

***1987 Arctic Cat
Kitty Cat[™]
Illustrated Parts and
Service Manual***

ARCTIC CAT[®]
Get on it.



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SECTION 1 — GENERAL INFORMATION

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Specifications*

ENGINE AND DRIVE	
Model	AA06A8
Bore x Stroke	41 x 45 mm (1.614 x 1.772 in.)
Displacement	59 cc (3.60 cu in.)
Compression Ratio	6.6:1
Drive Clutch	Centrifugal
Brake Type	Band
Ignition Type	CDI
Track Width	25.4 cm (10 in.)
Track Length on Ground	35.6 cm (14 in.)
Track Tension (range)	20-25 mm (3/4-1 in.)
Spark Plug	NGK BR6HS
Spark Plug Gap	0.7 mm (0.028 in.)
Ignition Timing	20° BTDC - 1.728 mm (0.068 in.)
MISCELLANY	
Gasoline	88 Minimum Octane Leaded or Unleaded
Engine Oil	Arctco/Arctic Cat 50:1 Oil
Fuel Mixture for Break-In	24:1
Fuel Mixture after Break-In	50:1
Fuel Tank Capacity	1.7 l (0.46 U.S. gal.)
Gear Case Lubricant	SAE #10W-30
Length w/Skis	142.2 cm (56 in.)
Height	72.4 cm (28.5 in.)
Overall Width	58.4 cm (23 in.)
Dry Weight	45 kg (102 lb)

*Specifications subject to change without notice.

Engine Break-In

The Kitty Cat Snowmobile engine (when new or overhauled) requires a short break-in period (approximately 10 operating hours or two tankfuls of a 24:1 fuel mixture) before being subjected to heavy load conditions or full-throttle operation. Strict adherence to the break-in procedure will contribute to optimum performance and longevity of the engine.

During break-in, a maximum of 1/2 throttle is recommended; however, brief full-throttle accelerations and variations in driving speeds contribute to good engine break-in.

Recommended Gasoline

The correct gasoline is 88 minimum octane leaded. Do not use gasolines containing either methanol or more than 5% ethanol.

● CAUTION ●

Do not use gasolines containing either methanol or more than 5% ethanol. Also, gasoline additives and white gas **MUST NOT BE USED**; they will eventually cause engine damage.

NOTE: Arctco recommends leaded gasoline; however, unleaded gasoline (of at least 88 minimum octane) may be used as a substitute if leaded gasoline is not available.

Recommended Oil

The correct oils to use are either Arctco 50:1 Oil or Arctic Cat 50:1 Oil. These oils are specially formulated to meet the lubrication requirements of the Kitty Cat engine.

Summer Storage

CAUTION

Prior to storing the Kitty Cat for the summer, it is extremely important that it be properly serviced to prevent rusting and component deterioration.

Arctco recommends the following procedure to prepare the snowmobile for summer storage.

1. Remove the seat cushion from the tunnel, wash with a damp cloth, and store in a dry place.
2. Clean the snowmobile thoroughly by hosing dirt, oil, grass, and other foreign matter from the underframe, tunnel, hood, and belly pan. Allow the snowmobile to dry thoroughly. DO NOT get water into any part of the engine.
3. Drain all fuel from the fuel tank. Close the fuel shut-off valve by rotating it clockwise; then remove the air intake cover. Start the engine and allow it to idle; then using a rust-preventative oil, rapidly inject the oil into the carburetor air intake for a period of 10 to 20 seconds until all fuel in the carburetor float bowl is used and the engine stops. This procedure will coat the crankshaft with a protective coating of oil. Install the air intake cover and the fuel tank cap (if it was removed).
4. Plug the hole in the muffler with a clean cloth.
5. Disconnect the high tension wire from the

spark plug; then remove the spark plug. Pour 15 ml (1/2 fl oz) of petroleum-based oil into the spark plug hole; then pull the recoil starter handle slowly about ten times. Install the spark plug and connect the high tension wire.

6. Remove the drive chain and clean thoroughly in a solvent. Install drive chain and lubricate with a dry, graphite-based chain lubricant.

NOTE: The drive chain is equipped with a master link for servicing.

7. Apply a lightweight, petroleum-based oil to the steering post bushings. Check the lubricant level in the gear case and add lubricant if necessary.
8. Tighten all screws, nuts, and bolts making sure that all calibrated nuts and bolts are tightened to specifications.
9. Make sure all rivets holding components together are tight. Replace all loose rivets.
10. Clean and polish the hood, console, and chassis with an automotive-type cleaner wax. DO NOT USE SOLVENTS OR SPRAY CLEANERS. THE PROPELLENT WILL DAMAGE THE FINISH.
11. Lightly sand the bottom of the skis; then using black paint p/n 0652-004, paint the entire bottom of the skis.
12. If possible, store the Kitty Cat indoors. Raise the rear of the snowmobile off the floor and block up the rear end. Cover the snowmobile with either a machine cover or heavy tarpaulin to protect it from dirt and dust.
13. If the Kitty Cat must be stored outdoors, block the entire snowmobile off the ground and cover it with either a machine cover or heavy tarpaulin to protect it from dirt, dust, and rain.

NOTE: Avoid using a plastic cover as moisture will collect on the snowmobile causing rusting.

Preparation After Storage

Taking the snowmobile out of summer storage and correctly preparing it for another season will assure many miles and hours of trouble-free snowmobiling. Arctco recommends the following procedure to prepare the snowmobile.

1. Clean the snowmobile thoroughly. Polish the exterior of the snowmobile using an automotive-type cleaner wax.
2. Clean the engine cooling fins and the recoil starter vents. Remove the cloth from the muffler.
3. Check all control wires and cables for signs of wear or fraying. Replace if necessary. Use cable ties or tape to route wires and cables away from hot or rotating parts.
4. Inspect the drive chain and drive chain tensioner. Replace if necessary.
5. Lubricate the drive chain and steering post bushings.
6. Check brake-lever travel distance, all controls, ski alignment, track tension, track alignment, brake band, and ski wear-bars; adjust or replace as necessary.
7. Examine the fuel filter and clean or replace if necessary.
8. Fill the fuel tank with properly mixed fuel.
9. Clean and install the seat cushion.
10. Check the spark plug (clean or replace as necessary); then start the engine and ensure proper carburetor adjustments.

Lubrication

The drive chain and steering post bushings must be properly lubricated to ensure efficient operation. Also, the gear case lubricant must be maintained at the proper level.

DRIVE CHAIN

The drive chain should be lubricated every 20 operating hours with a dry, graphite-based chain lubricant. By using a dry, graphite-based chain lubricant, dirt buildup on the drive chain will be minimized. Before each lubrication, inspect the drive chain for dirt accumulation.

To lubricate the drive chain, shut the engine off and wait for all moving parts to stop, remove the drive chain shield, and lubricate the drive chain. After lubricating the drive chain, install the drive chain shield.

If excessive dirt is present on the drive chain, clean using the following procedure:

1. Remove the drive chain shield.
2. Remove the master link from the drive chain; then remove the chain.
3. Wash the drive chain in parts cleaning solvent and dry using compressed air.
4. Place the chain into position on the clutch sprocket, loop the chain over the driven sprocket, and install the master link making sure that the clip open end is directed away from the direction of drive chain rotation and that the clip is seated properly.

NOTE: Make sure the chain is resting on the chain tensioner and proper chain tension is maintained.

5. Lubricate the drive chain with dry, graphite-based chain lubricant.
6. Install the drive chain shield.

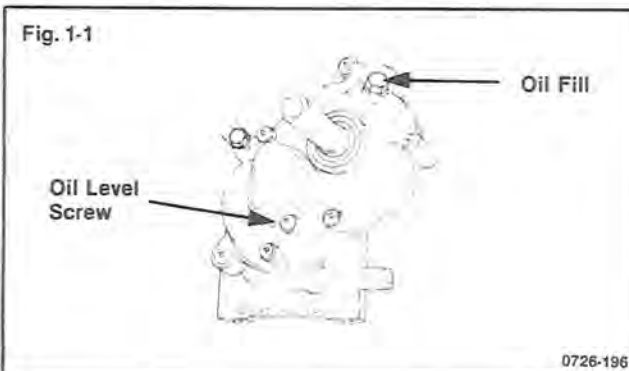
NOTE: If a dry, graphite-based chain lubricant is not available, lubricate the drive chain with several drops of petroleum-based oil. If the Kitty Cat is operated in the summer with the optional wheel kit, the drive chain should be lubricated more frequently.

STEERING POST BUSHINGS

Apply a lightweight, petroleum-based oil to the upper and lower steering post bushings every 40 operating hours.

GEAR CASE

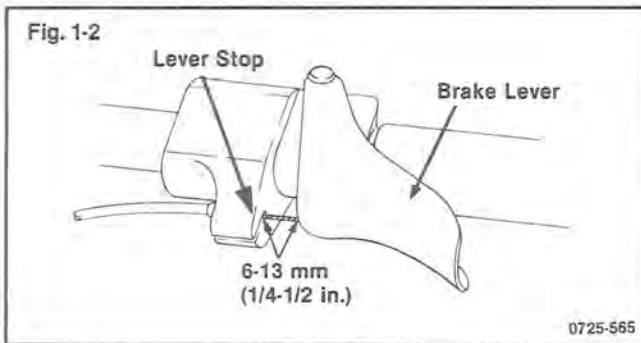
Every 40 operating hours the lubricant level should be checked in the gear case. To check the lubricant level, remove the oil level screw from the lower side of the gear case. The lubricant must be at the point of overflowing in the oil level hole. If lubricant is not present, add SAE # 10W-30 through the oil fill hole until it flows out of the oil level hole.



Brake

Checking Brake Lever Travel

1. Compress the brake lever fully.
2. Check the distance between the brake lever and the lever stop. The distance must be within the specified range of 6-13 mm (1/4-1/2 in.).

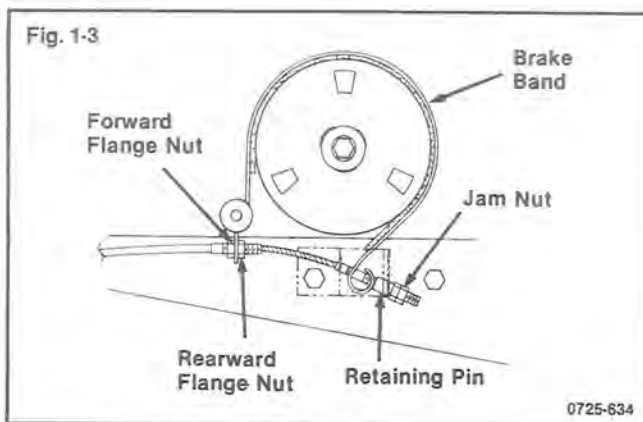


3. If travel distance is not as specified, adjust the brake.

Adjusting Brake Lever Travel

To adjust the brake lever travel, use the following procedure:

1. Remove the drive chain shield.
2. Loosen the jam nut on the retaining pin; then tighten the retaining pin to set up the brake.



3. Check the brake lever travel distance periodically while tightening the retaining pin. When the distance is within the specified range of 6-13 mm (1/4-1/2 in.), tighten the jam nut on the retaining pin to secure the adjustment.

NOTE: The brake band should lock tightly when the brake lever is compressed and should disengage when the lever is released. If additional adjustment is necessary, use the following steps.

1. Loosen the rearward flange nut on the brake cable.
2. Tighten the forward flange nut to set up the brake.
3. Ensure correct brake lever travel distance; then tighten the rearward flange nut to secure the adjustment.

Track Tension

NOTE: Track tension and track alignment are interrelated; therefore, always check both, even if only one adjustment seems necessary.

Track tension is directly related to the overall performance of the snowmobile. If the track is too loose, it may slap against the tunnel causing wear, or it may ratchet on the track drive sprockets. If the track is too tight, track drive sprocket wear will result. In addition, a track that has improper tension will prevent the snowmobile from reaching optimum performance.

Checking Track Tension



WARNING



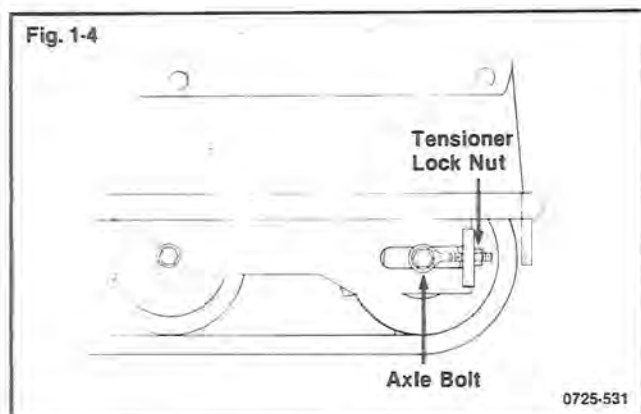
DO NOT attempt to check or adjust track tension with engine running. Turn ignition key to the OFF position. Personal injury could result from contact with a rotating track.

1. Before checking track tension, remove excess ice and snow buildup from the track and from the track drive sprockets.
2. Raise the rear of the snowmobile off the floor making sure the track is not contacting the floor.
3. Exert moderate downward pressure at mid-span of the lower track section. Measure the distance between the bottom of the rear bogie wheels and the inside surface of the track. The measurement must be within a

range of 20-25 mm (3/4-1 in.). If the measurement is not as specified, an adjustment is necessary.

Adjusting Track Tension

1. Loosen the axle bolts on both ends of the axle.



2. Adjust the tensioner lock nuts on both sides of the track until the proper track tension is attained. Make sure to adjust both lock nuts equally.
3. When track tension is correct, tighten axle bolts to 2.8-3.3 kg-m (20-24 ft-lb).

Track Alignment

Proper track alignment is obtained when the rear track drive sprockets are centered in the track cutouts. If the track runs to the right or left of center, an adjustment is necessary.

Adjusting Track Alignment

1. Before adjusting track alignment, remove excess ice and snow buildup from the track and track drive sprockets.
2. Raise the rear of the snowmobile off the floor making sure the track is free to rotate.
3. If the track runs to the right, loosen the right-side axle bolt and tighten the right-side tensioner lock nut one revolution. If the track runs to the left, loosen the left-side axle bolt and tighten the left-side tensioner lock nut one revolution.
4. Start the engine and accelerate only enough

to rotate the track several revolutions. SHUT ENGINE OFF.

NOTE: Allow the track to coast to a stop. DO NOT apply the brake because it could produce an inaccurate alignment condition.

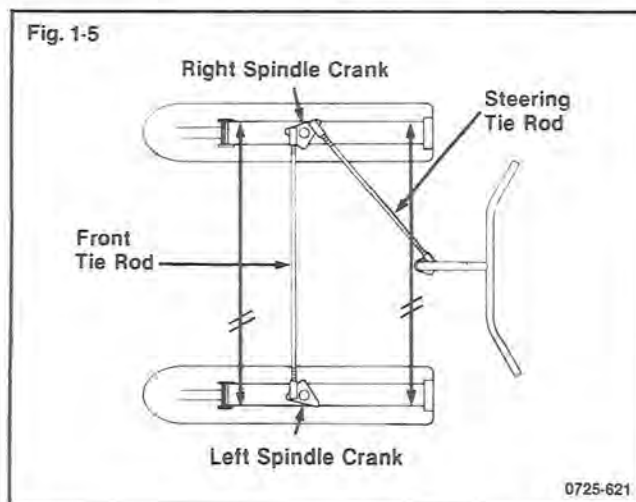
5. When the track stops rotating, check the track alignment and continue adjusting until proper alignment is attained.
6. Tighten the axle bolt to 2.8-3.3 kg-m (20-24 ft-lb).
7. Field test the track under actual conditions; then verify correct track alignment.

NOTE: After adjusting track alignment, be sure correct track tension has been maintained.

Ski Alignment

Checking Ski Alignment

1. Turn the handlebar to the straight-ahead position.
2. Measure the distances to the outside edges of the leaf springs. Make sure the measurements are taken behind the front mount bracket and ahead of the rear mount bracket.

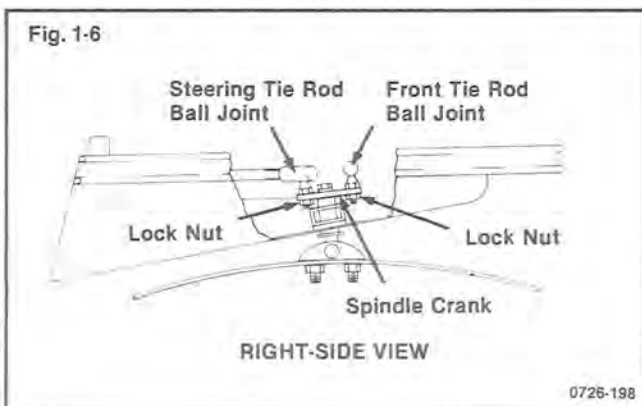


NOTE: Ski alignment is correct when the skis are parallel to each other (equal measurements front and rear) or when the skis have a maximum of 6 mm (1/4 in.) "toe out" (front measurement 6 mm (1/4 in.) more than rear measurement).

3. If ski alignment is not as specified, the snowmobile will have a tendency to wander and may be difficult to control; therefore, an adjustment is necessary.

Adjusting Ski Alignment

1. Make sure the ignition key is in the OFF position.
2. Visually examine to determine which ski is out of alignment with respect to the handlebar; then make adjustment to that ski.
3. Open the hood and loosen the front tie rod jam nut of the ski to be aligned.
4. Remove the lock nut securing the front tie rod ball joint to the spindle crank; then separate the ball joint from the spindle crank.



5. Align the ski; then rotate the ball joint until the ball joint stud aligns with the hole in the spindle crank and insert the ball joint stud into the spindle crank.
6. Install the lock nut on the ball joint stud and secure.
7. Tighten the front tie rod jam nut and affirm the correct alignment.

NOTE: There should be approximately an equal number of threads showing on both ends of the front tie rod. If more threads are showing on one end than on the other, the jam nuts can be loosened and the tie rod rotated until thread equality is attained (this process will not affect ski alignment). Tighten the jam nuts securely.

Steering Alignment

Visually examine the steering alignment by placing the handlebar in the straight-ahead position and checking to be sure the skis are pointing straight ahead. If the skis are not pointing straight ahead, adjust using the following procedure:

1. Open the hood and loosen the steering tie rod jam nut.
2. Remove the lock nut securing the steering tie rod ball joint to the spindle crank. Separate the steering tie rod and ball joint from the spindle crank.
3. Place the handlebar and skis in the straight-ahead position.
4. Rotate the ball joint until the ball joint stud aligns with the hole in the spindle crank; then secure the ball joint to spindle crank with the lock nut.

NOTE: There should be approximately an equal number of threads showing on both ends of the steering tie rod. If more threads are showing on one end than on the other, the jam nuts can be loosened and the tie rod rotated until thread equality is attained (this process will not affect steering alignment). Tighten the jam nuts securely.

5. Tighten the steering tie rod jam nut.

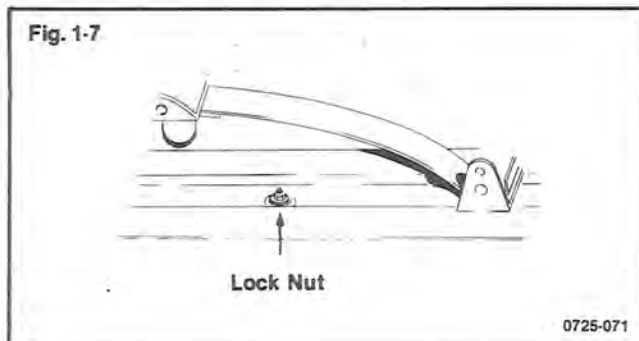
Ski Wear-Bar

The ski wear-bar is a replaceable bar attached to the underside of the ski. The purpose of the wear-bar is to assist in turning the snowmobile, to minimize ski wear, and to maintain good steering control. If the snowmobile is operated primarily in deep snow, ski wear-bar wear will be minimal; however, if the snowmobile is operated on terrain where the snow cover is minimal, the ski wear-bar will wear faster.

Removing Ski Wear-Bar

1. Remove ice and snow buildup from the ski.

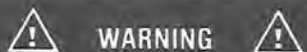
2. With the fuel tank nearly empty (less than 1/4 full), lay the snowmobile on its side. A piece of cardboard should be used to protect the finish on the hood.
3. Remove the lock nut and washer securing the wear-bar to the ski.



4. Either pry or pull the center of the wear-bar away from the ski until the wear-bar bolt is clear of the ski; then slide the wear-bar forward as far as possible and pull the rear of the wear-bar from the hole in the rear of the ski.
5. Remove the wear-bar from the hole in the front of the ski.

Installing Ski Wear-Bar

1. Insert the front of the wear-bar into the hole at the front of the ski and swing the wear-bar rearward.



WARNING



DO NOT bend the ski wear-bar excessively when installing. Excessive bending of the ski wear-bar may cause premature wear, breakage, and possible injury.

2. Slide the wear-bar rearward until it is possible to insert the rear of the wear-bar into the hole at the rear of the ski.
3. Center the wear-bar bolt in its hole and install the washer and lock nut.
4. Tighten lock nut securely.

SECTION 2 — ENGINE

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Specifications

GENERAL		SPECIFICATION
Model		AA06A8
Type		2 Cycle, Air-Cooled
No. of Cylinders		1
Lubrication		Gas/Oil Mix
Starter System		Manual Recoil
Bore x Stroke	— mm (in.)	41 x 45 (1.614 x 1.772)
Displacement	— cc (cu in.)	59 (3.60)
Compression Ratio		6.6:1
Piston Ring End Gap Range	— mm (in.)	0.20-0.80 (0.008-0.031)
Piston Skirt/Cylinder Clearance Range	— mm (in.)	0.05-0.13 (0.0020-0.005)
Piston Pin Diameter Range	— mm (in.)	11.990-12.000 (0.4720-0.4724)
Piston-Pin Bore Diameter Range	— mm (in.)	12.000-12.010 (0.4724-0.4728)
Connecting Rod Small End Diameter	— mm (in.)	15.99-16.00 (0.6295-0.6303)
Crankshaft Runout	— mm (in.)	0.05 (0.002)
Crankshaft End Play Range	— mm (in.)	0.05-0.10 (0.002-0.004)

TORQUE	kg-m	ft-lb
Cylinder Head Nut	0.8-1.2	6-9
Crankcase Bolts	0.6-0.9	4.5-6.5
Flywheel Nut	4.0-5.0	29-36
Intake and Exhaust Nuts	0.8-1.1	6-8

Disassembly

Fan/Power Head

1. Remove gas tank; then disconnect fuel lines from carburetor.
2. Remove the nuts and lock washers securing carburetor. Slide carburetor off intake studs;

Fig. 2-1



A779

then disconnect carburetor rod and rod spring.

3. Slide gasket, insulator, and gasket off intake studs.
4. Remove the nuts and lock washers securing muffler. Slide muffler off exhaust studs; then remove exhaust gasket.

Fig. 2-2



A778

5. Remove recoil starter.
6. Remove screws securing fan cover; then remove cover.

Fig. 2-3



A775

7. Remove cylinder head cowling.

Fig. 2-4



A774

8. Remove the cylinder head nuts and washers; lift head off cylinder studs.

9. Slide head gasket off cylinder studs.

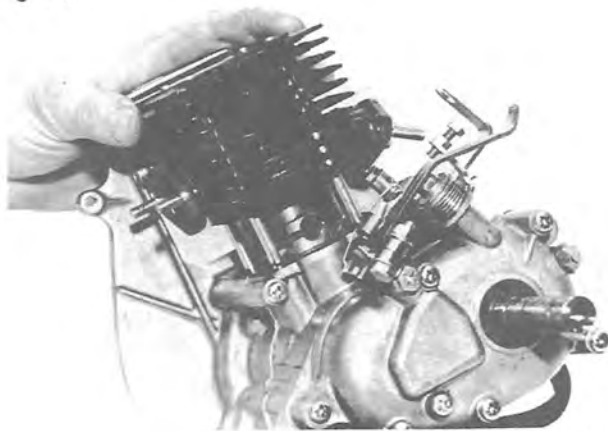
Fig. 2-5



A772

10. Slide cylinder straight upward until free of piston. Remove base gasket.

Fig. 2-6



A771

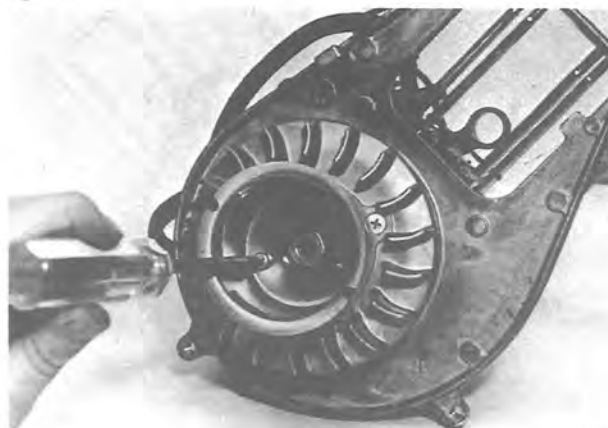
11. Remove piston pin circlips. Remove piston pin using the Arctic piston pin puller.

Fig. 2-7



12. Remove recoil starter pulley and spacer.

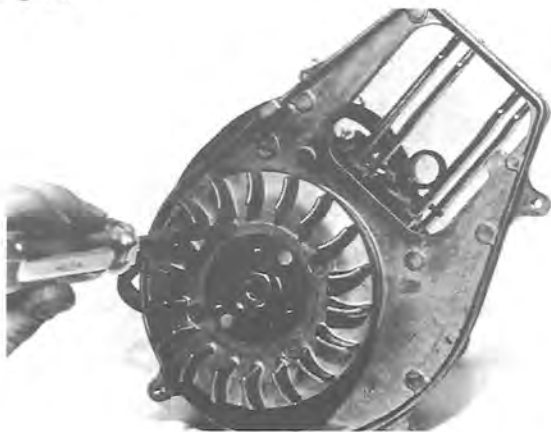
Fig. 2-8



A766

13. Remove four countersunk screws securing fan; then remove fan.

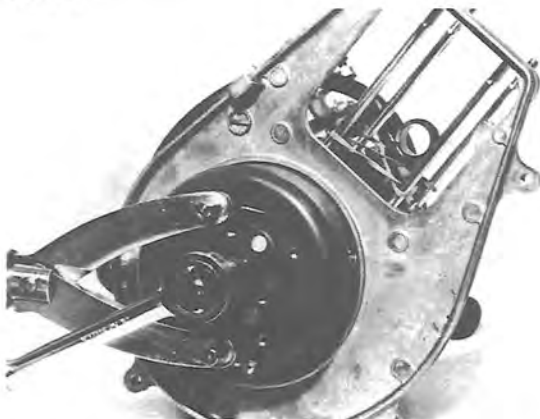
Fig. 2-9



A764

14. Using a flywheel holder (or equivalent), remove the flywheel nut.

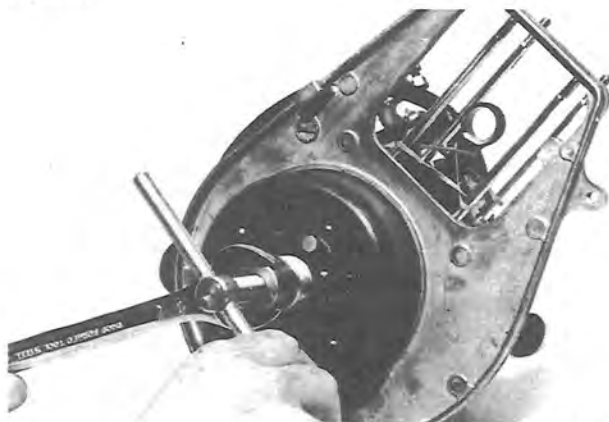
Fig. 2-10



A762

15. Using a flywheel puller, remove the flywheel. Account for the flywheel key.

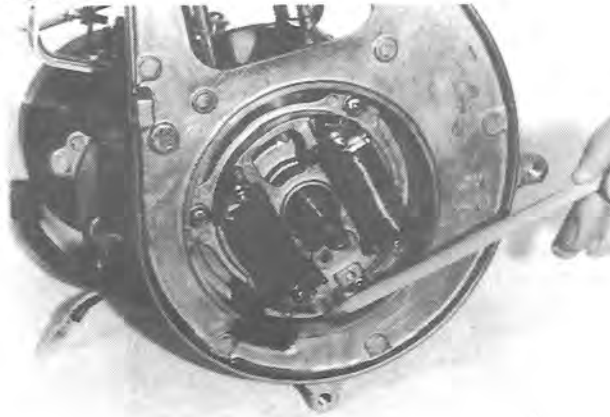
Fig. 2-11



A761

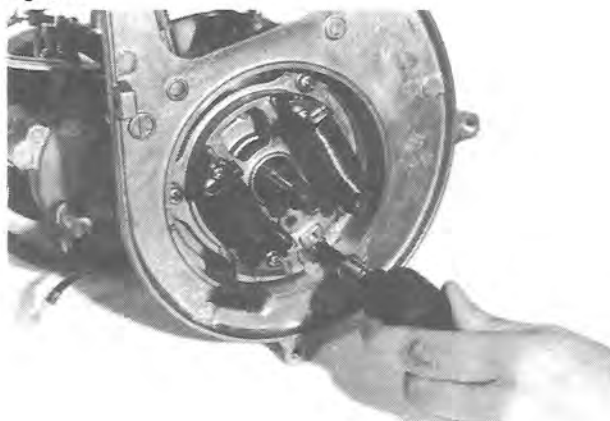
16. Scribe a line on the stator plate and the crankcase. Use these marks during assembly.

Fig. 2-12



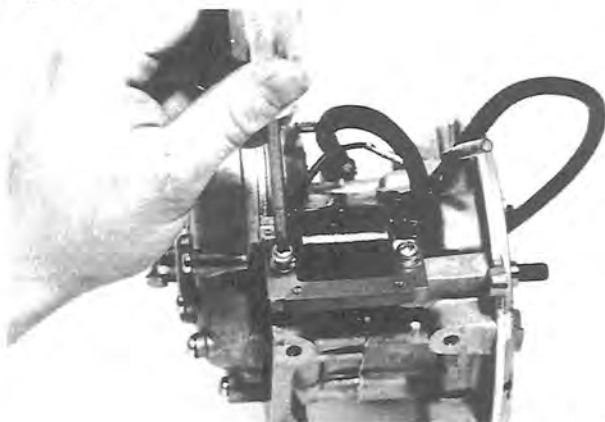
17. Remove the three screws securing stator plate to crankcase.

Fig. 2-13



18. Remove the screws securing ignition coil; then remove coil.

Fig. 2-14



A756

Gear Case/Crankcase

1. Using an impact screwdriver, remove the screws securing gear case cover. Lift cover off crankcase.

Fig. 2-15



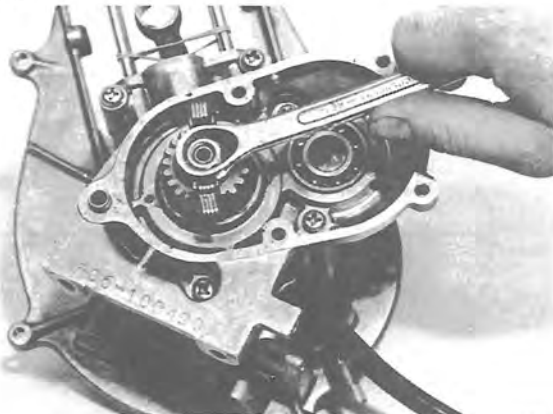
2. Remove cover gasket.
3. Remove primary driven shaft and gear from gear case.

Fig. 2-16



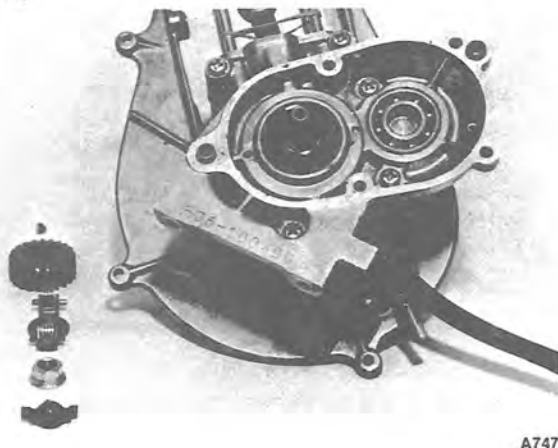
4. Remove shifter from end of engine crankshaft.
5. Remove the nut securing primary drive gear and centrifugal to the crankshaft.

Fig. 2-17



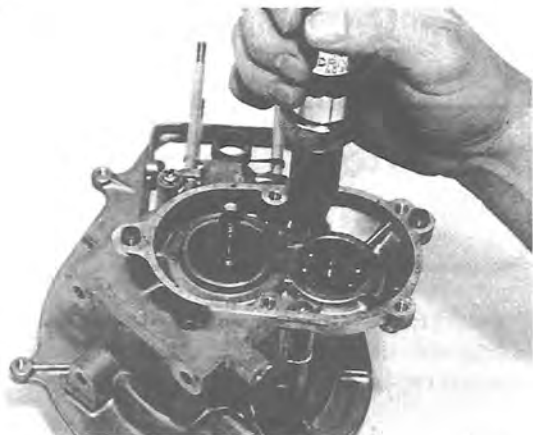
6. In order, remove the centrifugal weight assembly, primary drive gear, and key from the crankshaft.

Fig. 2-18



7. Using an impact screwdriver, remove the five screws securing crankcase halves.

Fig. 2-19

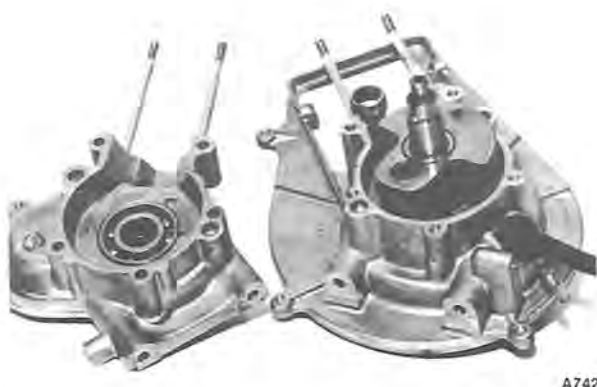


8. Carefully separate the crankcase halves.

CAUTION

DO NOT use chisels, screwdrivers, or any other instruments to pry cases apart. Any damage to the crankcase sealing area will result in an air leak resulting in severe engine damage.

Fig. 2-20



9. Remove the crankshaft from the crankcase.
10. Thoroughly wash all engine components.

Cleaning and Inspection

NOTE: Whenever a part is worn excessively, cracked, defective, or damaged in any way, replacement is necessary.

Cylinder Head

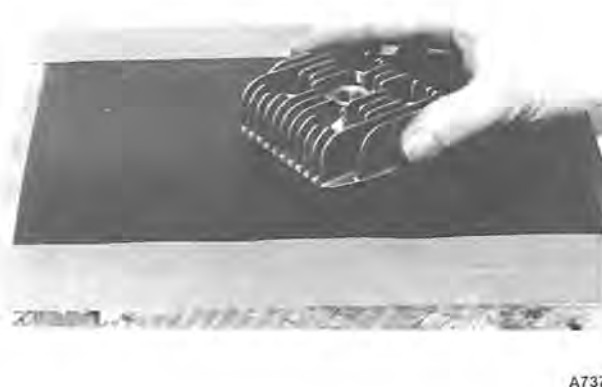
1. Remove any carbon buildup which has collected in the combustion chamber.

CAUTION

Use a non-metallic tool to prevent scratching and scoring of the combustion chamber.

2. Thoroughly clean the cylinder head in cleaning solvent.
3. Inspect spark plug threaded area for any damage.
4. Place the cylinder head on a surface plate covered with 400 grit "Wetordry" sandpaper. Move the head in a figure eight motion to check sealing area for trueness. High spots can be noted by evidence of a shiny portion on one area of the sealing area. The entire surface must have a uniform appearance.

Fig. 2-21



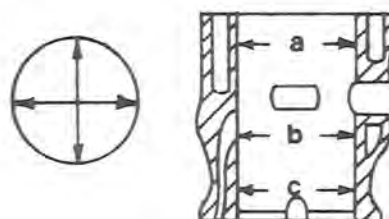
Cylinder

1. Remove carbon buildup from the exhaust port.

NOTE: Use a non-metallic carbon removal tool.

2. Wash the cylinder in clean solvent.
3. Inspect cylinder for pitting, scoring, scuffing, or corrosion. Replace if damaged.
4. To remove minor imperfections or marks in the cylinder, use a flex hone with 500 grit stones to clean the bore. Use honing oil for lubrication. Move hone back and forth so a "crosshatch" pattern will result.
5. Inspect all threaded areas for damaged or stripped threads.
6. Insert an inside micrometer, cylinder gauge, or snap gauge into the cylinder bore and take six measurements of the bore. Measure front to back and side to side at points below intake port, above exhaust port, and 1 cm (0.375 in.) below the top of the cylinder. If measurements vary by more than 0.05 mm (.002 in.), the cylinder is tapered or out-of-round and must be replaced.

Fig. 2-22



0725-586

Piston

1. Remove carbon buildup from dome of piston using a non-metallic carbon removal tool.
2. Examine the sides of the piston for evidence of excessive "blow-by." Excessive "blow-by" will indicate worn piston rings or an out-of-round cylinder.
3. Check the sides and skirts for evidence of scuffing. To remove minor marks, use 400 grit "Wetordry" sandpaper and lightly sand the affected area.

Fig. 2-23



A732

4. Check the pistons for signs of cracks in the piston pin and skirt areas. Replace piston if damage is found.
5. Use a piece of an old ring to clean the ring grooves. Make sure ring retaining pin is correctly positioned and is in good condition.
6. Insert an inside snap gauge about 6 mm (0.250 in.) from the outside of the piston pin bore. Carefully remove the snap gauge.

Fig. 2-24



A733

7. Measure the snap gauge with a micrometer. Piston pin bore must be 12.00-12.01 mm (0.4724-0.4728 in.).

8. Measure the piston pin approximately 6 mm (0.250 in.) from each end. Piston pin diameter must be between 11.99-12.00 mm (0.4720-0.4724 in.).

Fig. 2-25



A734

NOTE: If piston pin is not within specifications, replace the piston pin and bearing as a set.

Piston Skirt Clearance

1. Insert an inside micrometer or snap gauge into the cylinder just above the intake port. Take measurement from front to back.

Fig. 2-26



A729

2. Measure the piston skirt 1 cm (0.375 in.) above the bottom of the piston skirt.

Fig. 2-27



A731

3. Subtract the measurement in step 2 from measurement in step 1. The difference is the piston skirt clearance and must be 0.05-0.13 mm (0.0020-0.005 in.).

NOTE: If the clearance exceeds the wear limit the piston must be replaced to bring clearance into acceptable range. However, if clearance is still excessive, the cylinder will have to be replaced.

Piston Ring End Gap

1. Insert the piston ring about 1 cm (0.375 in.) into the top of the cylinder bore. Position the ring horizontally in cylinder by pressing the dome of the piston against the ring.
2. Slide a feeler gauge between the ends of the ring.

Fig. 2-28



A735

3. Piston ring end gap must be 0.20-0.80 mm (0.008-0.031 in.). Since the amount of wear at the ends and center of the piston ring affects the end gap, replace the ring set if the ring end gap is excessive.

Crankcase Halves

1. Thoroughly wash halves using cleaning solvent.
2. Inspect halves for scoring, pitting, scuffing, or any imperfections in the casting.
3. Inspect all threaded areas for damaged or stripped threads.

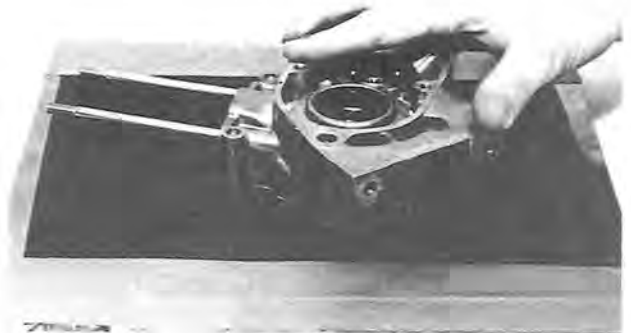
Fig. 2-29



A721

4. Check the bearing areas for signs of cracking or bearing movement; then check dowel pins for wear.
5. Examine the crankcase sealing area. If any nicks or scratches are found in the sealing area, correct the surface with the use of a surface plate covered with 400 grit "Wetordry" sandpaper. Rotate the crankcase in a figure eight motion until a uniform finish is noted.

Fig. 2-30



A740

Crankshaft

1. Thoroughly wash crankshaft w/bearing in cleaning solvent.
2. Inspect edges of bearing for external wear, scoring, and scuffing. Rotate the bearings by hand to ensure free turning without binding or roughness.

3. Check the connecting rod using the same method. If binding or roughness is noted, the connecting rod, bearing, and crank pin will have to be replaced.
4. Measure the rod small end diameter using a snap gauge. Lock the gauge and carefully remove it.

Fig. 2-31



A726

5. Measure the snap gauge with a micrometer. The diameter must be 15.99-16.00 mm (0.6295-0.6303 in.). If diameter is not within specifications, the connecting rod must be replaced.

Fig. 2-32



A727

6. Check the crankshaft runout on a setup as shown using a surface plate, V-blocks, and a dial indicator with a mounting base.
7. Support the crankshaft on the bearings or the shaft itself.
8. Mount the dial indicator against the crankshaft at the area of the oil seals. Be sure that the crankshaft is clean.

Fig. 2-33



A741

9. Slowly rotate the crankshaft and observe the "total" crankshaft runout. This is the difference between the highest and lowest readings. Maximum runout must not exceed 0.05 mm (0.002 in.). If runout exceeds specifications, the crankshaft must be straightened or replaced.

Assembly

Crankcase/Gear Case

1. If bearings were removed, install bearings into crankcase halves.
2. Using a seal installing tool, insert seals in crankcase halves.

NOTE: Make sure spring side of seal is positioned toward center of crankshaft.

3. Apply grease to the inner lips of the seals.

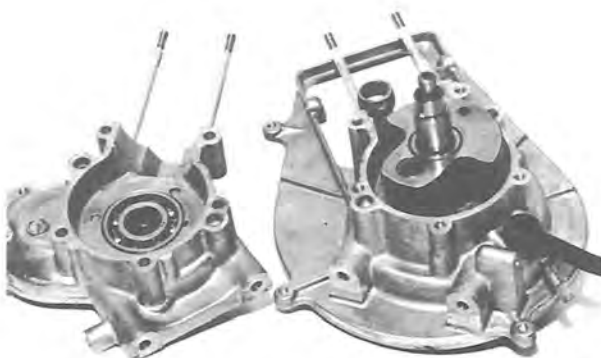
Fig. 2-34



A744

4. Press crankshaft into magneto side of case.

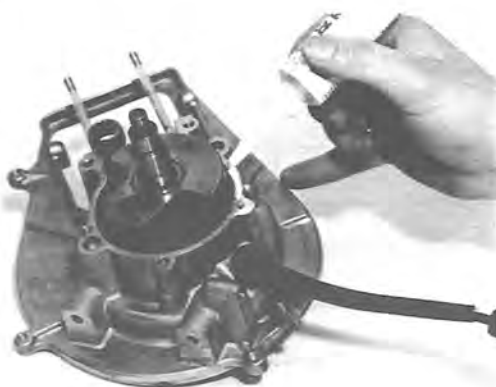
Fig. 2-35



A742

5. Apply RTV to both halves of the crankcase.

Fig. 2-36



A743

6. Install crankcase dowel pins if they were removed.
7. Apply blue Loc-Tite to the five screws that secure crankcase; assemble cases; then tighten screws using an impact screwdriver.

Fig. 2-37

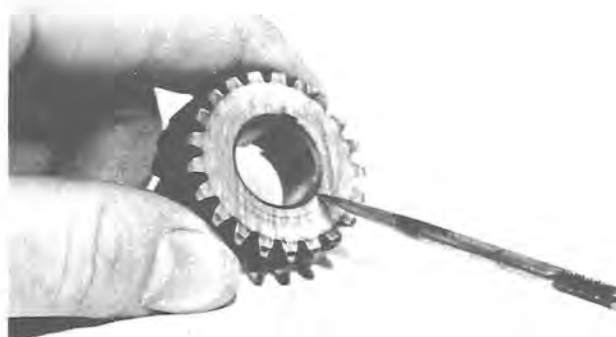


A745

NOTE: Place rubber band over connecting rod to prevent rod from damaging cases if engine is accidentally rotated.

8. Install a woodruff key in the PTO end of the engine crankshaft. Slide drive gear onto crankshaft so the large beveled edge is positioned inward.

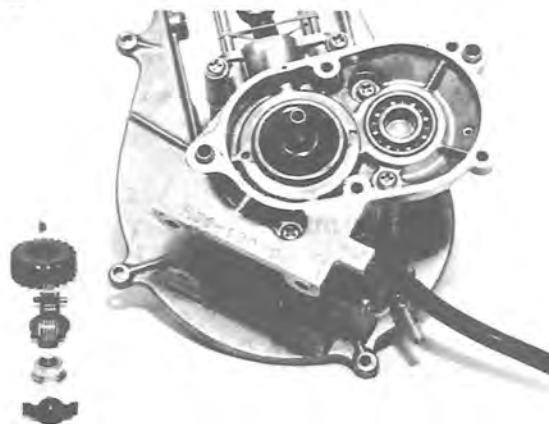
Fig. 2-38



A746

9. Place centrifugal onto PTO end of crankshaft making sure notch of centrifugal aligns with keyway of crankshaft.

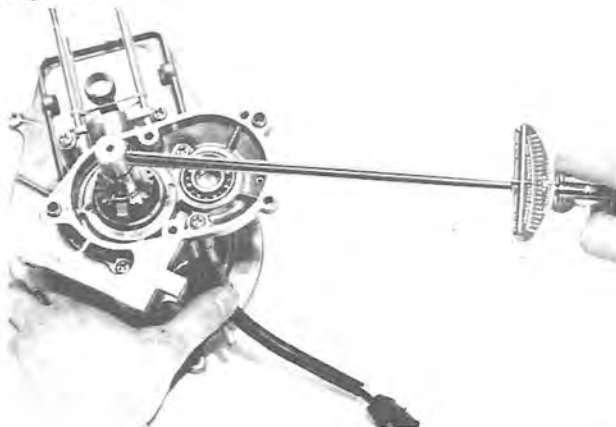
Fig. 2-39



A747

10. Secure PTO end crankshaft components by applying Loc-Tite to the nut, installing the nut, and tightening nut to 30-40 n-m (22-29 ft-lb).

Fig. 2-40



A749

11. Install shifter so centrifugal weights are positioned against shifter arms.

Fig. 2-41



A750

12. Install bearing in gear case housing. Apply grease to the inner lips of the seal; then place seal in position.

Fig. 2-42



A751

13. Install the primary driven shaft.

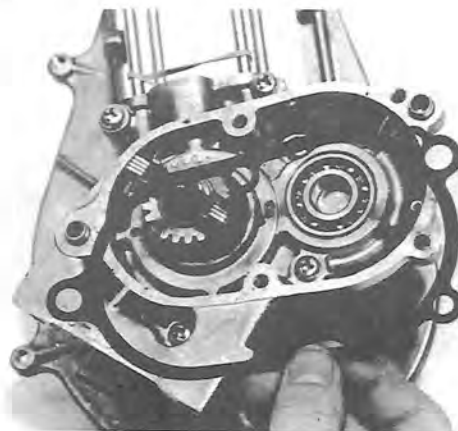
Fig. 2-43



A752

14. Apply RTV to both sides of the gear case gasket. Place gasket against crankcase.

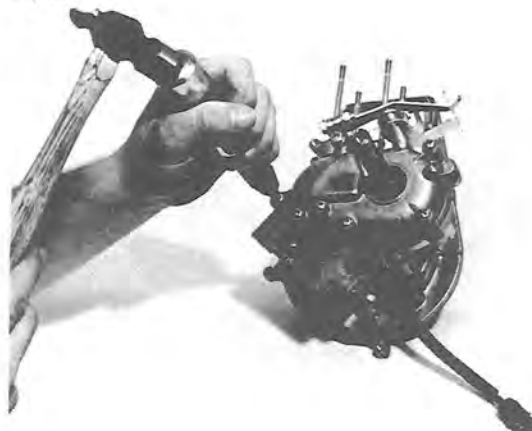
Fig. 2-44



A753

15. Install cover w/output shaft. Install five screws; then tighten screws with impact screwdriver. Fill gear case.

Fig. 2-45

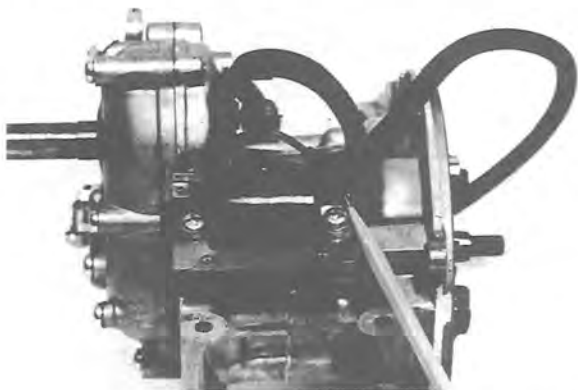


A755

Electrical System

1. Move ignition coil into position; then secure with two screws and lock washers. Connect coil lead to lead from magneto.

Fig. 2-46



A757

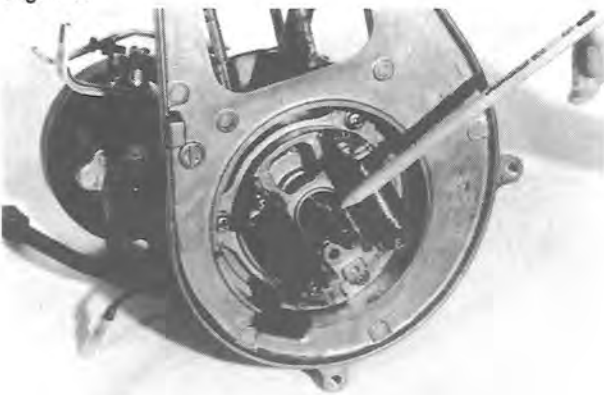
2. To install magneto baseplate, align the scribe marks made during assembly. Apply Loc-Tite to the three screws; then tighten screws securely.

Fig. 2-47



3. Place flywheel key in position.

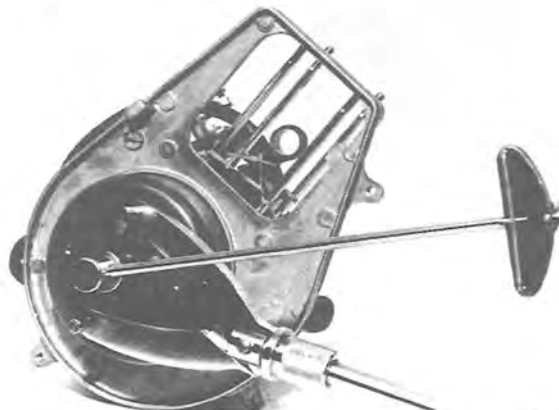
Fig. 2-48



4. Make sure flywheel magnets are clean. Align keyway of flywheel with key in crankshaft. Place flywheel on crankshaft.

5. Install flywheel flat washer, lock washer, and nut. Using a flywheel holder, tighten nut to 4.0-5.0 kg-m (29-36 ft-lb).

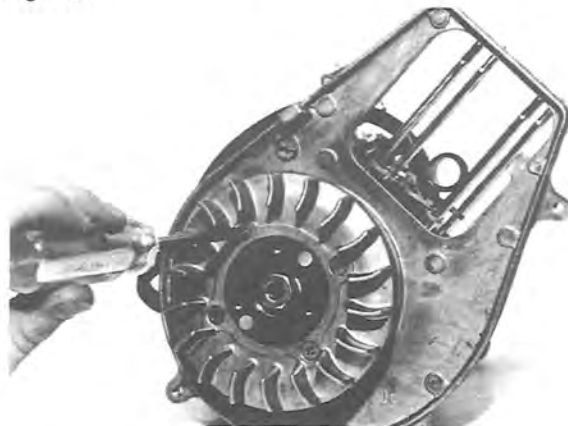
Fig. 2-49



A763

6. Move flywheel fan into position. Apply Loc-Tite to the four mounting screws. Install and tighten screws using an impact screwdriver.

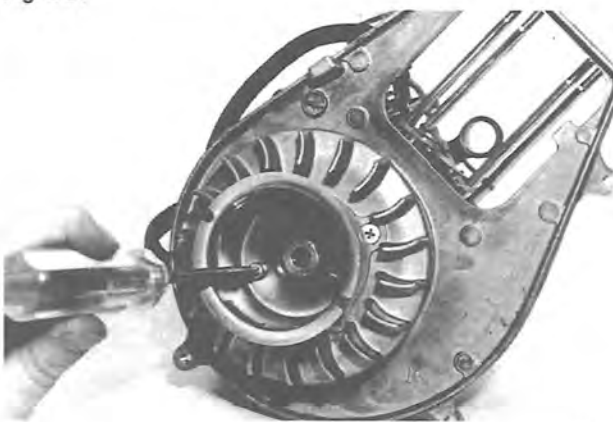
Fig. 2-50



A764

7. Install starter pulley and spacer. Secure with three screws and tighten securely.

Fig. 2-51

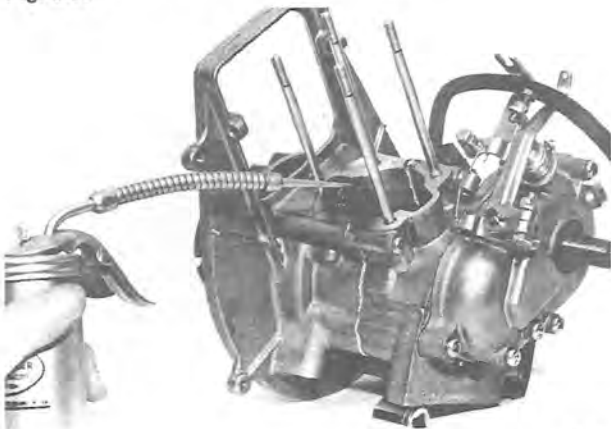


A766

Power Head/Fan

1. Place the bearing in the connecting rod small end. Apply engine assembly oil to the bearing.

Fig. 2-52



A767

2. Install the piston rings. The letter near the ring end must be positioned upward. Make sure ring ends are positioned correctly over piston ring keepers.

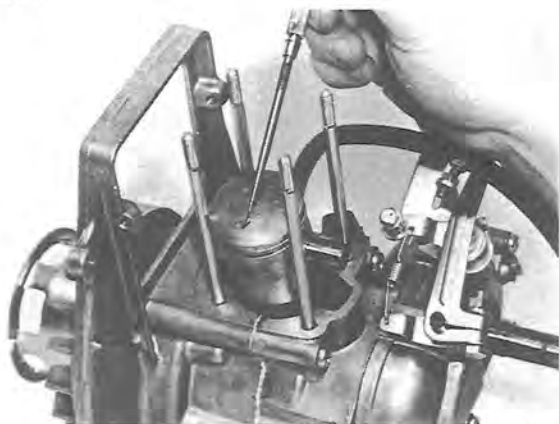
Fig. 2-53



A736

3. Place the piston assembly onto the connecting rod. Make sure arrow on dome of piston points to the exhaust side of the engine.

Fig. 2-54



A768

4. Install piston pin. Secure piston pin with circlips.

Fig. 2-55



A769

NOTE: Make sure open end of both circlips is directed toward either the piston top or bottom.

5. Apply a thin coat of RTV to both sides of the cylinder base gasket; then install base gasket.

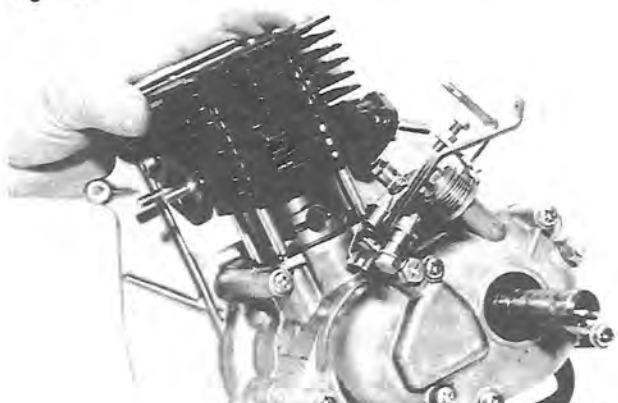
Fig. 2-56



A770

6. Using a piston holder to "square" the piston, compress the piston rings and install the cylinder. Do not force cylinder. If cylinder binds, remove, check piston rings, and install.

Fig. 2-57



A771

7. Place head gasket in position.

Fig. 2-58

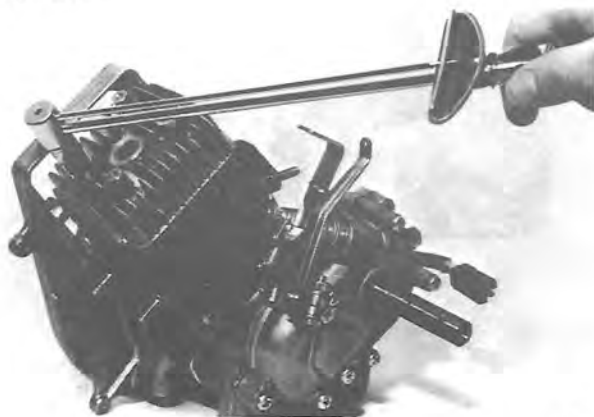


A772

8. Place cylinder head in position. Head must be positioned so the cooling air flow is parallel to fin pattern.

9. Tighten cylinder head nuts to 8-12 n-m (6-9 ft-lb).

Fig. 2-59



A773

10. Install head cowl and fasten securely.

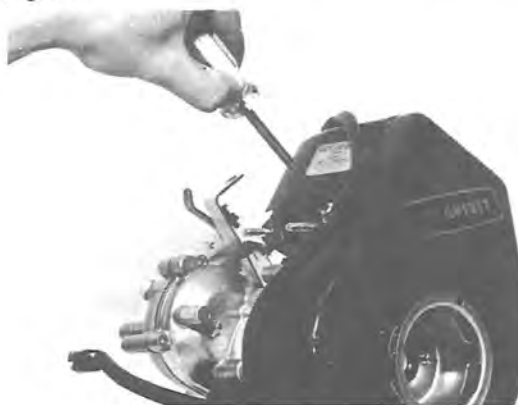
Fig. 2-60



A774

11. Install fan cover and secure with four screws. Make sure high tension coil lead is secured by upper rear screw.

Fig. 2-61



A775

12. Install recoil starter. Just before tightening screws, pull recoil rope and hold to center recoil; then tighten screws securely.

Fig. 2-62



A776

13. Install exhaust gasket; then place muffler onto exhaust studs. Secure muffler with two nuts and lock washers; tighten nuts to 8-11 n-m (6-8 ft-lb).

Fig. 2-63



A778

14. Install spark plug; then tighten to 25-28 n-m (18-20 ft-lb).
15. In order, place a gasket, insulator, and gasket onto the intake studs.

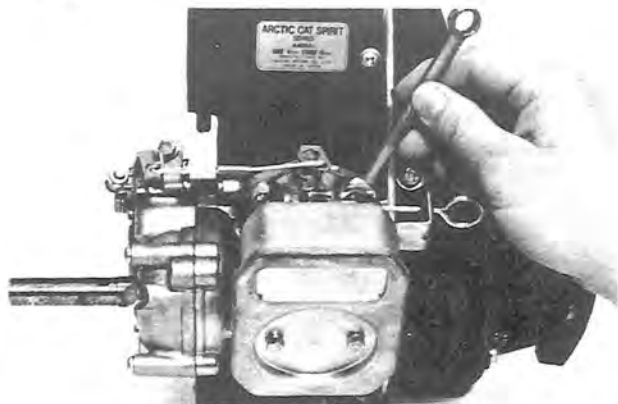
Fig. 2-64



A777

16. Connect carburetor rod and rod spring to the throttle control lever and the carburetor throttle plate.
17. Slide carburetor onto the intake studs; then secure with two nuts and lock washers. Tighten nuts to 8-11 n-m (6-8 ft-lb).

Fig. 2-65

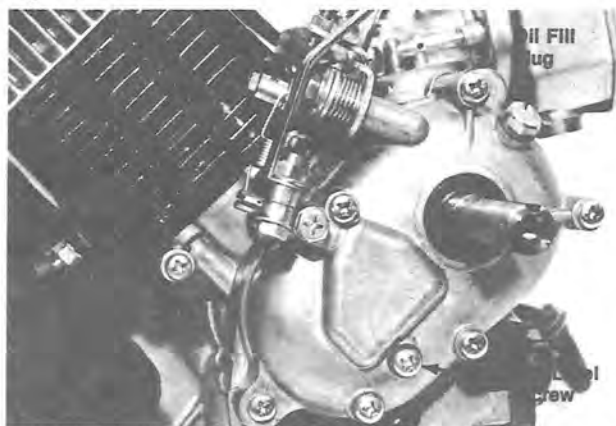


A779

Fill Gear Case

1. Remove the oil fill plug located on the top of the gear case cover.
2. Remove the oil level screw from the lower side of the gear case cover.
3. Add SAE 10W-30 lubricant until fluid flows out oil level hole.

Fig. 2-66



A806

4. Install the oil level screw.
5. Install the oil fill plug.

SECTION 3 — FUEL SYSTEM

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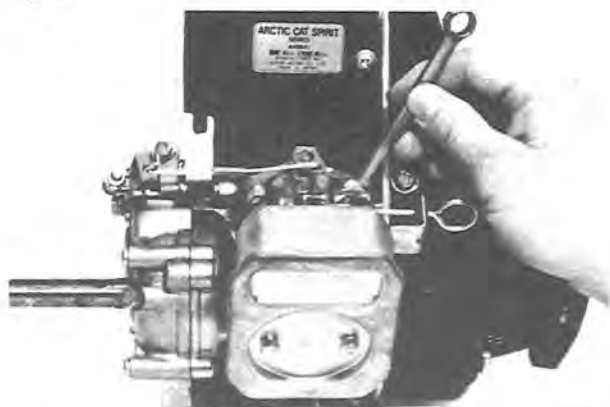
Specifications

ITEM	SETTING /
Carburetor Model	BV-18
Size	18 mm
Main Jet	72.5
Pilot Jet	35
Air Jet	1.0
Pilot Outlet	1.0
Throttle Valve	100
Pilot Screw (turns out)	1

Removal and Disassembly

1. Rotate the fuel shut-off valve clockwise to the off position; then disconnect fuel line from the carburetor. Wipe any spilled fuel.
2. Remove the two nuts and lock washers securing carburetor to intake of cylinder.

Fig. 3-1



A779

3. Slide carburetor off intake studs; then disconnect the throttle rod and spring from governor arm. Disconnect rod from carburetor.
4. Remove the two nuts and lock washers securing silencer cover; then remove cover.

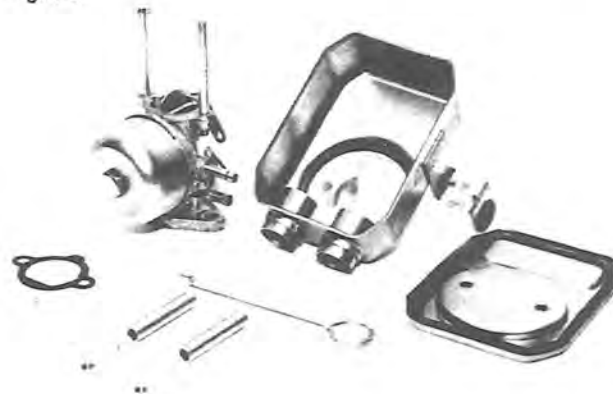
Fig. 3-2



A780

5. Remove the two silencer spacers. Slide silencer housing off carburetor studs; then disconnect choke rod from choke plate. Account for the gasket between carburetor and silencer housing.

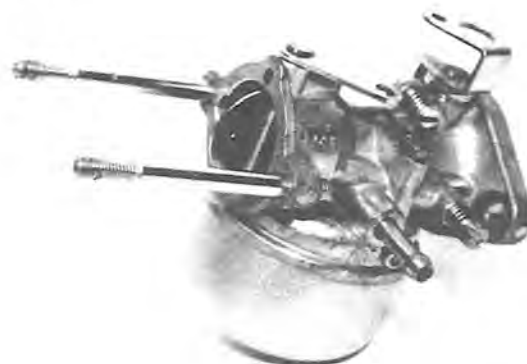
Fig. 3-3



A781

6. Remove the pilot air screw; then remove the pilot jet.

Fig. 3-4



A782

7. Remove the bolt and fiber washer securing the float bowl.

Fig. 3-5



A783

8. Lift float bowl off carburetor. Remove main jet and main jet ring.

Fig. 3-6



A784

9. Remove float pin; then remove float.

Fig. 3-7



A785

10. Remove tube and nozzle from carburetor.

Fig. 3-8



A787

11. Remove inlet needle, seat, and gasket.

Cleaning

1. Wash all metallic carburetor parts with a good quality carburetor cleaner. DO NOT place any of the non-metallic parts in carburetor cleaner because damage or deterioration will result.
2. After all metallic parts have been washed, place the parts in a wire basket and submerge in carburetor cleaner.
3. Soak the parts for about 30 minutes; then rinse with fresh carburetor cleaner.
4. Dry the components with compressed air only, making sure all holes, orifices, and channels are unobstructed.

CAUTION

DO NOT use wire or small drill bits to clean carburetor orifices, holes, or channels. Distorted or damaged orifices, holes, or channels can result in poor carburetor operation. The carburetor must be cleaned with carburetor cleaner only.

Inspection

NOTE: Whenever a part is worn excessively, cracked, defective, or damaged in any way, replacement is necessary.

1. Examine the carburetor body, float bowl, and mixing chamber for cracks, nicks, stripped threads, and any other imperfections in the casting.
2. Examine the throttle and choke plates for any bends or damage.
3. Check condition of the throttle return spring.
4. Inspect float for holes or damage.
5. Inspect all gaskets and O-rings for distortion, tears, or noticeable damage.
6. Inspect nozzle and tube for damaged holes or threads.
7. Inspect tip of inlet needle valve. Replace valve if tip is worn or grooved.

Fig. 3-9



A788

8. Inspect starter plunger and seat for wear or damage.
9. Check carburetor mounting gaskets for damage.
10. Place carburetor insulator on a surface plate covered with 400 grit "Wetordry" emery paper. Move the insulator over the surface plate using a figure 8 motion. The motion should produce an even wear pattern over the entire sealing area.

Fig. 3-10



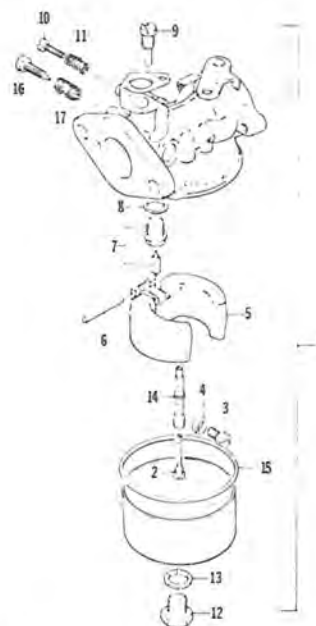
A739

CAUTION

An air leak between the carburetor and engine will cause severe engine damage.

Assembly and Installation

Fig. 3-11



KEY

- | | |
|-----------------------|------------------------------|
| 1. Carb. Assy. | 10. Throttle Adjusting Screw |
| 2. Tube | 11. Spring |
| 3. Main Jet | 12. Bolt |
| 4. Ring | 13. Washer |
| 5. Float | 14. Nozzle |
| 6. Float Pin | 15. Float Chamber Gasket |
| 7. Needle Valve Assy. | 16. Pilot Adjusting Screw |
| 8. Washer | 17. Spring |
| 9. Pilot Jet No. 35 | |

0720-072

1. Install the inlet needle, seat, and gasket.
2. Install the nozzle and nozzle tube.
3. Place the float in position; then secure with float pin.
4. Invert the carburetor so the float is positioned upward. Using a calipers, measure the distance from the edge of the float to the float bowl base. Correct float height should be 16.5-17.8 mm (0.65-0.70 in.). If an adjustment is necessary, bend the float arm actuating tab to establish correct float height.

Fig. 3-12



A789

5. Install the main jet and main jet ring.
6. Make sure float bowl O-ring is correctly positioned; then install float bowl. Secure bowl with bolt and fiber washer.
7. Slide spring onto pilot air screw; then carefully tighten screw until lightly seated. From the seated position, rotate the pilot air screw one turn counterclockwise.
8. Install the pilot jet.
9. Place the small air silencer gasket onto the carburetor studs.
10. Thread choke rod through hole in silencer housing; then connect choke rod to choke plate. Slide air silencer onto mounting studs.
11. Slide the two spacers onto the mounting studs.
12. Make sure silencer gasket is positioned on outer cover; then install cover and secure with two cap screws and lock washers.

Fig. 3-13



A780

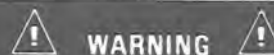
13. In order, place a gasket, insulator, and gasket onto the cylinder intake studs.

Fig. 3-14



A777

14. Connect carburetor and carburetor rod spring to both the throttle control lever and the throttle plate.
15. Slide carburetor onto the cylinder intake mounting studs. Secure with two lock washers and nuts.
16. Connect fuel line to the carburetor. Rotate the fuel shut-off valve counterclockwise.
17. Check throttle cable operation. Throttle system must work smoothly and must not stick or bind. If throttle does not operate smoothly, replace necessary parts.



DO NOT operate the Kitty Cat if any component of the throttle system binds or sticks. Faulty throttle operation could result in personal injury or property damage.

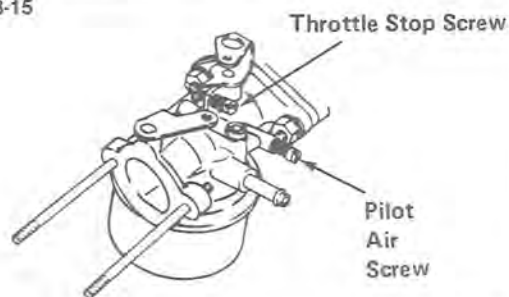
18. Start engine and test run.

Adjusting

The Kitty Cat is equipped with a Mikuni carburetor that has been adjusted at the factory. However, altitude, temperature, and wear may cause changes to the carburetor.

Three external adjustments can be performed on the Mikuni carburetor; the throttle stop screw, the air screw, and throttle cable.

Fig. 3-15



Throttle Stop Screw

The throttle stop screw controls the seating position of the throttle valve, which determines the proper idle speed. Turn clockwise to increase the engine idle speed and counter-clockwise to decrease engine idle speed.

Air Screw

The air screw determines the air/fuel mixture for idling. When the air screw is turned clockwise, the amount of air is reduced and the mixture is enriched. When the air screw is turned counter-clockwise, the amount of air is increased and the mixture is leaned.

CAUTION

DO NOT force the air screw; doing so may cause damage to the screw and/or seat.

Throttle Cable

The correct throttle cable adjustment is when (with the engine stopped) the carburetor throttle is completely open (against its limit) while the throttle control lever lightly contacts the handlebar grip. The throttle arm should also contact the throttle stop screw when the throttle control lever is released.

To adjust the throttle cable, use the following procedure:

1. Loosen the throttle cable wire binding screw.

Fig. 3-16



2. Pull all slack from the throttle cable wire and exert slight tension on the wire.
3. Tighten the throttle cable wire binding screw.



WARNING

DO NOT operate the snowmobile when any component in the throttle system is damaged, frayed, kinked, worn, or improperly adjusted.

Fuel Filter

A fuel filter is incorporated in the fuel shut-off valve located in the bottom of the fuel tank. The only cleaning is a backflush of the filter using parts washing solvent.

1. Drain all fuel from the fuel tank.
2. Pull the fuel shut-off valve/filter from the bottom of the fuel tank.
3. Remove fuel line clamp; then separate fuel line from valve/filter.
4. Clean or replace valve/filter.
5. Install valve/filter into the grommet on the fuel tank.
6. Connect fuel line; then secure with clamp.

SECTION 4 — ELECTRICAL SYSTEM

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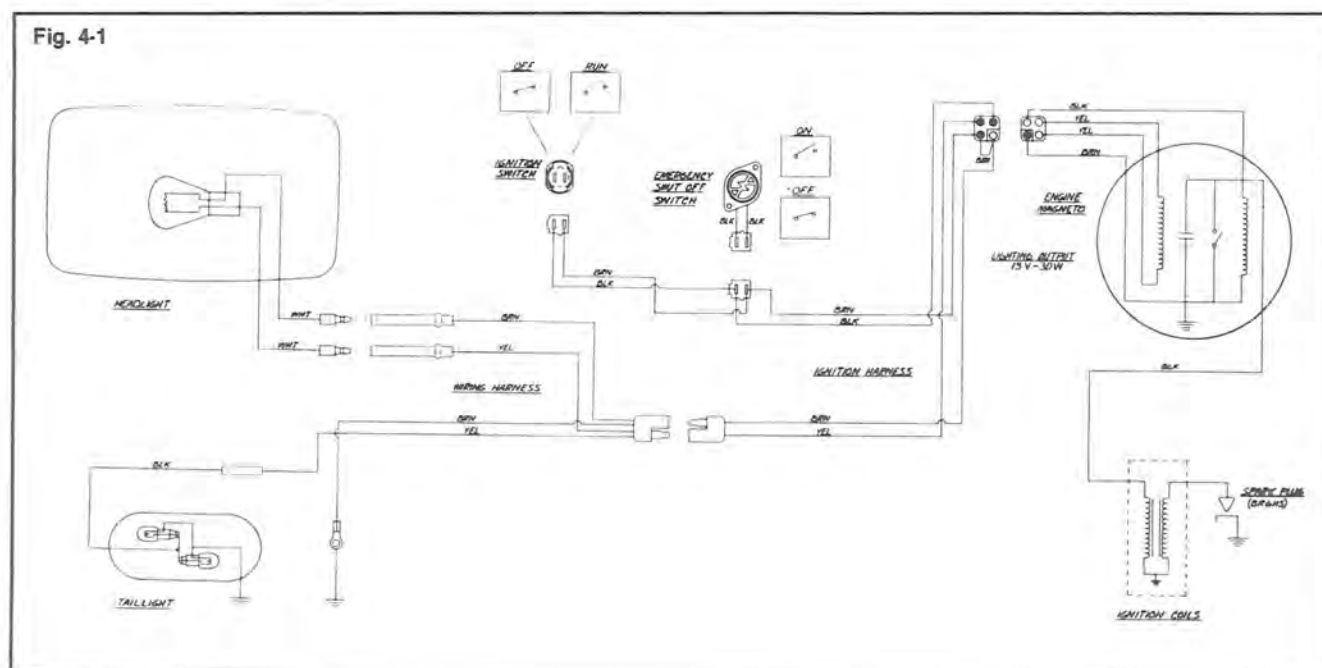
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Specifications

ITEM	VALUE
Spark Plug	NGK BR6HS
Spark Plug Gap — mm	0.7
—(in.)	0.028
Ignition System	CDI (open circuit)
Charge Coil	117 ohms $\pm$ 20%
Lighting Coil	1.3 ohms $\pm$ 20%
External Coil Secondary	5900 ohms $\pm$ 20%
External Coil Primary	11,000 ohms $\pm$ 15%
Spark Plug Cap	5000 ohms $\pm$ 20%
Lighting System	12V/35W
Ignition Timing — degrees	20° BTDC @ 6000 rpm (hot)
—mm	1.728
—(in.)	0.068

Wiring Diagram

Fig. 4-1



Testing Ignition System

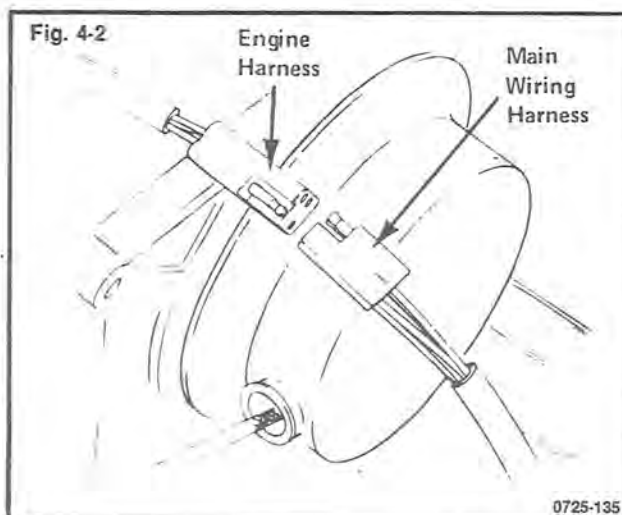
The ignition system used in the Kitty Cat (Kokusan) is the open circuit type. It is opposite from other ignitions used on all the larger Arctic models (naturally close type) and this must be kept in mind when selecting your troubleshooting method.

Before starting the troubleshooting procedure, you must first pinpoint the problem of an engine which won't start, to either the electrical system, fuel system, or the engine inner components. To accomplish this, first remove the spark plug and inspect its condition. If questionable, replace it with a new one. Adjust the spark plug gap to 0.5 - 0.7 mm or 0.020 - 0.028. Ground the spark plug to a good clean surface, turn on the switch and crank the engine over hard using the recoil. As the engine is being cranked over, observe the firing tip of the spark plug. If no spark is present, disconnect the main engine wiring harness and repeat the test. If there is now spark present, with the main harness disconnected, the problem lies in the safety switch or the wiring harness. If no spark is present, the problem is in the ignition system. To troubleshoot these components, the following procedure is recommended.

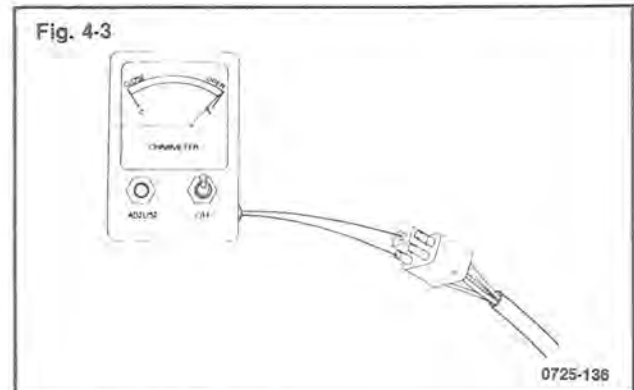
NOTE: To test the ignition system, use either an ohmmeter or CDI tester.

Wiring Harness Test Procedure

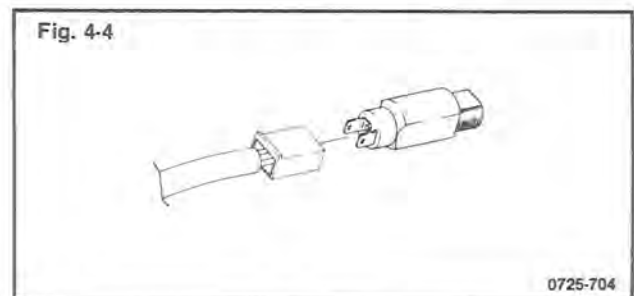
1. Disconnect the wiring harness at the engine.



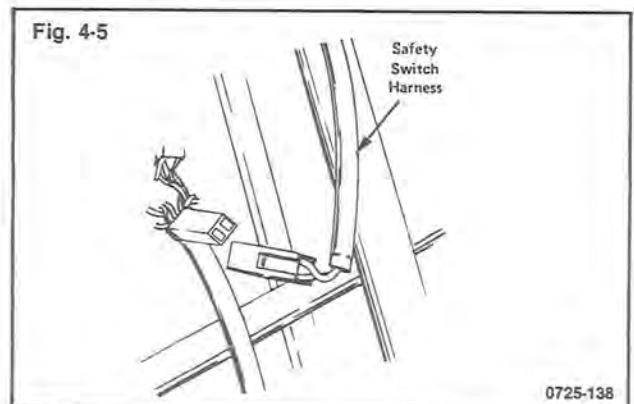
2. Perform test at the main harness four prong connector. Connect one ohmmeter lead to the black wire in the connector. Attach the red ohmmeter lead to the brown wire in the connector.



3. With both the ignition and safety switch in the "ON" position, the meter must register "OPEN". If the tester reads "CLOSED", disconnect the ignition switch from the main wiring harness. If the tester now reads "OPEN", replace the ignition switch.



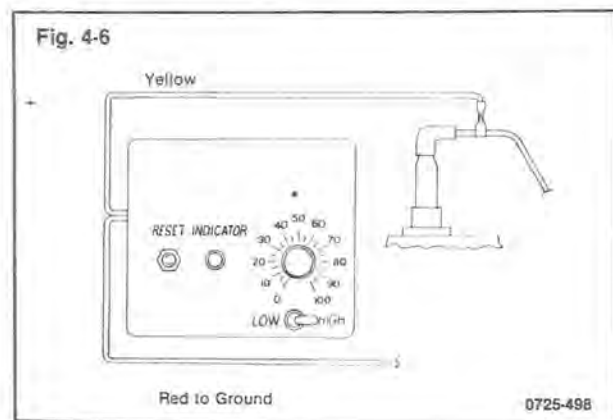
4. If the meter remains in the "CLOSED" position with the ignition switch disconnected, disconnect the safety switch. If the meter now reads "OPEN", replace the safety switch.



5. If the meter remains in the "CLOSED" position with both switches disconnected, replace the wiring harness.

Ignition Coil Output Test

1. Remove the resistor spark plug and spark-plug cap from the engine. Next, install a non-resistor type spark plug and cap.
2. Connect the mm-1 adapter to the spark plug wire. Attach the yellow tester lead to the mm-1 connector. Connect the red tester lead to a good ground on the engine.



3. Set the tester selector knob on 85. Set the high/low switch in the high scale position.
4. Crank the engine over quickly. If the tester light illuminates, output is satisfactory. If the tester light fails to illuminate, proceed to testing the charge coil output. Test 3 times for conclusive results.

Charge Coil Output Test

The new Kitty Cat ignition has incorporated the CDI unit and external coil into one component. Because of this, we will proceed directly to the charge coil test after testing the external coil output.

1. Disconnect the small single black lead from the external coil to the main wiring harness.
2. Using a adapter wire from the tester kit, connect the red tester lead to the single wire connector of the main engine wiring harness. Connect the yellow tester lead to a good ground on the engine.
3. Set the tester selector knob on 55, high scale.
4. Crank the engine over quickly. If the tester light illuminates, output is satisfactory and this would pinpoint the external coil and CDI unit as being defective.

5. If the tester light fails to illuminate during the charge coil test, replace the charge coil. Repeat the test 3 times for conclusive results. Push the reset button between each test.

NOTE: Before replacing any ignition components make sure none of the connectors are corroded or loose.

Testing Electrical Resistances

NOTE: All resistance tests on the Kitty Cat ignition can be made using the Arctic Multitester (p/n 0144-053). The following test procedure starts by testing the resistance of the spark-plug cap and working back to the charge coil under the flywheel. Replace any component that does not have a test value within specification given.

Testing Spark-Plug Cap

1. Remove the spark-plug cap from the high tension lead by rotating counterclockwise.
2. Set the Multitester selector knob on the X1K position. Touch the tester leads together and zero the meter.
3. Touch the two tester leads to either end of the spark-plug cap, making good contact with its metal contacts.
4. Spark-plug cap resistance must measure 5000 ohms $\pm$ 20%.

Testing External Coil Secondary

1. Remove the spark-plug cap from the high tension wire of the external coil.
2. Set the Multitester selector knob in the X1K position. Touch the tester leads together and zero the meter.
3. Touch the red lead of tester to the high tension lead making good contact with its internal wire. Touch the yellow tester lead to a good ground.

Fig. 4-7



4. Secondary resistance must measure 5900 ohms $\pm$ 20%.

Testing External Coil Primary

1. Disconnect the single external coil lead from the main wiring harness.
2. Set the Multitester selector in the X1K position. Touch the two tester leads together and zero the meter.
3. Touch the red tester lead to the single black lead of the external coil. Touch the black tester lead to the metal center post of the coil.

Fig. 4-8



4. The meter should read 11,000 ohms $\pm$ 20%.

Testing Charge Coil

1. Disconnect the small single black lead of the external coil from the main engine wiring harness.

2. Set the Multitester selector knob in the X100 position. Touch the tester leads together and zero the meter.
3. Touch the red tester lead to the single connector of the main engine wiring harness. Touch the black tester lead to a good ground on the engine.
4. Resistance of the charge coil must measure 117 ohms $\pm$ 20%.

Fig. 4-9



Testing Lighting Coil

1. Disconnect the main wiring harness at the engine.
2. Set the Multitester selector in the X1 position and touch the two tester leads together. Zero the meter.
3. Touch the two testers leads to the two yellow wires in the engine wiring harness connector.
4. Lighting coil resistance must measure 1.3 ohm $\pm$ 20%.

Fig. 4-10



Ignition Timing

NOTE: Engine timing can only be checked with the engine running at 6000 rpm, using a good quality timing light. Before checking the timing, allow the engine to run and warm-up for 5 min.

Checking

1. Remove the rubber plug located on the intake side of the fan housing.
2. Remove the spark plug from the cylinder and install the Arctic dial indicator (p/n 0144-009) in the spark plug hole, using the adapter provided.

Fig. 4-11



3. Rotate the engine to top dead center (TDC). Set the dial of the indicator to the zero position and rotate the flywheel back and forth to check accuracy of zero position. Needle must change direction exactly at zero on dial.
4. From the TDC position, rotate the flywheel clockwise 1.728 mm (0.068 in.). Holding the flywheel in this position, scribe a mark on the flywheel in alignment with the stationary pointer found by looking down into the timing hole of the fan housing.
5. Connect a timing light and tachometer to the engine.
6. Using a shielded safety stand, raise the rear of the machine off the floor and start the engine. Allow the engine to run for 5 min. at a fast idle. Gradually increase the engine rpm, the scribed mark on the flywheel should align with the stationary pointer of the fan housing at 6000 rpm.

7. If the timing is not correct, adjust timing.

Adjusting

1. Remove the screws securing the housing to the engine.
2. Remove the three screws securing the starter pulley to the flywheel; then remove the four countersunk screws securing the fan to the flywheel. Remove pulley and fan.
3. Rotate the flywheel until the screws securing the stator plate can be viewed through the openings in the face of the flywheel. Using a long screwdriver, loosen the three screws and rotate the stator clockwise or counterclockwise to correct timing. Tighten screws, reassemble engine and recheck timing for accuracy.

NOTE: The Kitty Cat engine runs counterclockwise so to advance timing, rotate the stator plate clockwise. To retard timing, rotate the stator plate counterclockwise.

SECTION 5 — RECOIL STARTER

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Removal and Disassembly

1. Remove the three screws and lock washers securing recoil to magneto housing.

Fig. 5-1



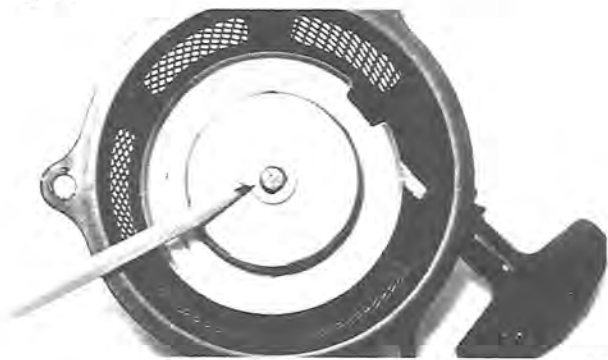
2. Pull the recoil rope about two feet. Using a hook, guide the recoil rope into the notch of the recoil reel. Grasp recoil reel and slowly allow the recoil reel to unwind until all spring tension is released.

Fig. 5-2



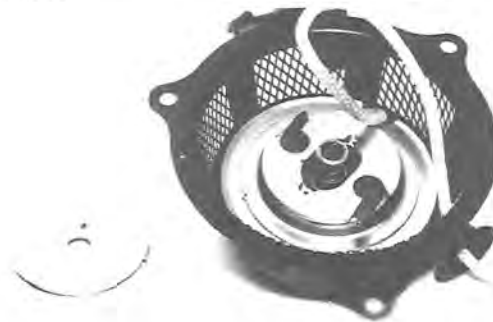
3. While exerting downward pressure on the drive plate, remove the E-ring and notched washer securing recoil components.

Fig. 5-3



4. Lift drive plate free of hooked portion of return spring; then remove drive plate from recoil shaft.
5. Remove spring cover and spring from recoil shaft; then remove recoil pawls.

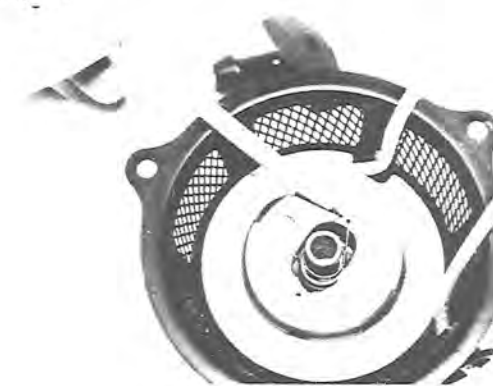
Fig. 5-4



A794

6. Disconnect return spring from recoil reel; then remove spring.

Fig. 5-5



A795

7. Remove two keyed washers from recoil shaft.
8. Carefully lift the recoil reel w/main spring off the recoil shaft.
9. If the recoil main spring must be replaced, begin removing spring one turn at a time by alternately using thumbs to guide spring off reel.
10. If the recoil rope must be replaced, remove the recoil handle from the end of the rope; then guide rope through the recoil reel.

Fig. 5-6



A798

Cleaning and Inspection

NOTE: Whenever a part is worn excessively, cracked, defective, or damaged in any way, replacement is necessary.

1. Clean all recoil components with cleaning solvent. Dry components with compressed air.

Fig. 5-7



A800

2. Inspect all springs, shims, washers, pawls, and drive plate for excessive wear or damage.
3. Inspect the recoil reel and housing for cracks or damage. Check the center hub for cracks and excessive wear.

Fig. 5-8



A799

4. Check the recoil rope for breaks or fraying.
5. Inspect the main spring for cracks, crystallization, and abnormal bends.

Fig. 5-9



A797

6. Inspect the starter handle and end piece for damage, cracks, or deterioration.

Assembly and Installation

1. Hook the end of the recoil spring around the mounting lug of the recoil reel.
2. Continue to insert the recoil spring winding in a clockwise direction. Insert windings one at a time until the complete recoil spring is installed.

NOTE: Recoil spring must seat evenly on the recoil housing to ensure correct installation.

3. If a recoil rope is to be installed, secure a knot in one end of the rope and insert the rope through the hole in the recoil reel; then wrap rope counterclockwise around reel, leaving 50 cm (20 in.) of rope free of roller.
4. Align the hook in the end of the recoil spring with the notch in the recoil housing.

NOTE: At this time a light oil may be used to lubricate both the spring and reel hub.

5. Carefully slide the recoil reel over the hub and hook spring on the hub.

NOTE: To ensure correct spring installation, rotate reel clockwise until slight spring tension is felt.

6. Slide two notched washers onto the recoil shaft.
7. Connect return spring to the hole in the recoil reel.
8. Install compression spring and cover.
9. Install starter pawls.

Fig. 5-10



A794

10. Use a hooked wire to guide the return spring when installing the drive plate. Rotate the plate until spring is in position.
11. Press drive plate onto shaft; then secure with a notched washer and E-ring.
12. Place recoil in position on fan housing; then install screws.
13. Pull the recoil rope until pawls engage with recoil pulley. This will center the recoil on the housing.
14. Tighten the three screws securing the recoil.
15. Check recoil for correct operation.

SECTION 6 — SERVICE PARTS

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NOTE: The illustrations used are for reference to replacement part numbers only and are not to be used for assembly. New part numbers for this year are underlined.

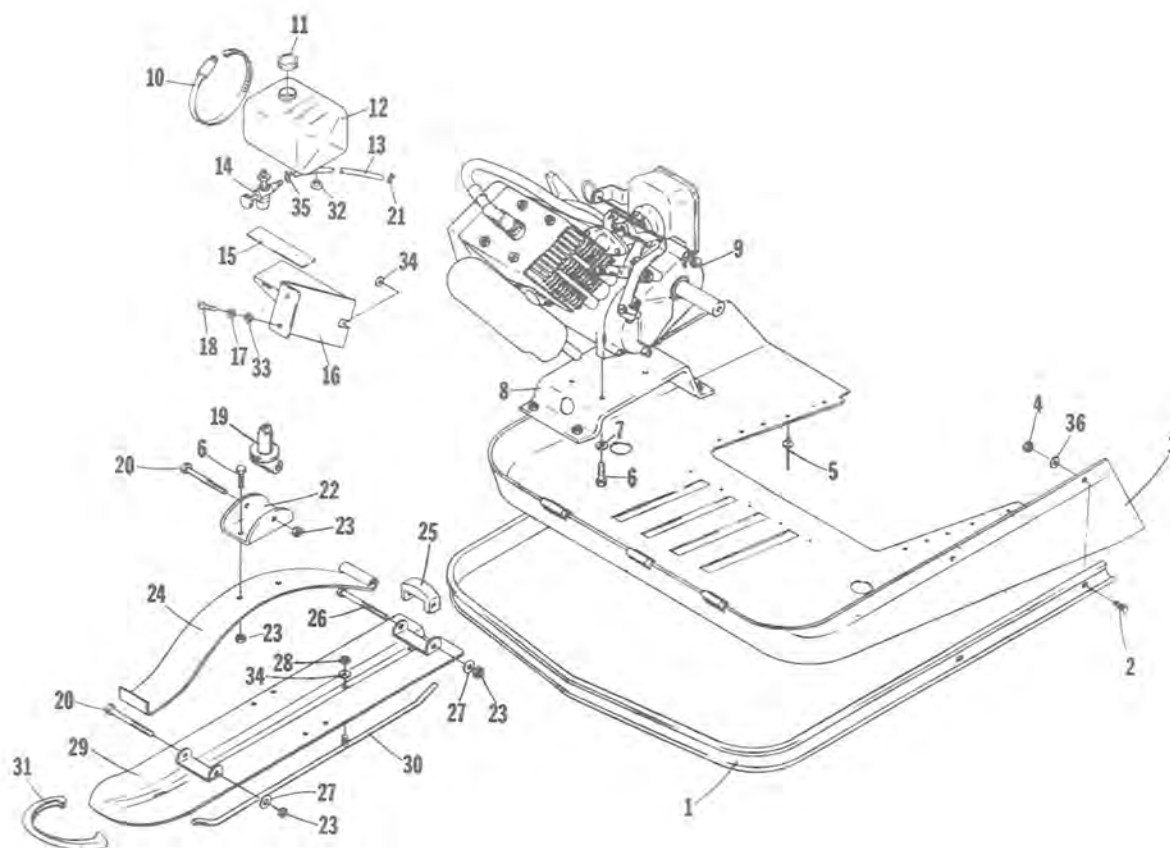
Service parts may be ordered through either Arctco, Inc. or Certified Parts Corporation.

Mail orders should be addressed to:

Arctco, Inc.	Certified Parts Corp.
P.O. Box 810	1111 West Racine Street
Thief River Falls, MN 56701	Janesville, WI 53545
Attn: Parts Dept.	

Phone orders, call:

Arctco, Inc.	Certified Parts Corp.
1-800-328-0281 U.S.	1-800-356-0777 U.S.
1-800-982-0017 MN	1-800-652-6979 WI

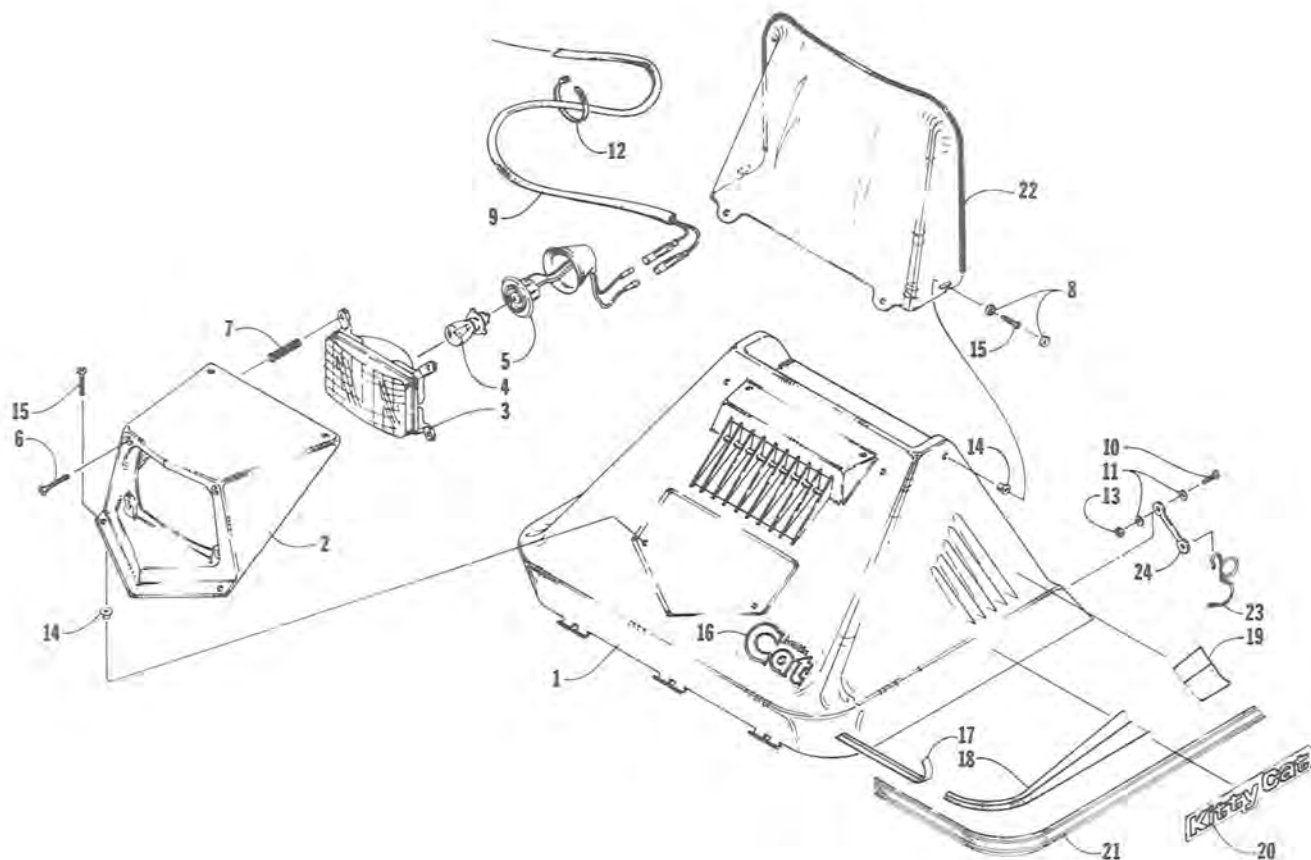


Ski, Engine, and Belly Pan

0727-100

Ref. No.	Part No.	Qty.	Description
1	0302-128	1	Bumper
2	8011-070	4	Bolt, Carriage
3	0302-145	1	Belly Pan
4	8040-366	4	Nut, Lock
5	8061-708	15	Rivet
6	8002-130	8	Screw, Cap
7	8051-242	4	Washer, Lock
8	0302-112	1	Plate, Engine
9	0662-012	1	Engine, AA06A8
10	0300-200	1	Strap
11	0302-091	1	Cap, Gas
12	0302-056	1	Tank, Gas
13	0610-008	AR	Hose, Fuel - 25'
14	0302-057	1	Filter/Shut-Off
15	0300-184	2	Pad
16	0302-061	1	Bracket, Fuel Tank
17	3003-020	2	Washer, Spring
18	3010-016	2	Screw

Ref. No.	Part No.	Qty.	Description
19	0300-133	2	Spindle
20	8002-140	4	Screw, Cap
21	0123-425	1	Clamp
22	0300-158	2	Saddle
23	8040-426	10	Nut, Lock
24	0300-154	2	Spring
25	0300-187	2	Cover, Saddle
26	8002-142	2	Screw, Cap
27	8050-247	4	Washer
28	8040-396	2	Nut, Lock
29	0300-124	2	Ski
30	0300-126	2	Skag
31	0300-189	2	Tip, Ski
32	0109-413	1	Bushing
33	3003-023	2	Washer
34	8050-217	3	Washer
35	0123-498	1	Clamp
36	8050-217	4	Washer

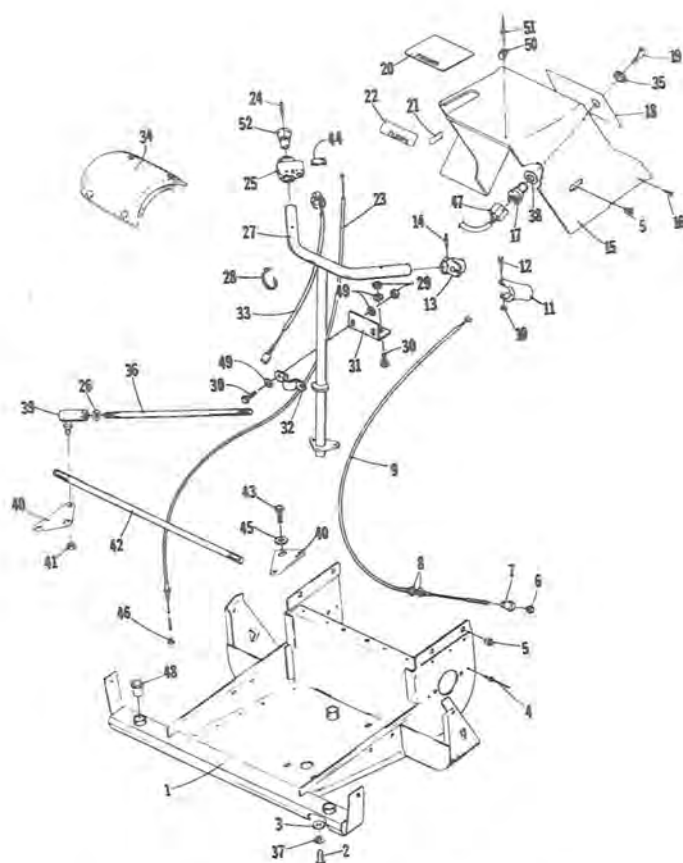


Hood Assembly

0727-248

Ref. No.	Part No.	Qty.	Description
1	0300-176	1	Hood
2	0302-072	1	Bezel, Headlight
3	0609-005	1	Housing, Head Lamp
4	0609-004	1	Bulb, Head Lamp
5	0609-006	1	Socket, w/Rubber Cap
6	0123-616	4	Screw, Adjusting
7	0123-614	4	Spring, Adjusting
8	0124-054	6	Snap & Cap
9	0302-066	1	Harness, Wiring
10	0123-636	2	Screw, Machine
11	0123-149	4	Washer, Backing
12	0123-788	4	Cable Tie
13	8041-126	2	Nut, Lock-Thin

Ref. No.	Part No.	Qty.	Description
14	0123-010	8	Nut, Expansion
15	0123-549	8	Screw, Machine
16	0212-549	1	Decal, "Arctic Cat"
17	0211-951	1	Decal, Front Stripe
18	0302-150	1	Decal, Side-Right
	0302-151	1	Decal, Side-Left
19	0302-152	1	Decal, Rear Side-Right
	0302-153	1	Decal, Rear Side-Left
20	0211-950	2	Decal, "Kitty Cat"
21	0611-195	2	Tape, Reflective
22	0606-097	1	Windshield
23	0300-155	2	Hook, Latch
24	0300-185	2	Latch, Rubber

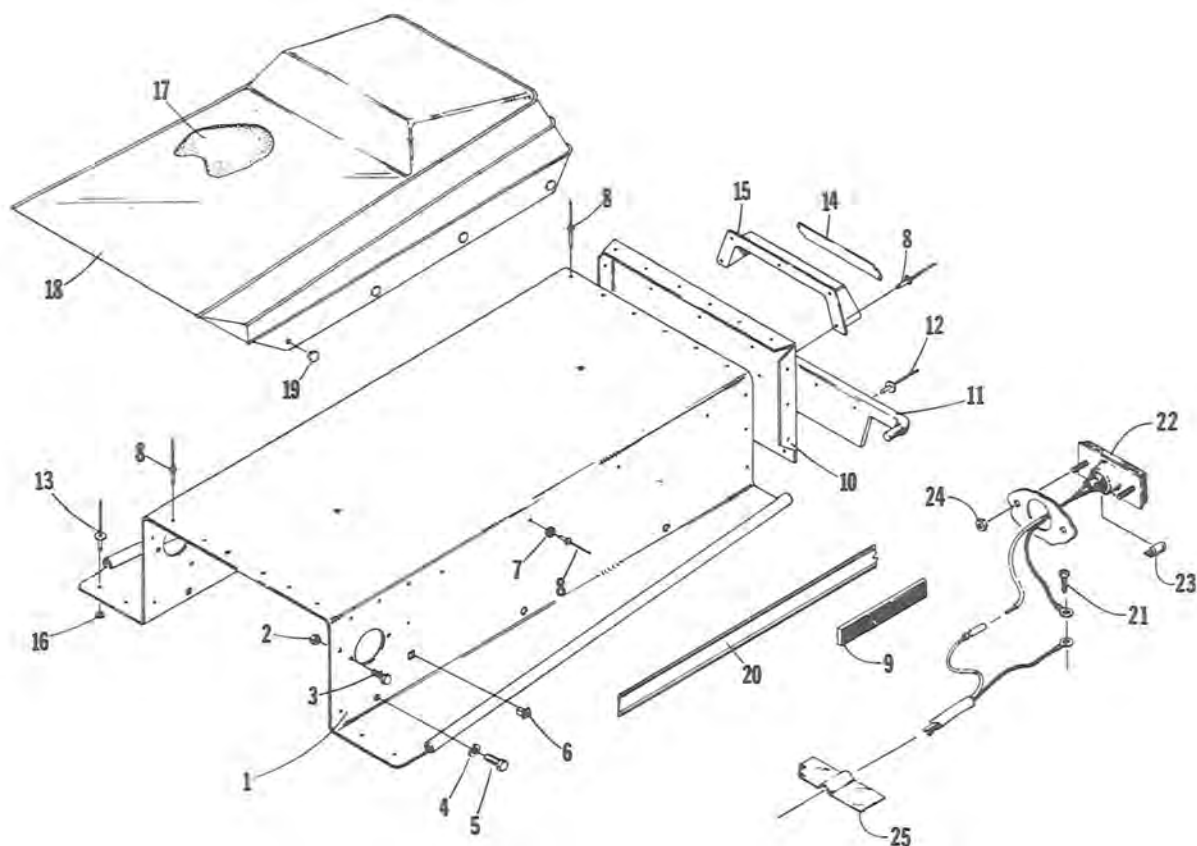


Steering, Front Frame, and Console

0727-249

Ref. No.	Part No.	Qty.	Description
1	0302-119	1	Front End
2	8002-220	4	Screw, Cap
3	8050-272	4	Washer
4	8060-306	4	Rivet
5	0123-534	5	Nut, Snap-In
6	0300-215	1	Nut, Jam
7	0300-210	1	Nut, Adjusting
8	0123-406	2	Nut, Flange
9	0302-093	1	Cable, Brake
10	0123-231	3	Ring, Retaining
11	0302-085	2	Lever
12	0123-230	2	Pin
13	0302-147	1	Grip-Left
14	8070-318	2	Pin, Spring
15	0302-045	1	Console
16	0300-208	4	Screw, Self-Tapping
17	0109-822	1	Switch, Ignition
18	0302-155	1	Decal, Dash
19	0116-065	1	Key
20	0611-166	1	Decal, "Caution"
21	0211-849	1	Decal, "Choke"
22	0211-847	1	Decal, "Throttle"
23	0302-092	1	Cable, Throttle
24	8070-222	2	Pin, Spring
25	0302-165	1	Grip-Right
26	0123-191	4	Nut, Jam

Ref. No.	Part No.	Qty.	Description
27	0302-084	1	Handle, Steering
28	0123-788	5	Cable Tie
29	8040-366	4	Nut, Lock
30	8002-070	4	Screw, Cap
31	0300-159	1	Bracket, Steering
32	0300-140	1	Clamp, Steering
33	0609-007	1	Switch, Stop
34	0706-034	1	Pad, Handlebar
35	0123-790	1	Nut, Knurled
36	0302-082	1	Tie Rod
37	8051-278	4	Washer, Lock
38	0123-851	1	Washer, Int. Lock
39	0300-123	4	Ball Joint
40	0302-162	2	Crank, Spindle
41	8041-516	4	Nut, Lock-Thin
42	0302-080	1	Tie Rod, Front
43	8012-130	2	Screw, Cap
44	0611-022	1	Decal, Stop Switch
45	0124-061	2	Washer, Pyramidal
46	0300-211	1	Nut, Lock
47	0302-054	1	Harness
48	0302-088	4	Bushing
49	8050-217	6	Washer
50	0123-397	1	Clamp, Cable
51	8060-430	1	Rivet
52	0109-960	2	Cap, Handlebar

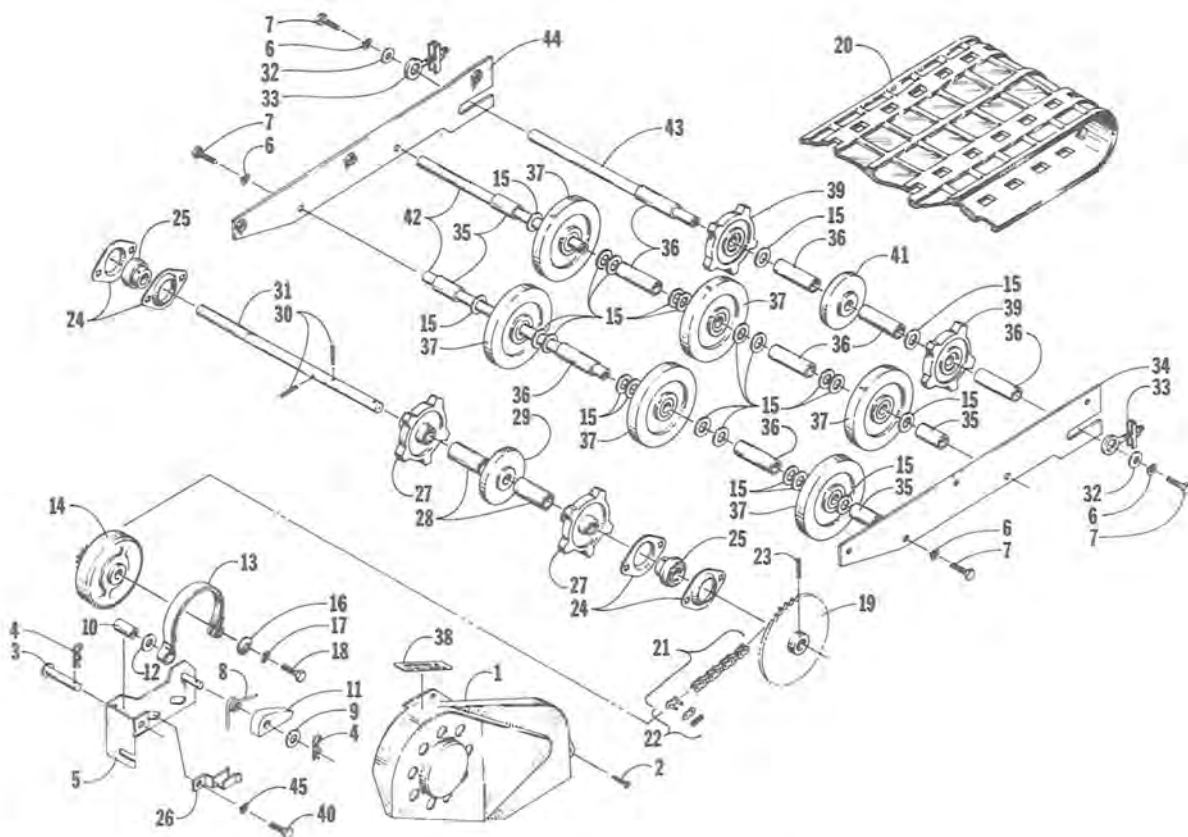


Seat, Tunnel, and Taillight

0727-250

Ref. No.	Part No.	Qty.	Description
1	0302-143	1	Tunnel
2	8040-366	4	Nut, Lock
3	8002-070	4	Screw, Cap
4	8051-273	4	Washer, Lock
5	8002-250	4	Screw, Cap
6	0123-534	1	Nut, Snap-In
7	0116-074	8	Snap
8	8060-306	41	Rivet
9	0117-860	2	Reflector
10	0606-022	1	Plate, Rear
11	0300-169	1	Bumper
12	8061-708	5	Rivet
13	8061-710	4	Rivet

Ref. No.	Part No.	Qty.	Description
14	0611-025	1	Decal, Handle
15	0300-173	1	Handle
16	8050-157	4	Washer
17	0302-131	1	Pad, Foam
18	0302-157	1	Cover, Seat (inc. 19)
19	0116-378	8	• Snap
20	0611-196	2	Tape Reflective - 23" roll
21	0623-012	1	Screw, Self-Tapping
22	0609-008	1	Taillamp Assembly (inc. 23)
23	0609-011	1	• Bulb, Taillight
24	8040-276	2	Nut, Lock
25	0115-588	AR	Tape

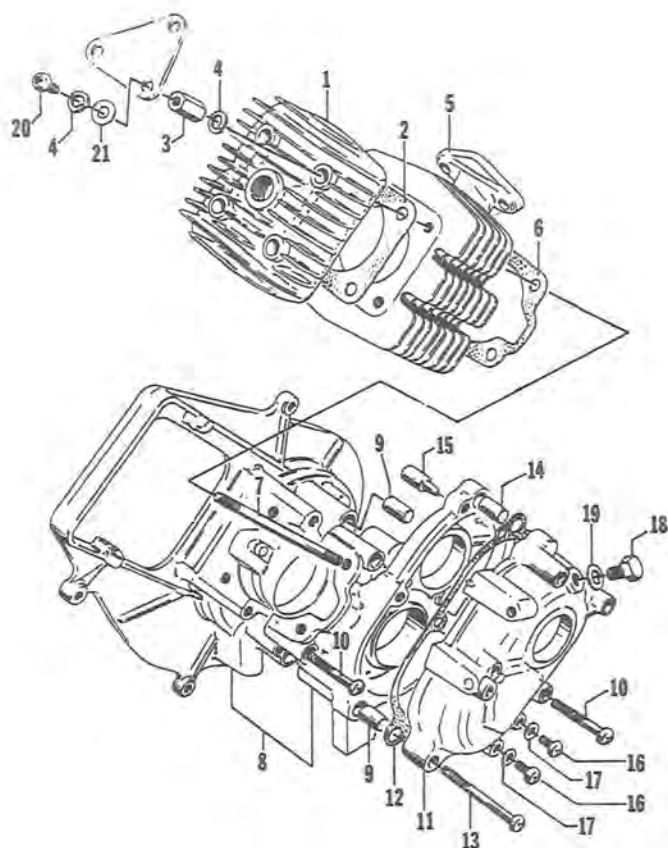


Drive, Undercarriage, and Track

0727-128

Ref. No.	Part No.	Qty.	Description
1	0302-060	1	Guard, Chain
2	0300-208	2	Screw, Self-Tapping
3	0300-230	1	Pin, Brake
4	0300-229	2	Pin, Hair
5	0300-129	1	Bracket, Brake
6	8051-272	6	Washer, Lock
7	8002-220	6	Screw, Cap
8	0300-153	1	Spring, Idler
9	8050-217	1	Washer
10	0300-151	1	Spacer, Brake
11	0302-081	1	Tightener, Chain
12	8050-242	2	Washer
13	0300-162	1	Band, Brake
14	0302-086	1	Clutch
15	0123-439	22	Washer
16	0123-765	1	Washer, Cup
17	8051-212	1	Washer, Lock
18	8004-037	1	Screw, Cap
19	0300-156	1	Sprocket, Drive-42T
20	0300-167	1	Track
21	0300-122	1	Chain Ass'y. (inc. 22)
22	2204-001	1	•Link, Connecting
23	8070-376	1	Pin, Spring

Ref. No.	Part No.	Qty.	Description
24	0300-138	4	Flange
25	0302-118	2	Bearing
26	0302-079	1	Bracket, Brake Position
27	0300-179	2	Sprocket, Track Drive
28	0300-152	2	Spacer
29	0300-181	1	Idler Wheel, Front
30	8070-316	4	Pin, Spring
31	0300-144	1	Driveshaft
32	8050-277	2	Washer
33	2081-000	2	Adjuster
34	0302-109	1	Plate, Side-Left
35	0302-104	4	Spacer
36	0300-150	8	Spacer
37	0302-101	6	Bogie Wheel
38	0211-916	1	Decal, Warning
39	0300-178	2	Sprocket, Idler
40	8002-250	2	Screw, Cap
41	0300-180	1	Idler Wheel, Rear
42	0302-110	2	Axle
43	0302-111	1	Axle, Rear
44	0302-108	1	Plate, Side-Right
45	8051-273	2	Washer, Lock

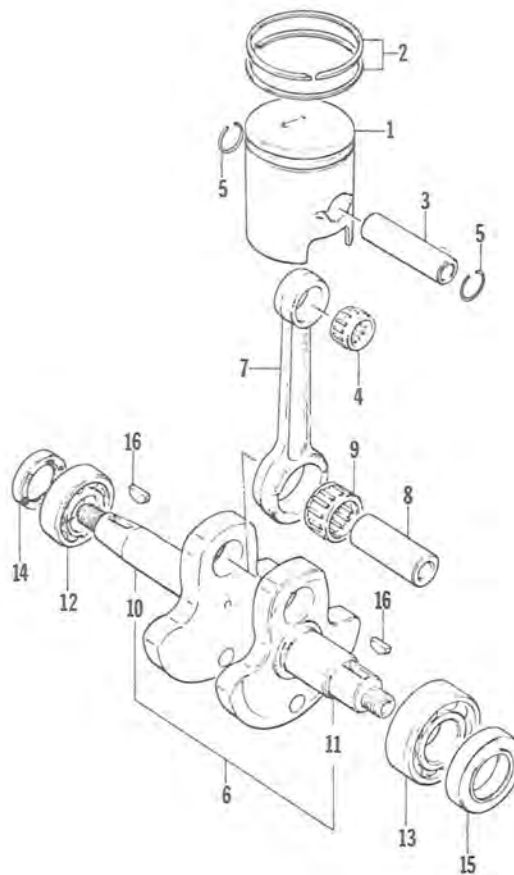


Crankcase and Cylinder

0727-251

Ref. No.	Part No.	Qty.	Description
1	3002-469	1	Head, Cylinder
2	3002-470	1	Gasket, Head
3	3002-454	4	Nut
4	3003-020	6	Washer, Lock
5	3002-616	1	Cylinder
6	3002-472	1	Gasket, Cylinder
7	3002-451	4	Bolt, Stud
8	3003-185	1	Crankcase Ass'y. (inc. 9 & 10)
9	3002-012	2	• Pin, Dowel
10	3003-259	9	• Screw
11	3002-617	1	Case, Gear

Ref. No.	Part No.	Qty.	Description
12	3002-475	1	Gasket, Gear Case
13	3002-445	1	Screw
14	3002-012	2	Pin, Dowel
15	3002-519	1	Plug, Breather
16	3003-260	2	Plug, Oil Level
17	3002-456	2	Gasket, Oil Level
18	3002-460	1	Plug, Oil Filler
19	3003-188	1	Gasket, Oil Filler
20	3010-016	2	Screw
21	3003-023	2	Washer

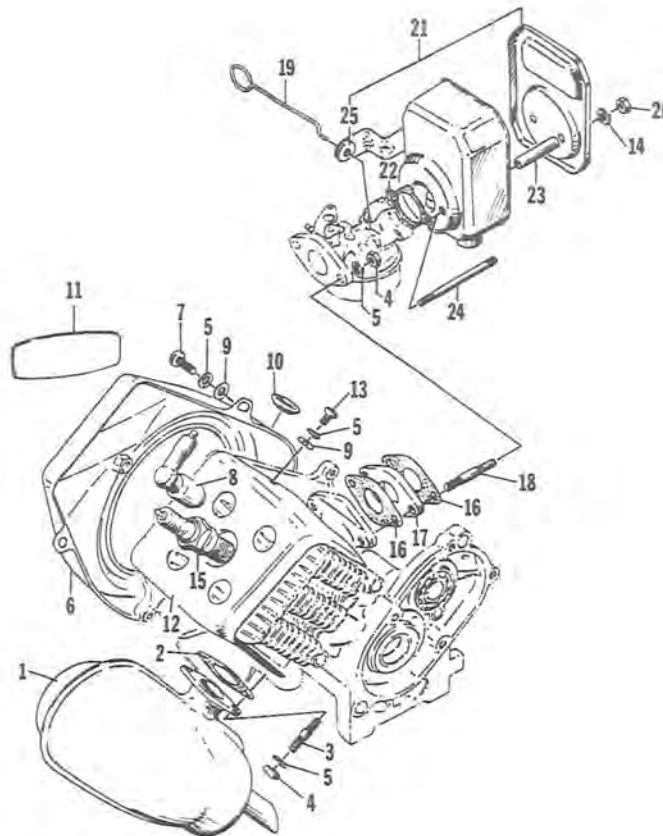


Piston and Crankshaft

0720-071

Ref. No.	Part No.	Qty.	Description
1	3002-476	1	Piston
2	3002-477	1	Ring Assembly
3	3002-478	1	Pin
4	3003-186	1	Bearing
5	3010-264	2	Circlip
6	3002-479	1	Crankshaft Ass'y. (inc. 7-11)
7	3010-318	1	• Rod, Connecting
8	3002-480	1	• Pin

Ref. No.	Part No.	Qty.	Description
9	<u>3003-319</u>	1	• Bearing
10	3002-481	1	• Crankshaft-Right
11	3002-482	1	• Crankshaft-Left
12	<u>3003-320</u>	1	Bearing-Right
13	<u>3003-261</u>	1	Bearing-Left
14	<u>3002-462</u>	1	Oil Seal-Right
15	3002-463	1	Oil Seal-Left
16	3010-070	2	Key

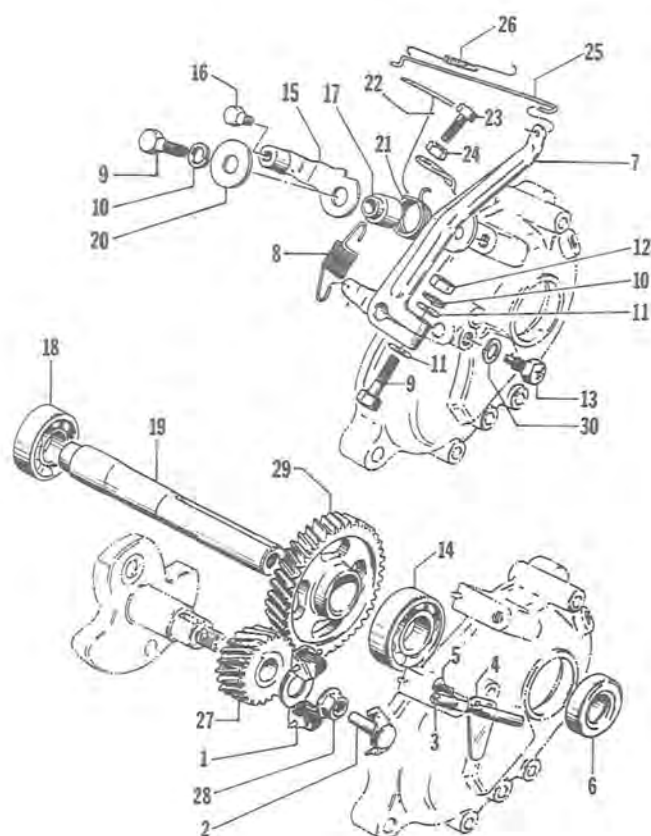


Muffler, Cowling, and Silencer

0727-253

Ref. No.	Part No.	Qty.	Description
1	3003-266	1	Muffler
2	3002-488	1	Gasket
3	3002-436	2	Bolt, Stud
4	3003-264	4	Nut
5	3003-190	10	Washer, Lock
6	3002-491	1	Cover, Cooling Fan
7	3002-443	4	Screw
8	3003-175	1	Cap, Spark Plug
9	3003-023	6	Washer
10	3002-461	1	Plug, Magneto Inspection
11	0212-283	1	Emblem
12	3002-492	1	Cowling
13	3002-348	2	Screw

Ref. No.	Part No.	Qty.	Description
14	3003-206	2	Washer, Lock
15	0217-027	1	Spark Plug, BR-6HS
16	3002-483	2	Gasket
17	3002-484	1	Insulator
18	3002-439	2	Bolt, Stud
19	3002-485	1	Rod, Choke Valve
20	3002-689	2	Nut
21	3002-486	1	Silencer Ass'y. (inc. 25)
22	3002-487	1	Gasket
23	3002-458	2	Spacer
24	3003-165	2	Bolt, Stud
25	3003-265	1	Grommet

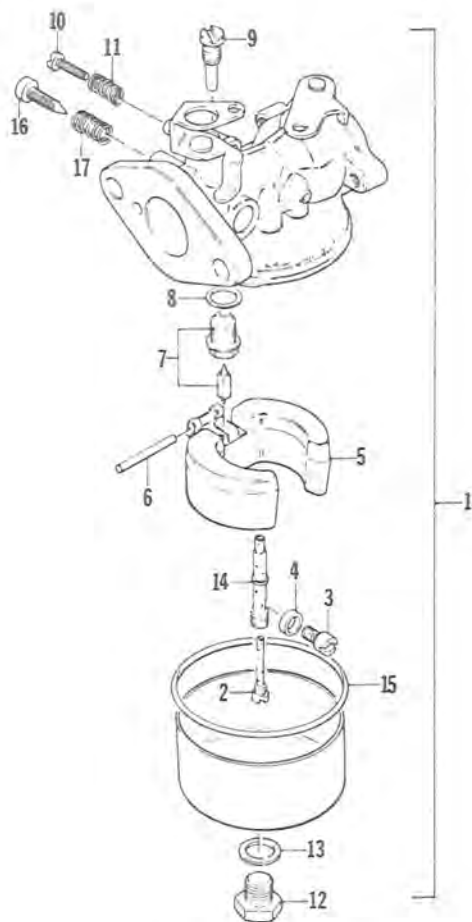


Governor

0727-132

Ref. No.	Part No.	Qty.	Description
1	3002-619	1	Centrifugal
2	3002-509	1	Shifter
3	3002-510	1	Shaft, Throttle Return
4	3002-511	1	Plate, Throttle Return
5	3002-684	2	Screw
6	3002-462	1	Seal, Oil
7	3002-512	1	Lever, Throttle Control
8	3002-615	1	Spring
9	3003-267	2	Bolt
10	3003-190	2	Washer, Lock
11	3003-020	2	Washer
12	3002-690	1	Nut
13	3002-452	1	Bolt
14	3003-321	1	Bearing-Left
15	3002-620	1	Lever, Throttle Cable

Ref. No.	Part No.	Qty.	Description
16	3002-702	1	Bolt
17	3002-459	1	Spacer
18	3003-320	1	Bearing-Right
19	3002-518	1	Shaft, Primary Driven
20	3002-455	1	Washer
21	3002-468	1	Spring
22	3002-621	1	Bracket, Throttle Cable
23	3003-268	1	Bolt, Adjuster
24	3002-689	1	Nut, Adjuster
25	3002-515	1	Rod, Carburetor
26	3002-466	1	Spring, Carburetor Rod
27	3002-516	1	Gear, Primary Drive
28	3002-736	1	Nut
29	3002-517	1	Gear, Primary Driven
30	3002-912	1	Washer, Lock

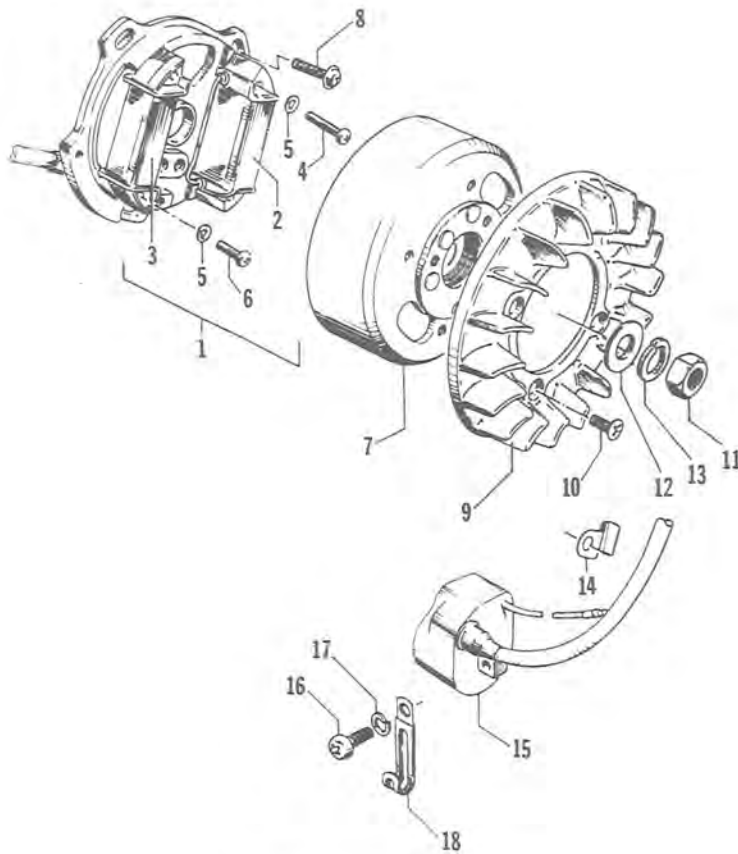


Carburetor

0720-072

Ref. No.	Part No.	Qty.	Description
1	3002-618	1	Carburetor Ass'y. (inc. 2-17)
2	6505-285	1	• Tube
3	3003-189	1	• Main Jet
4	6505-292	1	• Ring
5	6505-287	1	• Float
6	6505-288	1	• Pin, Float
7	6505-293	1	• Needle Valve Ass'y.
8	6505-244	1	• Gasket
9	6505-297	1	• Pilot Jet No. 35

Ref. No.	Part No.	Qty.	Description
10	6505-294	1	• Screw, Throttle Adjusting
11	6505-289	1	• Spring
12	3003-262	1	• Bolt
13	6505-013	1	• Washer
14	6505-284	1	• Nozzle
15	6505-286	1	• Gasket, Float Chamber
16	3003-263	1	• Screw, Pilot Adjusting
17	6505-291	1	• Spring

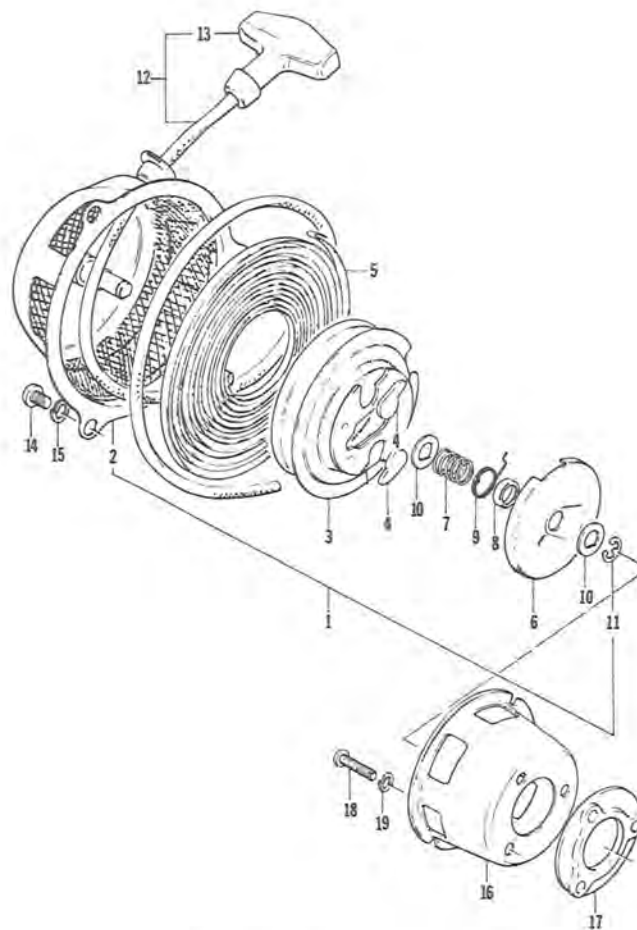


Magneto

0727-133

Ref. No.	Part No.	Qty.	Description
1	3003-150	1	Stator (inc. 2-6)
2	3003-146	1	• Coil, Lighting
3	3003-147	1	• Coil, Primary
4	3002-711	4	• Screw
5	3003-097	6	• Washer, Lock
6	3003-270	1	• Screw
7	3003-145	1	Rotor
8	3002-453	3	Screw
9	3002-490	1	Fan

Ref. No.	Part No.	Qty.	Description
10	3002-446	4	Screw
11	3002-664	1	Nut
12	3002-450	1	Washer
13	3003-053	1	Washer, Lock
14	3002-464	1	Clamp
15	3003-191	1	Coil Ass'y.
16	3002-349	2	Screw
17	3003-020	2	Washer, Lock
18	3002-465	1	Clamp



Recoil Starter

0720-076

Ref. No.	Part No.	Qty.	Description
1	3002-493	1	Recoil Starter Ass'y. (inc. 2-12)
2	3002-494	1	• Case, Recoil
3	3002-495	1	• Reel, Recoil
4	3002-496	2	• Pawl
5	3002-497	1	• Spring, Recoil
6	3002-498	1	• Plate, Drive
7	3002-499	1	• Spring
8	3003-317	1	• Cover, Spring
9	3002-501	1	• Spring, Return
10	3002-502	2	• Washer

Ref. No.	Part No.	Qty.	Description
11	<u>3003-318</u>	1	• E-Ring
12	3002-504	1	• Grip Ass'y. (inc. 13)
13	3002-505	1	• • Grip
14	3010-016	3	Screw
15	3003-020	3	Washer, Lock
16	3002-506	1	Pulley, Starter
17	3002-507	1	Spacer
18	3002-279	3	Screw
19	3003-206	3	Washer, Lock

Related Items

Description	Part Number
Black Metal Paint	0652-004
Headlight Bulb	0609-004
Taillight Bulb	0609-011
Arctco 50:1 Oil - 55 U.S. gal.	0636-026
Arctco 50:1 Oil - 1 qt	0636-027
Arctco 20:1 Oil - 1 qt	0636-028
Arctco 20:1 Oil - 55 U.S. gal.	0636-081
Arctco Engine Preserver	0636-177
Wheel Kit	0134-707
Kitty Cat Machine Cover	0636-035
Kitty Cat Machine Cover	0636-109 ✓
Operator's Manual	2254-344
Safety Handbook	2254-347
Tool Kit	0155-619
RTV 732 Sealant - (3 oz tube)	0134-971
Parts/Service Manual	2254-350
Machine Cover	0352-009
Arctic Cat 50:1 Oil - 55 U.S. gal.	0352-138
Arctic Cat 50:1 Oil - 16 oz.	0355-018
Arctic Cat 20:1 Oil - 1 qt.	0134-124

NOTE: For a complete list of related items, refer to the Accessories and Options Manual.