



Sonik VX/TX125 Engine Recommendations

Fuel / Oil Mixture: 8oz. Of Castor based oil with 95 to 110 octane leaded racing gas

Water Temp: 135 to 150 degrees Fahrenheit during race conditions.
It is recommended to warm the engine to a water temperature of 110 degrees F. prior to racing conditions.

Exhaust Temp: 1050 to 1125 degrees F

RPM: Sprint max – 16500 to 16800
Enduro max – 15000 to 15500

Piston replace at: Sprint – 6 to 8 hours Enduro – 4 to 8 hours

Clutch: Check shoe lining and teeth on drum daily. Use good quality chain lube for extended drive system life. Direct Tri-flow spray at drum needle bearing behind washer/drum each session for longer drum bearing life.

Rod: Replace at 12 to 20 hours. Time varies due to RPM, kart/driver weight, type of oil and amount of ingested debris or sand.

Carb needle settings: Sprint - Low 7/8 to 1 1/16 High 1 7/8 to 2-1/8
 Enduro – Low 7/8 to 1 1/8 High 2 to 2 1/4

These are baselines not absolute settings. Settings vary based on weather, track conditions, gearing and weight. Cooler temperatures require a richer carb setting.



Contact your nearest dealer for other specific details for your local track.



Sonik TaG Engine

VX 125

TX 125



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***Sonik* TaG Engines**

Electric Start Packages

This TaG package comes with all you need: Engine, Radiator, Electrical assemblies, mounts and brackets. Add water and *GO!*

Technical Data

Sonik VX 125

118cc
54.0mm
50.5mm
Nov. 2003

Max. Displacement
Standard Bore
Stroke
Introduced to USA

Sonik TX 125

125cc
54.0mm
54.0mm
Nov. 2004

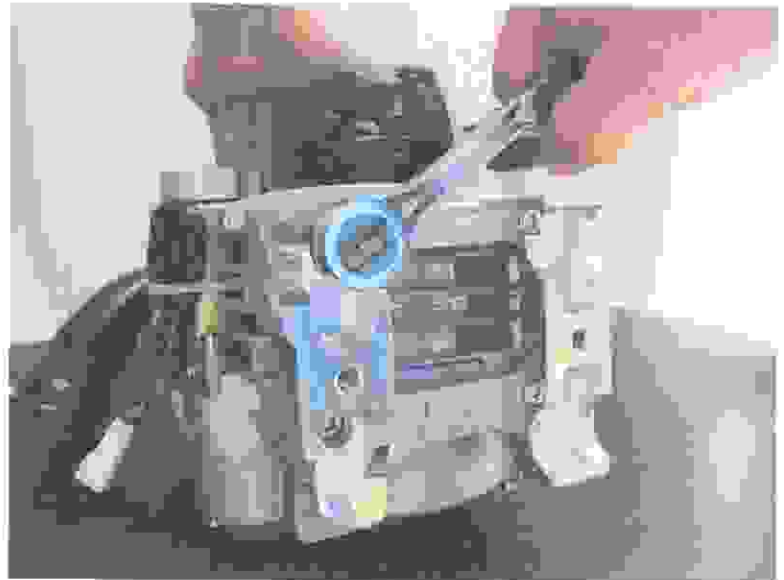
Standard features:

Aluminum alloy cylinder with 3 exhaust and intake ports
High Sil-Flo cast-iron inner liner
Hi-Fi Steel alloy rod
Spherical combustion chamber
Reed petal induction design
Tryton 24mm tunable billet carburetor
Airbox with 22mm inlet tubes
Shoe clutch using low engagement
European style header and pipe with silencer
Wiring harness with switch and button
HT-Battery with anti-leak fill cap
10 degree motor mount with frame clamps
Radiator, hoses, pump with brackets and clamps



Engine mount

Using a 6mm hex allen make sure the 4 bolts are tight. They should be tight but, as with all bolts and nuts it does not hurt to check. Torque bottom bolts 150 to 160 in lbs.

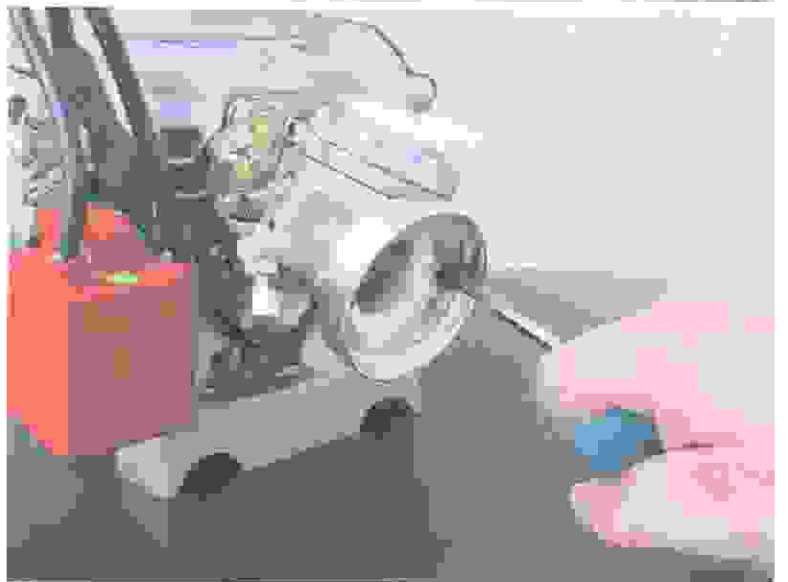


Carburetor gasket

Place gasket on manifold making sure pulse hole is lined up.



Using a 5mm allen wrench and the 2 sleeved hex nuts provided, tighten down each side of the carburetor.



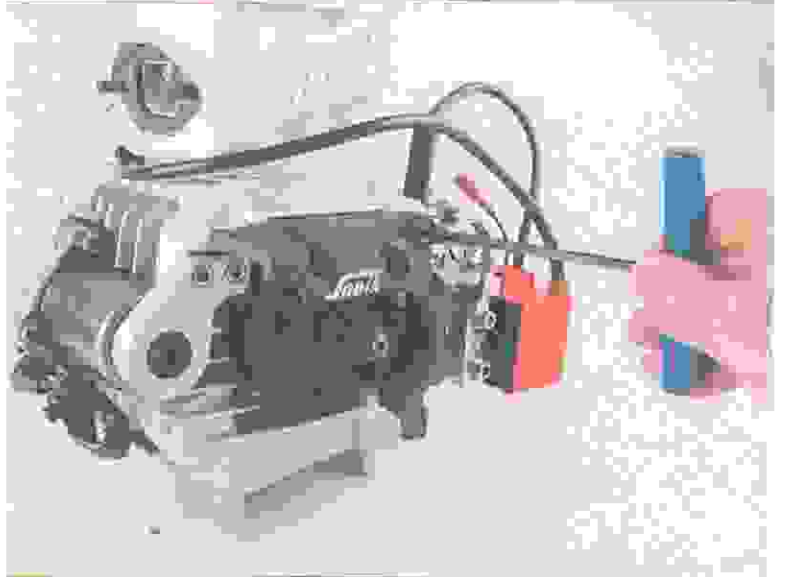
Exhaust header

Inspect inside of header for any debris or shipping material. Unscrew the brass nuts and remove the shipping protection plate leaving the gasket against the cylinder. Tighten each nut equally until very snug. Use a 10mm wrench.



Chain guard

Using a 5mm allen wrench check the 3 bolts for tightness. Also check the starter holding mount which is below the back of the chain guard.



Starter assembly

Review starter assembly and wiring. Make sure to notice the wiring assembly and the plug which will plug into the wiring harness later.



Engine on frame

Carefully place the engine assembly onto the kart frame. Using a 8mm allen wrench and supplied bolts, start one bolt into each aluminum clamp.



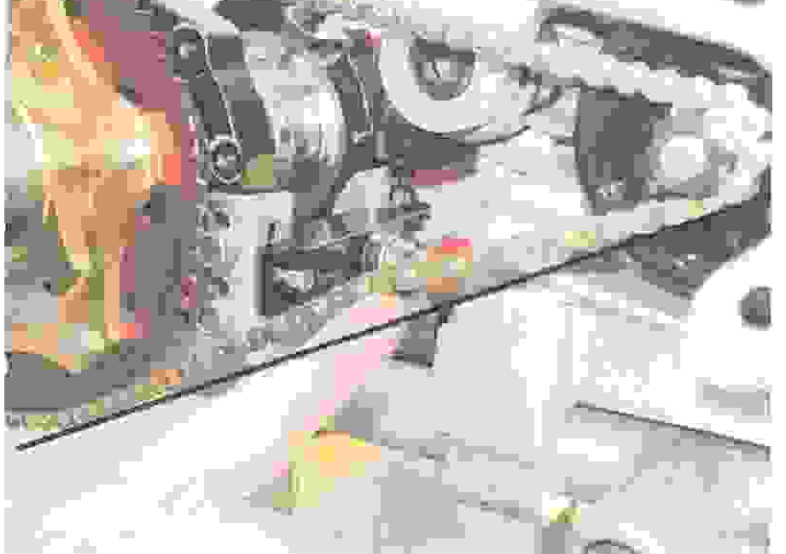
Chain

Check alignment with a straight edge. This is done by using either a precision 12" steel scale or anything that is perfectly straight. Line up from rear sprocket to front drum. Place a new #219 chain over the clutch sprocket and then over the rear sprocket. Make sure your motor mount is close to a center point when choosing the overall chain length.



Chain tension

Newer chains will stretch more than older ones so, check newer chains more often. Tension after both lower aluminum motor mount clamps are completely tight should be between 1/2" and 3/4" deflection.



Throttle cable using the screw

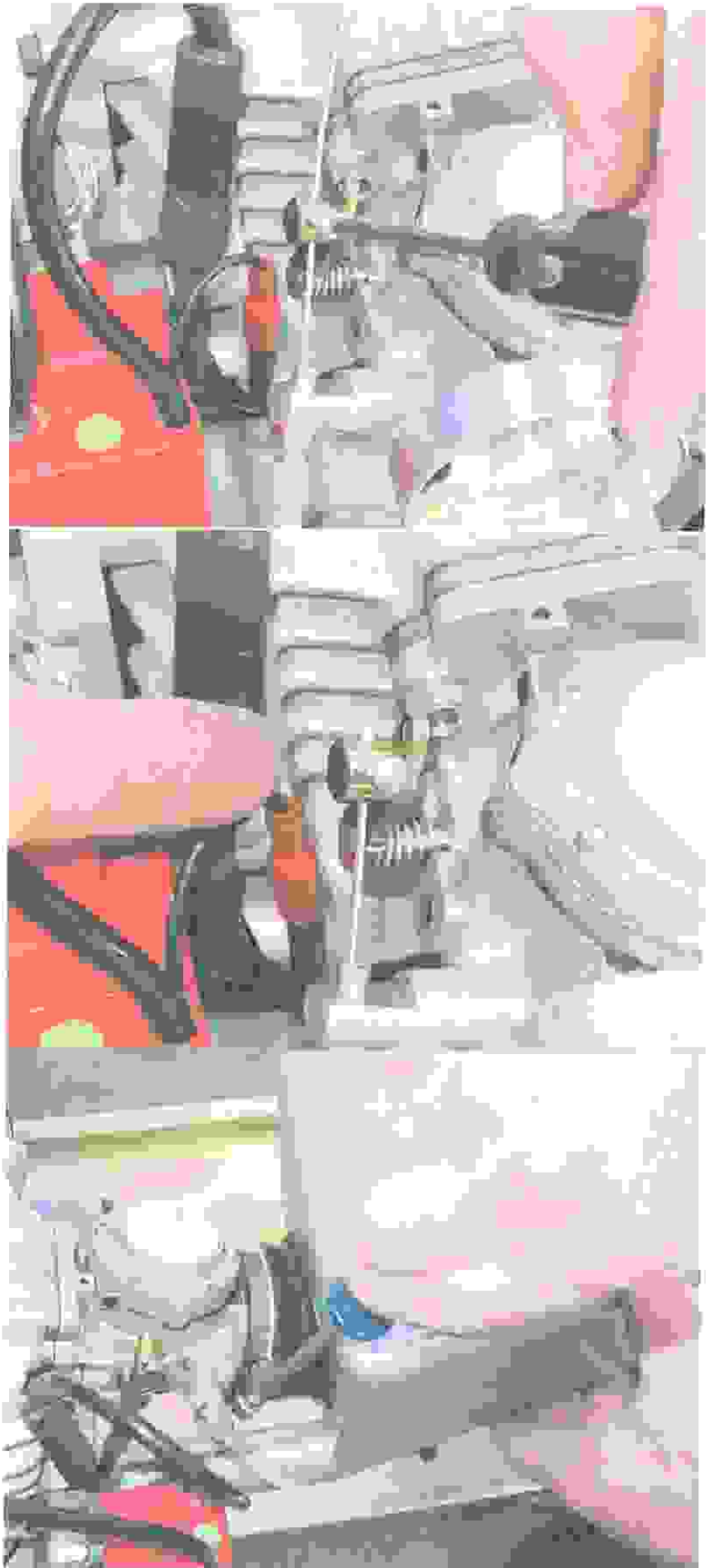
Method 1: Using the screw in the swivel to tighten down onto the cable is generally used. Simply route cable through swivel and pull cable up moderately. Then tighten the screw down onto cable. Use the adjusting screw which holds the cable housing as a throttle arm stop. Swivel should stop on the adjusting bolt so the carb butterfly does not pivot past center. If it does adjust adjusting bolt and readjust cable tension.

Throttle cable using the ball

Method 2: String cable down through swivel and tighten down screw. The screw does nothing here but by tightening it you don't lose it. Loop the cable through the cable housing and again through pedal assembly. Once again check to see that you are not pulling past center. If so, adjust the adjusting bolt assembly so that the swivel stops on the adjusting bolt.

Airbox

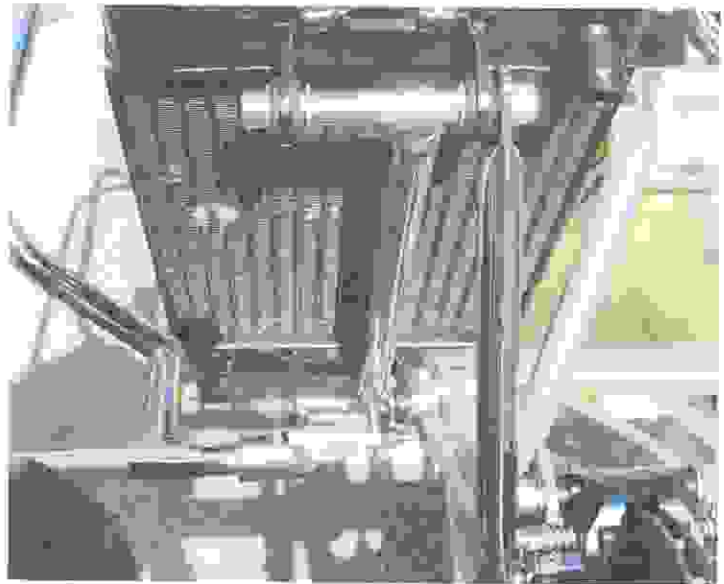
Inspect inside of airbox for shipping or packing materials. Spin rubber boot around inside the plastic box. This allows you to get the proper angle approach to the carburetor mounting flange. For added airbox support you can lay the box on the frame tube if possible.



Mounting radiator

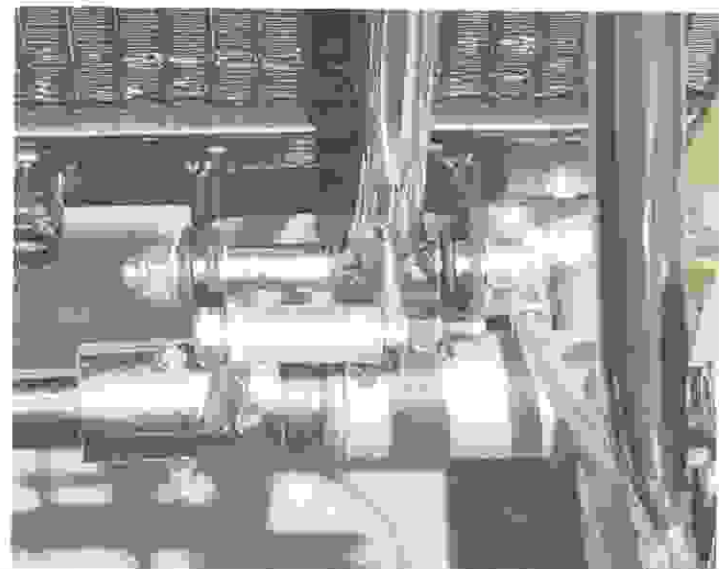
This view is of the radiator completely mounted. It is shown so you can relate these upcoming photos to a finished assembly.

Push the rubber grommets into the radiator mount with a screwdriver and a little lightweight oil. The oil allows the grommets to pop into their holes easily.



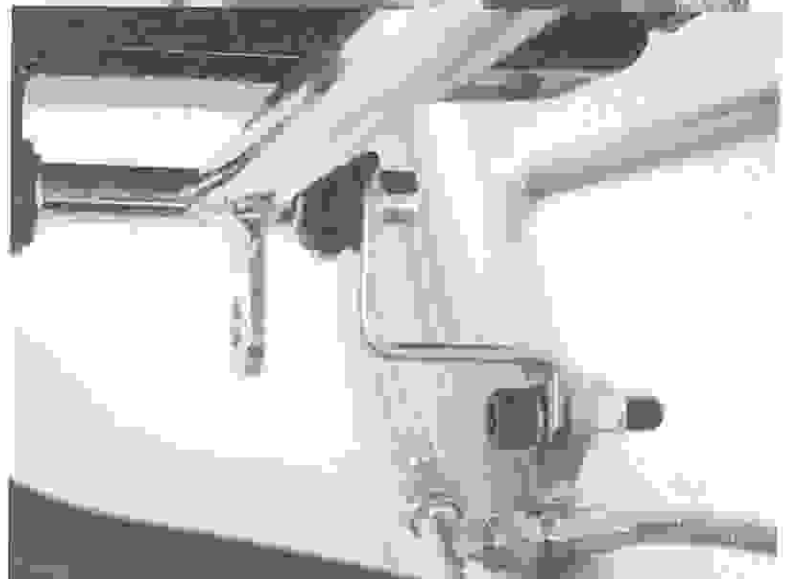
Lower radiator mounting points

This photo displays the usage of the sleeve tube which slides over the nerf bar tube. This kart however, is equipped with a radiator mounting tab welded onto the frame pointing upward in front of the radiator. The aluminum sleeve is supplied extra in the Sonik engine kits. Note that the "H" bracket mounted onto the radiator. It can be offset the left or the right. This is made this way to suit your various kart needs.



"Z" bracket usage

Some chassis may need to offset the radiator due to seat strut or other items. With this "Z" bracket you can pivot forward, up, or to the rear.



Strut mount position

Most cassettes have a threaded hole for strut mounting. In some cases the strut may need some bending or twisting to help it fit correctly.



"NEW" Blade style mounting bar

Some newer style radiator brackets can be mounted as shown.

Optional radiator bolt kit K SK-116KITA includes long bolt, sleeve spacers, nuts, washers and "Z" bracket for offset conditions. Most of the times this kit is not necessary.

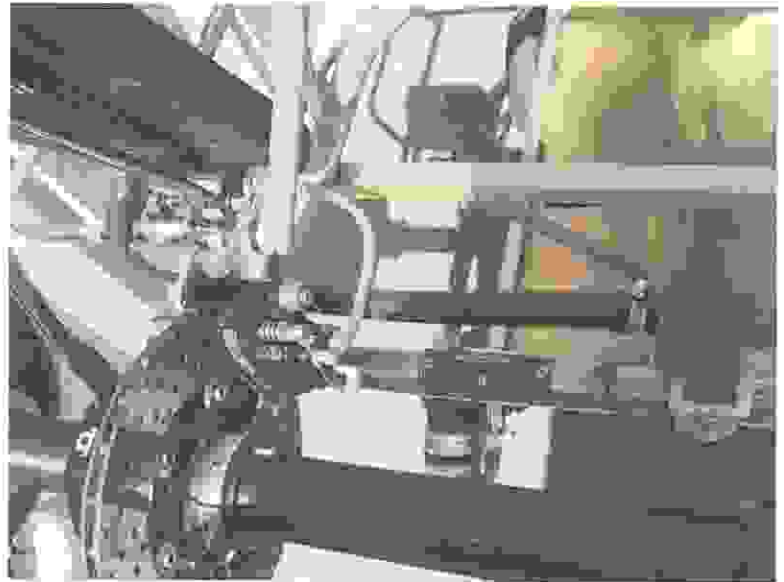
Water pump assembly

As in the radiator some karts now have a tab for the water pump. This kart has one but, you can also use the supplied adjustable swivel water pump mounting bracket. Simply clamp the mount to frame and add the pump. Install the pulley on the axle and align the 2 pulleys with a straight edge. Move the axle pulley side to side due to it being easier to move. The o-ring tension should be rather tight. Check all clamp bolts for tightness.



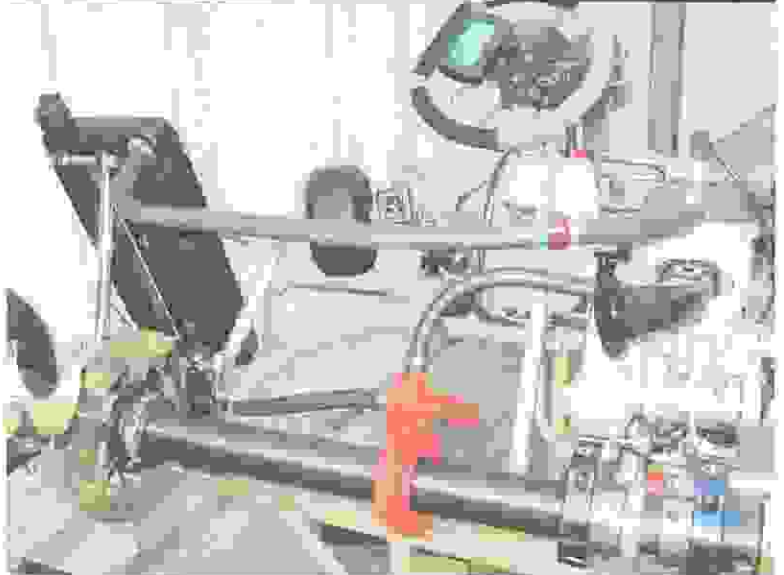
Water hoses

Both curved ends of rubber hoses will go from the radiator. Make sure the top of the radiator is connected at the top of the engine cylinder. Allow yourself plenty of hose if you still have the seat out. The bottom of radiator should be to left side of the pump. At each connection place, tighten the hose clamps supplied. In this view you can see the welded on kart tab for water pump mounting.



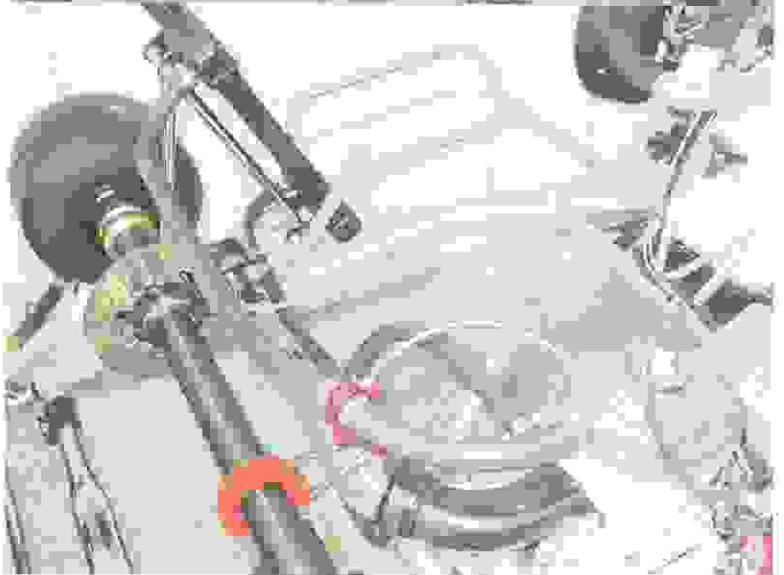
Water hoses

Connect hose to top of pump and left side of the cylinder. And bottom of radiator to left side of pump. Again add and tighten hose clamps. As you can see, this upper hose has a water sensor for temperature installed. **Below** is another view of the routing of water hoses. This view shows the upper hose in its entirety.



Filling the radiator system

With the cap off of the radiator, loosen the top hose on the engine. Fill radiator until water starts to come out the engine outlet on the head. Most all the air should be out of the system. Hose clamp the hose back on the engine outlet fitting. Turn the tire so the water pump circulates water through the system. Recheck the radiator water and refill as needed. Mounting of a overflow bottle is recommended part# K SK-700200 After the engine run-in, check the water level and add water if necessary.



Exhaust pipe and flex area

Insert flex into pipe. Twisting may help if needed. Then insert the other end into the header and lay into pipe cradle. Now using supplied 3 springs, pull each spring from the header to the pipe.

Cradle exhaust pipe springs

Either by hand or with the help of a pair of pliers, pull springs from frontside of the cradle to the backside snapping them into place. Check the alignment of cradle to header to make sure it is straight to the exit of the header joint.

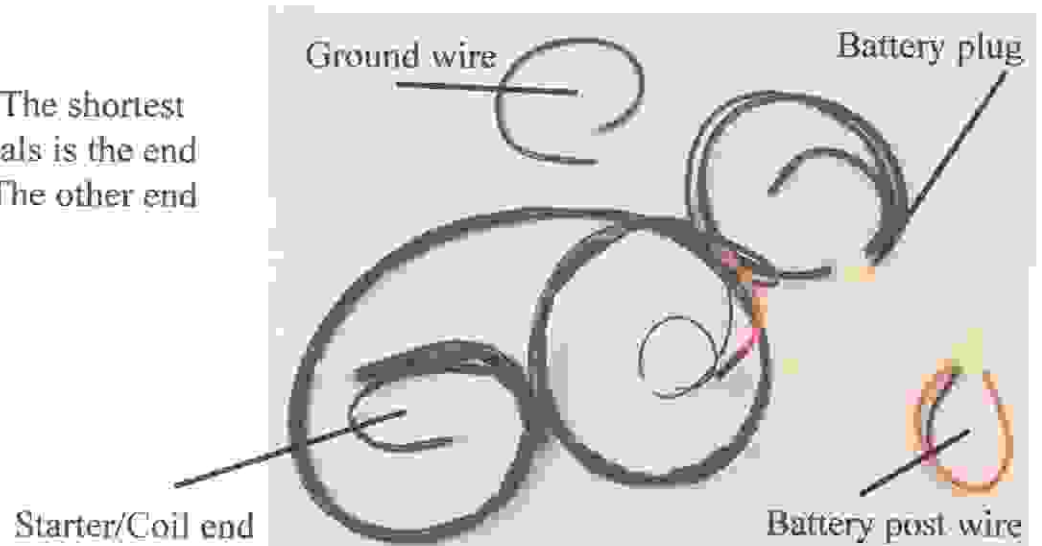
Measurement of pipe length

With a ruler against the header flange, measure around the outside of the header and pipe to the end of the first cone. This measurement should be between 390cm and 400cm. Using generally a 2" long piece of flex tubing.



Wiring harness

This is the wiring harness. The shortest end from the switch terminals is the end which goes to the battery. The other end heads back to the engine.



Harness to engine starter

With harness laid out, plug the starter assembly.



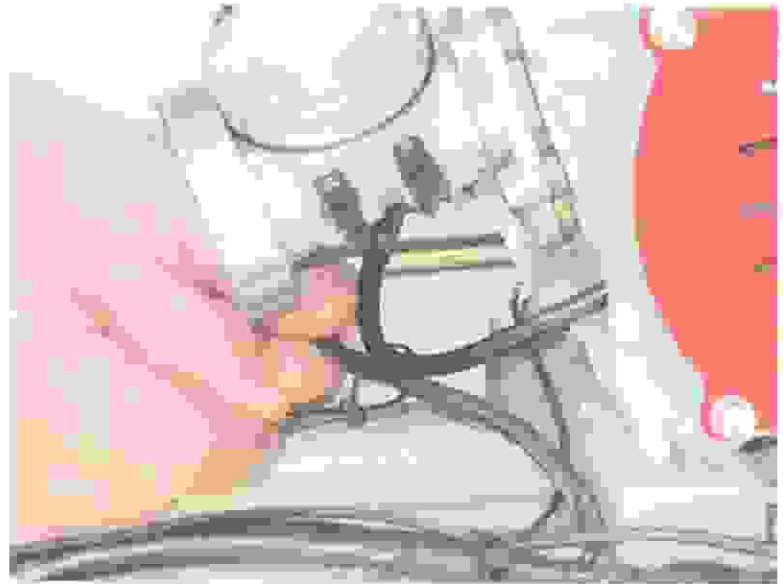
Starter/Coil ground wire

This end of harness can also be identified by its ground male-end plug wire. Plug in until it snaps.



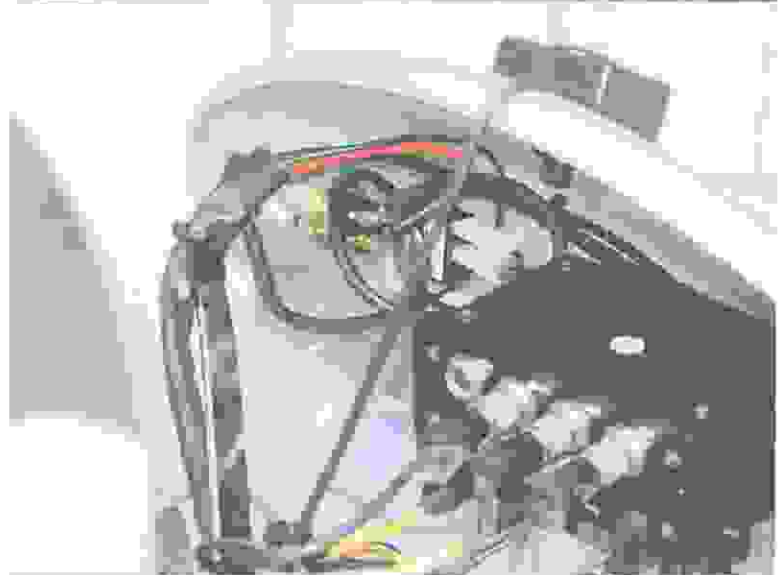
Cleaning up

Tie wrapping coil and harness wires together makes for a cleaner yet neater appearance.



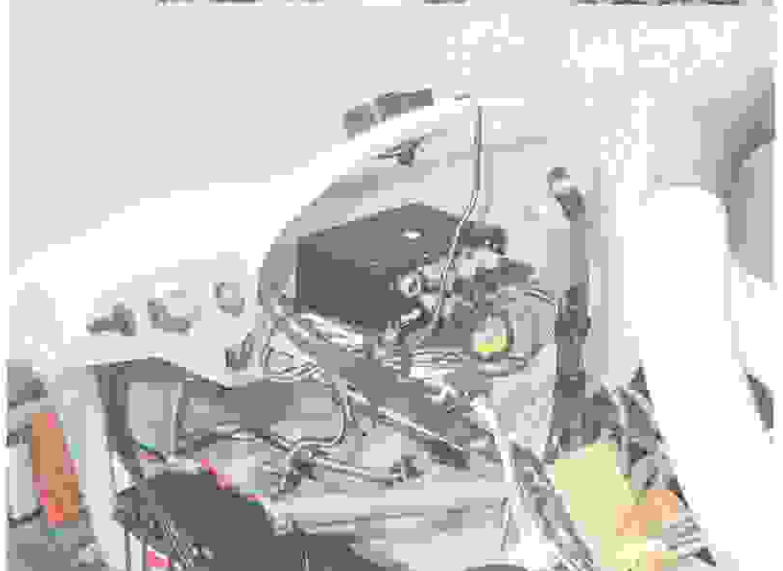
Button location

This is an inside view of driver fairing. The white clips push on the toggle switch. The other two wires go into the push button and should be tightened down. All four wires do not have specific placement. Either wire can go on either terminal leg. The eye loop terminal is a ground. It can go to any ground area. Make sure there is no paint present, only bare metal.



Button and toggle switches

Buttons and switches can be placed anywhere. Hole size for the toggle switch is $15/32''$ or $.460''$. Hole size for the button switch is $7/8''$ or $.875''$. Using a step drill works perfectly. Step drills can be found at local hardware stores.



Push button

This is a photo of the wire connection. Again, either wire can go on either leg of the button.



Toggle button

This photo shows both buttons with wires on each.



Ground wire

The ground wire shown is bolted to fairing bracket. Make sure it is mounded to bare metal. Clean any paint or other non-metal surface. This connection must be bolted securely.



Battery mounting

Between your feet is the best placement of the battery. The brackets sandwich themselves on the top and the bottom of the frame steering tubes. Each has pre-cut foam which lays inside the brackets. Each clamp can be adjusted up against the battery.



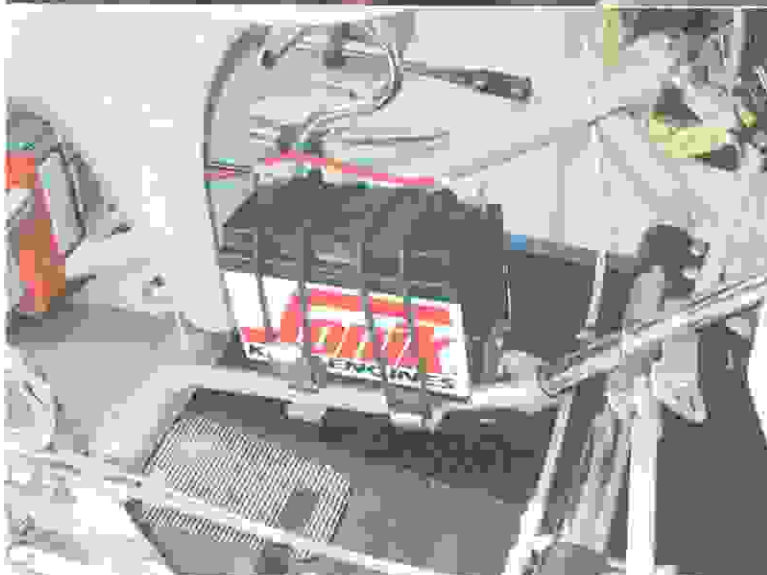
Battery wire plug-ins

During the storage time between weekends it is recommended to disconnect the battery plug-in. Disconnecting after each days event also conserves battery life.



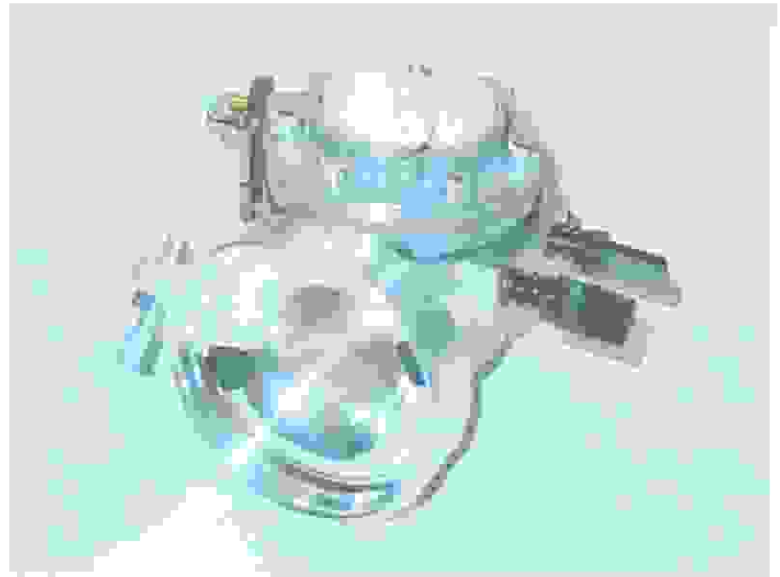
Battery acid and hold downs

Using the supplied acid, pour into battery. It is recommended to fully trickle charge the battery for the first time. Snap cell cap onto battery after finished. Make sure you are completely finished filling before you snap the top on, because you will not be able to get it off. This allows for a no leak battery. Attach o-rings to battery holders and pull over to the other side.



Carburetor Maintenance

The Tryton carburetor uses the diaphragm method for fuel delivery. The diaphragm and gasket kit are generally not changed before four to eight hours of normal usage. Special conditions may apply. If the kart has not been used for several weeks diaphragms and gaskets may dry out due to the gas and oil evaporating. This causes the diaphragms and gaskets to shrink and lose their pumping and flexibility, thus affecting performance. Change before a major event. It will be one less item to worry about at the race.



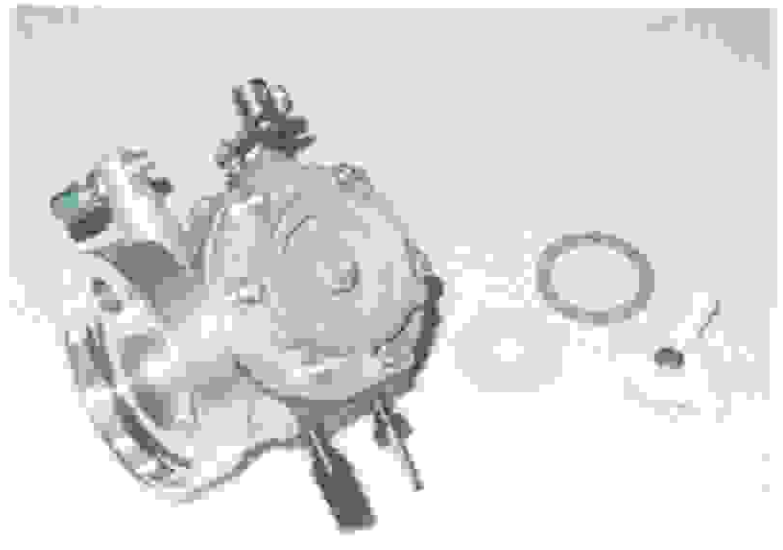
To replace diaphragm, pumpers and gaskets:

Spray the carburetor with Brake Clean to get all the dirty grime and sand from the outside. This way no foreign material will set inside of carburetor during replacement.

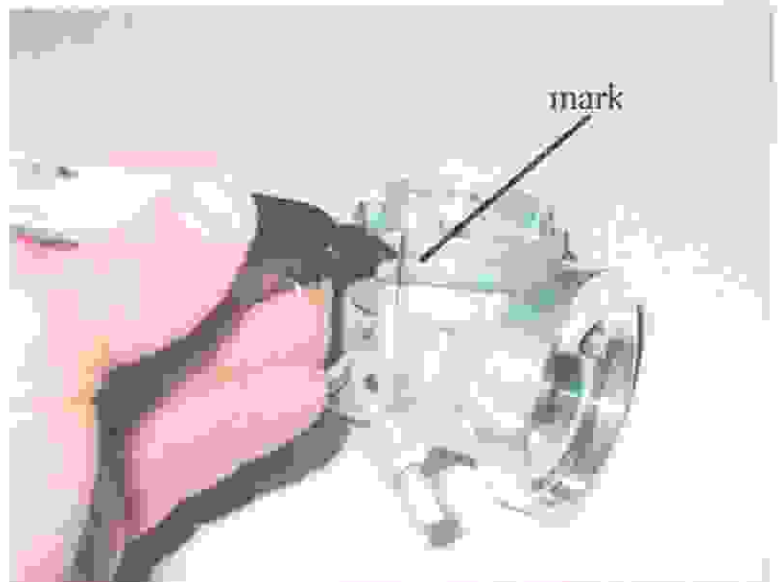
Unscrew the center screw which holds down the fuel inlet cap. Notice the screen is against the aluminum plate, then the gasket.



Set aside cap, screen, and gasket.



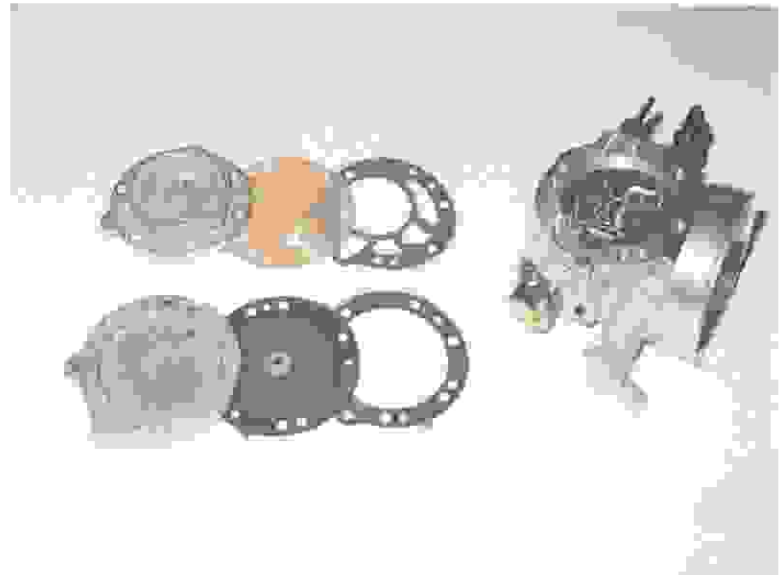
To help in reassembly the first couple of times make a mark down the plates. This side also has an extended knotch on the plates that match to the body for reassembly.



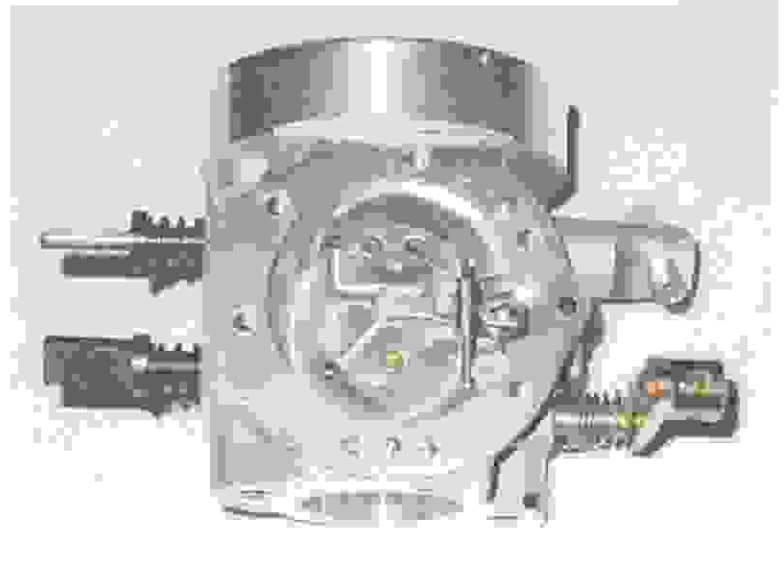
Unscrew all six hold down screws. Take note of how the plates and pumpers lay into each spot. Also, see the location assembly guide post pins in relationship to other parts.



Pull all diaphragms and gaskets from plates and body. Make sure no gasket material is stuck to the pumper plates. Spray once again to completely clean all pumper plates.



Before removing the fulcrum arm assembly and needle, lightly press the fulcrum arm and look for it to freely return to a static condition. The needle should smoothly move up and down without sticking.



Unscrew fulcrum arm pin screw. Loosen just enough that the pin comes out from the body of the carburetor. Inspect the needle for any grooves or debris in the rubber tip. If appearance is good set aside.

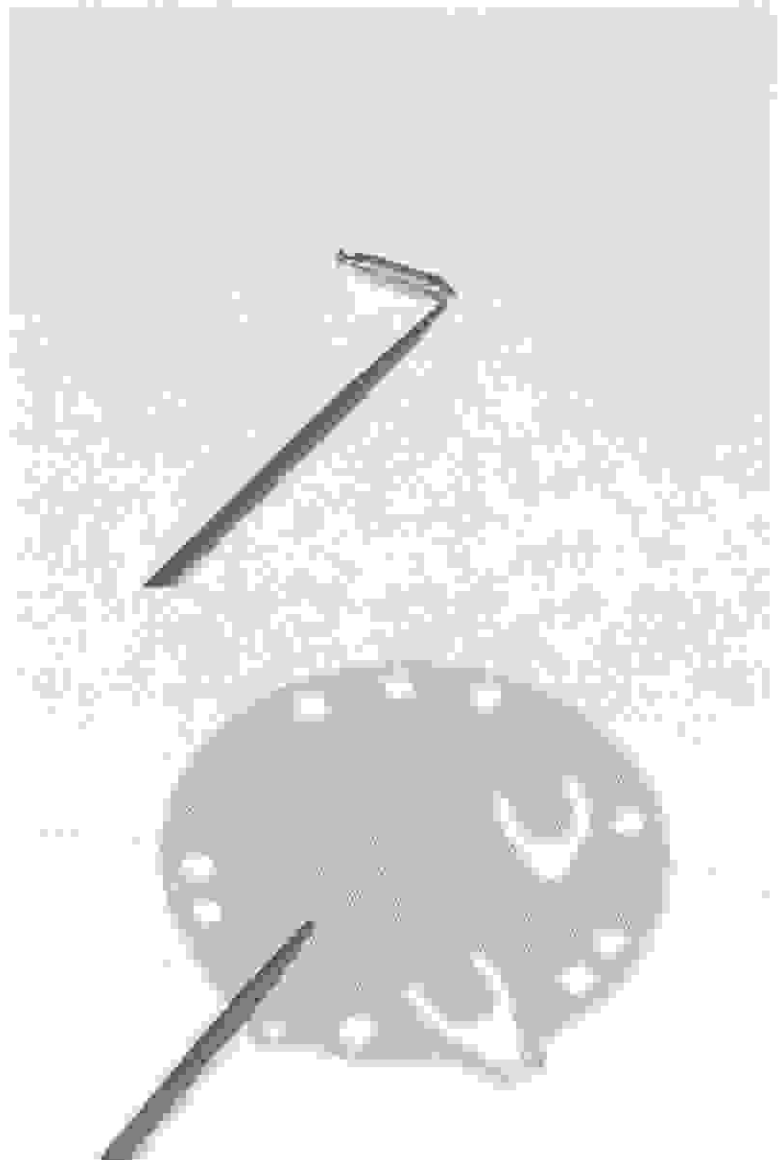


Spray the disassembled body and fulcrum arm parts with Brake Clean again. Completely dry out the area under the needle, or use a air gun. Wipe off the needle only. Brake Clean will harm the rubber on the needle tip.



Carefully inspect for a groove in the rubber tip area. A small outline where it touches the seat will show where the seat sits; this is OK. A groove is not OK and should be changed to part # K SK-700110. Put a small drop of WD-40 or light oil on the tip before installing back into the needle hole. The oil helps later in checking the pop-off pressure.

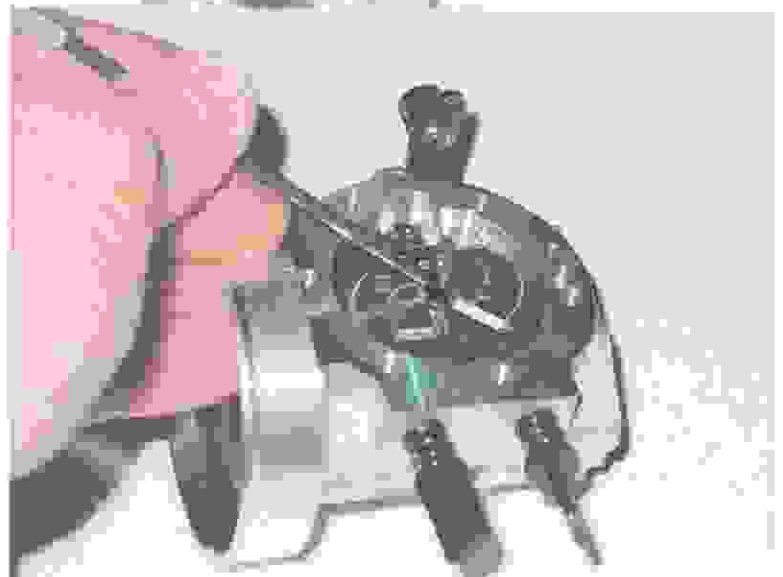
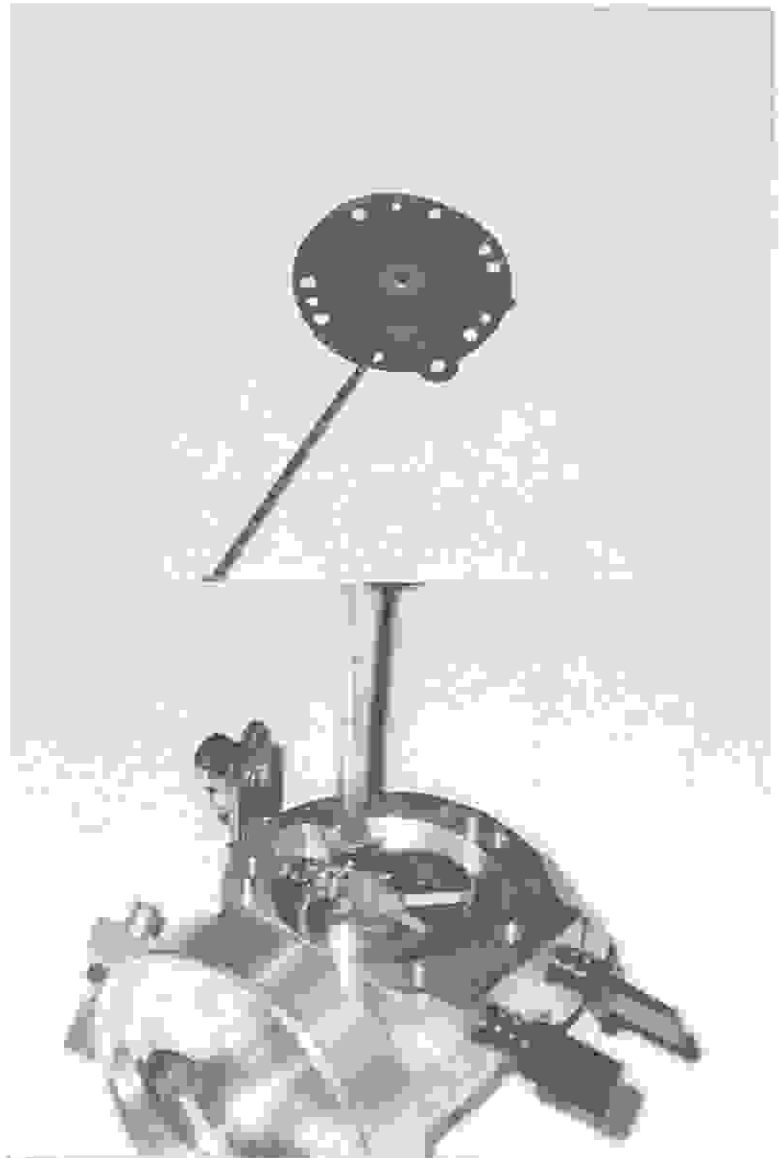
Once the pumpers and diaphragms are removed inspect for usage. Even though you will be changing the entire carburetor kit part# K SKTR31 , see if the center area has a wrinkle starting to form. This way you can inspect the wear and change before or see if you could have waited longer. Once a wrinkle begins, the pumping ability starts to taper off slightly.



Inspect the metering pumper for holes, folds, or defects. Notice the crease that is circled around inside the bolt holes. This is normal. This allows the diaphragm to move up & down freely to operate the fulcrum.

After everything is cleaned and dried install needle, spring, pin, and fulcrum arm. Carefully push pin back down in place before completely tightening the screw. Push down fulcrum arm and make sure it again moves freely.

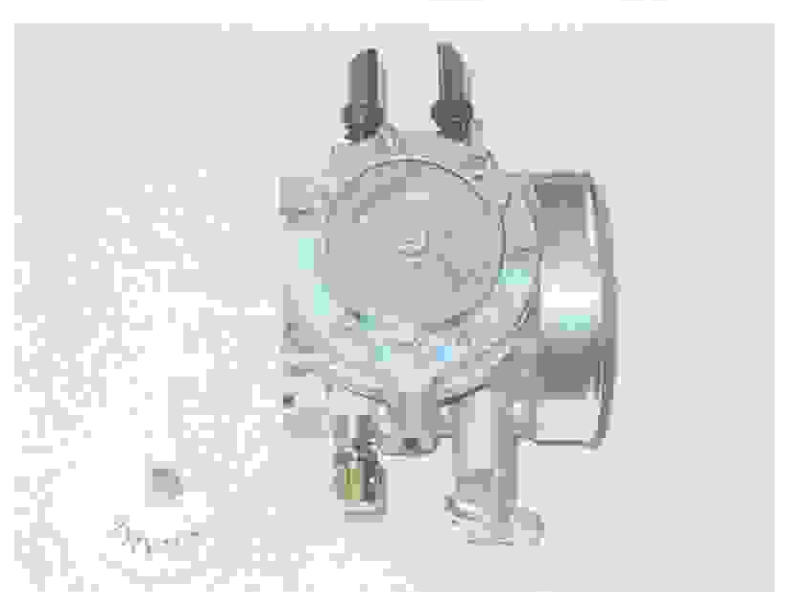
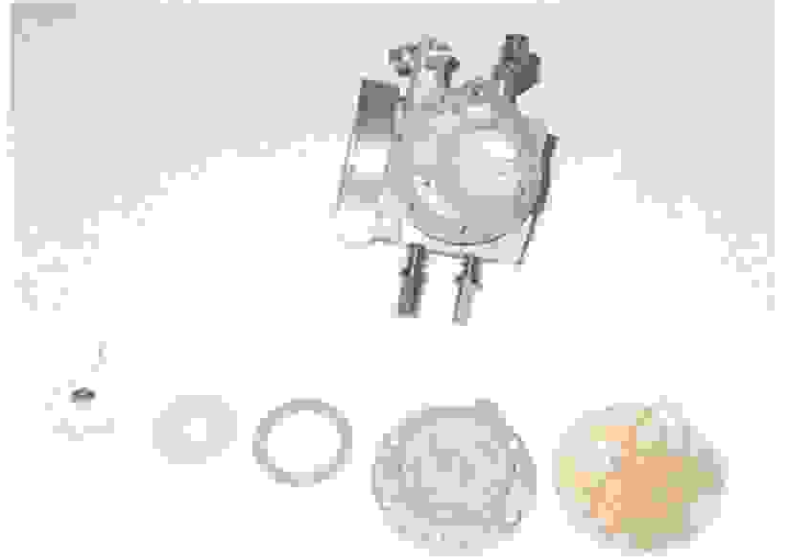
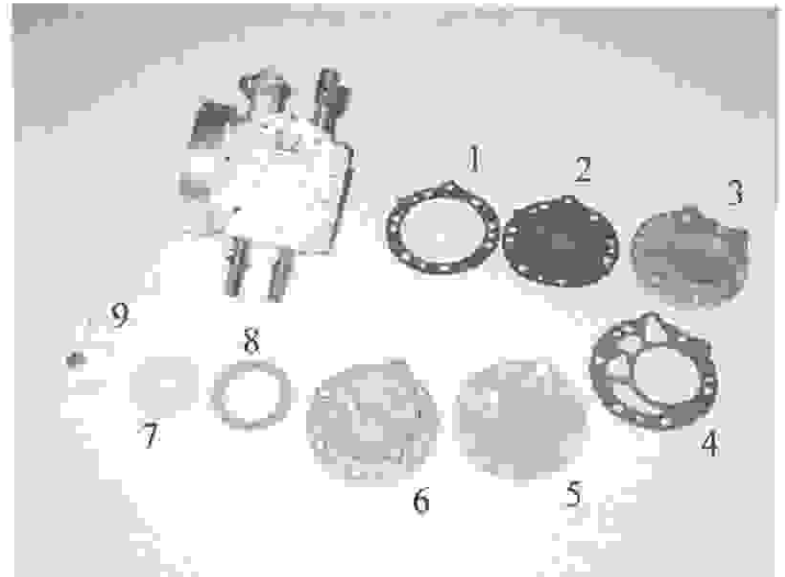
Fulcrum height: This setting regulates the amount the needle is raised to allow fuel to pass. This height is determined by the top of the fulcrum arm to the top of the inner machined base. To adjust this simply lift up the fulcrum arm from the end.



Notice the layout of the assembly pieces. The notch is located at the top in the photos. This goes over the needle area. A light coat of oil on the gaskets will help in sealing the assembled parts. This also eliminates leakage between the plates during pop-off checking. Carefully place the pieces into position.

Once the gasket and metering diaphragm is in place start with the next plate.

After the bolts are in place, cross tighten the plates down evenly. Then place the screen after careful cleaning (lint-free) then the gasket. Position the cap at the angle for the fuel inlet and tighten.



Pop-off range is 9 to 10.5 lbs. This is checked with a pop-off gauge part# KSK-700130. Different fulcrum arm springs will change the pop-off pressure. Disassemble and change to another spring or slightly stretch a spring to achieve more pressure. Less pressure allows more fuel to enter the carburetor easier thus making a richer condition. Higher pressure equals a leaner condition. Too high of pressure will lean mid-range out and if high enough could create higher internal heat or piston seizer.



IMPORTANT: Adjusting the throttle stop.

See photo, the cable swivel actually stops on top of the cable adjusting assembly. Loosen jam nut on the cable adjusting bolt. At the same time look down the carburetor bore. Adjust bolt so the swivel moves up and down to allow the throttle butterfly to be perfectly centered in the carburetor bore.

Never cut off old hard fuel line with razor knife. It will put grooves in fuel cap causing two problems. First, air suction into fuel stream during operation. Second, loss of air during pop-off testing.

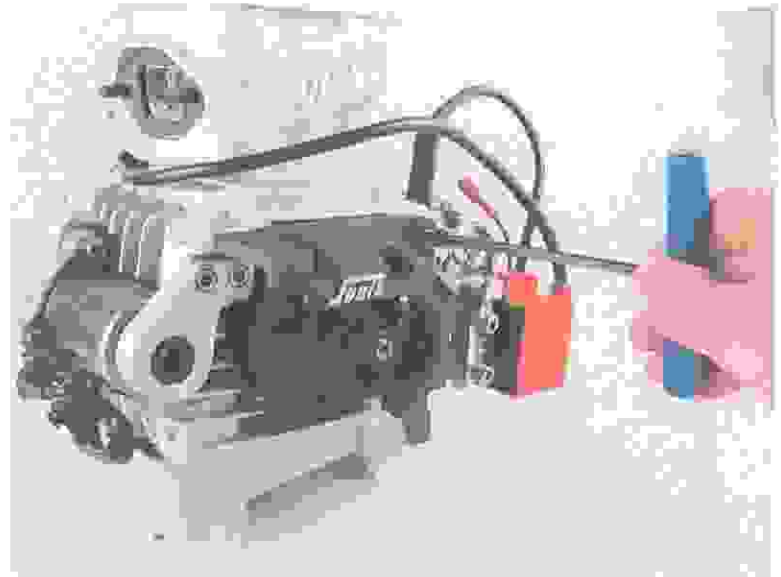
Needle Settings:

Sprint: L=3/4 to 1-1/16, H=1-7/8 to 2-1/8 turns

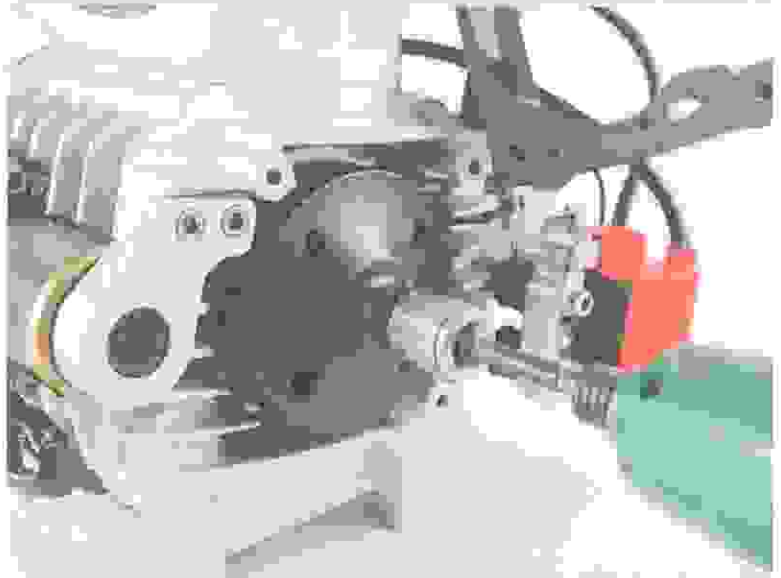
Road racing: L=7/8 to 1-1/8, H=2 to 2-1/4 turns

Shoe Clutch Inspection or Removal

1) Loosen 3 bolts holding chain guard on and lay over to the side during inspection. This uses a 5mm Allen "T" wrench. It is not necessary to remove ground wire.



2) Impact loose the retaining outside nut using a 17mm or 1 1/16" socket. It, like the inside retaining nut, has a standard right-hand thread. Remove nut, washer, and drum.



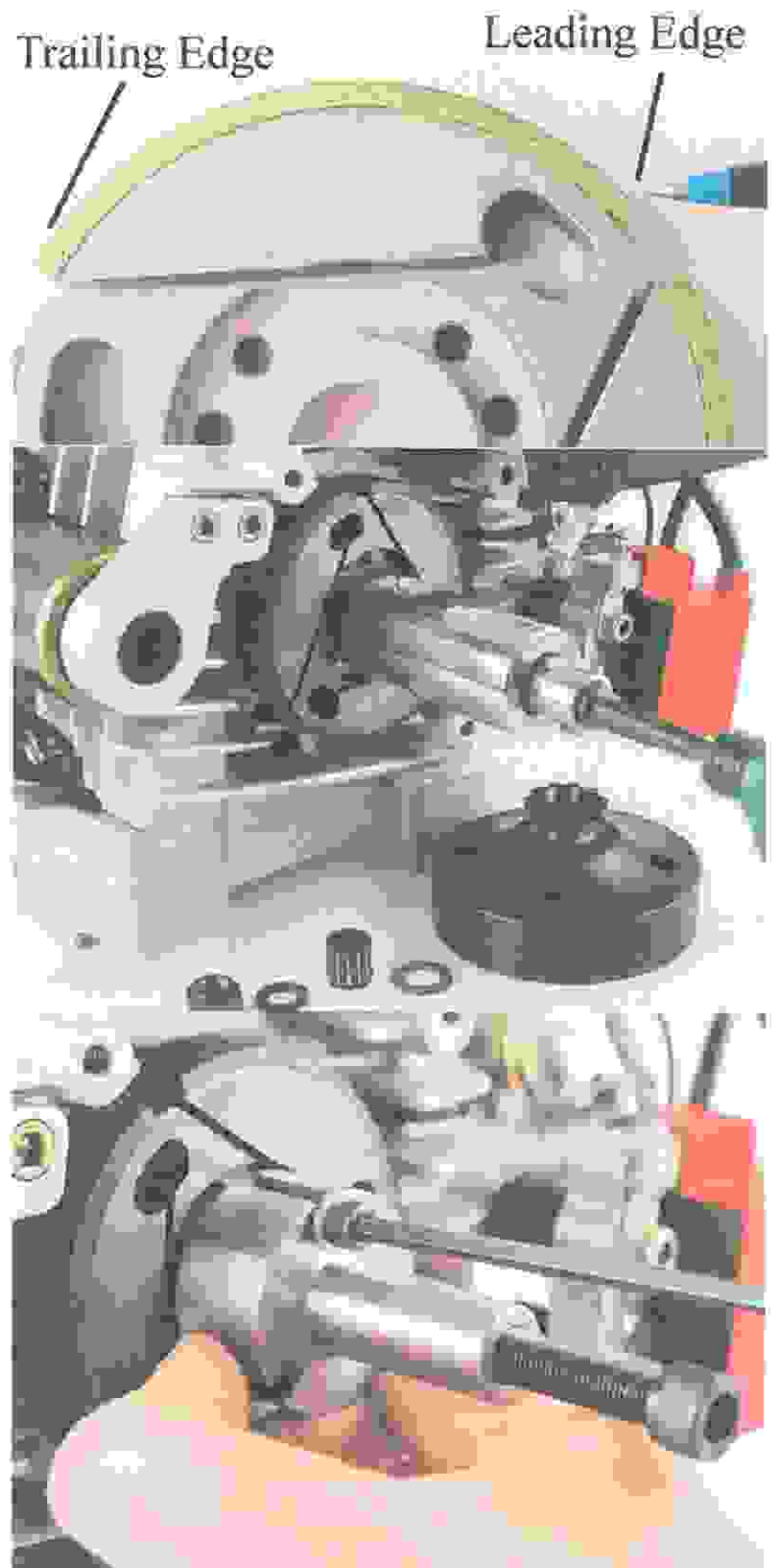
3) Inspect needle bearing after use. Notice if it has grease or if it's dry. If dry, start greasing more often. Remove needle bearing, and shim washer. Wipe shaft clean.



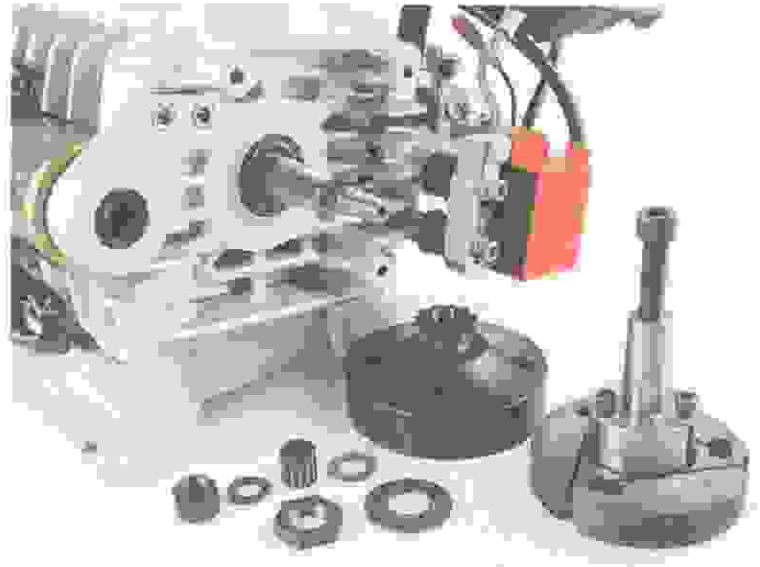
4) Furthermore, visually determine the overall lining thickness by comparing the leading to the trailing edge. The trailing edge will generally wear more. If the trailing edge is less than $\frac{1}{2}$ the leading edge thickness it is recommended to change the shoe assembly, (Part # K SK-52801). IF OK, go to step 11.

5) Again, impact loose using a 24mm or 1" deep socket the thin hold down nut. Sit both thin nut & cup washer aside. Notice the way the cup washer is placed before taking it off completely. It's cupped toward the shoe assembly.

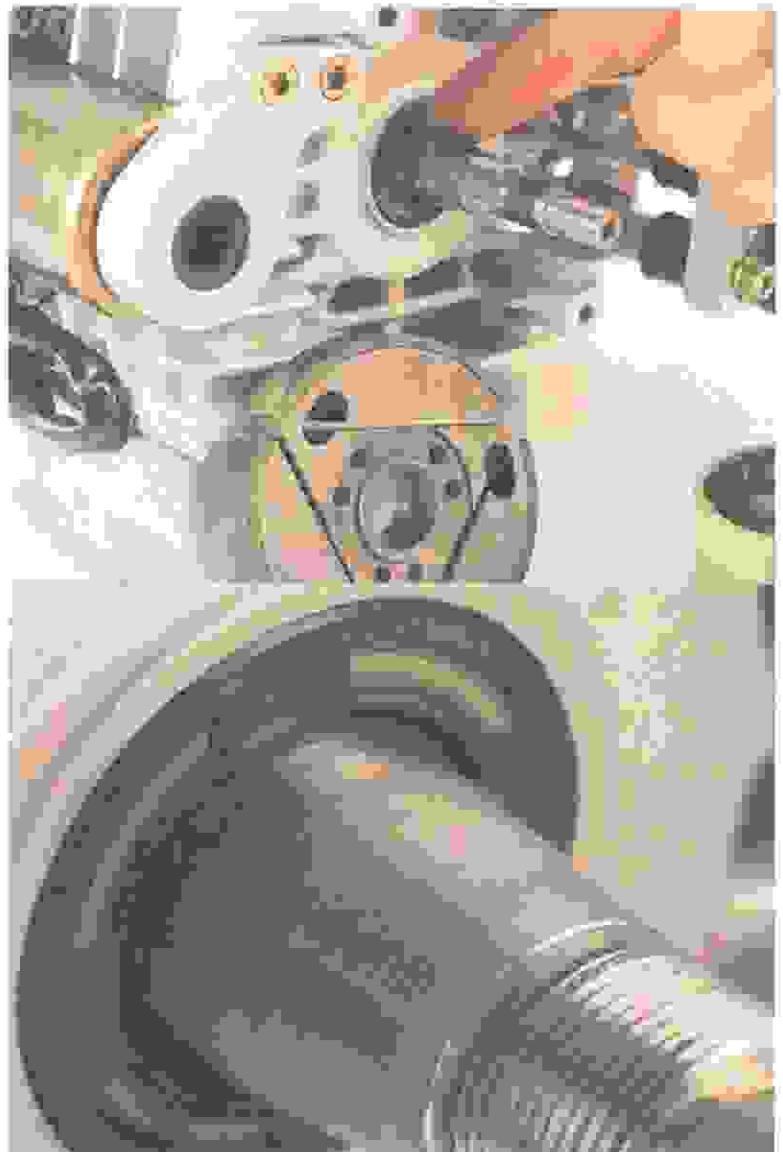
6) Install puller (part # K SK-53005) over shaft and against clutch face. Tighten 3 puller bolts, then tighten center bolt of puller. This pushes against crankshaft end safety. Clutch should side or pop off. Tools needed are 4mm or $\frac{5}{32}$ " Allen "T" and $\frac{5}{16}$ " hex socket.



7) To remove clutch key, use side cutters (dykes). Lock onto the key and leverage it out. File away burrs left on key before installing. Never hit crankshaft with chisel/screwdriver to remove key. Inspect crankshaft taper for any build up.



8) It is best to grind lap either used or new shoe assembly to the crankshaft. This is done with a small dab of grinding compound on the crankshaft taper. Grinding compound can be picked up at any Auto parts store or Sonik part # K SK-53010. Slide shoe assembly on crankshaft with compound and by holding opposite side of crank by hand twist back and forth on the taper. Do this until compound feels smooth. Clean crankshaft & shoe assembly with cloth to get most of the grit from shoe and shaft. Next, spray Brake Cleaner into cloth and wipe again. Never spray crankshaft or shoe lining directly due to overspray getting on crankshaft seal or clutch lining.



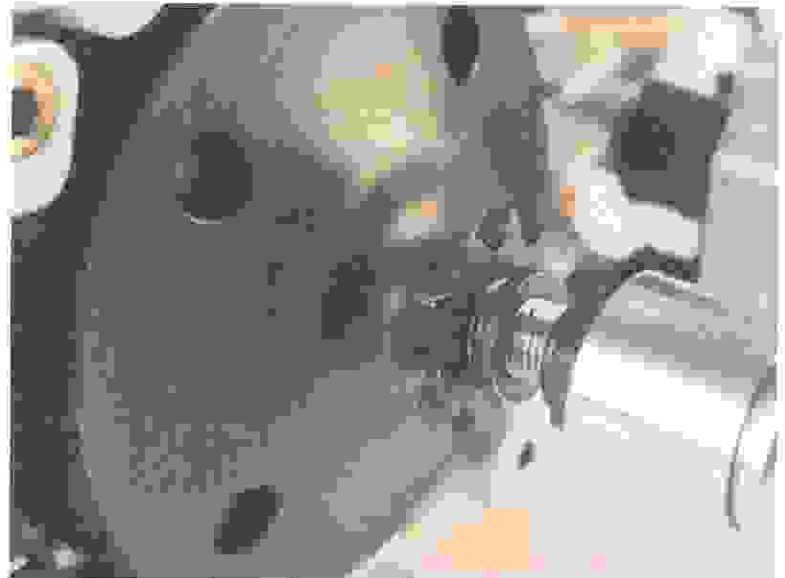
9) With both parts clean, drop crankshaft key into slot. If not, dropping in, slightly file sides of key until it pushes or drops completely down into key slot. This is so shoe assembly glides and fits perfectly to taper.

10) Place cup washer and thin nut back on and impact firmly. Now, slide thrust washer in place with needle bearing. Thrust washers are available in 3 thickness for different drum endplays, .060", .065", .070".

11) Using Molybdenum grease (K SK-53011) or equivalent on needle bearing before and after on crankshaft. If Molybdenum grease is not available use something as in axle, white, or wheel grease. This needle bearing takes a lot of abuse. Depending on grease type or your individual usage grease each weekend or more frequently as needed.



12) Re-install drum after wiping the inside out. Spin drum. It should spin freely. Place washer on with flat side toward clutch. Some washers may have one side beveled on the inside hole. Placing the bevel side toward clutch will reduce drum endplay if needed. Impact nut back on.



13) Again spin and pull drum in & out to check drum endplay on crankshaft.



Gasoline and oil Mixture:

Any Hi-grade unleaded pump or racing gases are acceptable. Most racing gasolines are leaded, which adds slight lubricity. Racing fuels generally run cooler than any standard pump gasoline. A high-grade pump gas i.e. Amoco/BP or equivalent is a good choice. Beware, most pump gasolines in the US have oxygen agents in their gasoline for emissions. Most of these additions will not pass the organizations fuel-testing procedures. A blend of both racing gasoline and pump gasoline will in most cases pass the fuel test.

An octane rating number of 95 to 110 is acceptable. Most racing gasolines are 105 to 128. Be cautious with too high of an octane rating number. VP, Union 76, and Cam II are a few racing fuels that been around for sometime and deliver reliable mixtures time and time again.

A castor-based oil (K SK-701300) will deliver the best overall lubrication throughout the entire engine, even with the higher rpm's and higher temperatures currently used by today's engines. If your engine is operating at very rich carburetor settings and you use castor base oil, more carbon may be deposited throughout the ring and head combustion area. Some cleaning may be necessary.

We suggest a mixture of 8 oz of castor based oil to (1) gallon of a blend of 50% race gas (110 octane) and 50% Amoco/BP medium grade 89 octane pump gas. Add the oil to the pump gas first for better blending and then add the race gas. Make sure to blend (shake) the mixture thoroughly after blending and each time before adding to the kart fuel tank. In extremely cold conditions (less than 40 degrees) castor oil has a tendency to "drop out" of the mixture. Always make sure the gas/oil mixture is properly blended before running. Pump gasoline helps the blending of most oils in cooler temperatures.

Engine Break-in

This is for a new engine or freshly rebuilt with piston assembly.

Run in engine 2 ten to fifteen minute sessions with a cool down periods between each session.

1) Warm up procedure. Involves starting engine and allow water to follow through system. This is achieved on a kart stand before entering the track or several slow laps on the track. A good warm up temperature is 110 to 120 degrees before experiencing full throttle conditions.

2) Use same carburetor settings or slightly richer needle setting of 1/8 of a turn out.

3) Using moderate speed run engine on the straights 1/2 to 5/8 throttle and 5/8 to 7/8 in the corner. This is to clean engine out of unburnt gases. Also, this will indicate if engine is functioning properly through acceleration off the corners. Break-in is highly suggested on the track. Not, driveway or on kart stand. Engine is best having variable loads.

The engine should not operate in a complete rich condition during break-in. If this occurs, first give a little more throttle, if this does not help maybe readjust carburetor by leaning high speed needle a little at a time. If spark plug fouls during break-in, change plug. Breaking the engine in properly will result in a smoother and cooler running engine during normal racing use. Although, running the engine on a kart stand has little to no load, it is better than nothing.

Starting and Stopping procedure

Press and hold brake pedal down firmly. Slightly press throttle pedal 1/2 to 3/4 of full throttle. Hold hand over the 2 air inlet holes to prime fuel from the tank to carburetor cap. If fuel is already present hand prime is not needed.

Press the start button until engine starts. Pressing for 5 seconds should start engine swiftly. If not, quickly stop pressing start button. Wait 5 to 10 seconds, then try once again. You must wait briefly so the starter bendix releases before pressing the starter button again. A long continued push of the starter switch may damage starter and components. Several short starts are better than one long attempt. **Caution:** Do not maintain continuous high throttle settings while holding brake. Excessive high revving without the rear axle turning can do damage to the clutch.

To Stop

Slow down safely away from track and then toggle the switch to turn engine off. Keep engine running clean on your lap in so engine doesn't get loaded up with fuel before shutting down engine. This will help in restarting next time. **Never** just start engine and leave running without axle moving. Water circulation is always needed.

Temperatures

Water temperature can be changed by radiator position and taping. Move radiator more upright for more air hitting and passing thru the radiator cores will equal cooler temperatures. Running one strip of duct tape at a time down the length or width of the radiator will change temperature readings as well. The amount of tape and weather conditions will determine how much tape is needed.

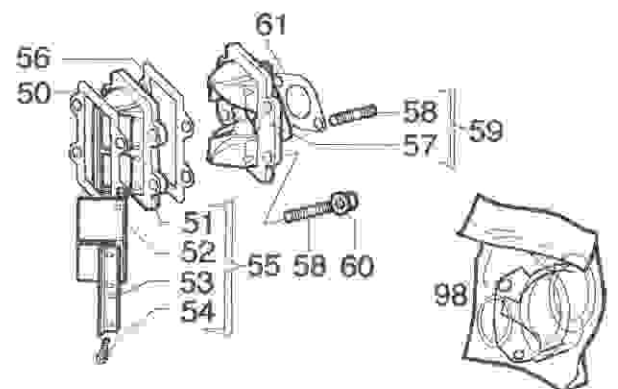
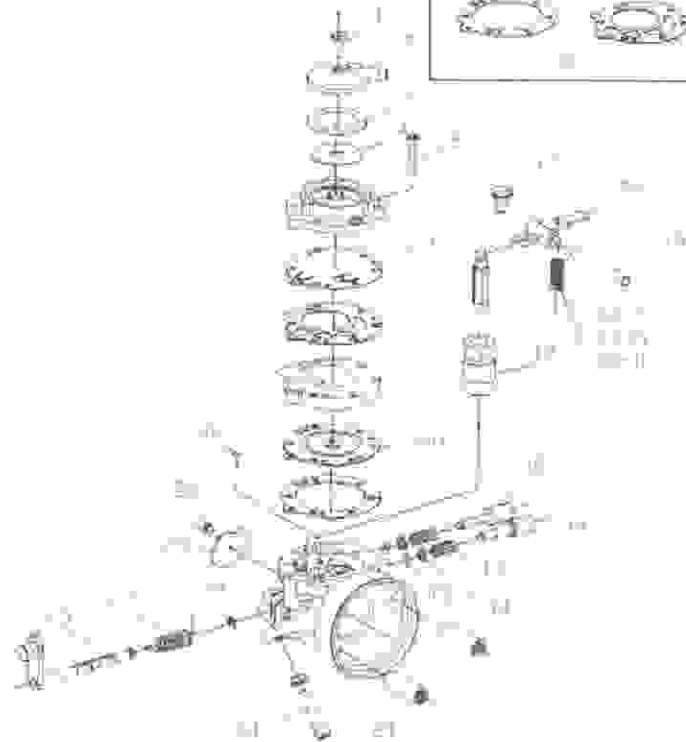
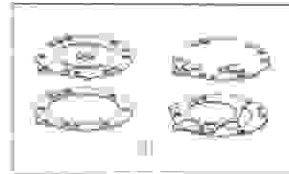
Exhaust temperature is changed by carburetor, flex pipe (longer=cooler), and also by gear changing. Allowing the engine to operate at less loads also equals cooler temperatures.

Cooler Weather

If outside temperature is cooler than 60 degrees add 2 to 3 pieces of tape vertically on the radiator. Each 10 degrees lower add 1 more piece of tape. This is to maintain a water temperature of 130 to 150 degrees. Radiator size and angle will vary temperature, test this yourself. This may need experimenting on your part.

NOTE: Drain water if freezing is expected. Cylinder or head cracking could occur.

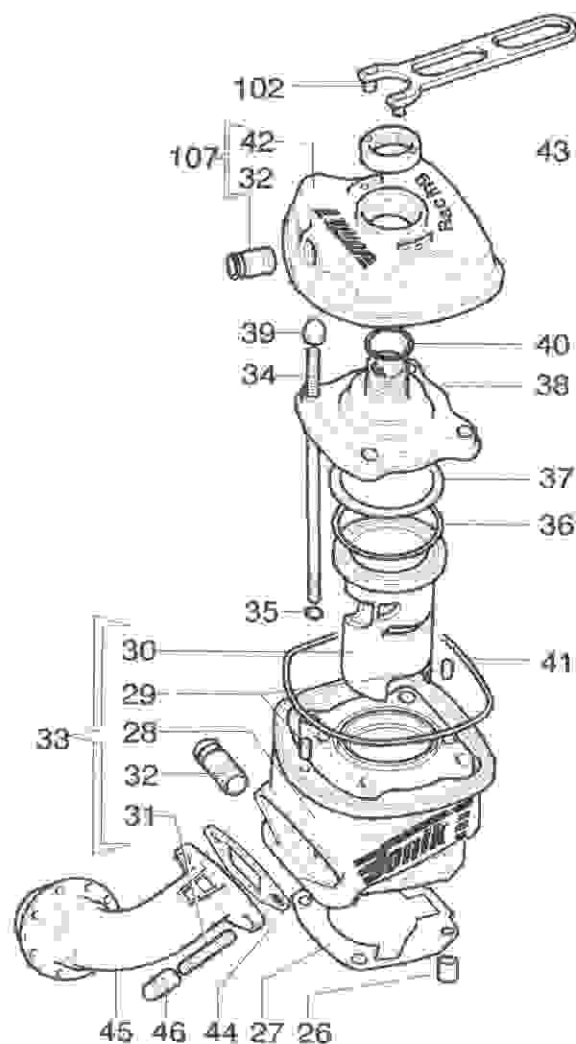
Carburetor and Reed Assembly



Cylinder Assembly

Cylinder Assembly

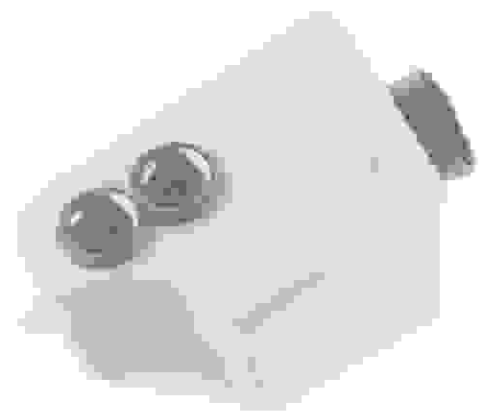
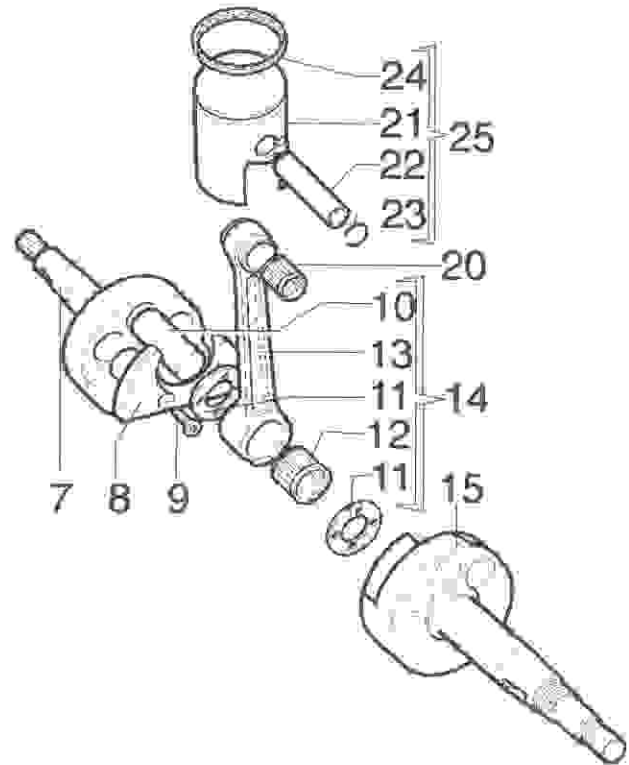
Ref#	Part #	Description
26	K SK-3190020	Sleeve pin for stud (2 req)
27	K SK-3040100	Base gasket .10mm (.004")
27	K SK-3040110	Base gasket .20mm (.010") std
27	K SK-3040120	Base gasket .30mm (.014")
27	K SK-3040130	Base gasket .40mm (.016")
27	K SK-3040140	Base gasket .50mm (.020")
31	K SK-3070020	Exhaust stud (2 req)
33	K SK-1030080	VX cylinder assembly
33	K SK-1030130	TX cylinder assembly
34	K SK-3070010	Cylinder stud (4 req)
35	See reference #	Kit A
36	K SK-4020130	O-ring for liner/head gasket
37	K SK-4030130	Head gasket .05mm (.002")
37	K SK-4030140	Head gasket .10mm (.004")
38	K SK-2020100	VX inner head
38	K SK-2020170	TX inner head
39	K SK-4270000	Nut head (4 req)
40	K SK-4020030	O-ring, head to cover (small)
41	K SK-3180010	O-ring, top of cylinder
43	K SK-3160000	Nut ring for head
44	K SK-4030020	Exhaust gasket
45	K SK-4420080	Exhaust header
46	K SK-3080020	Exhaust nut (2 req)
98	K SK-1190020	O-rings and base gasket (6 pack)
102	K SK-3260020	Wrench for head nut ring
107	K SK-2030010	Head cover with fitting
Kit A	K SK-1190030	O-rings for engine only (6 pack)



Crankshaft and Piston Assembly

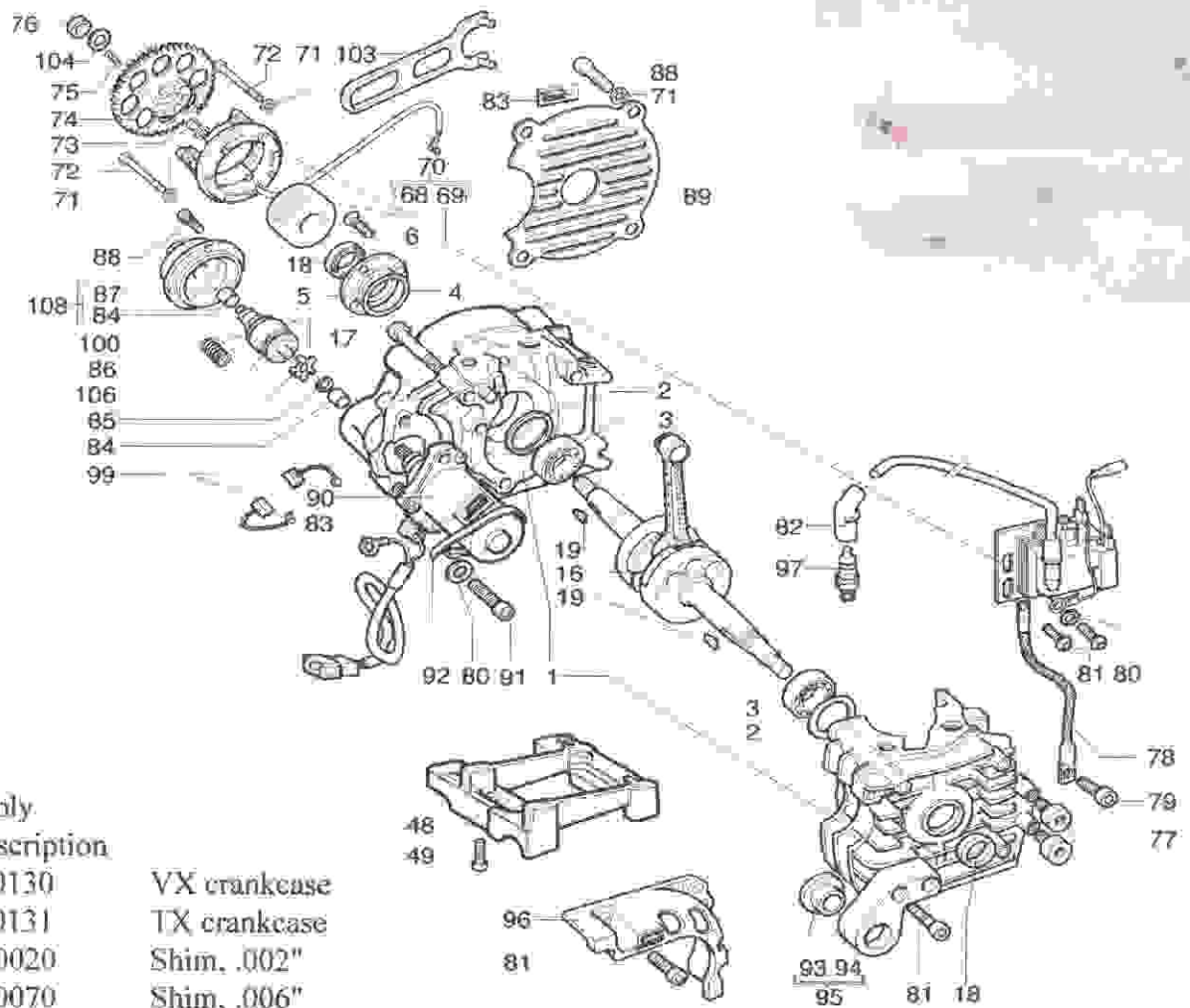
Crankshaft and Piston Assembly

Ref#	Part #	Description
7	K SK-2130111	VX crank 1/2 ignition side
7	K SK-2130130	TX crank 1/2 ignition side
8	K SK-3100000	Plastic stuffer (2 req)
9	K SK-4100070	Flat head screw (2 req)
10	K SK-3020000	VX crankpin
10	K SK-3020040	TX crankpin
11	K SK-4110000	Washer for crankpin (2 req)
12	K SK-4120000	Bearing lower rod
13	K SK-3010050	VX connecting rod 100mm
13	K SK-3010100	TX connecting rod 102mm
15	K SK-2130101	VX crank 1/2 clutch side
15	K SK-2130120	TX crank 1/2 clutch side
16	K SK-1040100	VX crankshaft complete
16	K SK-1040140	TX crankshaft complete
20	K SK-4120010	Upper cage
22	K SK-3120010	Wrist pin for piston
23	K SK-3120011	Clip for piston (2 req)
23	I 10341-USA	Spiral locks (pair)
25	K SK-1020970	Piston kit 54.00 V
25	K SK-1020971	Piston kit 54.00 R
25	K SK-1020975	Piston kit 54.02 V
25	K SK-1020976	Piston kit 54.02 R
25	K SK-1020980	Piston kit 54.05 V
25	K SK-1020981	Piston kit 54.05 R
25	K SK-1020990	Piston kit 54.10 V
25	K SK-1020991	Piston kit 54.10 R
25	K SK-1020992	Piston kit 54.12 V
25	K SK-1020993	Piston kit 54.12 R
25	K SK-1021000	Piston kit 54.15 V
25	K SK-1021001	Piston kit 54.15 R
25	K SK-1021013	Piston kit 54.20 V
25	K SK-1021014	Piston kit 54.20 R
25	K SK-1021015	Piston kit 54.22 V
25	K SK-1021016	Piston kit 54.22 R
25	K SK-1021020	Piston kit 54.25 V
25	K SK-1021021	Piston kit 54.25 R
25	K SK-1021030	Piston kit 54.27 V
25	K SK-1021031	Piston kit 54.27 R



K SK-710000

Crankcase, Starter Assemblies, Chain Guard and Engine Mount



Crankcase Assembly

Ref#	Part #	Description
1	K SK-1110130	VX crankcase
1	K SK-1110131	TX crankcase
2	K SK-4070020	Shim, .002"
2	K SK-4070070	Shim, .006"
3	K SK-4066205	Main bearing (2 req)
4	K SK-4020150	O-Ring for case plate
5	K SK-2070070	Cover plate for case
6	K SK-4100340	Bolt, 5mm x 12
17	K KS-4100260	Bolt, 6mm x 50mm
18	K SK-4080010	Crank seal (2 req)
19	K SK-4200000	Key (2 req)
68	K SK-4260070	Ignition less coil
69	K SK-4250040	Coil only
70	K SK-1080090	Ignition with coil
71	K SK-4240010	Washer #10
72	K SK-4100440	Bolt, 5mm x 40
73	K SK-4100010	Bolt, 5mm x 25
74	K SK-2150020	Starter gear, large
75	K SK-3210020	Bolt special (2 req)
76	K SK-3080050	Nut, 12mm x 1
77	K SK-4230000	Rubber shock-2 req
78	K SK-1070000	Ground wire
79	K SK-4100110	Bolt, 6mm x 10
80	K SK-4240000	Washer, 6mm
81	K SK-4100280	Bolt, 6mm x 25
82	K SK-4050010	Spark plug boot

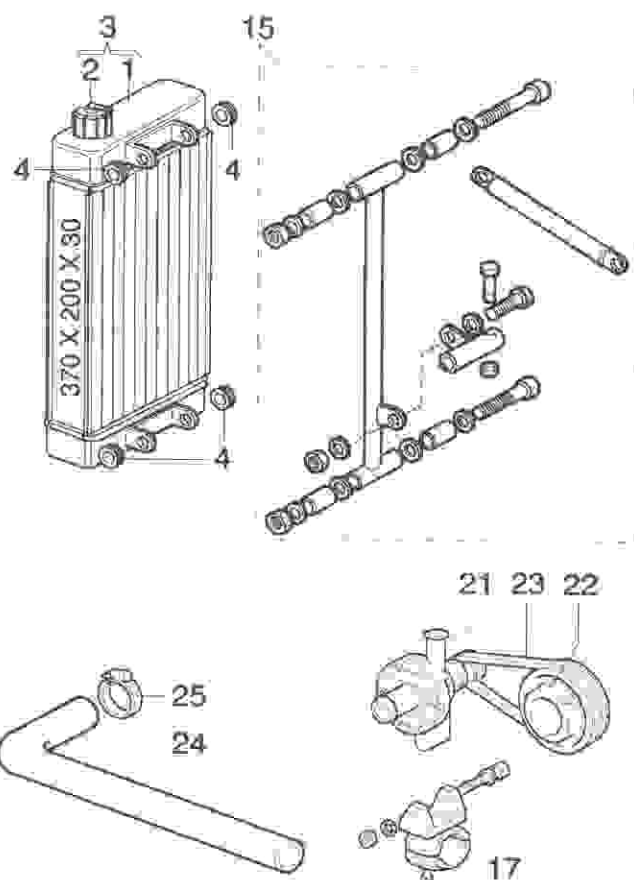
Starter Assembly, Chain Guard and Engine Mount

Ref#	Part #	Description
48	K SK-2080110	Engine base mount 10°
49	K SK-4100040	Bolt, 10mm x 30 (4 req)
48A	K SK-2100010	Bottom clamp (2 req)
84	K SK-4060081	Bearing, starter (2 req)
85	K SK-4070060	Washer/O-ring, starter
86	K SK-4210110	Starter Bendix gear assy.
88	K SK-4100480	Bolt, 5mm x 12 (7 req)
89	K SK-2050070	Red sidecover
90	K SK-4690020	Starter motor
91	K SK-4100420	Bolt, 6mm x 35
93	K SK-4230040	Rubber grommet
94	K SK-2110090	Support only
95	K SK-1220030	Support-starter assy.
96	K SK-2050130	Chain guard
97	GS 2366	Spark plug, NGK
99	K SK-4670040	Starter brushes
100	K SK-4380070	Starter Bendix return spring
108	K SK-2070090	Cover with bearing
—	T 7652	Ignition rotor holder and puller

Radiator, Water Pump and Accessories

Radiator, Water Pump and Accessories

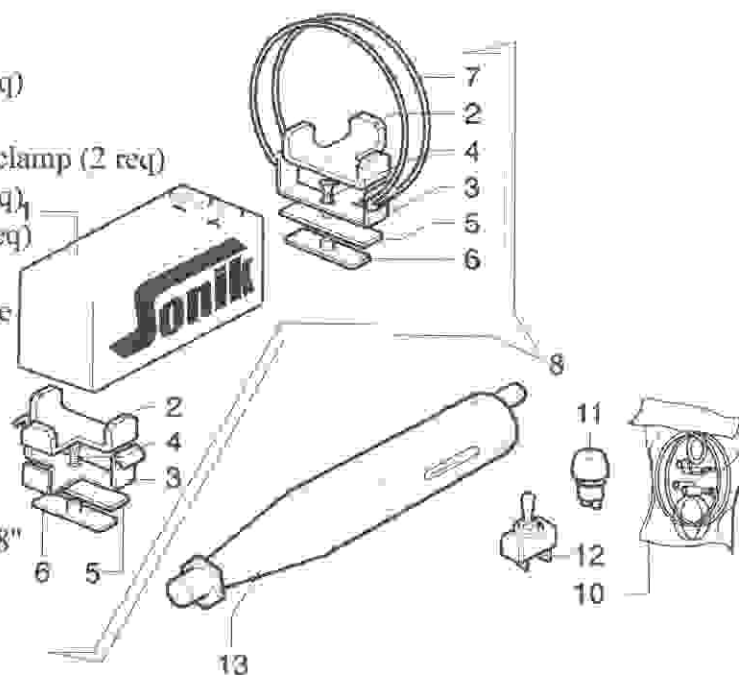
Ref#	Part #	Description
2	K SK-4720060	Radiator cap
3	K SK-4500010	Radiator with cap
4	K SK-4230050	Rubber grommet
15	K SK-1160060	Mounting kit for radiator
17	K SK-4400010	Bracket for water pump
21	K SK-4480010	Water pump
22	K SK-4490010	Axle pulley, 40mm
22	K SK-4490020	Axle pulley, 50mm
23	K SK-4020100	O-Ring belt (2 req)
24	K SK-4550000	Hose for radiator (2 req)
25	T 0991	Hose clamp for radiator (4 req)



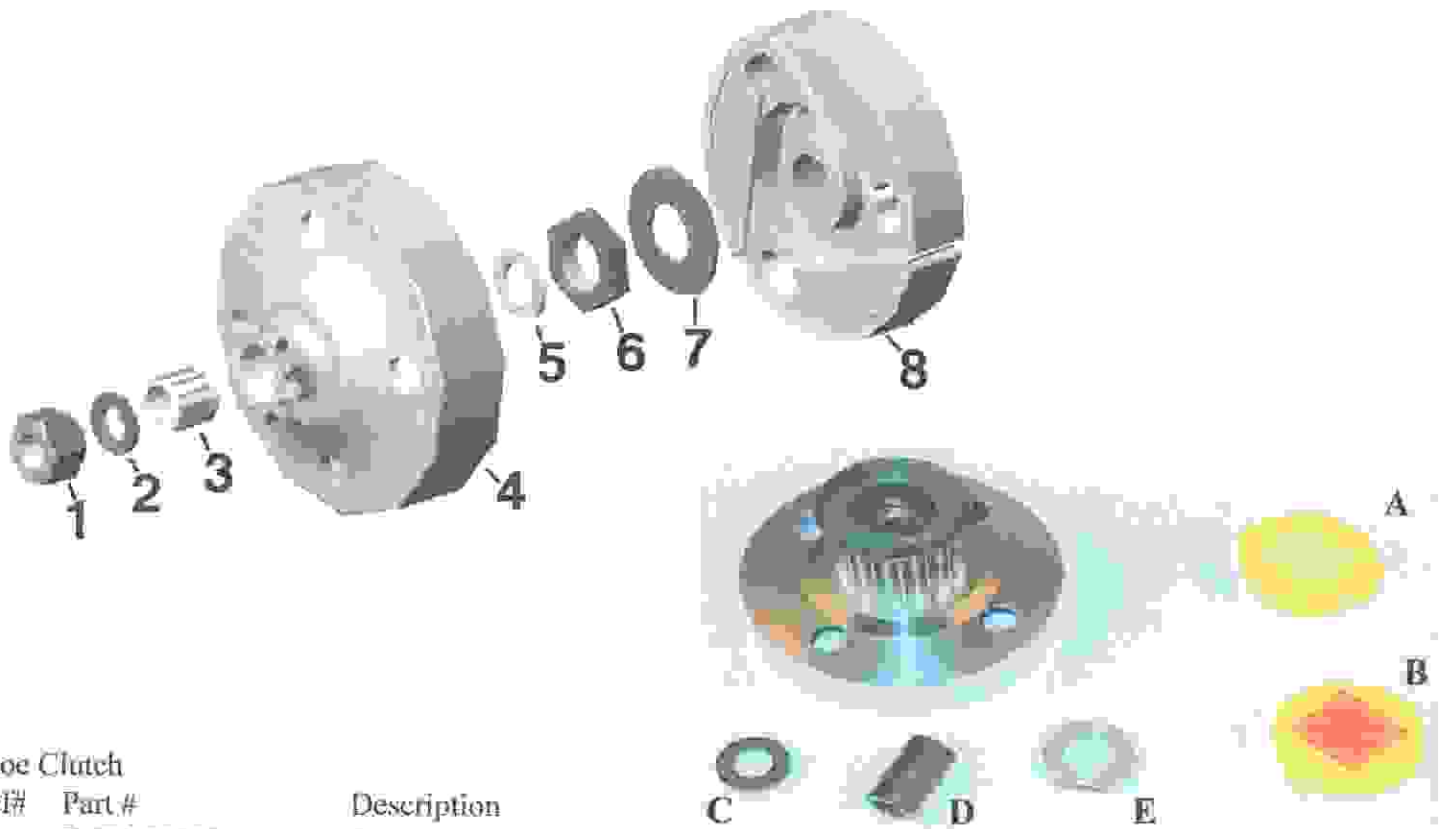
Electrical and Exhaust Accessories

Electrical and Exhaust Accessories

Ref#	Part #	Description
—	K SK-5000180	Wire, battery to switch
—	K SK-5000190	Wire, battery to hardness
1	K SK-4710010	Battery
2	K SK-3240000	Foam, upper clamp-2 req
3	K SK-2110060	Battery upper clamp (2 req)
4	K SK-4100220	Bolt, 6m x 25
5	K SK-3240010	Rubber for lower battery clamp (2 req)
6	K SK-2080080	Battery lower clamp (2 req)
7	K SK-4020160	Battery O-ring bands (2 req)
8	K SK-1220000	Battery holder kit
10	K SK-1230000	Wiring harness - complete
11	K SK-4700000	Push button switch
12	K SK-4700010	Toggle switch
13	K SK-3220010	Exhaust pipe
—	K SK-435000A	Flex length 12"
—	K SK-435000B	Flex length 2"
—	K SK-435000C	Flex length 3-1/2" to 3-5/8"
—	K SK-3220SPG	Spring - header to pipe



Shoe Clutch



Shoe Clutch

Rel#	Part #	Description
1	K SK-50100	Starter nut, 10mm x 1
2	K SK-50200	Thrust washer external
3	K SK-50300	Roller bearing from drum
4	K SK-52410	Drum 10T - #219 (no bearing)
4	K SK-52411	Drum 11T - #219 (no bearing)
4	K SK-52415	Drum 15T - #219 (no bearing)
4	K SK-52416	Drum 16T - #219 (no bearing)
4	K SK-52415-B	Drum 15T - 30mm wide-Belt
4	K SK-52416-B	Drum 16T - 30mm wide-Belt
5	K SK-50515	Thrust washer 1.5mm thick (opt)
5	K SK-50517	Thrust washer 1.7mm thick (std)
5	K SK-50518	Thrust washer 1.8mm thick (opt)
6	K SK-50600	Jam nut, 16mm x 1
7	K SK-50700	Washer coned
8	K SK-52801	Shoe assembly - style A
20	K SK-53005	Puller for shoe clutch
—	K SK-4200000	Key for crankshaft
—	K SK-52820	Nuts, washers, key kit for shoe clutch
A	K SK-53010	Lapping compound
B	K SK-53011	Grease for clutch bearing
C	K SK-xxxxxx	Belt-Outer washer behind starter nut
D	K SK-xxxxxx	Belt-Starter nut-Hex inner
E	K SK-xxxxxx	Belt-Cut down large nut
—	K SK-52810	Shoe clutch complete with 10T/219
—	K SK-52811	Shoe clutch complete with 11T/219

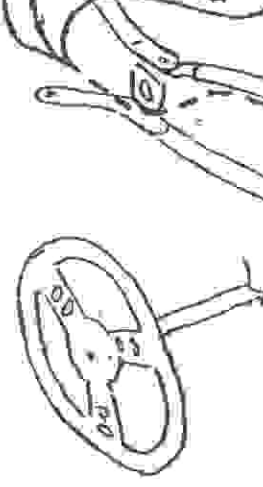
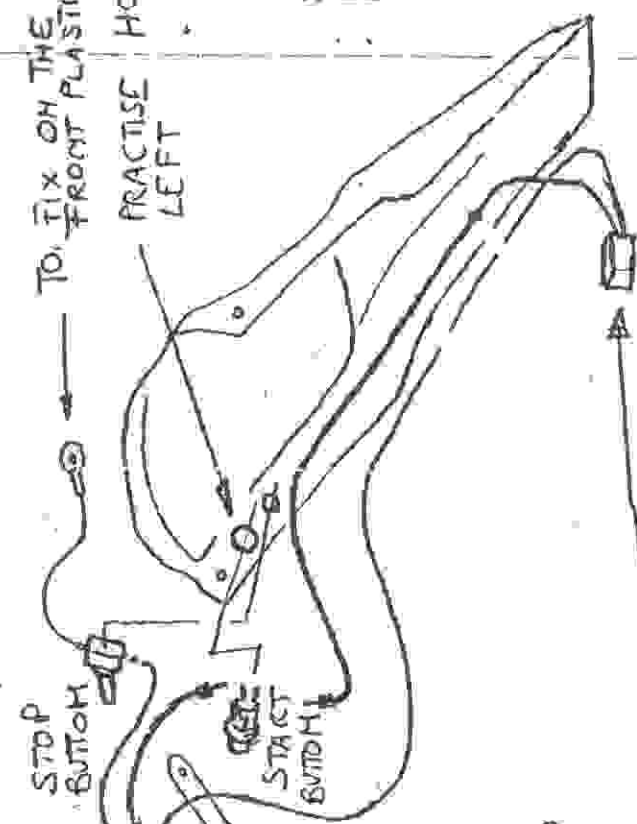
Belt Drum Accessories

TO FIX ON THE METAL SUPPORT OF THE FRONT PLASTIC

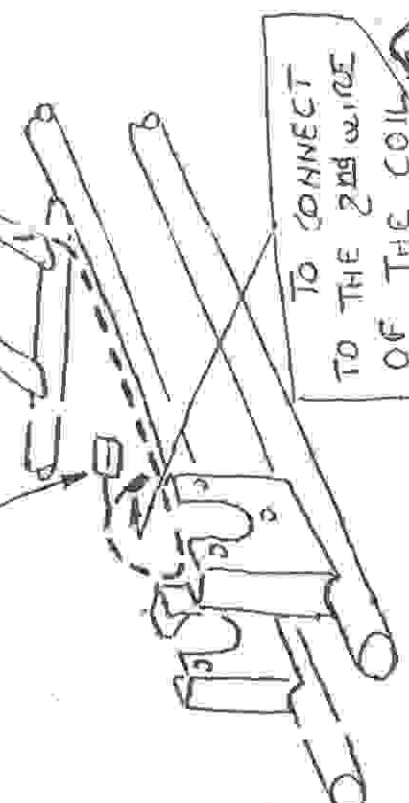
HOLES FOR BUTTONS ON THE PRACTISE LEFT



SONIK 51
 KART ENGINES
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 Partita IVA 01740960354 - Capitale Sociale 20.000.000
 Iscr. al Reg. Imprese di Reggio E. al n. 135152/1997



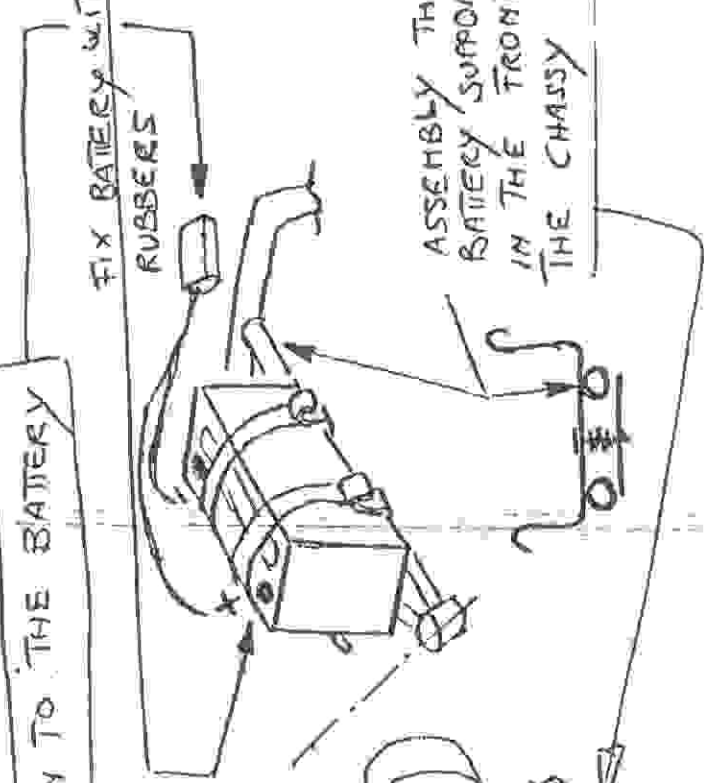
CONNECTION TO ELECTRIC MOTOR



TO CONNECT TO THE 2ND WIRE OF THE COIL



CONNECTION TO THE BATTERY



ATTENTION:

- PUT ACID IN THE BATTERY
- RECHARGE WITHOUT TAPS
- USE ELECTRONIC RECHARGE WITH AUTOMATIC STOP
- CLOSE THE TAPS AND CLEAN THE EVENTUAL DROPS

SONIK S.R.L.

