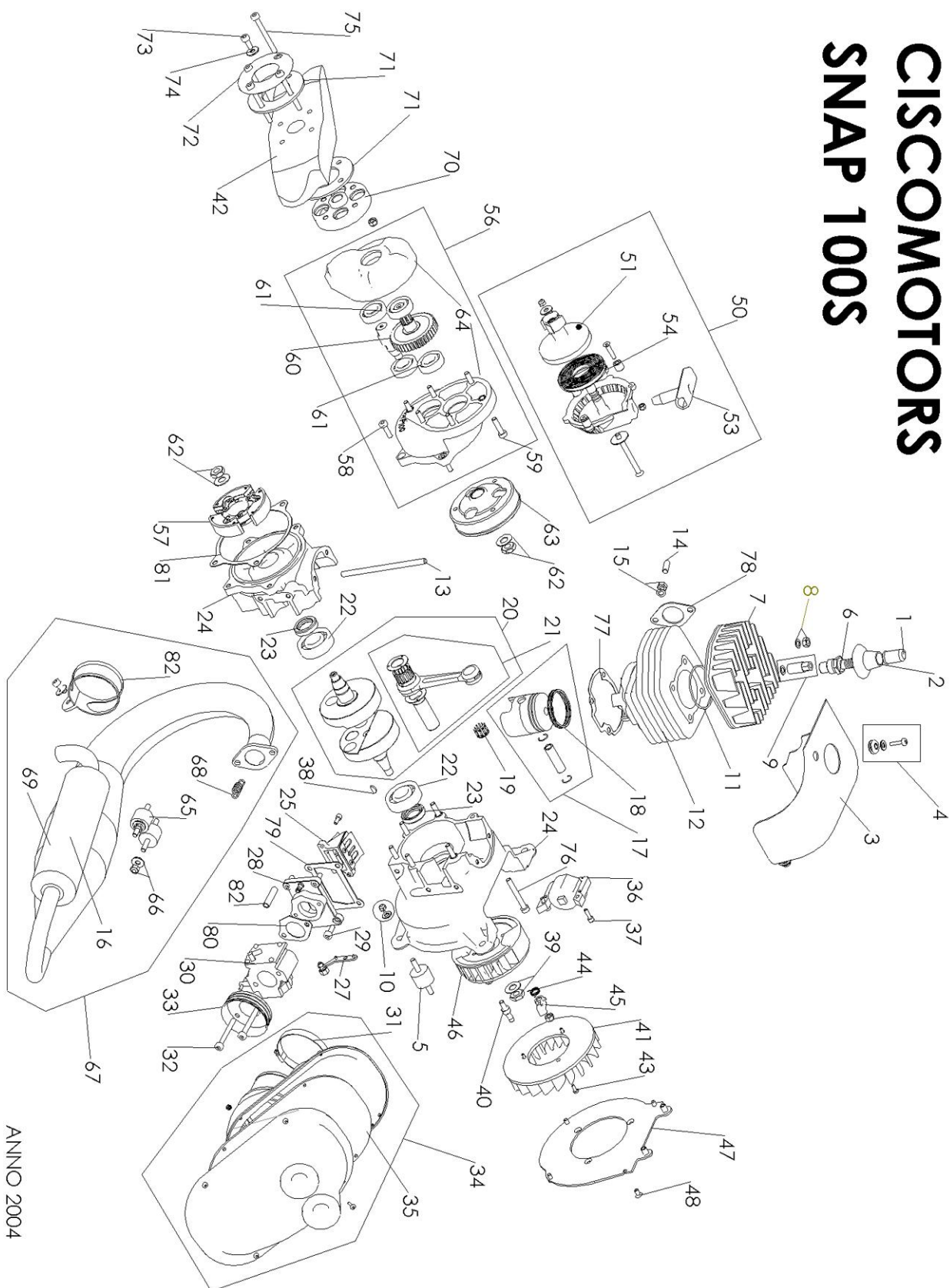


Fig.2

2. SPECIFICATIONS

2.1 ENGINE INSTALLATION ON CHASSIS

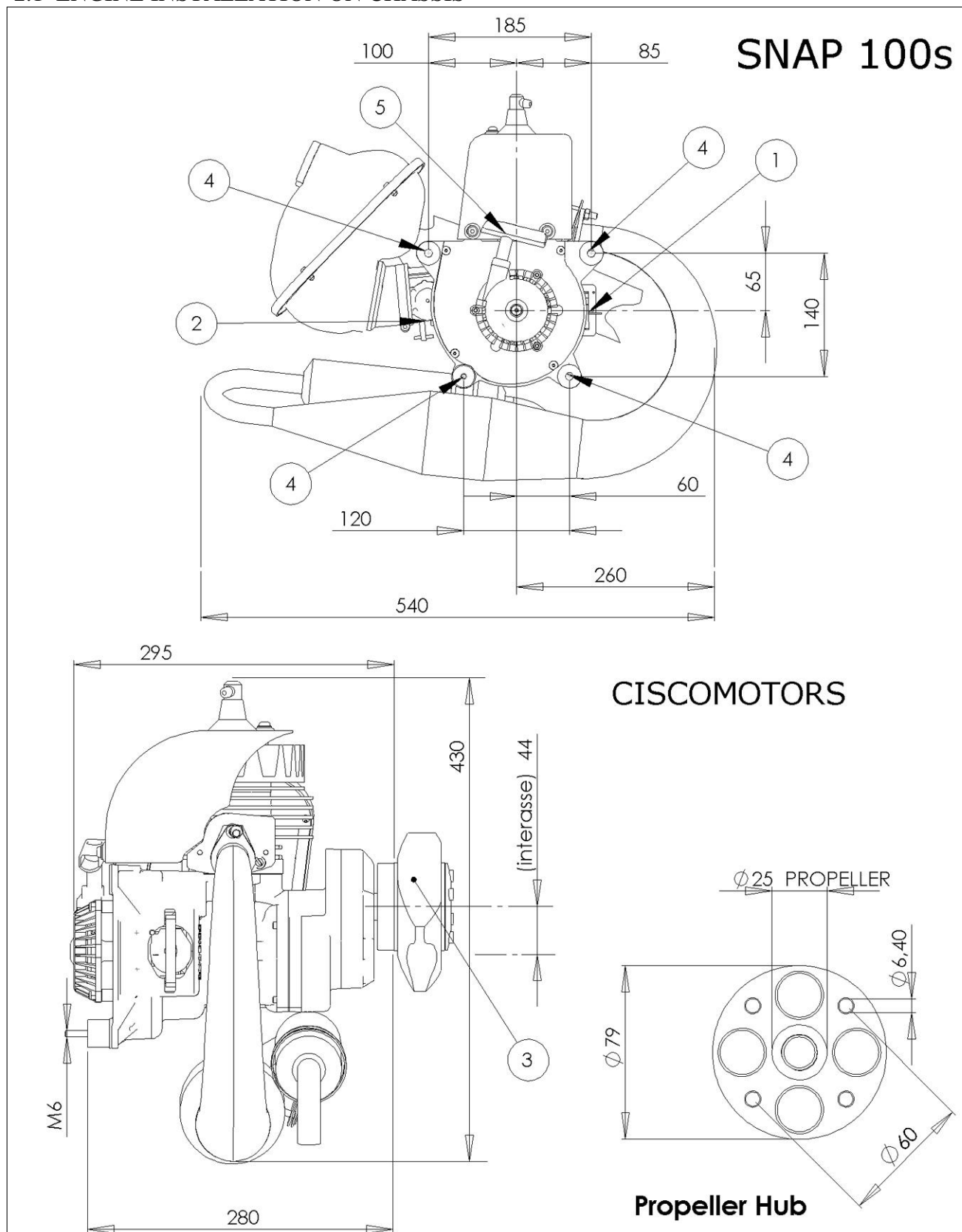


Fig.3

- | | |
|--------------------------|-------------------|
| 1. Engine stop connector | 2. Throttle cable |
| 4. Support engine | 5. Manual starter |

3. Propeller

CAUTION:

To use antivibrating of optimal quality not superior 70s

2.2 TECHICALS CHARATTERISTICS

Motor SNAP 100S	
Type	2 times cooled to air
Disposition cylinder	Monocylinder vertical
Bore max	51mm
Stroke max	47mm
Displacement	96 cc
Compression ratio	11,2 : 1
Maxim Power	12,5 kw (17cv) 9000 turns
Max Torque	14 Nm 8800 turns
Lubricating	20cc
Electrical sistem	
Ignition	Elettronic ignition
Rotor	Variable Advance
Spark plug standard	Ngk br9hs
Winter spark plug	Ngk br8hs
Starter	Manual
Carburettor	
Type	Walbro wb32(Ciscomotors) / Dell'orto
Walbro* Setting screw min	1/4
Walbro* Setting screw max	4/5
Trasmission	
Clutch Type	Centrifuge 3 shoe
Reduction	Gears helicoidal
Reduction ratio	1,63
Exhaust	
Type	Expansion Chamber
Silencer	Glass wool
Support engine	
Type	N.4 silent-block

*The standard carburation
 Temperature 10°C
 P 1024 Mb
 UR 50%
 Altitude (S.L.M.) 50 m

3. MAINTENANCE

3.1 GENERAL SERVICE INFORMATION:

- To wear gloves and glances when you make the maintenance;
- Do not perform maintenance while engine is running. Injury to your fingers, hands or head may result ;
- Perform maintenance on firm, level ground, using hard workstand, and not directly on chassis;
- Always install new gaskets, o-rings, piston pin clips, snap rings ect..wen riassembling
- When tightening bolts, nuts or screw, start with the larger diameter or inner fasteners, and tighten them to the specified torque using a criss-cross pattern;
- Use genuine Ciscomotors parts when maintenance your Snap100
- Clean parts in non-flammable cleaning solvent when disassembling. Lubricate any sliding surface, O-rings and seals before reassembling.

WARNING

Gasoline or low flash point solvents are highly flammable or explosive and must never be used for cleaning parts . Fire or explosion could result.

- After reassembling, chek all parts for proper installation and operation

NOTE:

- Specification are listed chapter 2.

3.2 ROUTINE CLEANING

- If the SNAP100 were only little dirty to clean up it with clean dusts cloth without dissolvents
 - If the SNAP100 were much dirty to clean up it with biodegradable detergents and not with dissolvents, lubricate where is neccessary.
-

3.3 MAINTENANCE SCHEDULE

FREQUENCY	INSPECT	REPLACE
Before and after each use	All screw nuts, bolts correctly tighten, silent-block in.	
Every 100 hours	Cylinder head decarbonizing and cleaning sponge filter	Complete piston
Every 200 hours	Diameter clutch, usury of the bell clutch, and glass wool of the silencer	Crankshaft bearing ,bearing reducer, oil reducer, crankshaft seals, thermal group, connecting rod.
Each year	All rubber and plastic components.	Fuel diaphragms of carburettor , spark plug.

4. STORAGE

Extended storage such as for winter, requires that you take certain steps to reduce the effects of deterioration from nonuse of your Snap100. In addition necessary repairs should be made BEFORE storing your Snap100: otherwise these repairs and clean may be forgotten by the time your Snap100 his removed from storage.

.

5. SPARE PARTS & EQUIPMENT

5.1 SPARE PARTS

COD.		DESCRIZIONE	COD.		DESCRIZIONE
000001.0		SPARK PLUG CUP	000040.0		SCREW GRAFT STARTER
000002.0		SHAFT SPARK PLUG	000041.0		COOLING FAN
000003.0		CARBON FIBER COOLING AIR DUCT	000042.0	OPZ	PROPELLER 1250 TIPE.GT
000004.0		WIRE LEADS/CAP SCREW	000043.0		CAP SCREW COOLING FAN
000005.0		SILENT-BLOCK MOTOR	000044.0		SPRING STARTER
000006.0		SPARK PLUG NGK B8HS	000045.0		GRAFT STARTER
000006.1	OPZ	SPARK PLUG BR8HS	000046.0		IGNITION COMPLETE
000006.2	OPZ	SPARK PLUG NGK BR9HS	000047.0		IGNITION CRANKCASE COVER
000007.0		CYLINDER HEAD	000048.0		CAP SCREW
000008.0		CYLINDER HEAD NUTS/ WASHERS	000049.0		NUT SCREW GRAFT STARTER
000009.0		CYLINDER HEAD SPECIAL NUTS/WASHER	000050.0		MANUAL STARTER
000010.0		NUTS/WASHERS	000051.0		PULLEY STARTER
000011.0		OR CYLINDER HEAD	000052.0		CHORD 3,5 m/m
000012.0		CYLINDER	000053.0		HANGRIP STARTER
000013.0		STUDBOLT CYLINDER	000054.0		SPRING MANUAL STARTER
000014.0		STUDBOLT EXHAUST	000056.0		REDUCER
000015.0		EXHAUST NUTS/WASHER	000057.0		CLUTCH
000016.0		GLASS WOOL	000058.0		CAP SCREW
000017.0		PISTON COMPLETE	000059.0		CAP SCREW REDUCER
000018.0		PISTON RING	000060.0		PAIR GEAR
000019.0		NEEDLE BEARING	000061.0		BEARING
000020.0		CRANKSHAFT	000062.0		BOLT AND NUT
000021.0		CONNECTING ROD	000063.0		CLUTCH BELL
000022.0		BEARING	000064.0		CRANKCASE REDUCER
000023.0		OIL SEAL	000065.0		SILENT-BLOCK EXHAUST
000024.0		CRANKCASE ENGINE	000066.0		BOLT AND NUT
000025.0		REED VALVE	000067.0		EXHAUST-PIPE EXPANSION
000026.0		PIPE DEPRESION CARB	000068.0		SPRINGS EXHAUST
000027.0		THROTTLE BRACKET/CAP SCREW	000069.0		SILENCER
000028.0		MANIFOLD INTAKE WB32	000070.0		PROPELLER HUB
000028.1	OPZ	MANIFOLD INTAKE TRITON	000071.0		RUBBER DISK
000028.2	OPZ	MANIFOLD INTAKE DELL'ORTO	000072.0		PROPELLER FLANGE
000029.0		CAP SCREW	000073.0		CAP SCREW HUB PROPELLER
000030.0		CARBURETTOR WB32	000074.0		WASHERS HUB PROPELLER
000030.1	OPZ	CARBURETTOR TRITON	000075.0		CAP SCREW
000030.2	OPZ	CARBURETTOR DELL'ORTO	000076.0		CAP SCREWS SET CRANKCASE ENGINE
000031.0		FILTER BAND	000077.0		CYLINDER GASKET
000032.0		CAP SCREW	000078.0		EXHAUST GASKET
000033.0		FLANGE CARBURETTOR	000079.0		MAINFOLD IMMISSION GASKET
000034.0		AIRBOX	000080.0		CARBURETTOR GASKET
000035.0		FILTER	000081.0		REDUCER GASKET
000036.0		IGNITION COIL	000082.0		MUFFLER BAND
000037.0		CAP SCREW COIL			
000038.0		KEY WOODRUFF			
000039.0		BOLT AND NUT			

5.2 EQUIPMENTS

COD		DESCRIPTION
100.200		FLYWHEEL CLUTCH
100.201		FLYWHEEL BELL CLUTCH
100.300		SOCKETS HEX 17 m/m
100.301		SOCKETS HEX 11 m/m
100.302		SOCKETS HEX 10 m/m
100.310		MALE EXAGON KEY 3m/m
100.311		MALE EXAGON KEY 4m/m
100.312		MALE EXAGON KEY 5m/m
100.315		SCREWDRIVERS-BLADE 1XL
100.316		SCREWDRIVERS PHILLIPS 1-2
100.320		HUMMER PLASTIC HEAD
100.321		PLIERS FOR SPRINGS
100.325		TORQUE WRENCH
100.330		PRESSURE GAUGE CARBURETTOR

6. DISASSEMBLY/ASSEMBLY

WARNING

Modification of the motor, or removal of original equipment may make the motor unsafe.

6.1 DISASSEMBLY CARBURETTOR

This section covers maintenance of the carburettor.

- Replace diaphragm fuel pump

1. Remove the 4 screw (Fig.4)
2. Remove the diaphragm
3. Clean the filter
4. To replace the diaphragm with a new one. (Fig.5)
5. Install the cover and tighten the screw to specified torque

TORQUE: 4Nm (0.4 Kg/m)



Fig.4



Fig.5

6.2 DISASSEMBLY TERMICAL GROUP

This section covers maintenance of the cylinder and piston. These service can be done with the engine installed in the frame. The cylinder has a nicasil coating and cannot be rebored. If it is damaged, it must be replaced. Before disassembling, clean the engine throughly to keep dirt from entering the engine. Remove any gasket material from the mating surfaces.

Do not use a screwdriver to remove the cylinder head. Clean all parts before inspecting. Before assembling, apply clean 2 stroke engine oil to all sliding surfaces.

1. Disassembly the motor from the chassis
2. Disconnect the spark plug cap
3. Remove the spark plug
4. Remove 3 caps screw and the cooling air duct
5. Remove 2 bolts and nuts exhausts fixing (fig.6)
6. Remove 2 springs (Fig.7)

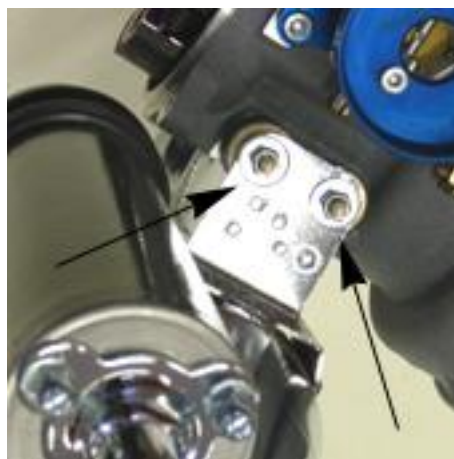


Fig.6



Fig.7

7. Pull the exhaust with resolution (Fig.8)

* Apply silicon gasket hight temperature.



Fig.8



Fig.9

8. Remove the 4 cylinder head bolts and nuts (Fig.9)

9. Remove the cylinder head o-ring gasket (Fig10)

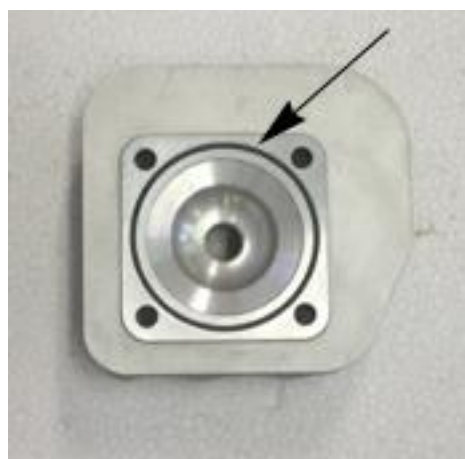


Fig.10

NOTE

To avoid warping the cylinder head, use a criss-cross pattern to loosen each nut about $\frac{1}{4}$ turn, then remove the nuts.

DISASSEMBLY PISTON



Fig.11

10. Remove the piston pin clips using a pair of needle-nose pliers (Fig.11)

11. Press the piston pin out of the piston and remove the piston.(Fig.12)



Fig.12

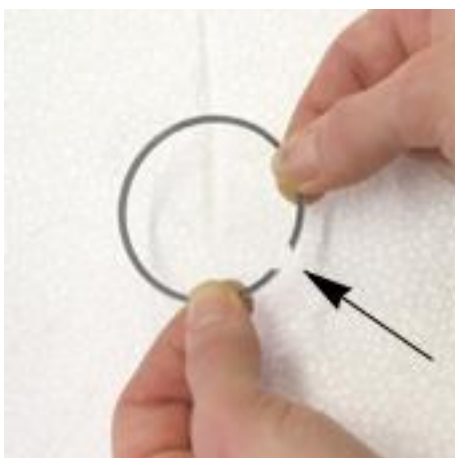


Fig.13

12. Spread each piston ring end remove by lifting it up a point just oppsite the gap (Fig.13)

CAUTION:
do not damage the piston ring by spreading the ends too far.

Decarbonizing

COMBUSTION CHAMBER

Remove the carbon deposits from the combustion chamber. Clean the head gasket surface of any gasket material

CAUTION:

Use care not to scratch the combustion chamber or the head gasket surface.

CYLINDER

Clean carbon deposits from the exhaust.

CAUTION:

Do not damage the cylinder bore.

INSTALLATION PISTON

1. Install the piston rings like (Fig.14)
2. Lubricate the piston rings and piston ring grooves with clean 2 stroke oil
3. Install the piston with the sign turned towards the exhaust (Fig.15)
4. Install the piston pin (Fig.12)
5. Install the piston rings on the piston (Fig.11)

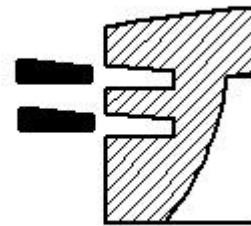


Fig.14



Fig. 15

CAUTION:

- Use new pin clips. Never use old clips
 - Do not let the clips fall into the crankcase.
-

INSTALLATION CYLINDER

6. Install the new cylinder gasket

7. Align each ring and gap with the piston ring pins in the ring groves (Fig.16)



Fig. 16

8. Lubricate the piston with 2-stroke oil

9. Slip the cylinder over the top of the piston while compressing the rings. (Fig.17)



Fig. 17

10. Then, install the cylinder on to the crankcase

INSTALLATION CYLINDER HEAD

1. Install the new cylinder head gasket o-ring (Fig.10)
2. Install the cylinder head and nuts (Fig.9), tighten the nuts to the specified torque.

TORQUE : 12Nm(1,2 kgf/m)

NOTE:

Tighten the cylinder head nuts in a criss-cross pattern in 2 or 3 steps

INSTALLATION EXHAUST

1. Insert the antivibrating pins thread in the support exhaust (Fig. 6)
2. Pull the exhaust with resolution and insert the spherical entrance on the cylinder (Fig. 8)
3. Install the springs (Fig.7)
4. Tighten the 2 bolts and nuts to specified torque (Fig.6)

TORQUE: 10Nm(1 kgf/m)

INSTALL COOLING AIR DUCT

1. Replace the cooling air duct on the cylinder head
2. Tighten the 2 crankcase cap screw, and then the cylinder head cap screw to the specified torque

TORQUE: 8Nm(0.8 kgf/m)

INSTALLATION SPARK PLUG

1. Lubricate the sparks plug thread
2. Tighten the spark plug to the specified torque

TORQUE : 18Nm(1.8 kgf/m)

3. Install the spark plug cap.
-

6.3 DISASSEMBLY/ASSEMBLY STARTER

1. Remove the air duct see the chapter 6.2
2. Remove 4 screw (Fig.18)
3. Remove the bolt (Fig.19)
4. Remove the pulley

CAUTION

NOT REMOVE THE SPRING (fig.21)

1. Install the pulley and tighten the screw (Fig. 19) to the specified torque
TORQUE : 10Nm(1 kgf/m)
2. Insert the starter into the cooling fan with open grafts (Fig.20)
3. Tighten the screw (Fig.18) to the specified torque
TORQUE: 6Nm(0.6 kgf/m)



Fig.18

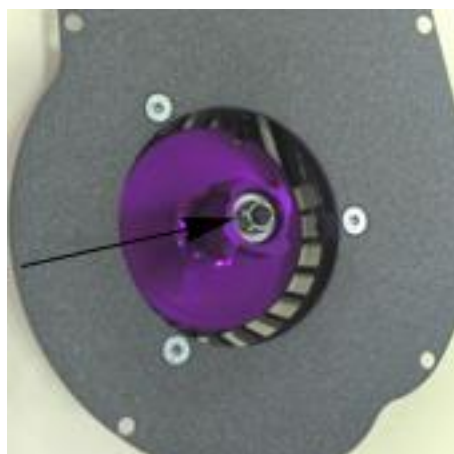


Fig.19



Fig.20

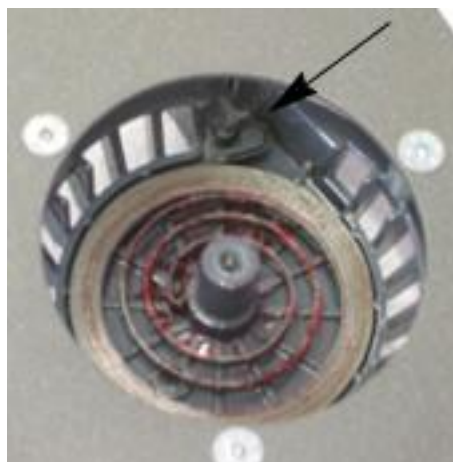


Fig.21

6.4 DISASSEMBLY/ ASSEMBLY SILENCER

1. Remove the exhaust like chapter 6.2
2. Remove the 3 bolts and cap screw fixing silencer (Fig,.22)
3. Remove the glass wool
4. Remove the carbon deposit from the inner pipe using the wire brush

-
1. Replace the glass wool
 2. Install the new glass wool packing material, opening the incision of the glass wool

NOTE :

be careful not to damage the glass wool

- 3 . Tighten the 3 bolts and cap screw to the specified torque

TORQUE : 12Nm(1,2 kgf/m)



Fig.22

6.5 DISASSEMBLY/ASSEMBLY SPONGE FILTER

1. Unscrew the filter band (fig.23)
2. Remove the airbox from the motor
3. Remove 4 screw (Fig.24)
4. Remove the sponge filter (Fig.25)
5. Cleaning with biodegradable detergents (don't use gasoline) and dry the sponge filter.
6. Lubricate the sponge filter.(Fig.25)
7. Assembly all of the airbox

CAUTION
INSTALL THE SECURITY CABLE
(fig.23)



Fig.23



Fig.24



Fig.25

* Foam filter , help combat the ingress of sand and dust repels water without affecting engine breathing. Only apply to clean, dry filter. Ensure complete penetration and coverage. Allow to dry before refitting. (Fig.25)

7. CARBURATION REGULATION

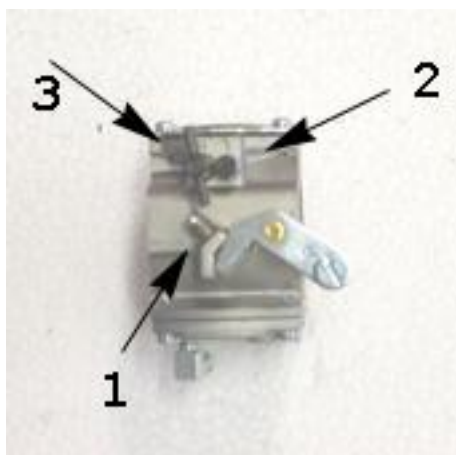


Fig.26

- 1. Regulation throttle cable
- 2. Regulation Min. gasoline
- 3. Regulation Max gasoline

Standard regulation

In case of problems of wrong carburetion, replace the originals levels.

Screw regulation of min. 1/4 turns from all closing. (Fig.26 point 2)

Screw regulation max. remove 4/5 turns from all closing. (Fig.26 point 3)

Attention the carburation regulation must be made at warm motor.

To execute in sequence the below operations:

1. To regulate the screw of the max. to 4/5 of turn; (Fig.26 point 3)
2. To regulate the screw of the min. to 1/4 of turn; (Fig.26 point 2)
3. To fill up the circuit of feeding with the appropriate pump;
4. To start the motor without accelerate (the motor must set off);
5. To reduce the passage holes air of the filter airbox with one hand, in order to hold the rich carburation for some second ones;
6. To warm the motor for 4 or 5 minute to the regimen of spin of 4000 rpm;
7. To regulate the screw of the minimal jet, to put the motor to 5500 rpm, to screw or to unscrew the screw until when the motor turns cleaned up and does not mutter;
8. To leave the motor for some second ones at minimum, to riaccelerate brusquely, now the motor must quickly accelerate without to mumble or to come less.

Attention the turn screw is many sensitive (1/4 regulation standard)

9. To regulate the lessened motor spin de of 2000/2200 rpm. (Fig.26 point 1)

When very regulated the carburetor does not need of ulterior regulations, but in the case in which it takes place a change of altitude (1000 meters)

8. TROUBLESHOOTING

1. THE ENGINE DOES NOT START OR IS HARD TO START

CHECK	POSSIBLE CAUSES	SOLUTION
Check if fuel is jetting to the carburettor	No fuel in tank	Fill tank per fueling
	Clogget fuel line or fuel filter	Replace and clean
	Diaphragm fuel pomp broken	Replace the diaphragm (fig .27)
Try spark test	The engine stop switch is to ON	Move it on OFF
	Faulty spark plug	Replace
	Broken or shorted inition coil	Replace

2. ENGINE LACHS POWER

CHECK	POSSIBLE CAUSES	SOLUTION
Check the carburation	Fuel air mixture to lean	Tourn the screw max out (fig.26 punto 3)
	Fuel air mixture to reach	Tourn the screw max in (fig.26 punto 3)
	Clogget fuel line or fuel filter	Replace and clean
	Diaphragm fuel pomp broken	Replace the diaphragm (fig.27)

3. THE ENGINE VIBRATES EXCESSIVE

CHECK	POSSIBLE CAUSES	SOLUTION
Silent-block engine	Excessive wear, holder rubber	Replace (Max 70 Sh)
	Prop out of balance	Balance or replace

9. TORQUE VALUES ENGINE

ITEM	Thread diam x pitch	Torque gf*m
Cap screw propeller hub	M 6 x 1,0	1,2
Spark plug	M14 x 1,25	1,8
Cap screw cooling air duct	M 5 x 0,8	0,6
Cap screw crankcase starter	M 5 x 0,8	0,6
Bolt cylinder head	M 7 x 1,0	1,2
Cap screw reducer/engine	M 6 x 1,0	1,1
Cap screw crankcase reducer	M 6 x 1,0	1,2
*Bolt Dado clutch bell	M 10 x 1.25	3,8
*Bolt clutch	M 10 x 1.25	3,8
All bolts	M 6 x 1,0	0,9
*Bolts ignition	M 10 x 1.25	4,0

* Apply locking agent