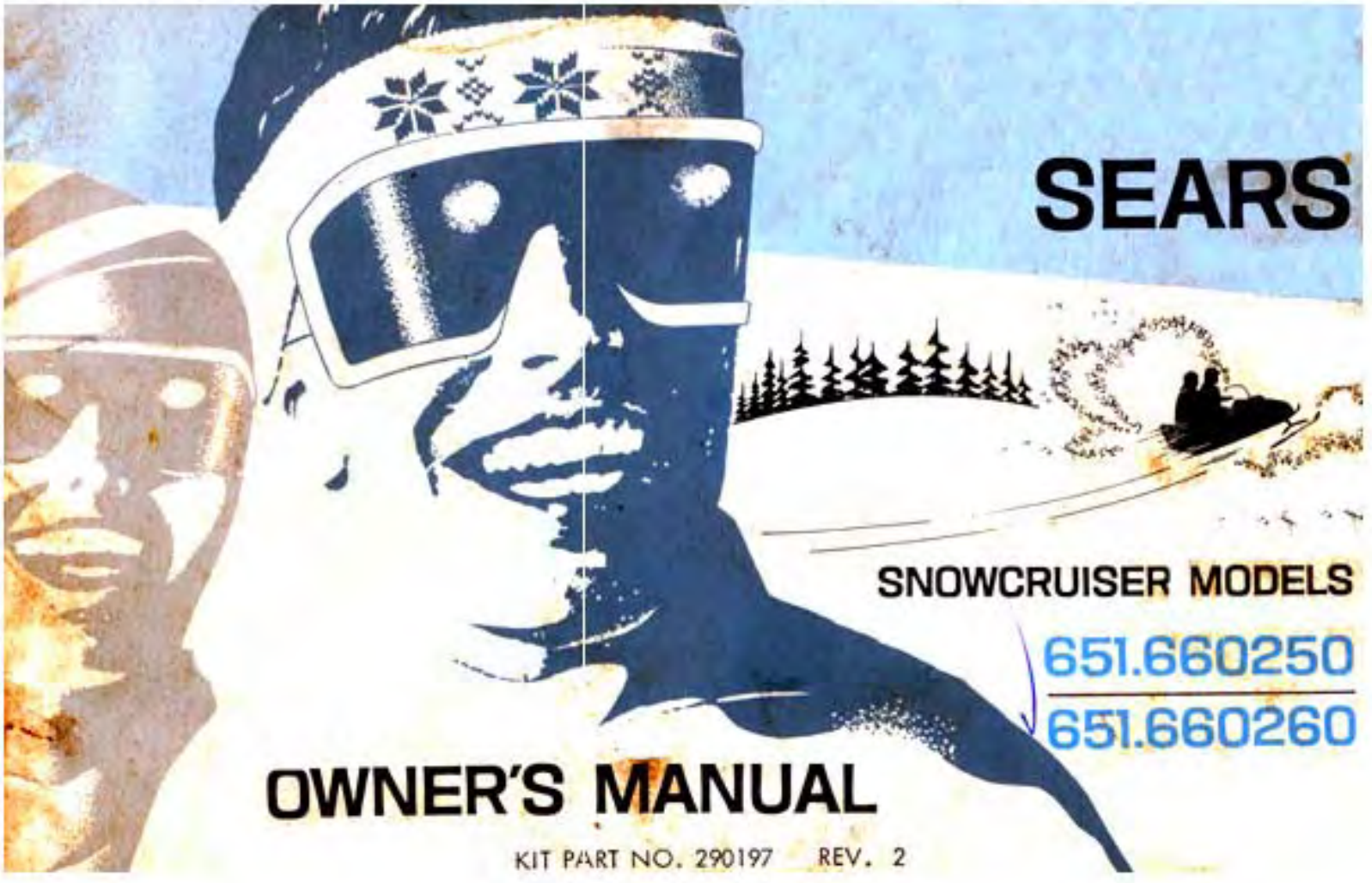


SEARS

SNOWCRUISER MODELS

651.660250

651.660260

# OWNER'S MANUAL

KIT PART NO. 290197 REV. 2

# SAFETY RULES

### UPHILL

Slight throttle reduction to reduce possibility of spinning the track. Very steep hills, run cross-hill and gradually work way to top.

### DOWNHILL

Maintain slight throttle on steep and dangerous slopes. This will allow engine to check momentum.

### GLARE ICE

Caution should be exercised and operator should familiarize himself with the performance of the vehicle under such conditions before assuming normal operation.

### OTHER IMPORTANT CONSIDERATIONS

- Never use your vehicle without the engine cover secured in place.
- Be certain no one is behind unit when making a fast start, as ice, stones, etc., may be thrown into the air by the lugs on the track.
- Always use two hands for steering.
- Keep feet on running boards at all times.

### WHEN MAKING ADJUSTMENTS

Do not attempt to perform repairs on your vehicle while engine is running.

- Always disconnect spark plug wire before servicing any part of the engine or drive unit.

## A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT

# FOREWORD

This Owner's Manual for the Sears Models 651-660250 and 651-660260 has been prepared to assist you in operation and maintenance. In order to realize peak performance and pleasure, read this manual carefully and keep it handy for future reference.

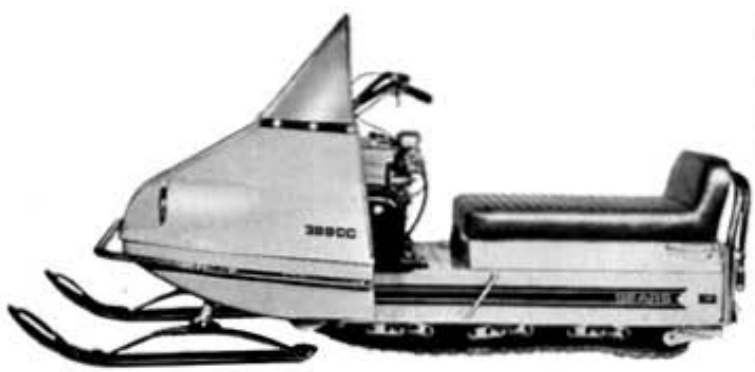
When writing or calling the SEARS store about your machine always refer to it by model and serial number. SEARS reserves the right to make changes and improvements in its products, at any time without obligation.

# TABLE OF CONTENTS

# FEATURES

MODEL 651-660250

FIGURE 1



MODEL 651-660260

FIGURE 2

ONE PIECE FIBERGLASS HOOD

SEALED BEAM HEADLIGHT

STEEL SKIS WITH REPLACEABLE RUNNERS

REINFORCED TRACK

SIMPLE, EASY, TRACK ADJUSTMENT

TOOL BAG

CHROME WRAP-AROUND BUMPER

BREAK-AWAY WINDSHIELD

REMOVEABLE GAS TANK

ONE PIECE FIBERGLASS HOOD

DUAL SEALED BEAM HEADLIGHTS

STEEL SKIS WITH REPLACEABLE RUNNERS

ENDLESS REINFORCED TRACK

SIMPLE, EASY, TRACK ADJUSTMENT

STORAGE COMPARTMENT

CHROME KICKSTAND

ELECTRIC START

TWIN CYLINDER ENGINE

CHROME WRAP-AROUND BUMPER

BREAK-AWAY WINDSHIELD

REMOVEABLE GAS TANK

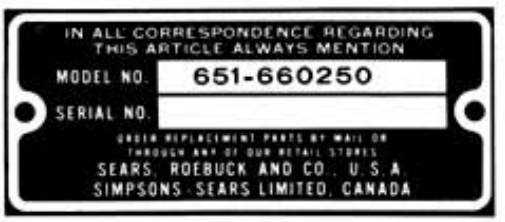



FIGURE 3

# SPECIFICATIONS

Body Dimensions

Length - 100-1/2" overall (90-1/4" body)

Width - 32"

Height - 44-1/4" with windshield
37-1/2" without windshield

Clutch -- Centrifugal operated sheave engages belt.

Drive -- Variable speed, V-belt and chain.

## PARTS AND REPAIR SERVICE

Be sure that only factory approved parts are used in your vehicle. SEARS, ROEBUCK AND CO. back up your investment with quick, expert mechanical service and genuine SEARS replacement parts.

If and when you need repairs or service, call on us to protect your investment in this fine piece of equipment.

## MODEL AND SERIAL NUMBER

The model and serial numbers are located on the right side below the passenger handle on chassis. See Figure 3.

Transmission -- Variable-speed 3:1 low ratio to 1:1.3 overdrive ratio. Ratio is the same for all engines.

Brake -- Disc type - Hand operated.

Track -- Specially designed flexible track, fully adjustable. 15-1/2" wide, and 20-1/2" wide.

Skis -- Formed steel, equipped with shock absorbing leaf springs and replaceable wear runners.

Seating Capacity -- Two adults. Expanded vinyl cover, urethane foam cushion and back rest.

Engine Cover -- Molded fiberglass with built-in headlight.

Fuel Tank Capacity -- 4 U.S. gallons or 3.3 Imperial gallons.

# KOHLER 2 CYCLE SNOWCRUISER ENGINE SPECIFICATIONS


FIGURE 4

MODEL: K309-1
TYPE: Single cylinder, air-cooled, two stroke, loop scavenged, third port design
BORE: 2.95 x Stroke 2.75
DISPLACEMENT: 309 cc
COMPRESSION RATIO: 11.5:1
SPEED RANGE: 2000 to 6000 RPM
PISTON: Cam ground aluminum alloy
CYLINDERS: Metallurgically controlled cast iron for maximum life.
CONNECTING ROD: Forged steel with needle bearings on both ends
MAIN BEARINGS: Anti-friction ball bearings on both ends
CRANKSHAFT: Forged steel
CRANKSHAFT EXTENSION: 30 mm with 10:1 taper and 1/2" NF internal thread
CRANKCASE: Aluminum alloy
IGNITION: High tension flywheel magneto with automatic spark advance
IGNITION POINTS: Heavy-duty under flywheel
LIGHTING COIL: 40 watt, 12-volt A.C.
TERMINAL CONNECTOR BLOCK: Standard on all engines for fastening lighting and stop wires
SPARK PLUG: 18 mm with protective rubber boot
DIRECTION OF ROTATION: Counter clockwise viewed from PTO end.
FUEL: 92 octane or over regular, premixed with a good grade of air-cooled, two-cycle engine oil
FUEL-OIL MIXTURE: 20:1 (1 quart of oil to 5 gals. gasoline)
STARTER: Recoil
TOOL KIT: Includes screwdriver, cylinder head socket, spark plug socket, open end wrench and starter rope
NOTE: All mounting base threads, carburetor and exhaust flange studs are U.S. Standard N.C. threads
MOUNTING BASE HOLES: 3/8" x 16
EXHAUST FLANGE: 3/8" x 16 with brass nuts and gasket
CARBURETOR FLANGE: 5/16 x 18 with insulator block, nuts, washers, gasket
WEIGHT: K309-1T Recoil Start 52 Pounds

# KOHLER 2 CYCLE SNOWCRUISER ENGINE SPECIFICATIONS

MODEL: K399-2

TYPE: Two cylinder, air-cooled, alternate firing, two stroke, loop scavenged, third port design

BORE: 2.54 x Stroke 2.36

DISPLACEMENT: 399 cc

COMPRESSION RATIO: 11.5:1

SPEED RANGE: 2000 to 6000 RPM

PISTON: Cam ground aluminum alloy

CYLINDERS: Metallurgically controlled cast iron for maximum life

CONNECTING ROD: Forged steel with needle bearings on both ends

MAIN BEARINGS: Four anti-friction ball bearings. One on each end with two center support bearings.

CRANKSHAFT: Forged steel

CRANKSHAFT EXTENSION: 30 mm with 1:10 taper and 1/2" NF internal thread

CRANKCASE: Aluminum alloy

IGNITION: High tension flywheel magneto with automatic spark advance

IGNITION POINTS: Dual heavy-duty under flywheel

LIGHTING COIL: 40 watt, 12-volt A.C.

TERMINAL CONNECTOR BLOCK: Standard on all engines for fastening ignition, lighting and stop wires

SPARK PLUG: 18 mm with protective rubber boot

INTAKE MANIFOLD: Standard for single carburetor mounting. Includes mounting studs, nuts, washers, gasket and insulator block.

EXHAUST: Includes extensions to adapt 1-5/8" I.D. tubing

DIRECTION OF ROTATION: Counterclockwise viewed from PTO end.

FUEL: 92 octane or over regular, premixed with a good grade of air-cooled, two-cycle engine oil

FUEL-OIL MIXTURE: 20:1 (1 quart of oil to 5 gals. gasoline)

STARTER: Recoil

TOOL KIT: Includes screwdriver, cylinder head socket, spark plug socket, open end wrench and starter rope

NOTE: All mounting base threads, carburetor and exhaust flange studs are U.S. Standard N.C. threads

MOUNTING BASE HOLES: 3/8" x 16

EXHAUST FLANGE: 3/8" x 16 with brass nuts and gasket

CARBURETOR FLANGE: 5/16 x 18 with insulator block, nuts, washers, gasket

WEIGHT: K399-2S Electric Start 85 Pounds

FIGURE 5

# CONTROLS

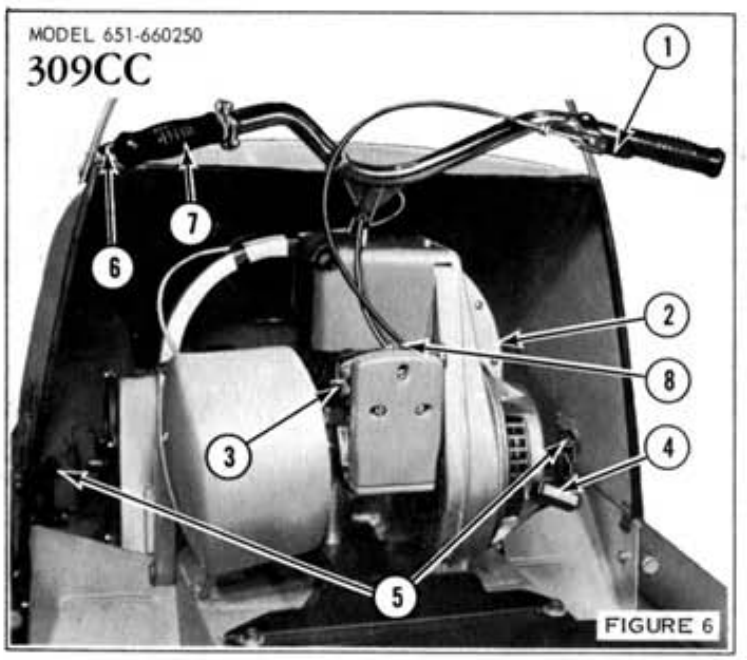


FIGURE 6

(1) Throttle. The thumb operated type throttle lever is located on the right hand steering arm. Squeezing the throttle increases engine speed and power is transmitted to the track. When lever is released, engine returns to idle.

(2) Ignition Switch. Vehicle has a key operated ignition switch with OFF, ON & LITE positions. Model 651-660260 has a START position for electric starter. There is a spring return from the START position to the ON position on the SWITCH. If lights are needed turn switch back to the LITE position.

(3) Choke. On carburetor - swing lever up and back to choke.

(4) Starter Handle. The recoil starter is the primary means of starting manual models and an alternate method of starting electric models.

(5) Engine Cover Latches. Release the engine cover by pulling up on the latches and releasing them from the strikes. Raise cover by lifting up and tilting forward. Restraint prevents cover from tipping too far forward and causing damage.

(6) Hand Brake. To apply brake, squeeze brake lever. CAUTION: Always release hand brake when engine speed is increased above idle speed.

# CONTROLS (CONT)

(7) Parking Brake. To apply parking brake lock, engage brake and slip lock into position. To release brake, squeeze brake lever and slip the lock out of position.

(8) Primer. A primer is provided for manually pumping fuel into the crankcase prior to starting a cold engine.

(9) Ammeter. (Optional Equipment)

(10) Speedometer and odometer. (Optional Equipment)

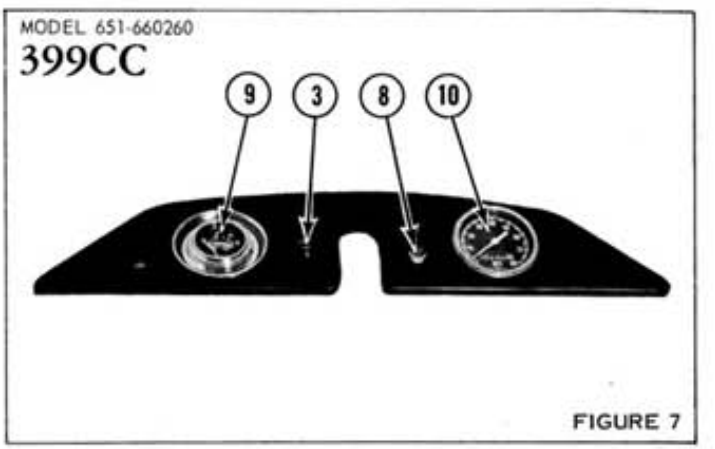


FIGURE 7

## FUEL TANK OPERATION

Fuel level gauge is self-actuating and does not require electrical power in its operation. Gauge resets itself to read FULL when tank is filled. See Figure 8.

Quick disconnect valve allows removal and insertion of fuel tank. Lift up on knurled sleeve, then lift complete valve. To install, again lift sleeve, insert valve and release knurled sleeve. See Figure 9.


FIGURE 8


FIGURE 9

# FUEL RECOMMENDATIONS

The correct fuel mixture ratio is 20 parts of a good grade, regular gasoline to one part oil. For ease of measurement, this is equivalent to one quart of oil to 5 gallons of gasoline; one pint of oil to 2-1/2 gallons of gasoline; 1/2 pint of oil to 1-1/4 gallons of gasoline; or 6-1/2 ounces of oil to 1 gallon of gasoline.

Use SAE 30 2 cycle engine oil or SAE 30W motor oil with an MS rating, made by a reputable manufacturer. DO NOT USE ANY OUTBOARD MOTOR OILS. These are produced for water-cooled engines, and are not suitable for use in high temperature, air-cooled engines. DO NOT USE MULTIPLE VISCOSITY OILS. SUCH AS 10W30.

> Even though 2 CYCLE ENGINE OIL MAY BE ADVERTISED AS A 50:1 RATIO OIL, IT IS IMPERATIVE FOR USE IN THIS SNOWCRUISER THAT IT BE MIXED AT A 20:1 GAS-OIL RATIO.

Use only a good grade of regular gasoline (92 octane minimum). Higher octane fuels may be used, but generally do not offer any advantages. Pre-mixing of gasoline and oil is essential for proper lubrication and a preventive against internal engine damage. DO NOT mix gasoline and oil at temperatures below 32° F.

1. Use a separate, clean container for mixing fuel, other than the vehicle gas tank.
2. Do not pour oil or gasoline separately into vehicle tank.
3. To prepare the snowcruiser fuel properly, pour into a SEPARATE, clean container one-quarter to one-half the amount of regular grade gasoline required and add all the required oil. Thoroughly agitate this partial mixture. Next, add the balance of gasoline necessary to bring the mixture to the required ratio of 20:1. Again, thoroughly agitate the mixture.

DO NOT add fuel to vehicle with engine running.

DO NOT POUR GASOLINE OR OIL DIRECTLY INTO VEHICLE FUEL TANK. USE AN APPROPRIATE CONTAINER FOR MIXING AND STORING FUEL.

DO NOT use kerosene or fuel oils for pre-mixing. When pouring fuel into vehicle tank, use a clean funnel equipped with a fine screen.

### BREAK IN PERIOD

For the first 20 hours of operation, it is suggested that you operate your vehicle at reduced speeds. This will allow the internal parts to seat themselves, thus greatly prolonging engine life. Treat this vehicle as you would any other piece of precision machinery. Always allow the engine to warm up before going to full throttle. Make sure the vehicle is up on kick stand while letting it warm up. Start out slowly and avoid sudden starts. Do not overspeed for load and operating conditions.

**NOTE:**
Adjust drive chain tension after the first 3 hours of operation. Refer to page 16 for drive chain adjustment instructions.

Adjust track tension after the first 10 hours of operation. Refer to pages 17 and 18 for track tension and track alignment adjustment instructions.

# INITIAL CHECK

Your machine has been serviced and test run at our factory, but as an added precaution against possible damage during shipment, make the following checks:

| | |
|---|---|
| CHECK FUEL SYSTEM FOR | Fuel in tank<br>Proper fuel mixture<br>Fuel flow to carburetor<br>Fuel pump filter screen<br>Inline filter (fuel flow) |
| CHECK IGNITION SYSTEM FOR | Loose spark plug lead<br>Loose spark plug (poor compression)<br>Incorrect spark plug gap<br>Spark plug carboned or burned |
| CHECK DRIVE BELT & DRIVE CHAIN & BEARINGS FOR | Worn belt -- loss of normal speed<br>Broken belt<br>Improper chain tension<br>Dry chain (low or no oil)<br>Broken chain |
| CHECK TRACK FOR | Damaged track<br>Improper tension<br>Alignment<br>Wear of sprockets and engaging clips |

# HOW TO GET STARTED

## MANUAL STARTING . . . ENGINE COLD

1. Turn key to "ON" position. See Figure 10.
2. Prime until primer button is firm. Under normal operating conditions 4 or 5 times should be enough.

   For priming an engine with an empty fuel system it may be necessary to pump it a number of times to draw the fuel from the fuel tank into the crankcase.
3. Pull choke shut or engine will not start. See figure 11.

# HOW TO GET STARTED (CONT)

4. Partially depress throttle lever, grasp starter handle firmly, pull slowly until starter engages, and pull three to five times to start engine. See Figure 12. If engine fails to start after three to five pulls, check the fuel line to make sure that gas is getting to the carburetor.
5. After engine starts, open choke. Partial choke may be required while the engine is cold.
6. When engine is warm, open choke.
7. To move forward, release brake and apply throttle as desired. To stop, release throttle and depress hand brake.
8. To stop engine, turn key to "OFF".

**CAUTION:** DO NOT OPERATE ENGINE AT HIGH SPEEDS WHEN VEHICLE IS STATIONARY OR UP ON KICK STAND.

### MANUAL STARTING . . . ENGINE WARM

1. When starting a warm engine, do not choke. If engine is flooded, completely depress throttle control. Continue to pull starter until engine starts. Should engine fail to start, remove and dry spark plug.

### ELECTRIC STARTING . . . ENGINE COLD

1. Prime until primer button is firm. Under normal operating conditions 4 or 5 times should be enough. For priming an engine with an empty fuel system it may be necessary to pump it a number of times to draw the fuel from the fuel tank into the crankcase.
2. Pull choke shut, partially depress throttle lever and turn key to START position. Release key when engine starts. If engine does not start immediately, do not hold key in START position for more than 10 seconds. If battery does not have adequate charge for starting engine refer to Manual Starting.
3. After engine starts, open choke. Partial choke may be required while engine is cold.

**CAUTION:** DO NOT RUN ENGINE AT HIGH SPEEDS WHEN VEHICLE IS STATIONARY OR UP ON KICK STAND.

4. When key is released from START position it will return to the ON position. If headlight is needed turn switch to LITE position. DO NOT leave switch in ON or LITE position when engine is not running as it will deplete battery.
5. When engine is warm, open choke.

FIGURE 10

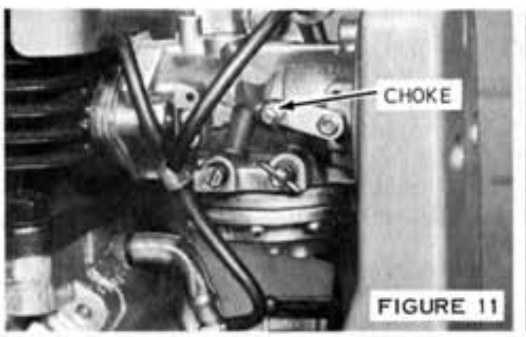


FIGURE 11

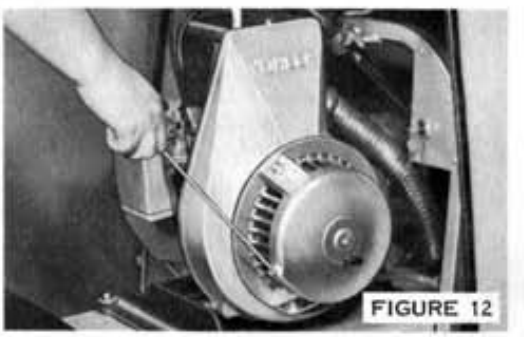


FIGURE 12

# HOW TO GET STARTED (CONT)

6. To move forward, release brake and apply throttle as desired. To stop, release throttle and depress hand brake.
7. To stop engine, turn key to "OFF".

### ELECTRIC STARTING . . . ENGINE WARM

When starting a warm engine, do not choke. If engine is flooded, completely depress throttle control. Operate starter for 10 seconds between short cooling periods until engine starts. Should engine fail to start, remove and dry spark plug. If battery does not have adequate charge for starting engine, refer to "Manual Starting".

### EMERGENCY STARTING

Remove the recoil starter if it should fail to function properly. Starter can be removed with tools provided with engine. There is a special sheave under the recoil starter on which a rope may be wound to start the engine. See Figures 13 and 14.

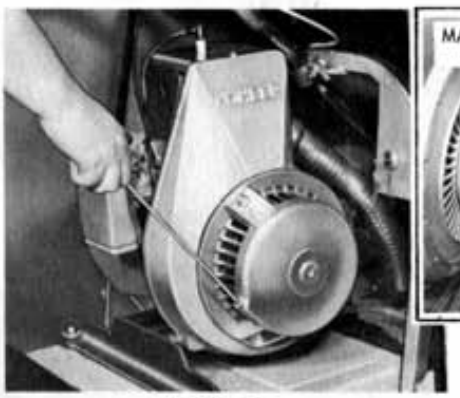


FIGURE 13


FIGURE 14

# OPERATION

### ELECTRIC STARTING MODELS ONLY

In the event it becomes necessary to run an electric starting machine with a battery which is too weak to start the engine or the battery is removed, the following is recommended:

Weak Battery: A weak battery will have no effect on the running of your machine with the exception of actual starting.

No Battery: If for some reason it becomes necessary to run your machine with the battery removed, we suggest you leave the lights on. This will absorb the output from the alternator and provide a measure of safety in protecting the electric circuit components.

### MODEL 651-660260 . . . KICK STAND

The kick stand should always be used when the vehicle is parked to take weight off the track. See Figure 15.

### ALL MODELS . . . EXTREME COLD WEATHER

Operation in extreme cold weather can cause a slow down in the drive and track mechanism. When this occurs, raise rear of vehicle with kick stand, place front edge of skis against stationary object and run to free drive mechanism. DO NOT overspeed.

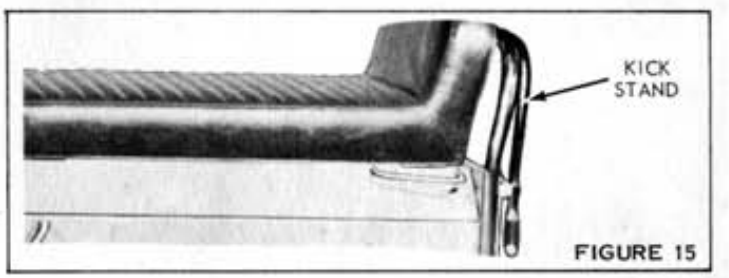



FIGURE 15

# GENERAL MAINTENANCE

## BATTERY RECOMMENDATIONS

Due to the extreme weather and temperature conditions under which the battery must operate, proper battery selection is very important. Use a SEARS 12 volt #6-6604 32 amp battery. The dimensions are 7-3/4" long x 5-1/8" wide x 7-3/8" high (to top of terminals). Battery should be recommended for snow vehicle use. Features are as follows:

1. Anchored elements reduce possible vibration damage.
2. One piece molded cover.
3. Battery is shipped dry. It is activated with dry charge electrolyte, included with battery.
4. Screw-in spill-proof caps furnished with vehicle.

NOTE: In order to provide maximum protection from battery acid damage in event of accidental upset, special SPILL-PROOF BATTERY CAPS are supplied with the vehicle. Make certain these special battery caps are installed on your battery. See Figure 16. Transfer caps if battery is replaced.

FIGURE 16

### CAUTION

Before disconnecting any electrical components, disconnect the battery cables, see Figure 18, thus removing the battery from the electrical circuit. When reconnecting battery cables, observe polarity, red cable to positive (+) battery terminal and black cable to negative (-) battery terminal. Reverse polarity will damage the rectifier assembly which provides the necessary current to charge the battery.


FIGURE 17

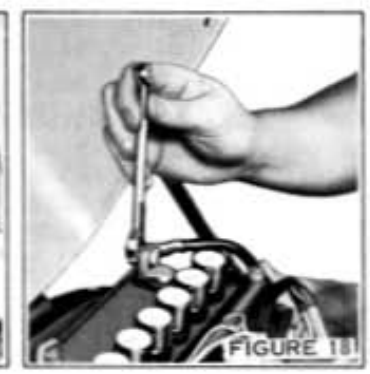


FIGURE 18

### CAUTION

Keep electric sparks or open flame away from newly charged or charging battery. Electric storage batteries give off highly flammable hydrogen gas while being charged and for a time after receiving charge. Remember that battery electrolyte is acid. If spilled, rinse the affected area with plenty of water. Check electrolyte level at least once a month, add distilled water as required. See Figure 17.

# GENERAL MAINTENANCE

## CARBURETOR

Carburetors are adjusted at the factory and readjustment should not be attempted unless there is definite evidence of "overrich" or too lean operation. Changing carburetor settings on two-cycle engines also alters the amount of lubrication the engine receives. If adjustment becomes necessary, have this done only by an authorized Kohler two-cycle engine dealer or a Sears Service Station. DO NOT operate on lean mixtures; this will cause possible engine seizure.

The engine idle adjustment screw, Figure 19, should be set so the engine idle speed is just below the point of the torque converter being engaged, approximately 1500 R.P.M.

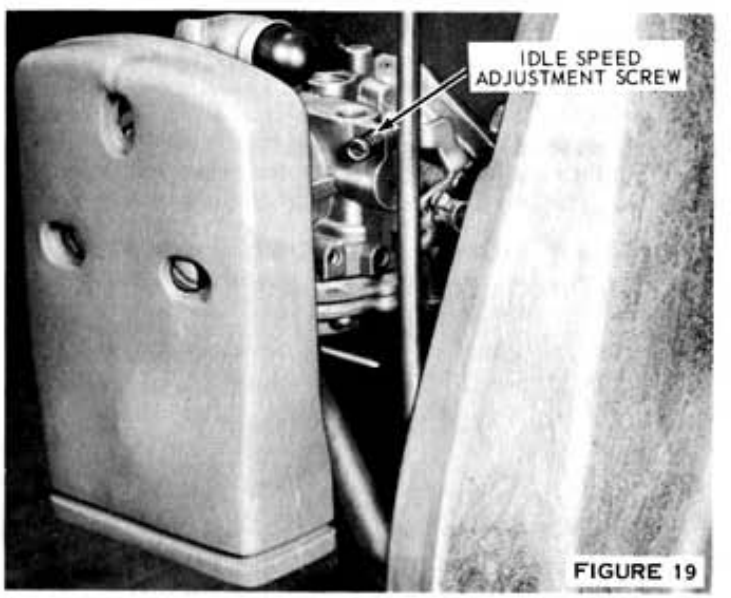


FIGURE 19

# GENERAL MAINTENANCE

## TRANSMISSION

The transmission assembly transmits power from the engine to the track which propels the vehicle. See Figure 20.

The "Primary Sheave Assembly" attaches directly to the power take off end of the crankshaft.

The "Secondary Sheave Assembly" is mounted to chain case and is larger in diameter than the Primary Assembly. The two are connected by the drive belt.

The Primary Sheave is centrifugally operated and engages when the engine speed reaches approximately 2000 R.P.M.

As the engine speed is increased, the Primary Sheave halves close forcing the belt to ride on the outer diameter of the primary drive which increases the belt speed.

At this point the Secondary Sheave halves spread apart, allowing the belt to ride on the small diameter.

Basically, the vehicle speed increases due to the power being transmitted from the primary pulley to the secondary drive mechanism.

The secondary drive mechanism is torque sensitive and allows automatic shifting to a lower gear ratio for steep inclines.

DO NOT ATTEMPT TO DISASSEMBLE THE TRANSMISSION. Contact your dealer.

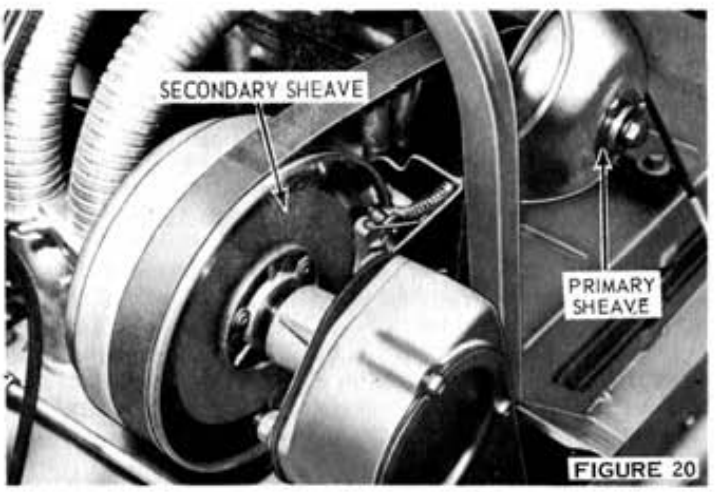


FIGURE 20

## TRANSMISSION BELT INSPECTION AND REPLACEMENT

A belt measuring less than 1" across the width or outer surface must be discarded and replaced with a new one for 15-1/2 and 20-1/2 inch models. Worn belt may be retained and used as a spare. A spare belt should be carried at all times.

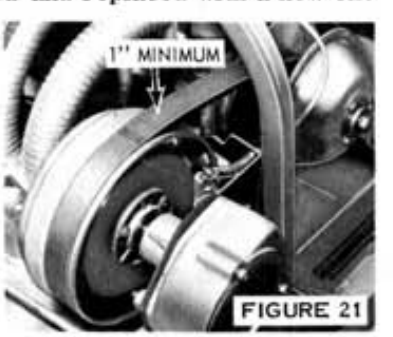


FIGURE 21

# GENERAL MAINTENANCE

## PROCEDURE FOR REMOVING TRANSMISSION BELT

1. Open engine cover.
2. Remove torque converter guard.
3. Take hold of top of belt and pull upwards (see Figure 22) until belt becomes loose.
4. Slide the top edge of the belt over the sheave closest to the steering column, see Figure 23.
5. Push bottom half of belt from between secondary sheave.
6. Pass the belt from around the primary sheaves and the belt is free to be removed from the vehicle.

## PROCEDURE FOR INSTALLING TRANSMISSION BELT

1. Loop one end of the replacement belt around the primary sheaves.
2. Start belt over secondary sheave, see Figure 24.
3. Take hold of sheave, the edge nearest front of machine, and rotate it in a counterclockwise direction until belt snaps in between sheaves.
4. Reinstall torque converter guard.
5. Close engine cover.

FIGURE 22

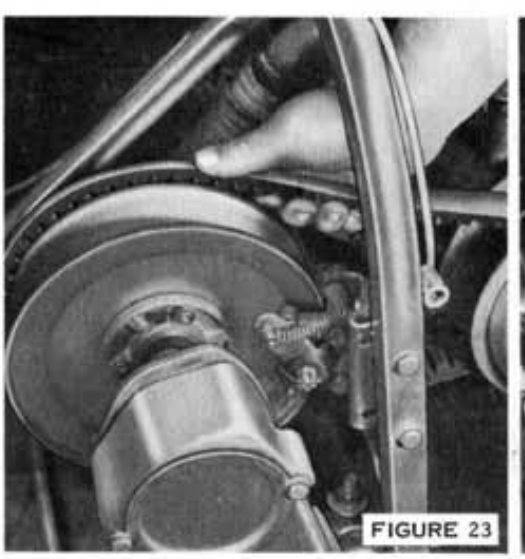


FIGURE 23

FIGURE 24

# GENERAL MAINTENANCE

## BRAKE ADJUSTMENT

The brake is positive active disc type with long lasting fiber pads and requires little maintenance, only an occasional adjustment.

The brake is tightened by turning the castillated nut, Figure 25, to the right, after the cotter pin has been removed. To obtain the correct adjustment, turn the nut until there is a slight drag on the brake disc. Then the nut should be turned to the left, one notch, and the cotter pin reinstalled.

If hand brake lever does not have proper amount of travel, it can be adjusted by moving inner wire in attachment bracket on brake. See Figure 26.

IMPORTANT

Before completing the adjustment, be certain there is sufficient movement of the lever to permit use of the Parking Lock.

## DRIVE CHAIN ADJUSTMENT

Check drive chain adjustment after the first three hours of operation and thereafter every 25 hours of operation or as required. Total slack must be 1/4" ± 1/16".

If the chain requires adjustment, use the following steps:

1. Loosen nuts on the bearing housing on the top of chain case, see Figure 27.
2. To tighten chain, move housing up.
3. To loosen chain, move housing down.

Consult your SEARS SERVICE DEPARTMENT when chain replacement is necessary.

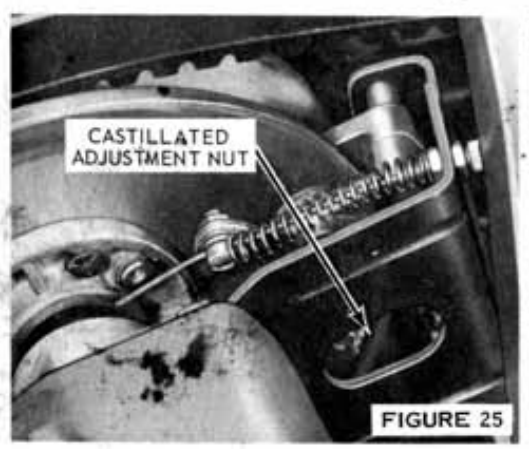


FIGURE 25

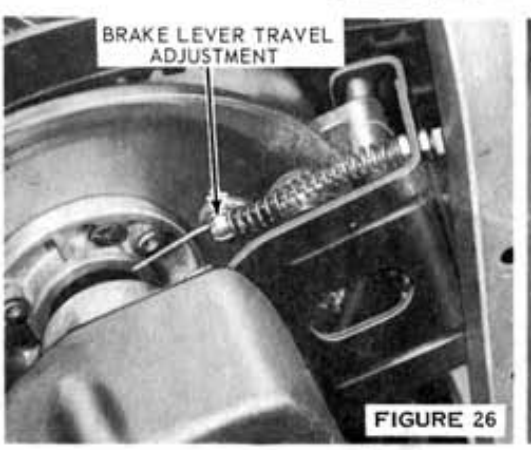


FIGURE 26

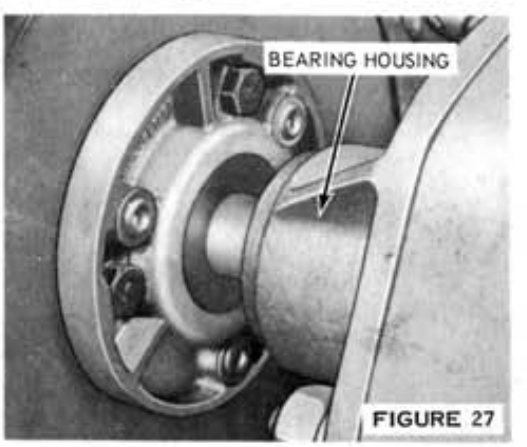


FIGURE 27

# GENERAL MAINTENANCE

## DRIVE CHAIN LUBRICATION

The drive chain and chain case bearings are lubricated by oil in the chain case. The chain case oil level should be kept even with the bottom of the lower inspection hole. If it is necessary to add oil use only Type "A" automatic transmission oil. Proper oil level must be maintained in order to assure proper lubrication of upper chain case bearings.

CAUTION: There are gaskets between the gearcase and removable covers. Be careful not to damge these gaskets.

## TRACK TENSION

Track tension is correct and tension is equalized if the distance from the pivot arm to the bracket is 2-1/4" ± 1/32" when the track is not supporting the weight of the vehicle. See Figure 29. If adjustment is necessary, perform the following steps on both sides of the vehicle.

1. Loosen track tension nuts. See Figure 29.
2. Loosen nut on pivot arm adjusting screw.
3. Turn pivot arm adjusting screw clockwise to tighten, counterclockwise to loosen to attain proper dimension.
4. Retighten all retaining nuts.

NOTE

Make certain both sides of the vehicle are adjusted equally.

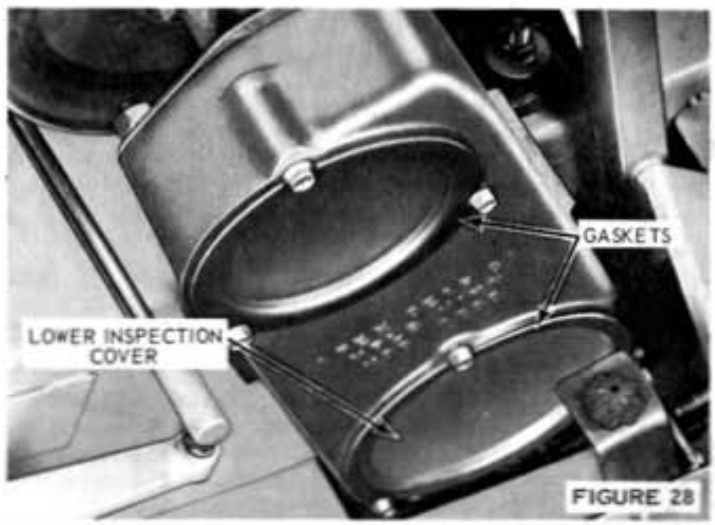


FIGURE 28

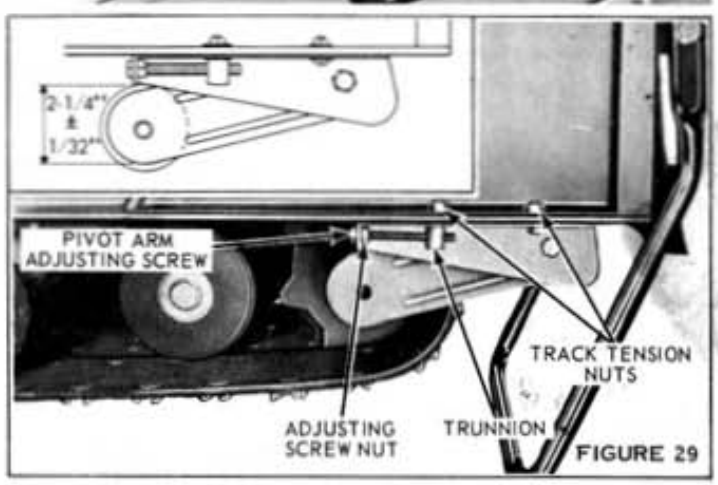


FIGURE 29

# GENERAL MAINTENANCE

## TRACK ALIGNMENT

Proper track alignment is essential to keep rubber sprocket teeth wear to a minimum. Alignment can be seriously altered by improper adjustment of the track tension.

Improper alignment will also cause the edge of track to rub against the pivot arm and cause wear to the edge of track and pivot bracket.

Start engine and run at idle allowing track to turn free. The rubber sprocket teeth must be centered in their slots. See Figure 30. If track must be adjusted to right, tighten the left pivot arm adjusting screw as outlined under "Track Tension".

## SKI ALIGNMENT

The skis require alignment if the skis are not parallel with each other and the vehicle body when the handle bar is in the normal straight-driving position.

To align skis, proceed as follows:

1. Open engine cover.
2. Place steering arm in the normal straight-driving position. See Figure 31.
3. Remove nut and washer from ball joint. See Figure 32.
4. Loosen locking nut.
5. Turn ball joint clockwise to toe ski in - counter-clockwise to toe ski out.
6. Reassemble when skis are parallel with each other and vehicle body.

## SPARK PLUG RECOMMENDATION AND REPLACEMENT

Using the correct spark plug is most important for efficient operation. The recommended spark plug for your engine is Champion UK-10 or equivalent in normal operation. The proper spark plug gap is .018" - .020".

Remove rubber covered spark plug terminal by pulling straight off. Remove spark plugs for inspection or replacement as necessary.

When reinstalling spark plug, clean the spark plug seat in cylinder head. Be sure spark plug gasket is in place and tighten plug securely. (Recommended torque, 27 ft. lbs.)

Always carry a spare spark plug.

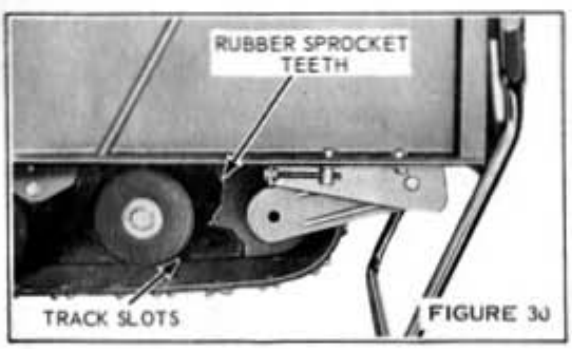


FIGURE 30

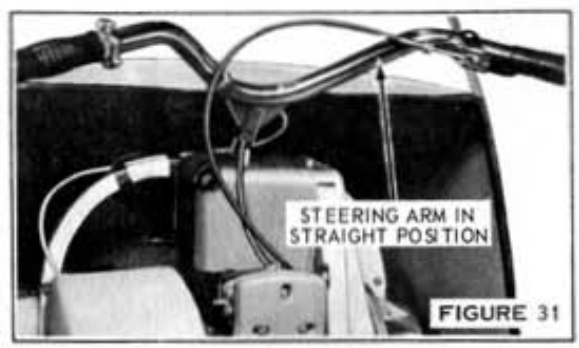


FIGURE 31

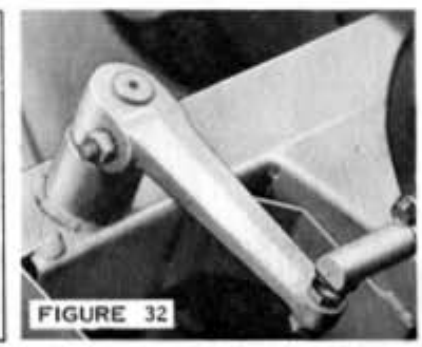


FIGURE 32

# GENERAL MAINTENANCE

### FUEL TANK

Drain and clean the fuel tank prior to off season storage. To remove the tank for cleaning, disconnect the fuel line at the tank, remove the fuel tank straps on both sides of the tank, and lift out tank.

Clean the tank by pouring some gasoline into the tank through a filtering funnel. Cover the fuel line opening and agitate the tank and contents. Empty the contents through the fill opening. Use additional gasoline to flush the fuel line opening. Then reinstall the tank and hoses.

### OFF SEASON STORAGE

1. Block vehicle off ground to take weight off track and skis.
2. Drain and clean the fuel tank. Refer to instructions above.
3. Remove carburetor air silencer and clean. See Page 12.
4. Run engine with choke pulled out and inject rust preventative oil (with oil can) rapidly into carburetor until engine stops.
5. Turn off ignition and replace air silencer.
6. Loosen track tension. See Page 16.
7. Rub bottom of ski and other unprotected surfaces of vehicle with oily cloth.
8. Store in dry, well-ventilated area.

### AFTER STORING - BEFORE USING

1. Adjust track for proper tension. See Page 16.
2. Lubricate all points as specified under "Lubrication".
3. Tighten all screws and nuts.
4. Thoroughly clean any surfaces that need refinishing and touch-up. Obtain paint from SEARS (see parts list)

# SCHEDULED LUBRICATION

### LUBRICATION RECOMMENDATIONS

| Time | Maintenance | Lubricant |
|---|---|---|
| Annually | Ski Columns | Sears - 10W30 #28-70291 |
| After 25 hours | Ski Linkage<br>Rear Axle Pivot Bushings | SAE 10 Oil - 28-70411<br>Sears 28-70291 or equivalent available from your Dealer. |
| Automatic | Drive Chain<br>Check and add transmission fluid if required in chain case (See Page 16) | Type "A" Automatic Transmission Fluid SEARS #28-7015 |

### MAINTENANCE RECOMMENDATIONS

| Time | Maintenance |
|---|---|
| After first 3 hours, then every 25 hours or as required | Adjust chain tension |
| After first 10 hours, then every 25 hours or as required | Adjust track tension, check track alignment. |

## SNOWCRUISER CODE OF ETHICS

1. I will be a good sportsman. I recognize that people judge all snowmobile owners by my actions. I will use my influence with other snowmobile owners to promote sportsmanlike conduct.
2. I will not litter trails or camping areas. I will not pollute streams or lakes.
3. I will not damage living trees, shrubs, or other natural features.
4. I will respect other people's property and rights.
5. I will lend a helping hand when I see someone in distress.
6. I will make myself and my vehicle available to assist search and rescue parties.
7. I will not interfer with or harass hikers, skiers, snow-shoers, ice fishermen or other winter sportsmen. I will respect their rights to enjoy our recreation facilities.
8. I will know and obey all Federal, State, and local rules regulating the operation of snowmobiles in areas where I use my vehicle. I will inform public officials when using public lands.
9. I will not harass wildlife. I will avoid areas posted for the protection or feeding of wildlife.

# FUEL RECOMMENDATIONS

Use SAE 30 2 cycle engine oil or SAE 30W motor oil with an MS rating, made by a reputable manufacturer. DO NOT USE ANY OUTBOARD MOTOR OILS. These are produced for water-cooled engines, and are not suitable for use in high temperature, air-cooled engines. DO NOT USE MULTIPLE VISCOSITY OILS. SUCH AS 10W30.

> Even though 2 CYCLE ENGINE OIL MAY BE ADVERTISED AS A 50:1 RATIO OIL, IT IS IMPERATIVE FOR USE IN THIS SNOWCRUISER THAT IT BE MIXED AT A 20:1 GAS-OIL RATIO.

Use only a good grade of regular gasoline (92 octane minimum). Higher octane fuels may be used, but generally do not offer any advantages. Pre-mixing of gasoline and oil is essential for proper lubrication and a preventive against internal engine damage. DO NOT mix gasoline and oil at temperatures below 32°F.

## SNOWCRUISER SAFETY CODE

1. When planning extended trips, I will prepare a route plan with an estimated time of return. I will give the information to a responsible person. When traveling on state or Federally owned lands, I will check in the check out with the park officials or ranger station.
2. When making extended trips, I will carry emergency equipment (snowshoes or skis, flares, tow lines, waterproof matches, matches, emergency food supply, extra fuel, compass and map). I will avoid traveling alone in remote areas.
3. I will not cross or travel on frozen lakes and streams until the ice is thick enough to support the weight of my snowmobile and passengers. When traveling in new areas, I will seek advice on ice conditions.
4. I will keep myself physically fit for winter sports.
5. I will always carry a first aid kit.
6. I will wear proper winter clothing and protective glasses or goggles.
7. I will know the weather forecast. When the weather turns bad, I will turn back.
8. I will keep my snowmobile in good operating condition.
9. I will always carry a tool kit.
10. I will stay on marked trails or marked roads open to snowmobiles. I will avoid cross country travel unless specifically authorized.
11. I will use my snowmobile only for transportation when hunting. My rifle will be encased whenever I am aboard my snowmobile if local regulations allow encased rifles aboard snowmobiles.

LIMITATIONS on the use of your Sears Snowcruiser, DO NOT operate the vehicle on bare ground, elements such as dirt, sand and gravel can seriously damage the engine as well as other mechanical drive components.

# VEHICLE GUARANTEE

We guarantee the Sears Snowcruiser to be free from defects in material and workmanship.

We will, without cost to you, within ninety (90) days from date of sale, repair or replace, at our option, and install any part of the snow vehicle including carburetor and electric starter motor which proves, upon examination by us, to be defective.

In addition, we will, without cost to you, within one (1) year from date of sale, repair or replace, at our option, and install any part of the gasoline engine, except carburetor and electric starter motor, which proves, upon examination by us, to be defective.

This guarantee applies only if the vehicle is given reasonable care and if the instructions contained in the Owner's Manual are followed.

This guarantee does not cover replacement of spark plug or adjustments to carburetors, ignition points, drive belt or any service or adjustment made necessary by normal use and wear, nor does it apply to parts which have been modified, or damaged as a result of accident, abuse, competitive racing or any use other than the purpose for which the vehicle was designed or to any vehicle used for rental or commercial purposes.

SEARS, ROEBUCK AND CO.

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PROTECTIVE MAINTENANCE

Sears Care

Sears

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