Alouette TABLE OF CONTENTS

Alouette SPECIFICATIONS

MODEL NAME & NUMBER	SUPER BRUTE 440 LC 74-391	SUPER BRUTE 440 74-461	SUPER BRUTE 340 74-451	SUPER BRUTE 295 74-441	SNO BRUTE 440 74-322	SNO DUSTER 340 74-143	SNO DUSTER 295 74-142	JUNIOR BRUTE 74-402
ENGINE MAKE & DISPLACEMENT	Alouette 436 cc	Sachs 437 cc	Sachs 338 cc	Sachs 291 cc	Sachs 437 cc	Kohler 338 cc	Kohler 294 cc	Tecumseh 209 cc
NUMBER OF CYLINDERS	2	2	2	2	2	2	1	1
HORSEPOWER	45	42	32	24	35	27	20	5
FUEL MIXTURE	20:1	25:1	25:1	25:1	25:1	20:1	20:1	—
SPARK PLUG GAP	.028"	.020"	.020"	.020"	.020"	.020"	.020"	.030"
SPARK PLUG TYPE OR ALTERNATIVE TYPE	NGK B & ES	Bosch-W260T2 Champion N-60, N-2	Bosch-W260T2 Champion N-60, N-2	Bosch-W260T2 Champion N-60, N-2	Bosch-W260T2 Champion N-60, N-2	Bosch Champion	Bosch-M240T1 Champion K-7, K-8	AC-C45 Champion J-8
IGNITION BREAKER GAP (points)	CD Ignition (Breakerless)	.016"	.016"	.016"	.016"	.016"	.016"	.020"
IGNITION TIMING BTDC (Fully advanced position)	21° BTDC	3.2 mm 3.6 mm .126"-.142"	3.2 mm 3.6 mm .126"-.142"	3.2 mm 3.6 mm .126"-.142"	3.2 mm 3.6 mm .126"-.142"	2.28 mm .090"	2.45 mm .098"	1.39 mm 1.27 mm .055"-.050"
LIGHTING CIRCUIT: volts watts	12 volts 140 watts	12 volts 75 watts	12 volts 75 watts	12 volts 75 watts	12 volts 75 watts	12 volts 75 watts	12 volts 75 watts	12 volts 84 watts
CARBURETOR LOW SPEED JET ADJUSTMENT	Fixed jet carb.	Fixed jet carb.	Fixed jet carb.	Fixed jet carb.	1 turn	1⅛ turns	1¼ turns	⅝ turn
CARBURETOR HIGH SPEED JET ADJUSTMENT	Fixed jet carb.	Fixed jet carb.	Fixed jet carb.	Fixed jet carb.	1 turn	⅞ turn	1½ turns	1 turn

Alouette SAFETY INFORMATION

LET'S ADMIT IT ! SNOWMOBILES CAN BE DANGEROUS ! But they can also be safe. Alouette has incorporated numerous safety features in the snowmobile you have purchased. But it's still up to you ! You can be a safe operator if you :

1. KNOW YOUR MACHINE.

Read this manual thoroughly. Spend some time examining your Alouette to see how it operates. Once you are thoroughly familiar with the snowmobile, take it out for a slow ride. Start with level terrain. Note that when turning you should shift your weight toward the direction of the turn. The sharper the turn desired, the greater weight shift required. For sharp turns a kneeling position usually provides the best weight balance.

After the fundamentals are mastered, you are ready to experiment with various terrains and speeds. Experiment in steps. Adhere to the old adage, "Learn to walk before you run."

You will learn that as you increase speed, it becomes increasingly important that you be able to quickly shift your weight in any direction. Kneeling or standing gives best results at higher speeds. Downhill driving can be difficult. On steep hills don't attempt to go straight down. Take it slow, weaving back and forth across the slope. Keep the throttle closed, using engine compression to keep your sled speed to a minimum. Use the brake, but do not lock the track since the machine may slide or tip over.

2. USE COMMON SENSE.

— Young children and inexperienced operators have no place on your snowmobile.

— Lake ice can be deceiving. It can look safe and solid when it isn't. Fresh snow can hide weak areas. Use extreme caution when venturing onto ice.

— Trailing on railroad right-of-ways is foolhardy. You'll probably never hear or see an approaching train. Even worse — the engineer will probably never see you.

— Unfamiliar fields and trails may harbor unexpected obstacles such as barbed wire, water, and sudden drops. Heading into unknown snow is dangerous by day — and even more so at night.

— Never venture out on the snow alone. Use the "Buddy System". It's a good idea to always leave word with someone about where you are heading and when you expect to return.

— Be the same person on a snowmobile as you are off. Common sense can prevent most snowmobile mishaps.

3. OBEY THE LAW.

Know the laws for operating snowmobiles in your State or Province . . . and obey them.

Be aware of pending legislation. Support sensible laws. Realistic restrictions help all snowmobilers.

4. BE A GOOD NEIGHBOR.

— Respect the property of others.

— Preserve the beauty of winter by leaving behind only the tracks of your sled.

— Animals need all the strength they can master to survive the winter. Don't put them in jeopardy by irresponsible chasing or harassing.

— Respect quiet hours and quiet zones. In the middle of the night a snowmobile is "louder" than during the day. Or at least, people seem to notice it more !

— Be an expert and safe driver.

— Be responsible. Don't endanger others.

Alouette OPERATION OF YOUR NEW SNOWMOBILE

FIG. 1

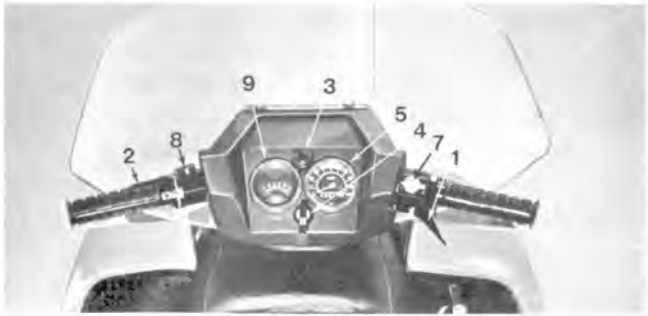


FIG. 2

CONTROLS

CAUTION. Be sure of free throttle operation before attempting to start the snowmobile.

1 — THROTTLE LEVER

Squeezing this lever allows more fuel mixture into the engine and thus engine speed is increased. When this lever is released, the engine will return to idle position.

2 — BRAKE LEVER

Squeezing this lever will activate the braking mechanism on your Alouette.

3 — IGNITION STARTING SWITCH

Manual starting models

There are 3 positions for the switch. OFF, LIGHTS ON, and ON. When starting your ALOUETTE, turn the key to the right to the ON position. When lights are required, turn the key back one position to the left.

4 — WARM-UP KNOB (choke)

Pull the dashboard warm-up knob upward when starting (Cold engine only). This enriches the fuel supply to the carburetor. Once the engine has started, push the knob back to its original position.

5 — SPEEDOMETER/ODOMETER Std. Equipment on Sno Brute & Super Brutes (only).

The speedometer indicates the forward speed of your ALOUETTE in miles per hour. The odometer or mileage recorder registers the accumulated mileage the vehicle has been driven.

6 — TACHOMETER Std. Equipment on Sno Brute 440 (only).

The tachometer is designed to inform the driver of the speed of the engine in revolutions per minute and to serve as an aid in evaluating engine performance.

7 — EMERGENCY SHUT-OFF SWITCH

a. SNO DUSTER 295-340, SNO BRUTE 440

2 positions (ON/OFF) positive action switch. Push button down to cut engine power, push down again to return switch to ON position. Be sure switch is in the ON position before attempting to start engine.

b. Super Brute 295, 340, 440, 440LC are equipped with a 3 position emergency switch. Move switch lever forward or barckward will shut off the motor, center position is normal running.

8 — DIMMER SWITCH (headlamp)

There are 2 positions on the dimmer switch for high and low beam operation.

9 — ENGINE TEMP GAUGE

Indicates cylinder head temperature. The yellow area of the gauge indicates that the engine is starting to overheat and you should moderate your speed. The red area of the temperature gauge indicates Danger and possible engine damage could occur. Have your engine checked by an Alouette Dealer if your temperature gauge continues to operate in the Red.

FUEL MIXTURE

Your ALOUETTE is powered by a two-cycle, air cooled engine which requires a certain amount of oil added to the gasoline for lubrication.

GASOLINE

Use a good quality regular grade 92 octane (or better) gasoline. No lead or low lead grades are not recommended. They cause preignition because of their low octane rating.

MIXING PROCEDURE

For correct mixing, always pour some of the gasoline into the mixing container first, then add the oil. Agitate this partial mixture and then add the rest of the gasoline. Agitate again. Mixing directly in the snowmobile gasoline tank is not recommended since the oil and gas usually do not mix properly.

KOHLER ENGINES & ALOUETTE 440LC

The correct mixture is 20:1; one quart of oil to 5 gallons of gasoline. Use a good quality two-cycle snowmobile oil.

SACHS ENGINES

The correct mixture is 25:1; one quart of oil to 6 gallons of gasoline. Use a good quality two-cycle snowmobile oil.

WARNING: A mixing ratio lower than those prescribed can produce excessive carbonation of the engine. Mixtures higher than those prescribed will cause damage to the engine. **Do not use two-cycle outboard motor oil.**

SERIAL NUMBER

(Vehicle Identification Number)

The chassis number is located on the front right side of the Frame Tunnel on all 1974 Alouette Snowmobiles. Please refer to this number when filling out the Warranty Registration Card in the rear of this manual.

HOW TO GET STARTED

WARNING: Before starting, make sure that all controls operate freely (i.e. throttle, brake, steering etc.)

— Turn ignition switch to "ON" position and insure emergency switch is "OFF".

— Activate choke control (Applicable to cold engine only).

— Slowly, pull-out the starter handle until you feel a slight resistance, then pull vigorously.

— Immediately guide the rope back to its original position.

— Once engine has started, release the choke control.

IMPORTANT: Never use the choke control to start a warm engine.

If after many tries the engine has not started, release the choke control and crank again while holding the throttle lever slightly pressed. As soon as the engine has started release the throttle.

BREAK IN PERIOD

For the first 10 hours of operation, we recommend that your new vehicle be operated at reduced speed. This will allow the various engine components to seat themselves and wear in properly. Do not tax the engine to the limit of its capacity during this period.

IMPORTANT: The break-in period will also affect the life of the components, such as the track and the drive belt.

A well done break-in will permit the glazing (or hardening) of the track surfaces where the steel slide rail contacts the track surface. To obtain perfect glazing of the track, the first operation on hard pack snow or ice should not exceed 40 mph until 30-40 miles have been accumulated under these conditions.

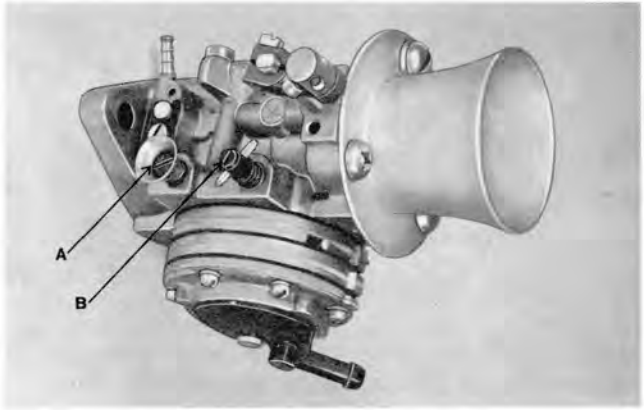


FIG. 3 • MODEL 295 SNO DUSTER

CARBURETOR ADJUSTMENTS

Sno Duster 295, 340 & Sno Brute 440.

The carburetor adjustment on your machine is important for smooth, efficient running and long engine life.

A too lean mixture will cause the engine to overheat with loss of power and possible serious damage. An over-rich mixture will cause a loss of power and spark plug fouling. Therefore, it is recommended that the following instructions be followed.

1. Screw in both Jets A & B.

2. Unscrew idle Jet A as per specification. (See page 1).

3. Unscrew high speed Jet B as per specification. (See page 1).

Your engine should now function properly.

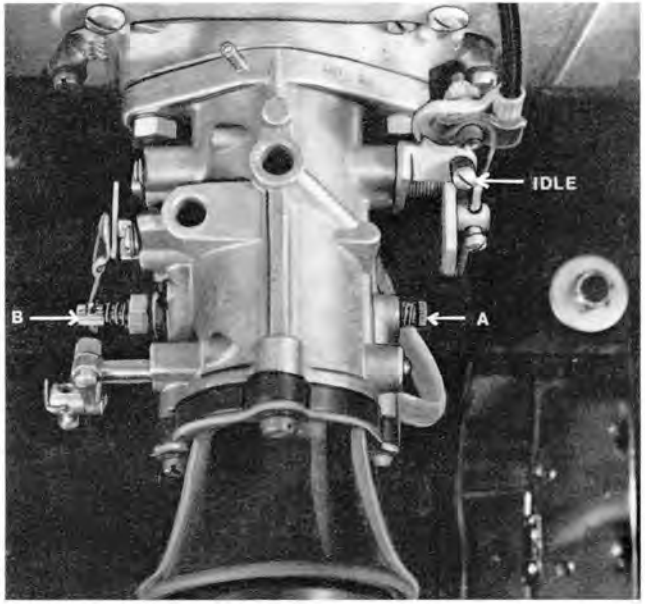


FIG. 4 • MODEL 340 SNO DUSTER & 440 SNO BRUTE

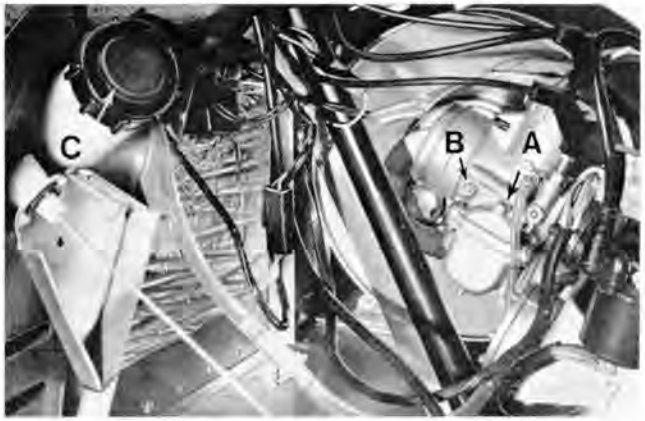


FIG. 5 • MODELS SUPER BRUTE 295, 340, 440, AND 440LC

CARBURETOR ADJUSTMENT:
SUPER BRUTE 295, 340, 440 AND 440LC

1. **Adjust desired engine idle speed by turning adjuster screw A.**
2. **Adjust Idle Air Mixture Screw B until engine runs smooth. (approx. 1-1½ turns open).**

Note: On this type of carburetor there is no high and low speed adjusting screws. As it is a fixed jet type of carburetor.

GASOLINE TANK:

SNO DUSTER 295, 340 & SNO BRUTE 440
Capacity (4 Imperial Gallons) — 5 US Gallons

SUPER BRUTE 295, 340, 440 & 440LC
Capacity (5 Imperial Gallons) — 6 US Gallons
Filler Cap see Fig. 5 item C

CAUTION: When filling with gas/oil mixture, always use a funnel with a fine screen.

WARNING: Never fill the tank with the engine running or hot.

EXHAUST GAS WARNING

Avoid inhaling exhaust gases especially in an enclosed area such as a garage. Exhaust gases contain a percentage of carbon monoxide which is a potentially poisonous gas that, by itself, is tasteless, colorless and odorless.

EXTREME COLD WEATHER

Extreme cold weather can cause a slowdown in the operation of the drive and track mechanism of your vehicle. In the event of this occurrence operate machine slowly until all moving parts loosen up.

GAS TANK CONDENSATION

To prevent water condensation from getting into the gasoline tank, make sure tank is full when bringing snowmobile into a warm garage.

TO OPEN HOOD

1. Release the latches on the right & left sides of the hood.
2. Tilt the hood forward.

CONVERTER BELT REPLACEMENT

a. Open hood and remove clutch guard.

b. Separate the driven pulley by pulling and twisting the sliding half.

c. Press the upper part of the drive belt down on the driven pulley shaft. This will hold the driven pulley open.

d. Slip the belt out of the bottom of the driven pulley and remove from the clutch pulley.

e. Reverse procedure to install the new belt.

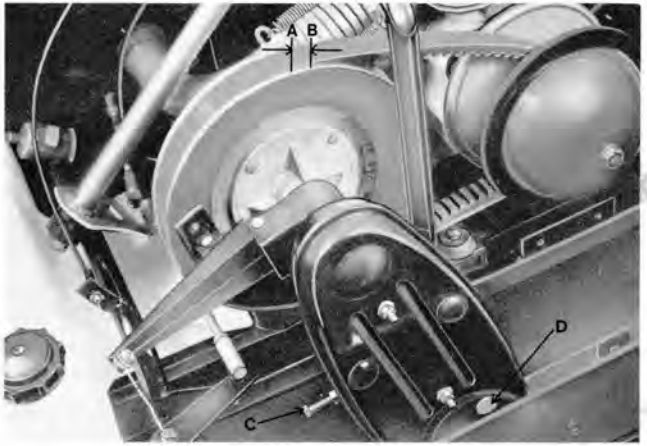


FIG. 6

DRIVE CHAIN ADJUSTMENT

SNO DUSTER 295, 340 & SNO BRUTE 440

Check the tension of the drive chain periodically. There should be 3/8" free movement measured on the outer circumference of the brake pulley (Points A & B).

To tighten chain, move screw C inwards, and to loosen chain, move screw C outwards.

Drive chain runs in 6-8 oz. of SAE 30 oil, which is poured in through filler plug D.

FIG. 7

SUPER BRUTE 295, 340, 440, 440LC

NOTE: For maximum performance the drive chain tension must be checked periodically. Since this adjustment is relatively critical, we strongly recommend that you see your Dealer if a readjustment is required.

— Remove the drive belt from the pulleys.

— Check the chain free play by moving the driven pulley back and forth and by measuring at the outside diameter of the sheave the total free movement of the pulley (see figure 7).

— If the free play is within the specifications reinstall the drive belt. If not see your Dealer to have the chain readjusted as soon as possible.

TRACK TENSION

SNO DUSTER 295, 340 & SNO BRUTE 440

The track on your ALOUETTE is adjusted by your dealer. However, track tension should be checked and adjusted, if necessary, after five hours of use and periodically thereafter.

1. Set the snowmobile on a clean, flat surface.
2. The top face of a properly adjusted track will have a 1¼″ sag as you look down the inside of the tunnel from the rear of the snowmobile.
3. To tighten or loosen track, loosen tension nuts (ref. 1 and 2), turn adjusting bolts (ref. 3 and 4) clockwise to tighten, counterclockwise to loosen.

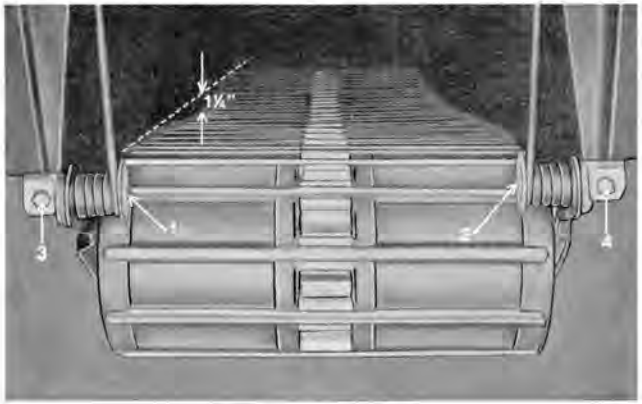


FIG. 8

4. To complete adjustment, tighten tension bolts (ref. 1 and 3).

TRACK ALIGNMENT

It is essential that the track be in alignment at all times in order to keep rubber sprocket teeth wear to a minimum. Improper adjustment of track tension can seriously alter the track alignment. To adjust, follow these steps.

1. Raise up the rear of the vehicle until track runs free.
2. Start machine and allow track to run free at low speed for two or three revolutions.
3. The rear rubber sprocket teeth must be perfectly centered in the track slots.
4. If track must be adjusted to the right, loosen left locking nut (ref. 1 in picture, under TRACK TENSION section.). Tighten (clockwise) left adjusting bolt (ref. 3) Retighten left locking nut. If adjustment is to the left, loosen right locking nut (ref. 2). Tighten right adjusting bolt (ref. 4). Retighten right locking nut.

TRACKS SUSPENSION ADJUSTMENTS

Note: On the pre-delivery inspection, the track and suspension of the vehicle has been adjusted by your dealer. The adjustments done will permit good handling of your snowmobile under normal driving conditions.

At the end of the break-in period the under carriage must be checked and if necessary readjusted by your dealer. At that time, upon your request, the dealer may adjust the suspension to fit your type of driving, and the ground conditions of your area.

Following you will find a brief description of the adjustment related to the suspension of the Super Brute.

TRACK TENSION:

The track tension must be checked at every 100-200 miles of operation. A properly tensioned track will have a longer life and will provide better performance.

FIG. 9

Note: Track tension check must be done with the vehicle set on a flat surface.

— Place over the central upper portion of the track a straight bar long enough to cover the full length of the track (see figure 9).

— At the center of the track measure the distance between the straight bar and the top of the track. The track sag must be of ½" to 1" max.

— If the tension does not meet the specifications readjust as follows (refer to figure 10):

1. On each side of the track unscrew the (2) axle locking screws "A".

2. To tighten the track tension turn clockwise the (2) adjusting nuts "B".

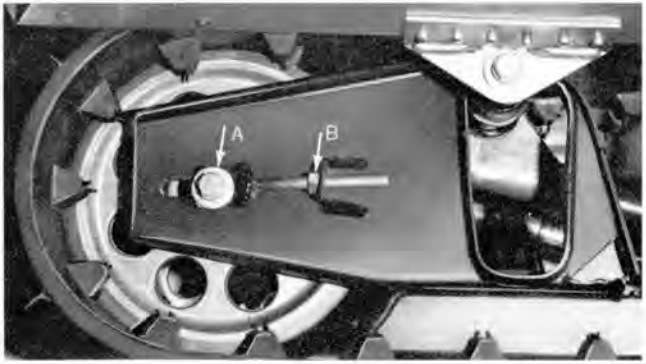


FIG. 10

To slacken the tension turn counter-clockwise the adjusting nuts "B".

3. Retighten the (2) axle locking screws "A".

Remark: Proceeding the tension check, the track alignment must be verified.

TRACK ALIGNMENT

The track alignment must be checked at every 100-200 miles (same as the track tension). A badly aligned track will have a very short life.

— Lift the rear of the vehicle high enough to have the track clear the ground. Block the vehicle into this position.

CAUTION: Before proceeding to this check make sure the vehicle is perfectly secure in place. We strongly recommend that you block the front of

vehicle by placing the ski ends against a wall or a similar obstacle.

— Start the engine and have the track rotate slowly.

— With the track turning, visually check, on one side, the distance between the drive cogs and the side of suspension rail (ref. A fig. 11). The distance should be equal at the front and at the rear (see illustration 11).

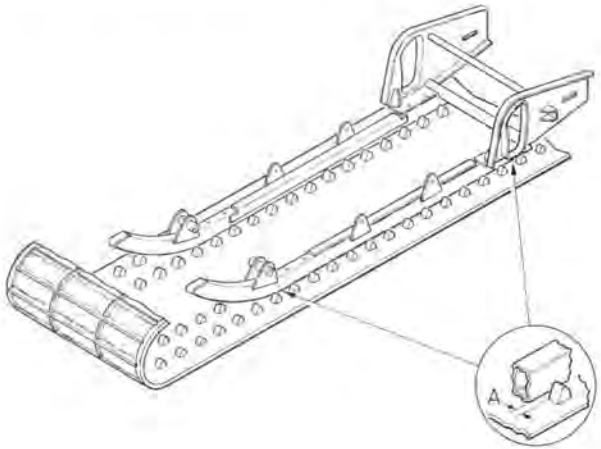


FIG. 11

— If it happens that the distance between the 2 reference points is not the same correct the alignment as follows:

1. Stop the engine.
2. If there is a larger distance at front correct by slackening the (2) locking screw "A" of the rear axle (see photo 10) and slacken the adjusting nut "B".

   If the distance is larger at the rear correct by tightening the adjusting nut "B".
3. Retighten the (2) axle locking screw "A".
4. Start the engine and check if the adjustment done has corrected the misalignment.

SUSPENSION ADJUSTMENTS.

SUPER BRUTE

Your Alouette Super Brute is equipped with a unique suspension system permitting complete adjusting of the ride smoothness and vehicle weight transfer.

Weight transfer adjustment. This adjustment will permit the transfer of more or less pressure on the skis. Therefore perfect steering on hard surface can be obtained by transferring a greater amount of the vehicle weight on the skis. Lighter weight on the skis will improve the vehicle performance into deep snow and increase its climbing ability.

— To increase or decrease the pressure on the

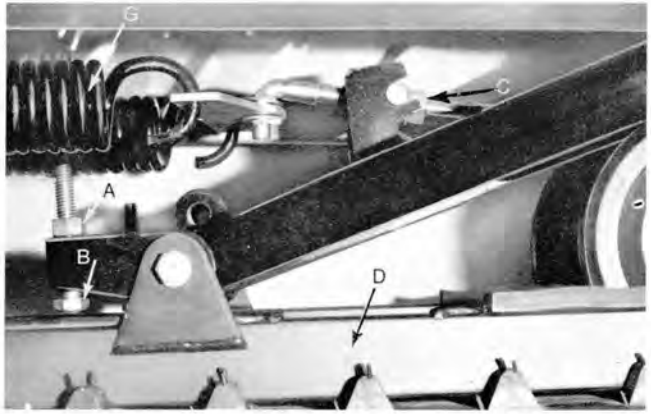


FIG. 12

skis, loosen lock nut "A" (figure 12) on both sides of the suspension.

— By closing the gap between the head of the limiter bolt "B" (on both sides) and the slide rail "D" a greater pressure will be executed on the skis. Enlarging the gap will reduce the weight on the skis.

SUSPENSION TENSION.

The suspension tension or stifness should be adjusted accordingly to the driver's weight and/or to the type of ground on which the vehicle will operate.

— The nut "C" controls the tension of the spring "G" (figure 12). Tightening the nut "C" will stiffen the suspension or ride. Loosening nut "C" will provide a smoother ride.

IMPORTANT. If most of the time, you intend to ride the Super Brute with a passenger, we strongly recommend that you ask your dealer to install an optional shock absorber in order to improve the suspension characteristics.

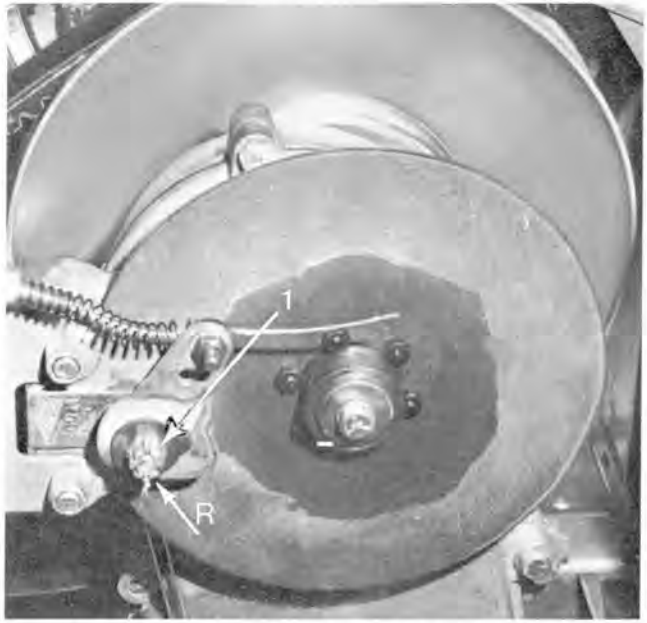


FIG. 13 • SNO DUSTER 295, 340 & SNO BRUTE 440

FIG. 14 • SUPER BRUTE 295, 340, 440, 440 LC

BRAKE ADJUSTMENT

From time to time the brake mechanism should be checked and readjusted if necessary.

To adjust the brake pads, tighten or loosen. The Lock Nut (1) as required to permit the brake pads to just clear the sheave or brake disc. To adjust for excessive play in the brake cable or lever position, loosen Jam Nuts (2) and move brake cable housing (3) as required. Retighten Jam Nuts.

NOTE: On Models Super Brute 295, 340, 440, 440 L/C, remove Cotter Pin (R) before adjusting the Brake Adjuster Nut (1). Be sure to refit Cotter Pin (R) after the adjustment is completed.

SPARK PLUGS

Since Snowmobile engines operate on a gasoline and oil mixture, it is quite common for spark plugs to become fouled much quicker than in engines which use only gasoline fuel. Therefore engine performance will be improved if the spark plugs are periodically checked and cleaned or replaced. Always use the spark plug (or equivalent) listed for your engine in the specification chart on page one.

CAUTION: Incorrect plugs or loose spark plugs can cause serious damage to your engine. It is very important that the plug gap be set (page one) as per specification chart. A larger than specified

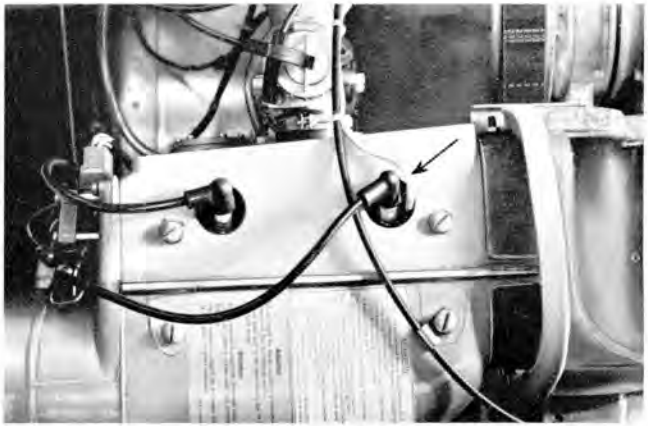


FIG. 15

gap will not give a larger spark but will damage the ignition coil.

IMPORTANT: When removing or replacing spark plugs on Models Super Brute 295, 340, 440, special attention should be taken to not damage the temperature gauge thermal couple on the Number 1 Cylinder spark plug (Clutch Side). NOTE — when fitting a new spark plug to the Number 1 Cylinder only, the spark plug gasket must not be installed as the thermal couple replaces the gasket. See Fig. 15.

FUSE LOCATION:

(For instruments & Tail Lights).

The fuse holder is located under the hood on the upper right hand side of the steering column. Should replacement become necessary, use a 9 amp. fuse.

LUBRICATION

SKI LEG - MODELS: SNO DUSTER 295-340
SNO BRUTE 440 ONLY.

Grease fittings are located just below each steering arm. By using a grease gun and low temperature grease, lubricate the ski legs every 40 hours of use.

DRIVEN PULLEY SHAFT: ALL MODELS.

The driven pulley shaft should be lubricated every 25 hours of use with a few drops of light machine oil. Lubricating the driven pulley shaft at the regular intervals will increase the life of the shaft and converter assembly.

1. Apply a few drops of oil to the converter shaft on Super Brute models only, so that the converter assembly slides freely on the shaft.
2. Remove the drive belt and open the driven pulley (Push and twist the sliding half).
3. Apply a few drops of light oil on the shaft. Activate the sliding half a few times to distribute the oil equally.

IMPORTANT: Be careful not to get any oil on the faces of the driven pulley.

DRIVE PULLEY MAINTENANCE:

Each 1974 Alouette Snowmobile is equipped with a precision calibrated drive pulley. To ensure maximum life and performance of the drive pulley, you must have it verified & cleaned by an Alouette dealer every 40-50 hrs of use.

IMPORTANT: Do not attempt to service the clutch as it requires special tools to disassemble and reassemble without damaging the drive pulley assembly.

OFF SEASON STORAGE

1. Block vehicle off ground to take weight off track and skis.
2. Loosen track tensioner.

3. Drain gasoline from gas tank.
4. Drain carburetor by disconnecting fuel line. Start engine and run until carburetor is dry.
5. Remove spark plug and pour 1 tablespoon of S.A.E. 30 oil through spark plug hole. Turn over engine 4 times by pulling starter rope. Replace spark plug.
6. Wipe down all parts with oily rag.

AFTER STORAGE AND BEFORE USING

1. Align and adjust track.
2. Replace gasoline filter.
3. Tighten all screws and nuts.
4. Check spark plugs and reset or replace if necessary.
5. Fill gasoline tank with recommended gas/oil mixture.

1. PERIODIC TROUBLE CHECK LIST

CHECK FUEL SYSTEM FOR	Fuel in tank Proper fuel mixture Fuel flow to carburetor Proper carburetor adjustment Check carburetor impulse line
CHECK IGNITION SYSTEM FOR	Loose spark plug lead Loose spark plug (Poor compression) Incorrect spark plug gap Spark plug carboned or burned
CHECK DRIVE BELT AND DRIVE CHAIN FOR	Worn Belt — loss of normal speed Broken belt Improper chain tension Dry chain Broken chain
CHECK TRACK FOR	Tension Alignment

11. ENGINE TROUBLES

A. Engine will not start

a. There is no ignition spark because:
1. Spark plug is oiled-up, wet, bridged or damaged.
2. Spark plug is wet (Outside).
3. Ignition cable loose or fractured.
4. Ignition switch defective.
5. Contact-breaker point oiled-up, wet or corroded.
6. Ignition coil faulty.
7. Condenser faulty.

b. Engine is getting no fuel because:
1. Strainer in fuel tap is clogged with dirt.
2. Fuel pipe kinked or pinched.
3. Fuel strainer in carburetor clogged with dirt.
4. Carburetor defective.

c. Engine not getting suitable explosive mixture because:
1. Water in the carburetor.
2. Air infiltrating through loose carburetor or fuel line.

d. Lack of compression because:
1. Air vent cock at the crankcase is open.
2. Cylinder head is loose.
3. Piston rings fractured.
4. Piston and cylinder excessively worn.

B. Engine Power Dwindles

a. Due to dirt because:
1. Air filter clogged with dirt.
2. Exhaust port clogged with oil carbon.
3. Excessive carbon deposits in muffler.

d. Due to lack of compression:
1. (See point D of the section, "Engine will not start").

C. Other Engine Troubles

a. Irregular running because:
1. Ignition cable disconnected or damaged.
2. Overheated engine: this gives rise to bubbles of fuel vapour in the carburetor which obstruct the fuel supply.
3. Contact-breaker points oiled-up or corroded.

b. Engine 4-strokes and will not reach its normal speed because:
1. Choke is closed.
2. Carburetor overflowing, because of the float needle seat dirty or damaged.
3. Exhaust port is clogged with oil/carbon.

c. Engine develops a pinging noise when run at full throttle under load because:
1. Too much ignition advance.
2. An excessively thick layer of carbon in the combustion chamber.

d. Engine backfires or blow-back occurs in carburetor because:
1. Engine not getting enough fuel.
2. Spark plug incandescent because of wrong thermal value.
3. Spark plug fouled, dirty or faulty.
4. Air infiltrating into engine.
5. Water in carburetor.

e. Overheated engine, piston jamming, because:
1. Engine not correctly decarbonized (piston head has been cleaned to a bright finish, whereas, firmly adhering carbon should be left in position).
2. Engine not getting enough fuel.
3. Too lean carburetor mixture.
4. Not enough oil in gas mixture.

Alouette DRIVE BELT PREVENTIVE MAINTENANCE

SYMPTOMS	CAUSE	TREATMENT
1. Uneven belt wear on one side only.	a. Pulley misalignment b. Loose engine mount	a. Align pulleys b. Replace or tighten engine mount
2. Belt glazed excessively or has baked appearance.	Excessive slippage caused by : a. Insufficient pressure on belt sides b. Excessive horsepower for belt and clutch c. Excessive oil on pulley	 a. Check drive pulley for worn flyweights b. Consult dealer c. Clean pulley surfaces
3. Belt worn excessively in top width.	a. Excessive slippage b. Rough or scratched pulley surface c. Improper belt angle	a. Check driver pulley for smooth actuation b. Replace or repair pulley c. Consult application data
4. Belt worn narrow in one section.	Excessive slippage in driver pulley caused by : a. Locked track b. Clutch not functioning properly c. Engine idle speed too high	 a. Rotate track by hand until free b. Repair or replace clutch pulley(s) c. Reduce engine RPM
5. Belt too tight during one idle.	a. Idle speed too high b. Incorrect belt length c. Incorrect drive center distance	a. Reduce engine RPM b. Consult application date c. See Service Manual
6. Concave worn belt sides.	Excessive ride-out on driver pulley	a. Repair or replace driver pulley b. Increase center distance
7. Belt Disintegration.	Excessive belt speed	Reduce engine RPM at high speed
8. Belt "Flip-Over" at high speed.	a. Pulley misalignment b. Excessive belt speed c. Excessive ride-out on drive pulley	a. Align pulleys b. Reduce engine RPM c. Repair or replace driver pulley d. See Service Manual
9. Belt edge cord breakage.	a. Pulley misalignment b. Improper belt installations	a. Align pulleys d. See Service Manual
10. Flex cracks between cogs.	Considerable use, belt wearing out	Replace belt
11. Sheared cogs, compression section fractured or torn.	a. Improper belt installation b. Belt rubbing stationary object	a. See Owner's Manual b. Check drive components

Alouette JUNIOR BRUTE

INTRODUCTION

The Alouette Junior Brute is a scaled-down snowmobile designed and produced exclusively for a child's use. The recommended age group being from 6-10 years old and up to 95-100 pounds rider weight. The Alouette Junior Brute should be used exclusively by children and only when under adult supervision to ensure the child's safety.

SAFETY PRECAUTIONS

1. Dress your child in proper snowmobile clothing including an approved helmet. Be sure that your child is not wearing any loose-fitting garments such as a scarf or stocking cap which could entangle in the track or any other moving part of the snowmobile.
2. Never operate the Junior Brute with the shroud removed.
3. Instruct your child to keep his feet firmly placed on the running boards while operating the snowmobile.
4. Instruct your children to ride safely; and, only in an open field where you are sure there are no hidden obstructions or steep hills. NEVER allow your children to operate the Junior Brute on or near roads, country lanes, etc . . .
5. Instruct your children of the proper use of the emergency switch located on the handle bar.

CONTROLS

1 — Throttle Lever
2 — Brake Lever
3 — Dimmer Switch
4 — Emergency Kill Switch
5 — Choke Lever
6 — Recoil Starter
7 — Ignition and Headlamp Switch combined.

PRE-OPERATING TIPS

The items listed below should be checked each time that the machine is going to be used.

1. Check the throttle control lever. It should depress without excess effort and return freely when released.
2. Check the brake lever operation. The brake lever should have ½" free movement before operating the brake. If there is more than ½" free play see "Brake Adjustment — Page 22".
3. Check the steering to make sure that the skis turn freely.
4. Check fuel supply and always fill the tank before starting the engine. NEVER fill the tank when the engine is hot.
5. Check for loose nuts and bolts. Tighten if necessary.
6. Check motor oil level. Add, if necessary, oil type SAE 10W, below 32°F.
7. Check emergency switch (mounted on the handle bar) after starting the engine to see if it is operating correctly.

OPERATING PROCEDURE

1. Fill gas tank with regular grade gasoline only. Do not mix oil with the gasoline.
2. CHECK ENGINE CRANKCASE OIL — Fill crankcase with fresh clean oil, SAE 10W, if necessary, through filler plug. Be sure snowmobile is on a level surface when filling or checking engine crankcase oil.
3. Insert key and turn to "on" position.
4. Make sure the emergency switch is in the "off" position before attempting to start the motor.
5. Turn the choke lever to the "on" position. (to start a cold engine only)
6. Pull the recoil handle with a brisk motion. CAUTION: Do not pull the rope to its limit or allow it to snap back as this will cause damage to the recoil starter assembly.
7. Once the engine is started, allow the engine to warm up for a few moments then, turn the choke to the "off" position.

TO REMOVE HOOD

1. Remove console cover
2. Remove 4 screws — 2 from each side of the hood
3. Lift hood, disconnect head lamp connector, then, turn hood to one side and lift over the handle bars (See illustrations page 21)

CHAIN LUBRICATION

Lubricate the drive chain every 8-10 hours of use with a dry, graphite base chain lubricant which is obtainable in spray cans. If spray lubricant is unobtainable then, use 2 or 3 drops of motor oil to lubricate chain.

BRAKE ADJUSTMENT

When a brake adjustment becomes necessary reposition the retaining pin at the lower end of the brake cable and adjust the retainer so that the brake locks tightly but releases completely.

AIR CLEANER MAINTENANCE

The air cleaner should be removed frequently and tapped lightly against a solid surface which will dislodge loose dirt accumulation. The pores will eventually clog (engine will begin to lose power) and, at this point, it will have to be replaced. Your Tecumseh dealer stocks them.

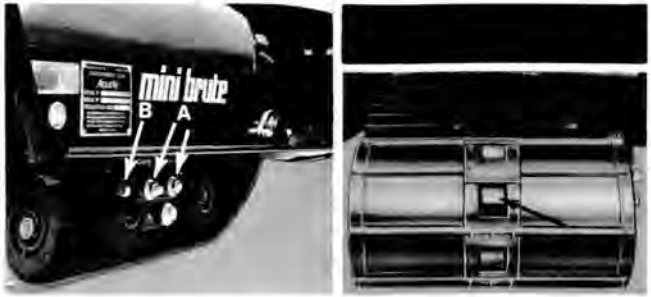
NEVER wash the paper air cleaner or attempt to brush dirt from it as this destroys its filtering ability. NEVER run the engine without the filter in place or with a filter that has a hole punctured in the paper.

ENGINE MAINTENANCE

1. Check equipment and engine periodically and retighten any loose engine base mounting screws, air cleaner cover mounting screws and other exposed hardware.
2. Change oil regularly. Be sure oil drain plug is replaced securely before refilling.
   IMPORTANT — AFTER FIRST TWO TANKS OF GAS HAVE BEEN USED, DRAIN OIL COMPLETELY AND REFILL AS DIRECTED IN PARAGRAPH "2" ABOVE. OIL LEVEL SHOULD BE CHECKED FREQUENTLY DURING THIS "BREAK-IN" PERIOD.
3. Check oil level frequently between changes. Add oil if necessary.
4. Keep head and cylinder fins clean. This is an air-cooled engine and will operate efficiently only if kept clean. Over-heating and any resultant damage from clogged cylinder fins is NOT covered by Warranty.

SKI LEG LUBRICATION

Every 30 hours of operation it will become necessary to lubricate the ski leg shafts with a low temperature type of grease. To remove the ski legs take out the two bolts on the top of the ski leg and pull out the ski assembly from the bottom. After lubricating the ski legs reinstall them in the same position and tighten the top retaining bolts.



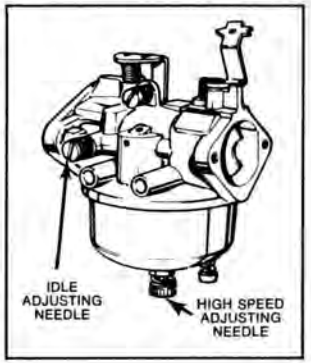
TRACK ALIGNMENT & TENSION

To adjust and align the track :

1. Loosen lock nuts — two on each side of suspension. (see illustration A)
2. Tighten or loosen adjuster bolts (see illustration B) to adjust track tension.
3. The track tension should be adjusted so that with the machine on a flat surface there is no slack or sag in the track's top surface.
4. For final alignment of the track tighten and loosen opposite track adjusters to center the rear idler sprocket in the track holes. (see illustration)

CARBURETOR ADJUSTMENT

1. Close "high speed adjusting needle" FINGER TIGHT ONLY by turning clockwise. Do not force as this will damage carburetor internal seat.
2. Open (counterclockwise) one full turn.
3. Close "idle adjusting needle" FINGER TIGHT ONLY by turning clockwise. Do not force as this will damage carburetor internal seat.
4. Open (counterclockwise) five-eights (5/8) turn.
5. Start engine.
6. With engine running at full throttle adjust "high speed adjusting needle" backward and/or forward 1/8 turn at a time until engine runs smooth. Allow engine to run at each new needle setting for at least 10 seconds to give engine time to react to each new setting. When engine is running smoothly correct setting has been reached.
7. Close throttle until engine is idling and adjust "idle adjusting needle" in same manner.



Alouette

WARRANTY

WARRANTY PERIOD:

Each new Alouette snowmobile, with the exception of the Junior Brute snowmobile, is warranted to be free from defects in materials and workmanship for a period of ninety (90) days from the date of sale to the original retail purchaser; and in the case of the Junior Brute only for a period of thirty (30) days from the date of sale. The months of April through November will not be applied against the warranty period.

WHAT IS WARRANTABLE:

a. Any part that is judged to be defective due to faulty workmanship or material will be replaced free of charge.

b. Any repairs or adjustments that are necessary due to faulty workmanship or material.

WARRANTY REGISTRATION:

The original purchaser must complete the Warranty Registration Form, which is located at the rear of the Owner's Manual and return this form to Alouette Recreational Products Ltd. within ten (10) days of the date of purchase to validate the warranty. Note:— It will be necessary for the consumer to present his copy of the Warranty Registration Card to the servicing dealer should warranty service become necessary.

WARRANTY EXCLUSIONS:

The Alouette Warranty will not apply to:

— Machines used for competition or racing of any kind

— Machines designed specifically for racing

— Machines used for rental or leasing

— Machines that are subjected to abuse, neglect, accident, improper storage, or that are altered from the factory specifications

— Machines run on surfaces other than snow or ice

— Machines on which the engine serial number or frame serial numbers have been changed or defaced

— Machines on which parts other than genuine Alouette replacement parts have been used

— Machines that have been serviced or repaired (with exception of normal customer maintenance) by anyone other than an authorized Alouette Servicing Dealer

Parts such as ski runners, clutch drive belt, spark plugs, light bulbs, track inserts, nylon slide bar (slide suspension models) and throttle or brake cables which are subject to normal wear and tear during normal use are excluded from this warranty. Alouette Recreational Products Ltd. sole and exclusive liability for defects in material and workmanship shall be limited to repair and replacement and Alouette Recreational Products Ltd. shall in no event be liable for any incidental, consequential, contingent or any other damages. This warranty does not obligate Alouette Recreational Products Ltd. to bear the cost of transportation charges in connection with the repair or replacement of defective parts. This warranty is made in lieu of any other warranty or warranties of every kind whatsoever, whether expressed, implied or statutory and, except for the foregoing warranty which is exclusive, there are no express or implied warranties of merchantability or of any other type.