



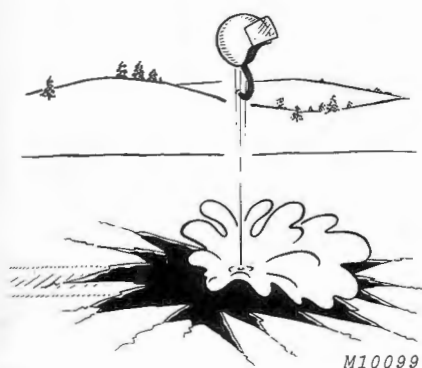
**Operator's  
Manual**

**John Deere  
JD295/S  
Snowmobile**

**DEALER  
SERVICE SHOP  
COPY**

**OM-M65224  
Issue J3**





*Never operate snowmobile on rivers or lakes without first checking thickness of ice. If you go through the ice, don't panic. Conserve energy.*

*Never operate snowmobile at night without lights. Keep headlight and taillight areas free of snow.*

*Keep all shields in place. . . all guards, protective hoods and consoles.*

*Never open new trails at night. Follow established trails. Unseen barbed wire or guy wires can cause serious injury or death.*

*Always use both hands for steering.*

*Avoid operating snowmobile at excessive speed. Always be aware of terrain.*

*If throttle sticks, don't panic. Pull "Tether" string or turn emergency stop switch on the right-hand handlebar. See page 8.*

*Drive at a slower rate of speed when carrying a passenger . . . especially a child.*

*Always allow adequate stopping distance based on ground cover conditions. Remember, ice requires a greater stopping distance. To avoid skidding, don't apply brakes rapidly on ice.*

*Do not speed through wooded areas. Hidden obstructions, hanging limbs, unseen ditches, and even wild animals can cause accidents.*

*Do not tailgate when riding trails. Rear end collisions can cause injury and machine damage.*

*Don't mix alcoholic beverages with snowmobiling.*

*Keep feet on footrests at all times. Do not permit them to hang over sides. Do not attempt to stabilize machine with feet when making turns or in near-spill situations. Broken limbs could result.*

*Select a riding position suited to the terrain upon which you're operating. Do not stand on seat, stunt, or show-off.*

*Do not jump snowmobile. Operator injury or machine damage could result.*

*Keep hands and feet out of the track area. . . be especially careful when freeing your snowmobile from deep snow.*

*When towing a sled, use a solid towbar. Do not use ropes or other flexible tow straps. See page 9.*

*Observe fuel supply regularly. Do not travel further than your fuel will permit you to return.*

*Remove key from ignition switch whenever you leave your machine unattended.*

*Never drive your snowmobile onto a tilt-bed trailer. Winch it on.*

*Always secure snowmobile firmly to trailer. Be sure trailer lights are operative.*

## Maintenance and Storage

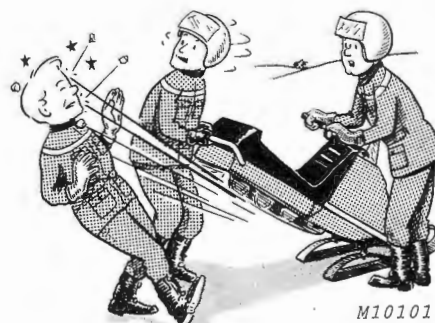
*Check over your snowmobile regularly. This will prevent many problems from occurring.*

*Do not attempt to make repairs to your snowmobile while engine is running.*

*Keep matches away and do not smoke while filling the fuel tank. Avoid possible explosions.*

*Check skis and steering components frequently to see they are in good condition. Keep all hardware tight.*

*Never lift the rear of the snowmobile to clear the track. Chunks of ice or rocks may be thrown rearward. Tilt machine on one footrest when clearing track . . . and keep all persons clear of area. Keep hands and feet clear of track.*





# To the Purchaser

Look around you. Snowmobiling has really caught on... it's the fastest growing winter sport in America. Take a few minutes to be sure that it's a safe sport for you and your family... read this operator's manual carefully. You'll have more fun... have fewer problems.

Keep your operator's manual in the re-usable, waterproof Zip-Lock envelope provided with your manual.

Before operating your new snowmobile, check and observe all state and local regulations pertaining to snowmobiling. Respect the property of others. Don't spoil a fine sport for others.



This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and read carefully the message that follows.

Your new snowmobile is designed and manufactured to the traditionally high standards of John Deere. It has many quality features to bring you more fun and adventure. It's an efficient, easy-to-operate machine that's easy to maintain.

The warranty on your snowmobile appears on your copy of the purchase order which you should have received from your dealer when you purchased the snowmobile.

Right-hand (R.H.) and left-hand (L.H.) references are determined by standing at the rear of the snowmobile and facing the direction of forward travel.

When in need of parts or major service, see your John Deere Dealer. Be prepared to provide both machine and engine serial numbers.

The snowmobile serial number is stamped in the rear right side of the tunnel. The engine serial number is located on the front of the engine fan housing. Record these serial numbers in the space below.

This operator's manual is prepared for the following snowmobile:

John Deere JD295/S (Serial No. 20,001- )

## John Deere JD295/S Snowmobile

Snowmobile Serial No. \_\_\_\_\_

Engine Serial No. \_\_\_\_\_

Date of Purchase \_\_\_\_\_

*(To be filled in by purchaser)*



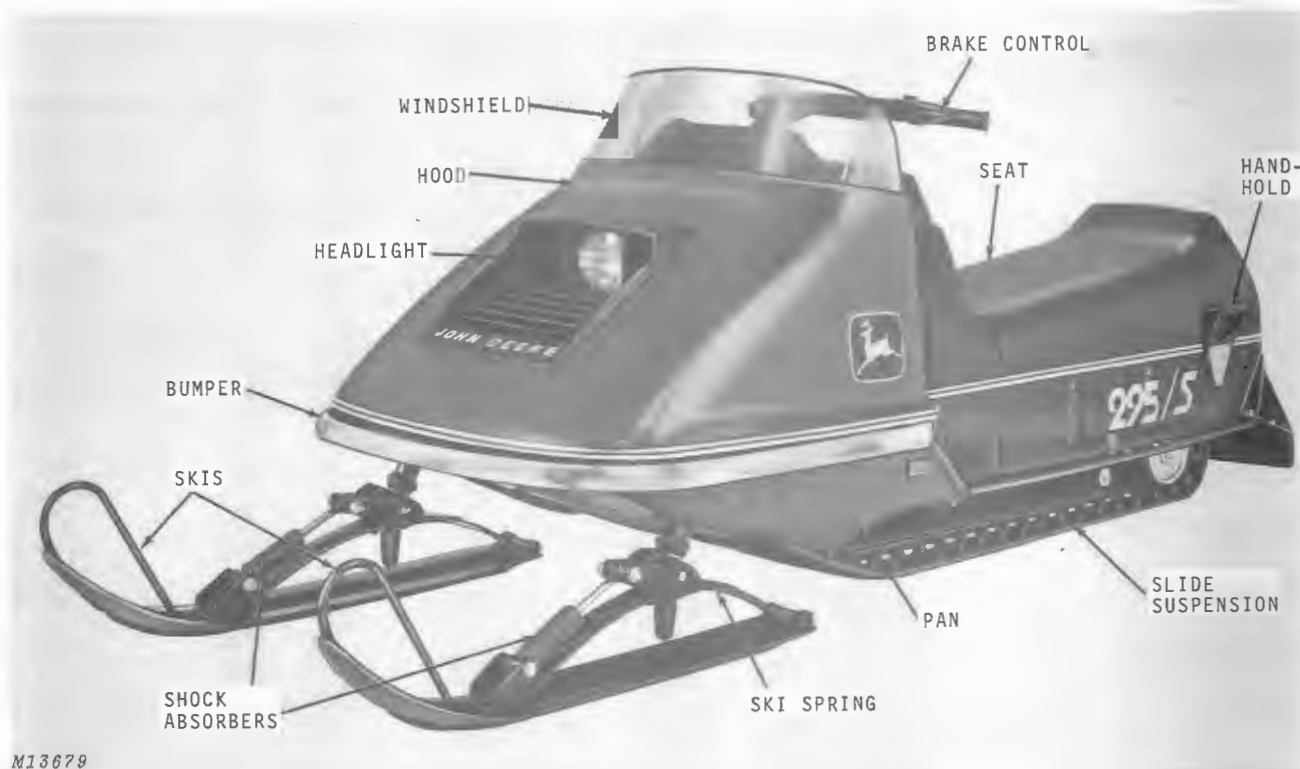
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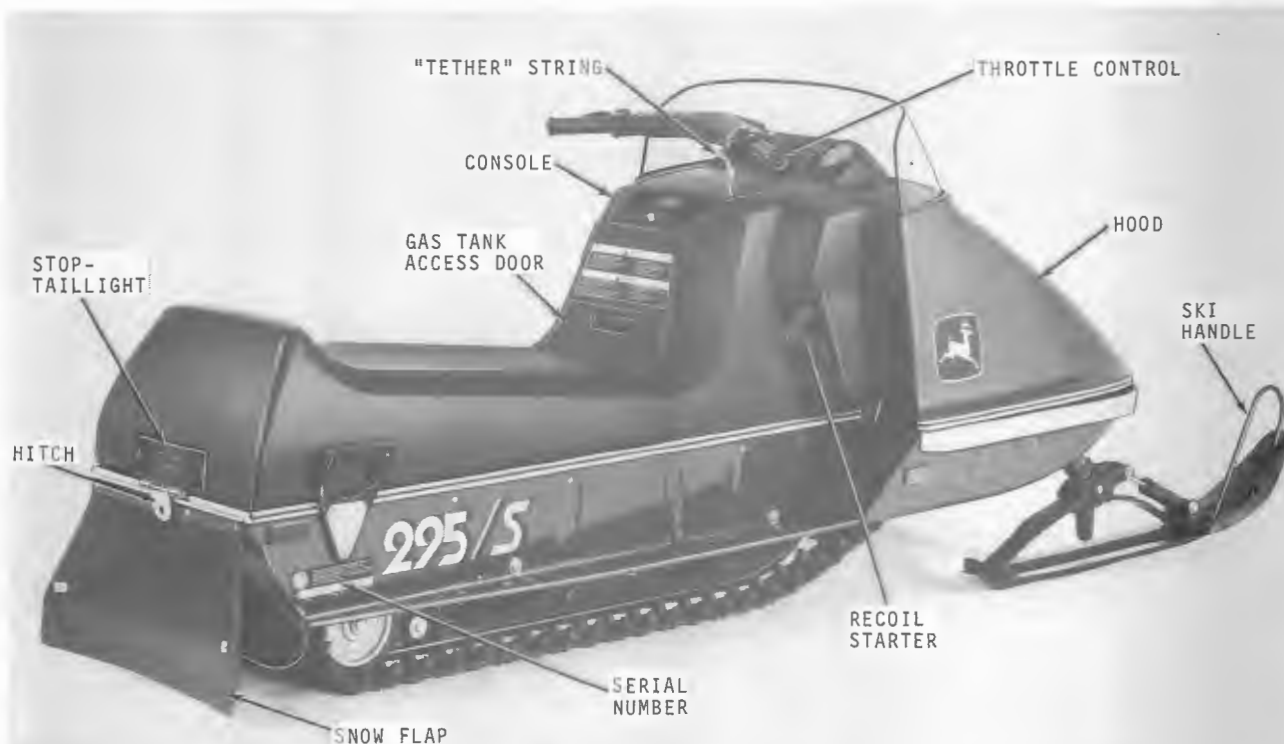
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# Snowmobile Identification



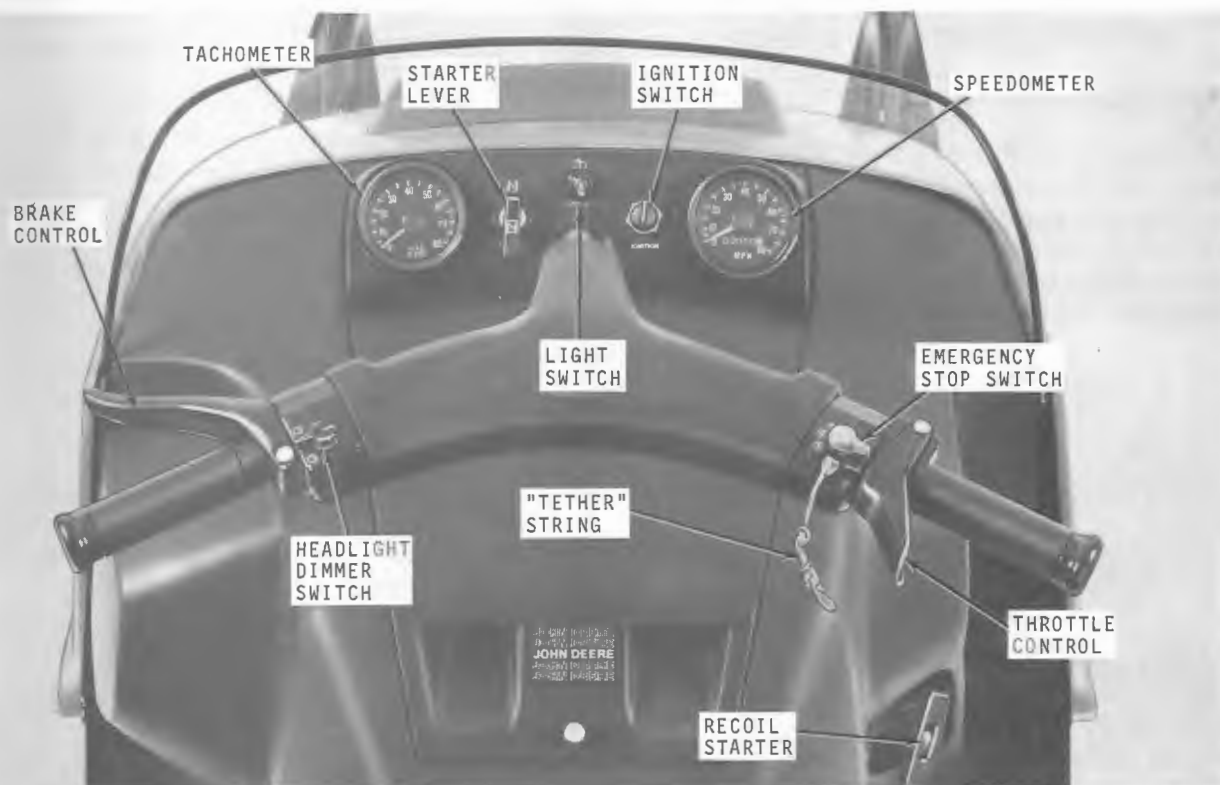
*John Deere JD295/S Snowmobile—Left-Hand Side*



*John Deere JD295/S Snowmobile—Right-Hand Side*



# Controls



M13681

**Brake Control** - Operated by left hand. Compress control handle toward handlebar for braking action.

**Headlight (Hi-Lo) Dimmer Switch** - Move forward for low beam; rearward for high beam. See page 9.

**Tachometer** - Indicates engine speed in revolutions-per-minute (rpm).

**Starter Lever** - Provides richer mixture to aid in cold starts. Pull up to start. Push starter lever down when engine begins to run smoothly.

**Light Switch** - Move light switch up (forward) to turn lights on; pull down (rearward) to turn lights off. Stop light comes on when brakes are applied.

**Ignition Switch** - To start engine, turn key to "RUN" position and pull recoil starter rope. Turn key to "OFF" position to shut off engine.

**Speedometer** - Indicates vehicle speed in miles-per-hour (mph) and records total mileage.

**Throttle Control** - Operated by right hand. Compress control lever toward handlebar to increase engine speed.

**Emergency Stop Switch** - Stops engine immediately by grounding out magneto. Pull the "tether" string or turn the switch either way for emergency stop. See page 8.

**Recoil Starter** - Used to start the engine.



# Operation

## BEFORE STARTING ENGINE

### Mixing Gasoline and Oil

The 2-cycle engine that powers your snowmobile requires that oil be mixed with gasoline. It is important that quality gasoline and oil are used and mixed thoroughly in the proper ratio. Too little oil results in engine damage while too much oil will cause spark plug fouling and excessive smoking.



**IMPORTANT:** Gasoline must be of regular or premium grade with an octane rating of 90 or higher. Premium grade gasoline is recommended for continued high-speed operation. **DO NOT** use non-leaded gasoline. Mix gasoline with John Deere Snowmobile Oil, which is an ashless, 2-cycle oil without metallic additives. John Deere Snowmobile Oil meets BIA (Boating Industry Association) test qualification TC-W, test procedure BIA-312-69, and is available in 1-pint and 1-quart "pop-top" cans.

Mix fuel according to the following procedure:

The John Deere Gasoline Can (TY5027) is ideal for mixing snowmobile fuel. Place 1 pint of John Deere Snowmobile Oil in can and add 3 gallons of regular or premium grade gasoline. Shake vigorously to mix properly. Add an additional pint of snowmobile oil and 2 more gallons of gasoline. Mix vigorously. Five U.S. gallons (4 Imperial Gallons, Canada) of gasoline and 2 U.S. pints or 1 U.S. quart of oil, when mixed together, give the proper fuel mixture. **DO NOT** place 1 quart of oil in a 5-gallon can and then fill to top. .this is only a 19:1 ratio.

**CAUTION:** Dirty fuel can cause engine failure that could leave you stranded ...this could be dangerous in severe weather. Always use clean, fresh fuel.

### Filling Fuel Tank



Open access door in console. Remove fuel cap. If available, use a fine-screen funnel when refueling. Should spill-over occur, the spill tray will drain excess fuel away. Fuel tank capacity is 2.2 U.S. gallons.

**CAUTION:** Gasoline is dangerous, even when mixed with oil. Avoid fires due to smoking or careless maintenance practices.

## Pre-Starting Inspection

**CAUTION:** Before starting your snowmobile the first time, read this entire manual and all decals on your snowmobile. Each time, thereafter, do the following:

1. Wipe the windshield with a clean, damp cloth. Do not scratch it. Do not clean windshield with gasoline, solvents or abrasive cleaners.
2. Check skis, wear rods and all steering components and bolts for wear. Tighten all bolts and replace worn or damaged parts.
3. Check track for proper tension.
4. Check throttle and brake controls for freeness of operation and proper adjustment.
5. Check fuel level.
6. Start engine and test operation of emergency stop switch, headlight, dimmer switch, taillight and stop-light.

## STARTING THE ENGINE

**CAUTION:** When starting your snowmobile, be sure there are no bystanders behind or in front of your machine.



**CAUTION:** When engine starts, be prepared to apply the brake to prevent snowmobile movement.

## Starting A Cold Engine

1. Turn key switch to "RUN" position.
2. Be sure emergency stop switch is in the "RUN" position and the "tether" string is installed.
3. Pull starter lever up for COLD engine starting.
4. DO NOT touch or open the throttle lever. To do so will result in a "hard" or "no-start" situation.
5. Grasp recoil start handle in right hand and pull slowly until it catches... then pull rope vigorously.

*NOTE: Let the recoil start handle return slowly into housing. Do not release or let it snap back.*

6. When engine starts, push starter lever down and allow engine to warm up briefly.
7. If engine becomes "flooded", push starter lever down and DO NOT touch the throttle lever. Pull the recoil start handle until the engine starts.

*NOTE: It may be necessary to remove and dry spark plugs if engine is extremely flooded.*

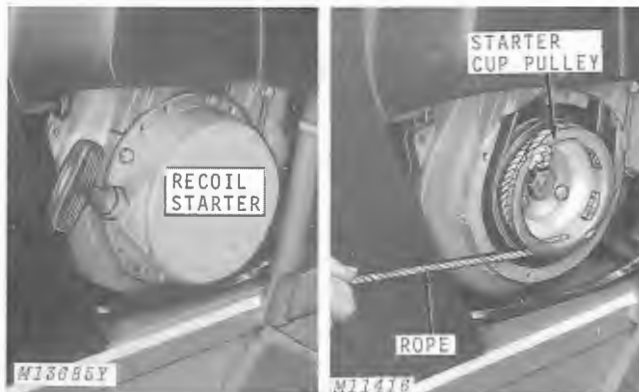
**IMPORTANT:** Do not permit engine to idle for long intervals. Spark plug fouling could occur. Shut off the engine whenever you stop.

## Starting A Warm Engine

DO NOT use starter lever and DO NOT open the throttle when restarting a warm engine.



## Emergency Starting



In an emergency use the following starting procedure:

1. Remove right-hand access panel.
2. Remove recoil starter using 10 mm wrench.
3. Wind a rope around the starter cup pulley.
4. Pull on rope to crank engine.

Carry a screwdriver and starter rope for emergency starting. The snowmobile recoil starter rope can be used as the emergency starter rope, if desired.

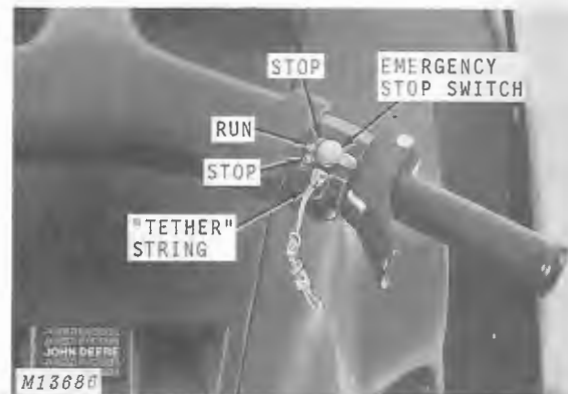
## STOPPING THE ENGINE

To stop the engine under normal circumstances, release throttle control lever and turn ignition key to "OFF" position.

**IMPORTANT:** Do not permit engine to idle for long intervals. Spark plug fouling could occur. Shut off the engine whenever you stop.

## Emergency Stopping

**CAUTION:** To stop engine in an emergency, such as a frozen throttle control, pull "tether" string or turn emergency stop switch to the right or left from the "RUN" position.



The emergency stop switch grounds out the ignition and will bring the engine to a quick stop.

Before the engine can be restarted, you must replace the "tether" string and/or turn the emergency stop switch to the "RUN" position.

*NOTE: Always check position of the emergency stop switch before attempting to start your snowmobile.*

## OPERATING THE LIGHTS

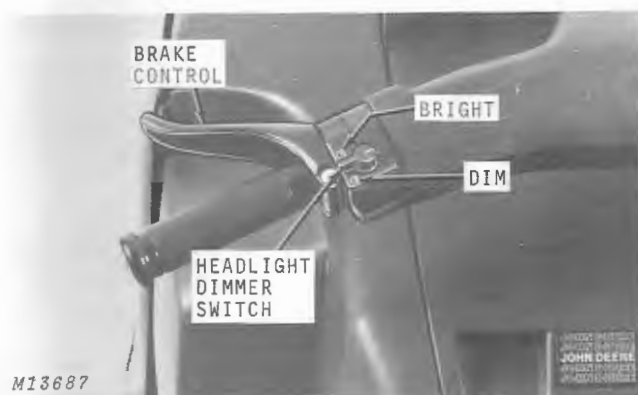
The John Deere snowmobile features a regulated electrical system. This regulation offers uniform lighting at all engine speeds and prevents all bulbs from burning out should one fail.



Push the light switch up (forward) to operate the lights. The stoplight will come on whenever the brake is operated whether lights are "ON" or "OFF".

The engine must be running for the lights to operate.

## Dimming Headlight



The sealed beam headlight has twin filaments for high or low beam operation.

Turn the dimmer switch, mounted on the brake control handgrip, to the low beam position to obtain a low headlight beam. Turn the switch again to obtain high beam.

Low beam should be used as in your automobile when meeting other vehicles.

If one filament of your headlight should fail, the other beam can still be used. Change sealed-beam as soon as possible for most efficient lighting and safety.

See pages 22 and 23 for information on changing sealed-beam headlight, as well as bulbs in the tail-light, speedometer and tachometer. Headlight aiming is also explained.

## TOWING

Don't try to haul all the equipment necessary for long trips on your snowmobile. Pack it in a sled. The sled is also ideal for giving young children a safe ride.

**CAUTION:** Always use a solid towbar. Flexible ropes or pull straps offer less control on turns and could result in tailgate collisions when stopping. Use a safe, secure tow-pin.

If it becomes necessary to tow a disabled snowmobile, tie the disabled machine's skis securely to the hitch of the tow machine.

**IMPORTANT:** Always remove the drive belt from a disabled snowmobile before towing.

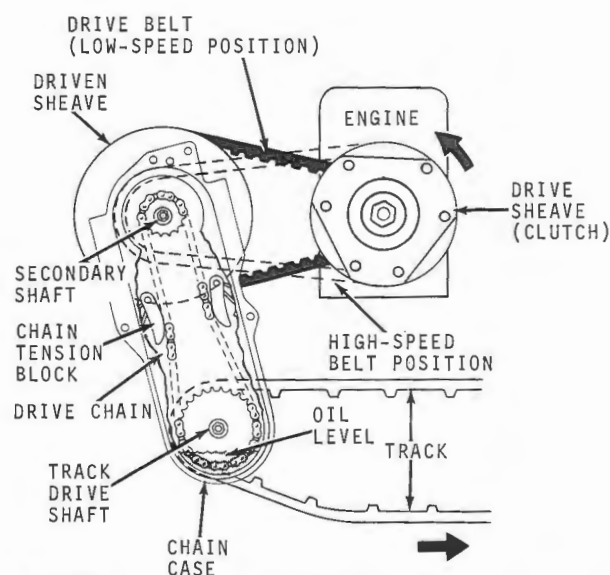
## OPERATING THE SNOWMOBILE

The John Deere snowmobile is very easy to operate . . . only three controls are necessary; the handlebars for steering, the throttle for changing speed, and the brake for slowing and stopping.

Remember, your snowmobile was designed to operate in snow. Operating on bare ground will cause rapid wear of track, suspension, skis and wear rods. Even the engine will wear rapidly when operated under dusty conditions.

### What Makes It Go?

Squeezing the throttle is all that is necessary to start your snowmobile moving. As engine speed increases, a centrifugally-operated clutch (drive sheave), mounted on the engine crankshaft, engages the drive belt and starts the snowmobile moving.




Increasing engine speed further causes the belt to ride out to the dotted line position in the above illustration, providing increased snowmobile speed.

The driven sheave rotates the secondary shaft, which is connected by chain to the track drive shaft. Two drive wheels on the track drive shaft propel the track.

## Clearing The Track

After operating in deep or slushy snow, clear the track. Snow and ice could freeze the track, making starting difficult the next time.

Tip the machine on its side until the track clears the ground. Spin the track at moderate speed until snow and ice are thrown clear.

 **CAUTION:** Always check to see there is nobody behind your machine when clearing track. Ice or rocks could be thrown from the track.

**IMPORTANT:** If the track does freeze, free the track manually rather than attempting to break it loose with the engine. Breaking track loose with engine will burn and damage the drive belt.

## Getting Acquainted with Your Snowmobile

To enjoy your new snowmobile to the fullest, you must become well-acquainted with it. Select a wide open, level area for your first ride. Try out the controls. As you gain confidence and learn more how you and the machine work together as a team, open the throttle gradually.


## Dressing for the Weather

To enjoy snowmobiling fully, and to be safe from frostbite, dress for the wind and weather.

Even the mildest temperatures can prove uncomfortable when traveling at high speed...or if strong winds are blowing.

The chart below provides a handy guide, and illustrates the danger zone when you're most susceptible to frostbite. Dress according to this wind chill factor...not the temperature.

Wear protective snowmobile uniforms and accessories, available from your local dealer.

 **CAUTION:** Always wear a snowmobile helmet when snowmobiling. The helmet provides both warmth and protection against accidental head injury.

## WIND CHILL CHART

ESTIMATED WIND SPEED IN MPH	ACTUAL THERMOMETER READING (°F.)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
EQUIVALENT TEMPERATURE (°F.)												
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-36	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
(Wind speeds greater than 40 mph have little addi- tional effect.)	LITTLE DANGER (for properly clothed person)				INCREASING DANGER				GREAT DANGER			
	Danger from freezing of exposed flesh											

M10123

### Snowmobile 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 interfere with or harass hikers, skiers, snowshoers, 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.
10. I will stay on marked trails or marked roads open to snowmobiles. I will avoid country travel unless specifically authorized.

... International Snowmobile  
Industry Association



### CAUTION

1. Read the operator's manual carefully and follow "Before-Starting" check list daily.
2. Be sure throttle and brake controls operate freely.
3. Before starting, be sure area ahead is clear.
4. Know the controls and how to stop.
5. Use rigid hitch for towing.
6. Keep hands and feet away from track, especially when freeing a stuck machine.
7. Keep all shields in place.
8. Shut off engine before refueling.



### ATTENTION

1. Lisez attentivement le Livret d'Entretien et suivez toujours les conseils "Avant le Démarrage."
2. Assurez-vous que l'accélérateur et le frein fonctionnent librement.
3. Avant de démarrer, assurez-vous que le terrain est dégagé.
4. Sachez utiliser les commandes et comment arrêter la machine.
5. Pour le remorquage, utilisez un attelage rigide.
6. Gardez vos mains et vos pieds à l'écart de la chenille particulièrement lorsque vous dégagez une machine enneigée.
7. Laissez tous les protecteurs en place.
8. Arrêtez le moteur avant de remplir le réservoir de carburant.



# Service Interval Chart

Daily	Weekly (10-Hours)	Monthly (40-Hours)	Annually	Service/Inspection
Page 7 .....	Page 7 .....	Page 7 .....	Page 7 .....	Clean windshield
Page 21, 22....	Page 21, 22 .	Page 21, 22....	Page 21, 22 .	Clean condition of skis and steering components
Page 18, 19....	Page 18, 19 .	Page 18, 19....	Page 18, 19 .	Check track condition and tension
Page 14 .....	Page 14 .....	Page 14 .....	Page 14 .....	Check operation of throttle control
Page 17 .....	Page 17 .....	Page 17 .....	Page 17 .....	Check operation and adjustment of brake
Page 8 .....	Page 8 .....	Page 8 .....	Page 8 .....	Check operation of emergency stop switch
Page 8, 9.....	Page 8, 9 ....	Page 8, 9.....	Page 8, 9 ....	Check operation of lighting system
	Page 18 .....	Page 18 .....	Page 18 .....	Check chain case oil level
	Page 16 .....	Page 16 .....	Page 16 .....	Check in-line filter for contamination
	Page 16, 17 .	Page 16, 17....	Page 16, 17 .	Check drive belt condition
		Page 14, 15....	Page 14, 15 .	Check carburetor adjustments
		Page 14 .....	Page 14 .....	Check starter lever
		Page 21 .....	Page 21 .....	Check ski alignment
		Page 16 .....	Page 16 .....	Check fan belt tension
		Page 23 .....	Page 23 .....	Check headlight adjustment
		Page 18 .....	Page 18 .....	Check drive chain and components
		Page 21 .....	Page 21 .....	Check ski wear rods and wear plates
		Page 19, 20....	Page 19, 20 .	Check slide suspension wear bars or bogie wheels
			Page 24 .....	Check all components for condition and tightness
			Page 16 .....	Service drive and driven sheaves
			Page 27 .....	Store snowmobile properly

Use the service interval chart as a reminder of periodic and seasonal services that must be performed to keep your snowmobile running smoothly. Refer to the appropriate page in the "Maintenance" section of this manual for detailed instructions on how to perform the service.

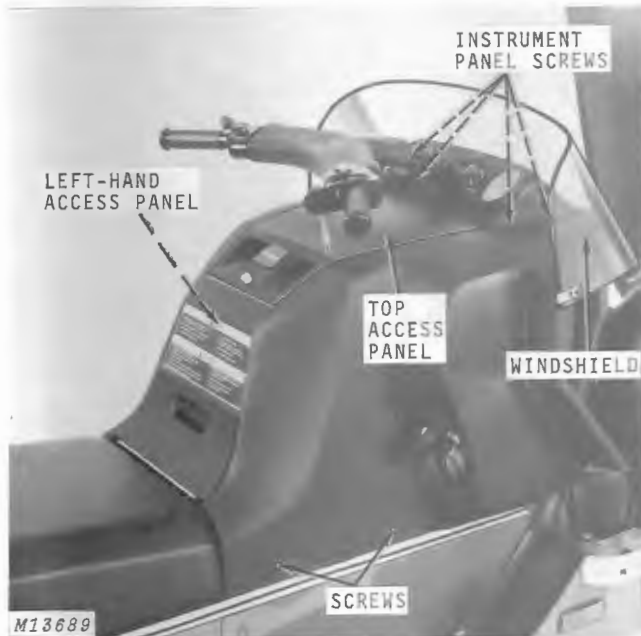


# Maintenance

**NOTE:** Be sure to have your dealer perform the free 10-hour check-up as described on the insert sheet at the front of this manual.

This section of your operator's manual describes the adjustments and services that you can perform to keep your snowmobile running smoothly. At times your snowmobile may need service that requires special tools or "know-how". . . then it is best to contact your John Deere dealer.

## REMOVING ACCESS PANELS AND CONSOLE



The console contains three access panels. The top panel is secured with a thumbscrew; the right- and left-hand side panels by machine screws.

To remove the console:

1. Remove left-hand access panel.
2. Remove windshield and top access panel.

3. Remove three screws securing console to tunnel (two on right-hand side, one on left-hand side).

4. Loosen two nuts on each side of instrument panel.

5. Remove console by lifting it up and sliding it rearward.

Install in opposite sequence.

## SPARK PLUGS

**NOTE:** The spark plug used in the JD295/S Snowmobile is a Champion N 19-V (John Deere Part No. AM53187).

### Removing Spark Plug

Remove top access panel and carefully pull spark plug connectors from plugs. Remove plugs.

**IMPORTANT:** Do not pull on wire to remove connectors. Carefully pull spark plug connectors from plugs.

### Checking Spark Plug

Heavily carboned (sooted) plugs can fire properly with capacitor discharge ignition systems (CDI). Only a spark plug with a cracked external insulator or one that is carbon-tracked cannot function properly with this system. An insulator cracked around the electrode will not harm spark plug performance.

If the spark plug center electrode is burned back 1/32 inch below the insulator, replace the plug. Do not replace the plug unless this condition exists, the external insulator is cracked or the plug is carbon-tracked.

### Installing Spark Plug

Clean the spark plug seating surface on the cylinder head and install plugs. Tighten moderately, being certain spark plug gasket makes good contact with cylinder head. If not, clean carbon from cylinder head threads with a spark plug tap.

Reinstall spark plug wires and top access panel.



## ADJUSTING CARBURETOR

**IMPORTANT: DO NOT** run engine when adjusting carburetor.

The JD295/S Snowmobile is equipped with two Mikuni Carburetors. Each carburetor is a float-type, fixed main jet carburetor that gives exact metering of the fuel-air mixture. The float in the fuel bowl maintains a constant fuel level in the bowl to assure an adequate fuel supply. The fixed main jet eliminates constant high-speed adjustments. However, altitude and temperature variations may require changes of the main jet.

*NOTE: The Snowmobile is shipped from the factory with a 140 main jet in the carburetor. Two 130 and two 150 main jets are also furnished. Optional 120 and 160 main jets are also available from your John Deere Dealer. See page 15.*

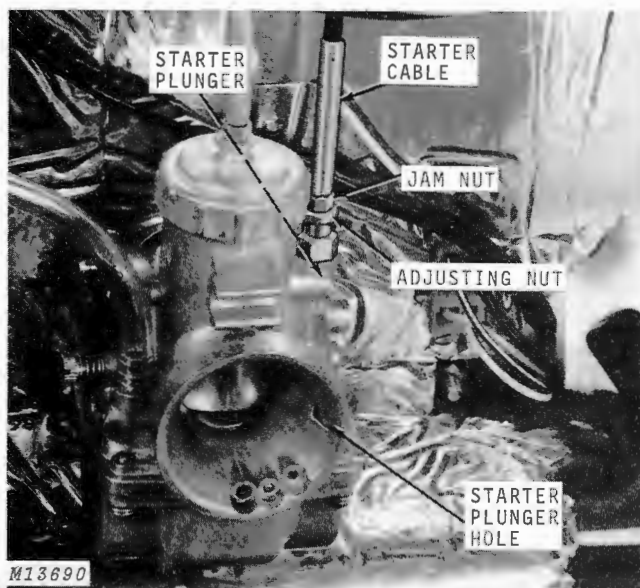
**IMPORTANT: DO NOT** at any time run the engine with the air intake silencer removed from the carburetor. To do so will cause the engine to run **LEAN** and could cause engine failure.

### Starter System

A separate starter system is used rather than a choke. The fuel-air mixture for starting is metered through independent jets.

The starter system is opened and closed by the starter plunger. The starter system is constructed to operate by negative inlet pipe pressure. The throttle valve must be closed when starting the engine, otherwise the fuel-air mixture will be too lean for starting.

### Setting the Starter Plunger



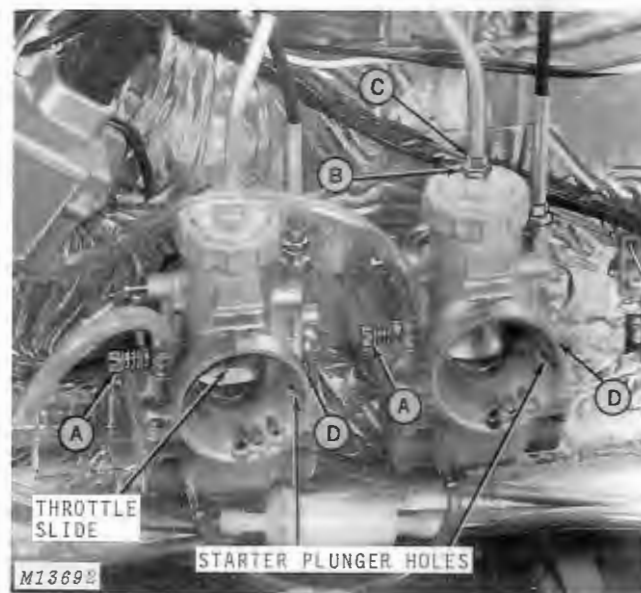
*NOTE: When the starter lever on the dash is down, the starter plunger should be all the way down in the bore. There should be slight freeplay between the lever and the dash.*

Adjust the starter plunger as follows:

1. Be sure the starter lever on the dash is down.
2. Look in the starter plunger hole at the 3 o'clock position in the carburetor throat. Starter plunger should be all the way down in its bore.
3. Loosen jam nut and turn adjusting nut clockwise to bring the starter plunger down. Tighten jam nut.

**IMPORTANT: If the starter plunger is not down tight in the bore, the carburetor will run "RICH" and will affect the main jet system. This could cause a problem when attempting to find the correct main jet for top engine performance.**

### Synchronizing The Carburetors



1. Remove the windshield, console and air intake silencer.
2. Turn the idle adjusting screws (A) counterclockwise until the idle adjusting screw tip is flush with the inside of the carburetor bore.
3. Loosen jam nuts (B) on both throttle cables and turn the swivel adapter (C) clockwise until the throttle slide fully seats in the carburetor bore. Lock the jam nuts and swivel adapters in place.

4. Turn both idle adjusting screws (A) clockwise until the screws contact the throttle slide. When the screws contact the slide, the slide will begin to rise. Turn the idle adjusting screws (A) an additional two turns clockwise.

5. Loosen the jam nuts (B), on both throttle cables and turn the swivel adapter (C) counterclockwise until all slack is removed from the throttle cables. Lock the jam nuts and swivel adapters into position.

6. Look into the throat of both carburetors and slowly compress the throttle lever on the handgrip. Both throttle slides should begin to rise at exactly the same time. If throttle slide movement does not occur as specified, repeat steps 2 through 5.

7. Carefully turn both pilot air screws (D), clockwise until a slight seating resistance is felt.

8. Turn both pilot air screws (D) one complete revolution counterclockwise.

9. The idle speed may not be correct for normal operation, even though the carburetors are synchronized. To check engine for proper idle, proceed as follows:

- a. Install air intake silencer and run the engine until operating temperature is obtained.
- b. If the engine will not idle or if increased idle rpm is desired, turn the idle adjusting screws (A) clockwise until desired idle is obtained.

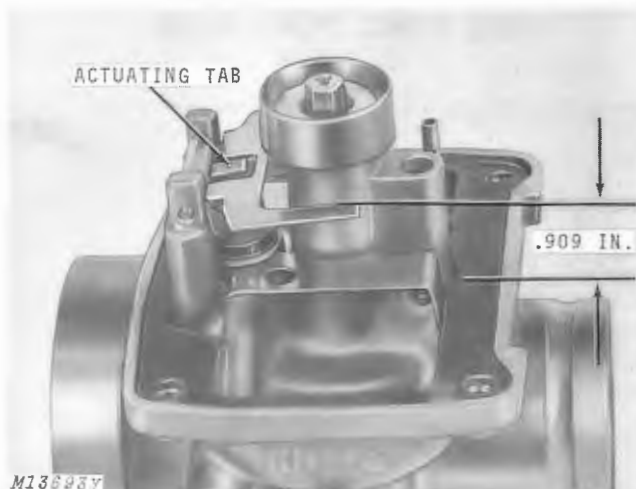
**NOTE:** Set both idle adjusting screws equally. If the idle adjusting screws are not equal, repeat steps 2 through 8.

## Fine Tuning Carburetor

### Checking Float Level

**NOTE:** The fuel level in the float chamber is regulated by the float. If dirt or foreign particles get between the needle valve and seat, or wear or damage occurs in the needle valve area, or if the float is punctured, fuel overflow may occur. If the needle valve sticks, a limited amount of fuel will flow into the float chamber.

1. Remove the air intake silencer, fuel lines and carburetor from the engine.
2. Remove the float chamber body and gasket from the carburetor.



3. Invert the carburetor and measure the distance from the gasket surface to the top edge of the float arm. The distance should be 0.909 inch (23.1 mm). If adjustment is necessary, bend only the float arm actuating tab.

### Selecting Main Jet

Main jets are graduated in steps of ten: 120, 130, 140, 150 and 160. The larger the number, the bigger the jet orifice, which will give a richer fuel-air mixture.

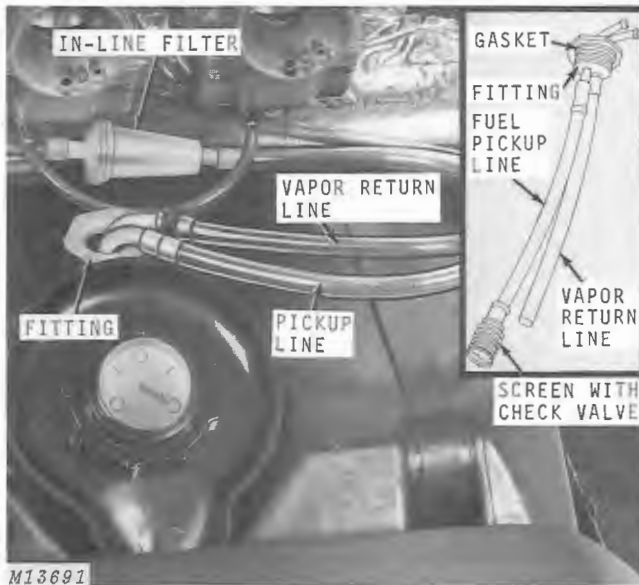
- 120 - Optional - See Your John Deere Dealer
- 130 - Optional - With Machine
- 140 - Factory Installed
- 150 - Optional - With Machine
- 160 - Optional - See Your John Deere Dealer

1. Install air intake silencer and run the snowmobile at full throttle on a dynamometer or in a large level area. If the engine labors at full throttle, main jet (orifice) is too large. Install the next smaller size main jet and repeat the full throttle operation. Change main jets as necessary until satisfactory engine performance is attained at full throttle. Check condition of spark plug to determine engine performance.

2. If the engine runs satisfactorily at full throttle, to begin with, the main jet should still be checked for proper size. Check condition of spark plug to determine engine performance. It is possible for the main jet to contribute to the engine running "LEAN." If a lean condition exists, install a main jet two sizes larger. Run the snowmobile at full throttle on a dynamometer or in a large level area. If the engine labors, use the next lower size main jet. The engine should now give satisfactory performance. Recheck condition of spark plug.



## CLEANING FUEL TANK SCREEN



1. Remove both fuel lines from tank fitting.
2. Unscrew fitting and remove from tank.
3. Clean screen with gasoline and compressed air.
4. Replace gasket on fitting if damaged.
5. Blow into the fuel pickup line fitting. Check valve should prevent air passage. If not, replace screen assembly.

## REPLACING IN-LINE FUEL FILTER

Change the filter annually when the snowmobile is taken out of summer storage, or as indicated by the contamination build-up in the cone.

The nylon screen in the in-line fuel filter has a self-cleaning action. Pulsation of the screen shakes loose contamination such as dirt, rust and small fibers. Loose contamination collects at the base of the cone. When the packed contamination starts to build up at the base of the cone, change the filter.

## CHECKING FAN BELT TENSION

Shut off engine.

Remove right-hand access panel and recoil starter.

Remove screw securing fan belt cover.



Use your finger to deflect belt as shown. If more than 3/8-inch deflection is possible or if belt condition is questionable, see your John Deere dealer. Belt tensioning or replacement requires the use of special tools.

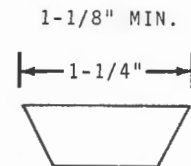
## SERVICING DRIVE AND DRIVEN SHEAVES

Once a year, the drive and driven sheaves on your snowmobile should be disassembled, cleaned and checked for worn parts. This service will keep your snowmobile in top operating condition. Because special tools are required to perform this maintenance, see your John Deere dealer.

## REPLACING DRIVE BELT

The drive belt should be replaced if obviously worn or damaged or if its width is reduced by 1/8 inch or more. A narrow belt will reduce snowmobile top speed.

### DRIVE BELT CROSS SECTION



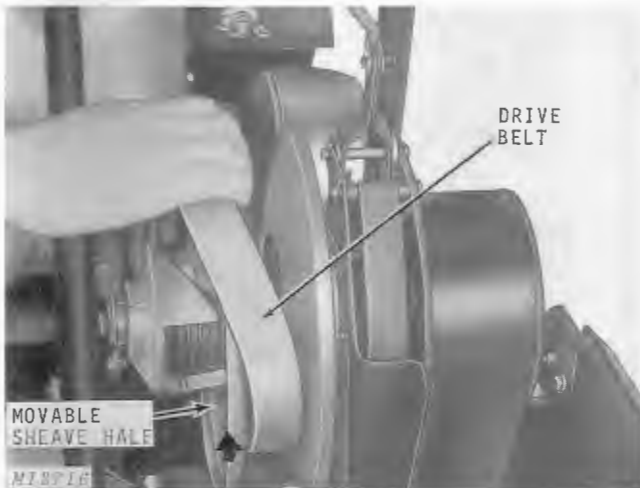
M12791

If drive belt wears rapidly, drive and driven sheaves are probably out of alignment. See your John Deere dealer because a special tool is required to align sheaves.

A belt worn narrow in only one area is caused by trying to free a frozen track with the engine. Always free a frozen track manually prior to starting engine.



1. Remove left-hand access panel.
2. Remove driven sheave belt guard to provide access to drive belt.



**IMPORTANT:** Never pry belt over sheaves. If driven sheave is opened properly, no prying is necessary.

3. Grasp movable half of driven sheave and rotate it counterclockwise while pulling, to open.
4. Lift belt up and over sheave half to remove.
5. Remove belt from drive sheave last.

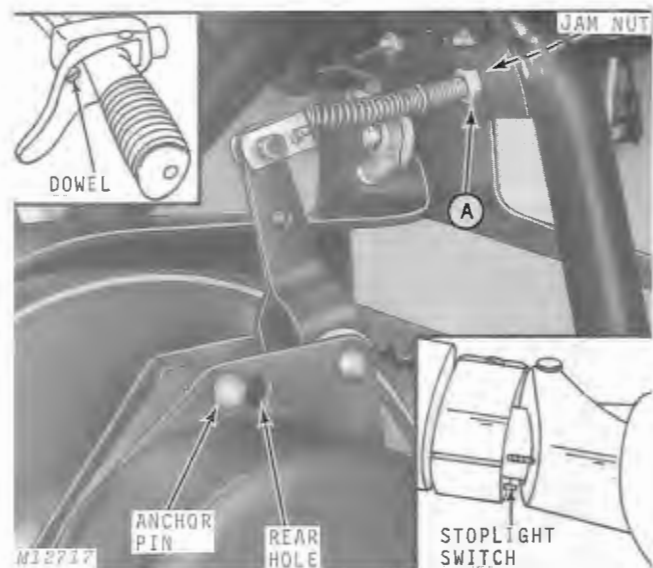
**CAUTION:** Keep fingers out of area between center of driven sheave halves when sheave is opened. If driven sheave sticks closed, use care in opening to prevent fingers from becoming pinched.

6. Install belt in the opposite sequence from which it was removed.
7. Install driven sheave belt guard and left-hand access panel.

## ADJUSTING BRAKE



1. Apply the brake firmly and measure the distance from the brake control lever to the handgrip. It should be 1 to 1-1/2 inches.



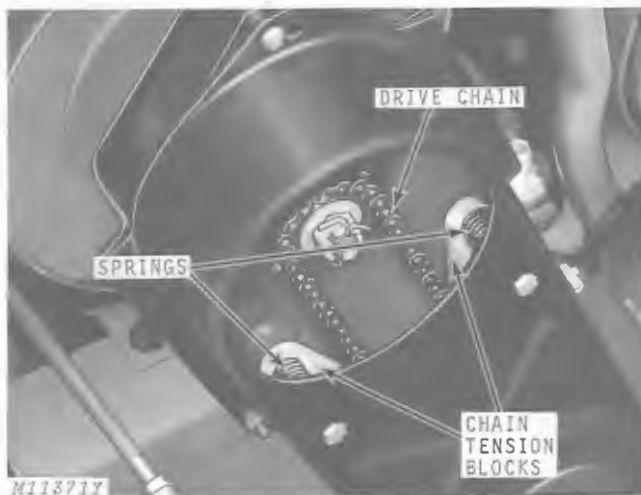
2. Adjust brake by backing off nut "A" several turns and tightening jam nut behind bracket.
3. Check brake tension.
4. Readjust if necessary.

In time, adjustment will be used up on cable. When this occurs, loosen the cable adjustment and move the brake band anchor pin to the rear hole. Adjust brake as explained above. When the adjustment is used up with the pin in the rear hole, see your dealer for brake band replacement.

**NOTE:** Be certain dowel on end of brake cable is seated properly in recess of brake control lever (see upper inset).

After brake adjustment, check operation of stoplight switch (see lower inset). Check for a "frozen" switch if stoplight does not work.

## SERVICING DRIVE CHAIN



The drive chain operates in an oil bath and is tensioned with two spring-loaded tension blocks. No adjustment is necessary.

Periodically, remove upper access plug and inspect condition of drive chain, tension blocks and springs. See your dealer if service is required.

## CHECKING CHAIN CASE OIL LEVEL



With the snowmobile parked on a level surface, open hood and remove lower access plug from chain case. The oil level should be about 1/4 to 1/2 inch below the access hole. Add SAE 30 oil if necessary. Install access plug.

**NOTE:** A light film of oil on the lip of the access plug will make installation easier.

When placing machine in storage, remove oil from chain case with a syringe and replace with new SAE 30 oil.

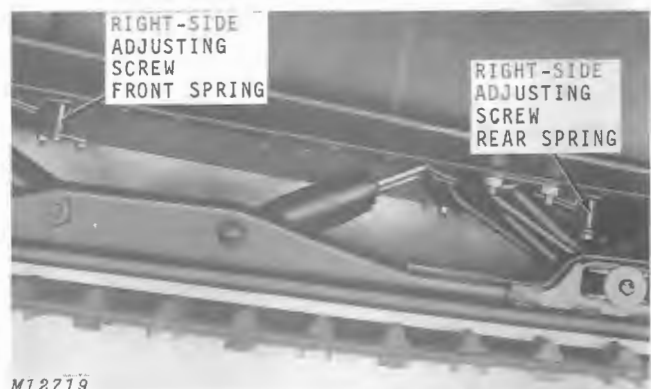
## ADJUSTING TRACK TENSION (Slide Suspension)

Proper track tension is very important and is the key to obtaining maximum track life. If "ratcheting" of the track is noticed during operation, track tension is too loose. "Ratcheting" occurs when the drive lugs on the track slip over the cogs on the drive wheel. Check track tension as follows:



1. Tip the snowmobile onto its right side.
2. Pull out at the center of the track and measure the clearance between one of the grouser bars and the slide rail. Clearance should be 1 to 1-1/2 inches.
3. If clearance is more than 1 to 1-1/2 inches, track is too loose; if less, track is too tight.
4. Loosen jam nut on adjusting screw.
5. Turn adjusting screw in to increase track tension and out to decrease track tension.
6. When adjustment is correct, tighten jam nut.
7. Measure adjusting screw threads from the head of the adjusting screw to the jam nut.
8. Tip the snowmobile onto its left side and repeat track adjustment.
9. Adjust both sides equally.

## ADJUSTING SLIDE SUSPENSION SPRINGS



Slide suspension springs can be adjusted to give a firm or soft ride.

**IMPORTANT:** When adjusting screws for a soft ride, be sure at least two threads on each screw protrude through the weld nut.

Adjust springs as follows:

1. Take the snowmobile for a ride to determine if the ride is satisfactory.
2. Turn all four adjusting screws (two on each side) in to give a firm ride and out to give a soft ride.
3. Adjust all four screws equally.

**IMPORTANT:** Turn the screws in when trail riding with a driver and passenger. This will reduce the tendency of the machine to "bottom" and give a better ride.

### ADJUSTING STEERING RESPONSE (Slide Suspension Ski Lift)

**NOTE:** All snowmobiles with slide suspension come from the factory adjusted for maximum steering response on the front skis.

This steering response can be decreased for trail or mountain riding in deep snow conditions. By adjusting the steering response screws (one on each side of the front pivot bracket) weight transfer to the rear of the track is increased, allowing the front of the snowmobile to become lighter and ride the top of the snow.



1. Turning the screws out decreases steering and response and gives lift to the skis.
2. Turning the screws in increases steering response and decreases lift on the skis.
3. Adjust screws equally.

**IMPORTANT:** Never back screws out any further than "flush" with the weld nut.

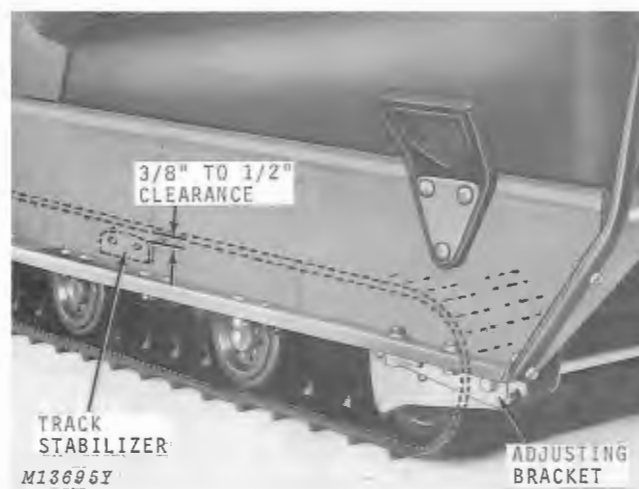
**CAUTION:** When screws are backed out the maximum allowable distance, sudden starts will lift the skis completely off the snow. Avoid this type of start because of lack of steering and the possibility of injury to the operator, passenger or both.

### REPLACING SLIDE SUSPENSION WEAR BARS

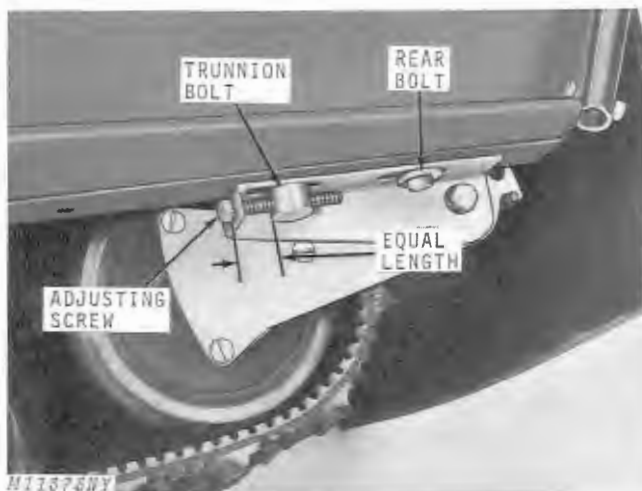
See your John Deere dealer for this service.

### ADJUSTING TRACK TENSION (Bogie Suspension)

Proper track tension is very important and is the key to obtaining maximum track life. If "ratcheting" of the track is noticed during operation, track tension is too loose. "Ratcheting" occurs when the drive lugs on the track slip over the cogs on the drive wheel. Check track tension as follows:



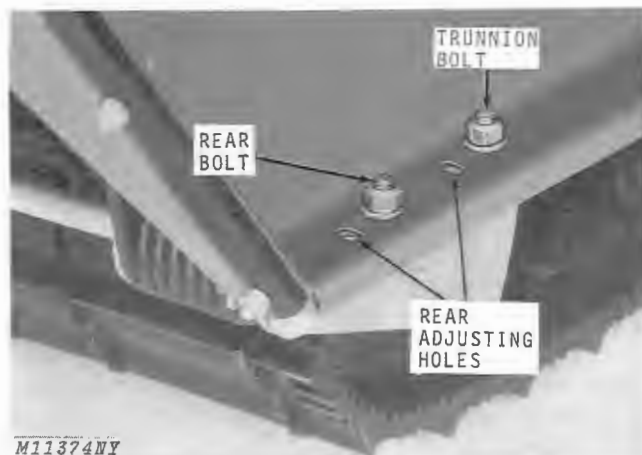
1. Place machine on a level surface with an operator on the seat.
2. Check clearance between the track stabilizers (one on each side) and the track. 3/8 to 1/2 inch clearance should be evident.
3. If clearance is more than 3/8 to 1/2 inch, track is too tight; if less, track is too loose. Adjust as follows:



1. Loosen trunnion bolt and rear bolt on both sides of snowmobile.

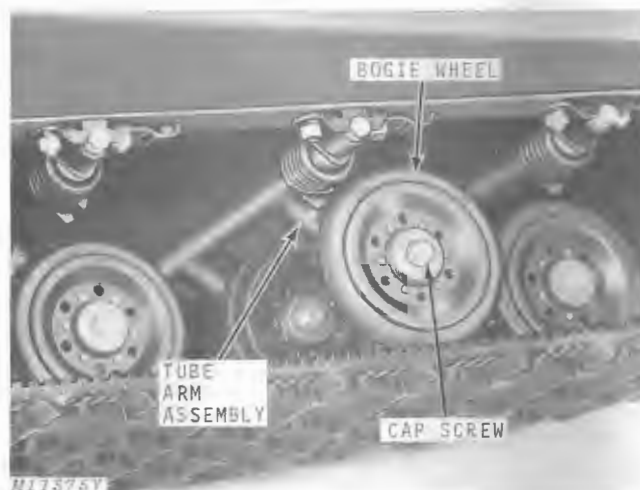
2. Turn adjusting screws into trunnions to increase track tension. Adjust both sides **equally**. Tighten bolts.

**IMPORTANT:** Both sides must be adjusted **equally** with an **equal length** between screw head and trunnion bolt. Unequal adjustment will cause improper track alignment and possible track damage.



In time, adjustment will be used up on adjusting screws. When this occurs, transfer rear bolts to rear holes; then, trunnion bolts to rear holes. Adjust track tension as outlined previously.

## REPLACING BOGIE WHEELS

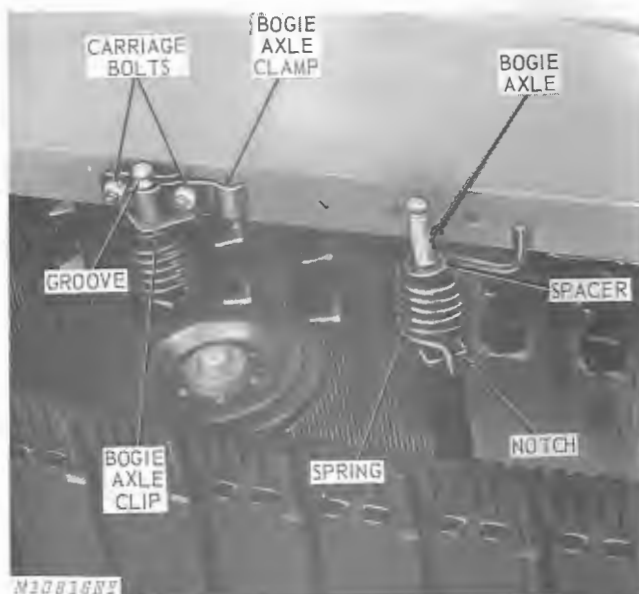


Periodically inspect bogie wheels for freeness of operation. If a bogie wheel is stuck (won't turn) it must be replaced because track damage will result.

Remove cap screw securing bogie wheel to tube arm assembly. When installing new wheel, be certain shoulder on wheel is next to the tube arm. Install and tighten cap screw.

*NOTE: If shoulder on wheel is not next to the tube arm, wheel will bind and not turn freely.*

## REPLACING BOGIE SPRINGS

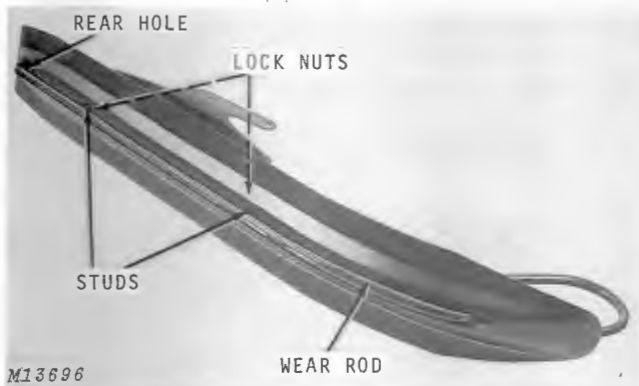


Remove two carriage bolts by spring to be replaced. Remove bogie axle clip, clamp and spring.

Install new spring with long leg to rear and short leg in notch on tube arm assembly. Install clip and clamp, being certain clip engages groove in end of axle. Install and tighten carriage bolts securely.



## REPLACING SKI WEAR RODS



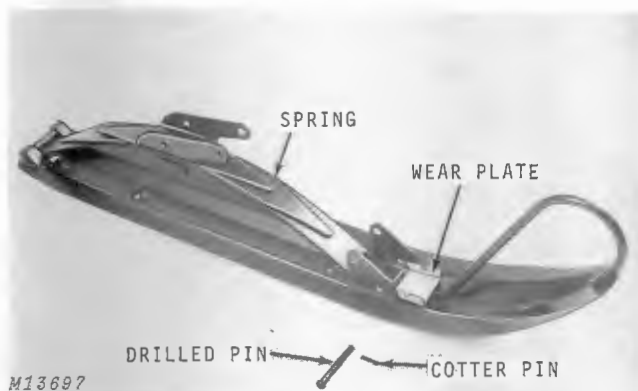
Inspect wear rods periodically. Replace the carbide wear rods if they are cracked, missing, or if the sharp edge is worn off. Worn wear rods reduce snowmobile maneuverability and safety.

**IMPORTANT:** Use only carbide wear rods with aluminum skis. Excessive wear or ski failure will occur if carbide wear rods are not used.

To replace ski wear rods:

1. Remove lock nuts securing wear rod to ski.
2. Pry rod down to get studs out of holes.
3. Slide rod forward to remove rod from rear hole. Remove rod.
4. Install new rod in opposite sequence.

## REPLACING SKI WEAR PLATES



To prevent ski damage, replace wear plates when excessively worn.

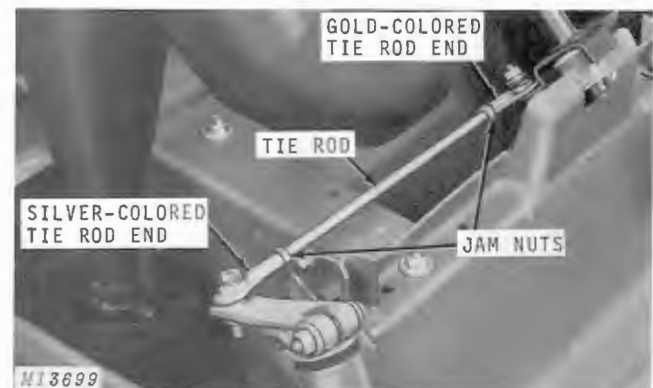
1. Raise front of snowmobile slightly.
2. Remove drilled pin securing front of ski spring.
3. Lift front of spring and remove wear plate.
4. Install new wear plate.
5. Lower ski spring in place.
6. Secure spring with drilled pin and cotter pin.

## ALIGNING SKIS



When properly aligned, skis are parallel (equal distance at "A" and "B") with skis pointing straight forward and handlebars positioned to steer straight ahead.

**IMPORTANT:** Measure from straight sides of skis only; not from tapered ends.



To align skis:

1. Loosen jam nuts, Gold-colored tie rod ends have left-hand threads which must be loosened opposite the normal rotation.
2. Turn tie rods to either lengthen or shorten them to keep skis parallel and handlebars in alignment with skis.

**IMPORTANT:** Do not exceed 12-1/4 inches in tie rod length from center hole-to-center hole when adjusting tie rod.

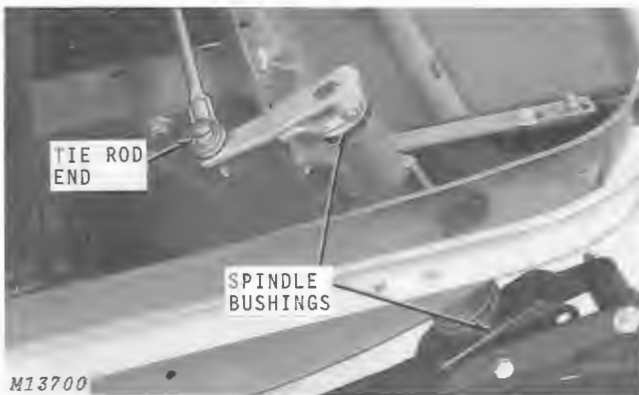
### ALIGNING SKIS—Continued

3. Tighten jam nuts securely. Hold the tie rod with vice grips while the jam nut is being tightened. Damage or stripping of the threads may occur within the ball joint if the tie rod is not held.

**IMPORTANT:** When tightening jam nuts on tie rods, be certain tie rod ends are still free to swivel after jam nuts are tight.

### ELIMINATING LOOSE STEERING

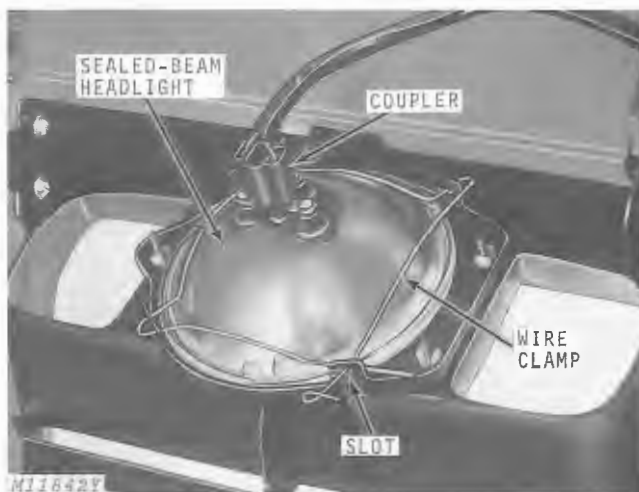
**CAUTION:** Make it a habit frequently to check steering components and hardware for condition and tightness. Remember your snowmobile travels at near-highway speeds.



The two major causes of loose steering are as follows.

1. Excessively worn tie rod ends.
  2. Excessively worn spindle bushings.
- Replace or tighten parts as necessary.

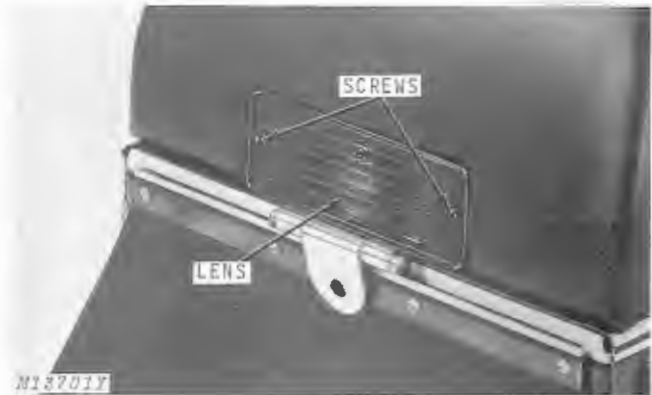
### REPLACING SEALED-BEAM HEADLIGHT



1. Open hood and disconnect headlight coupler.
2. Unhook wire end from slot.
3. Remove wire clamp and sealed-beam headlight.

4. Install a new sealed-beam headlight being certain beam is right side up.
5. See terminal arrangement in illustration.
6. Secure with wire clamp. Wire end placed in slot must pass over other wire.

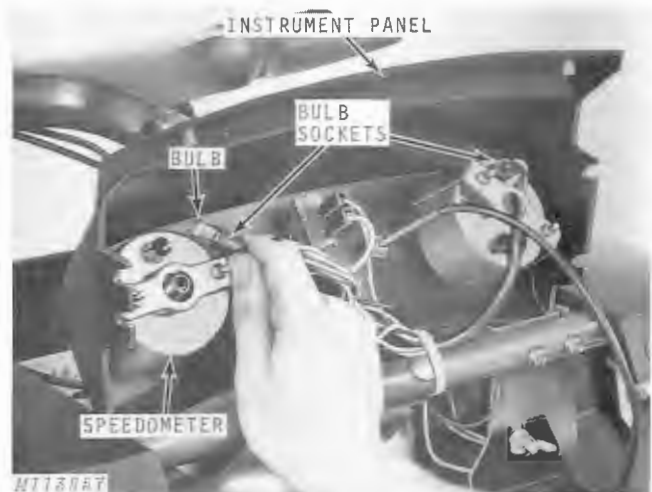
### REPLACING STOP-TAILLIGHT BULB



1. Remove two screws and lens.
2. Push and turn bulb counterclockwise to remove.
3. Install new bulb in opposite sequence.

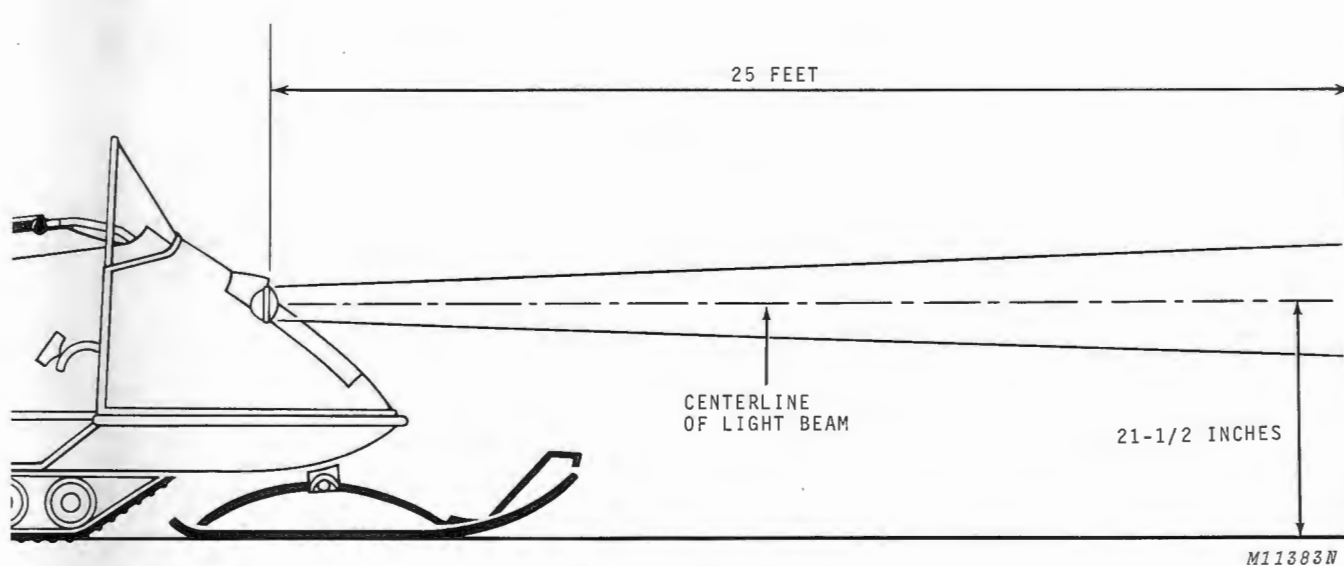
**IMPORTANT:** Bulb can be installed in one position only. Be certain locking tabs match slots.

### REPLACING SPEEDOMETER AND TACHOMETER BULBS



1. Remove windshield.
2. Loosen two nuts on each side of instrument panel.
3. Tip instrument panel back to expose backside of instruments.
4. Pull bulb socket out of instrument.
5. Push and turn bulb counterclockwise to remove bulb from socket.
6. Install new bulb in opposite sequence.

## AIMING HEADLIGHT



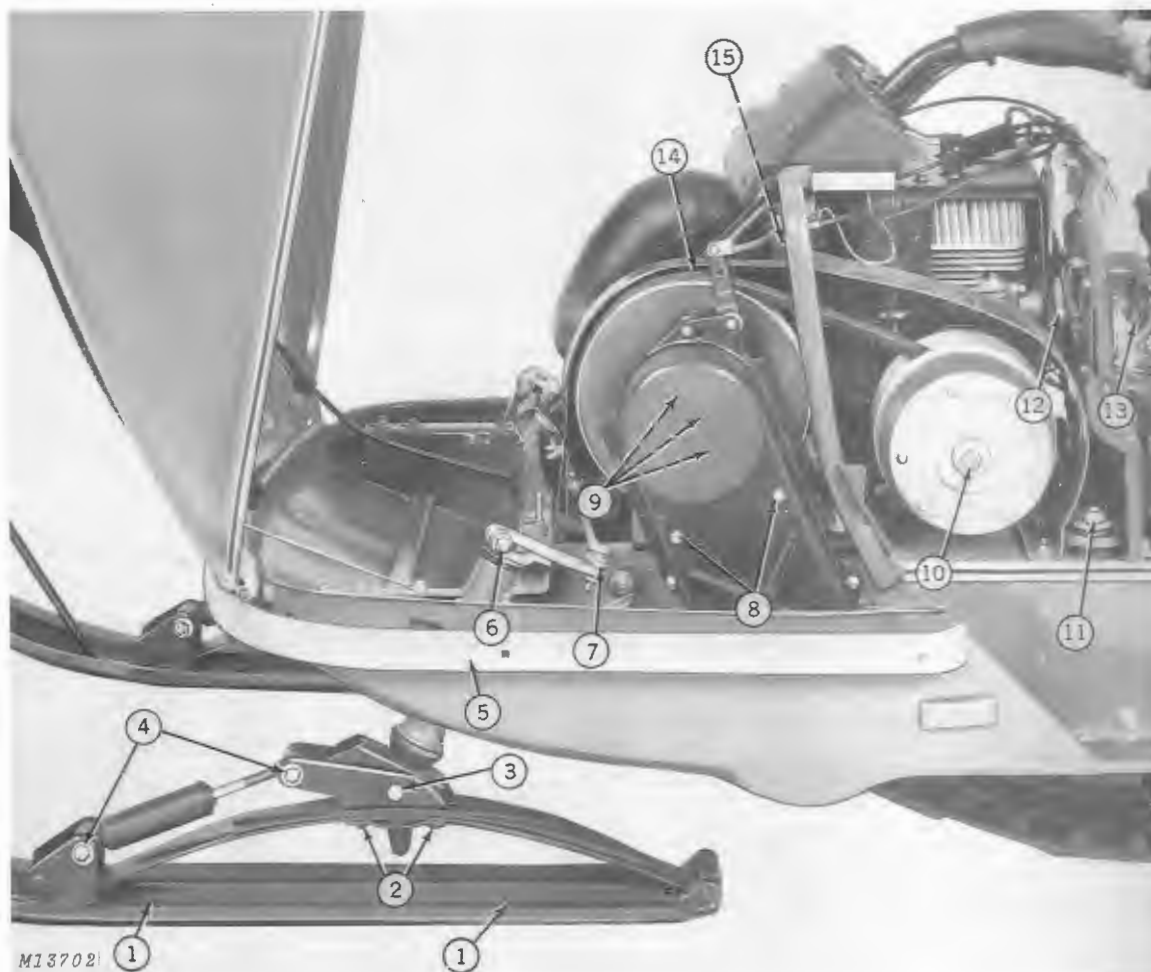
Position snowmobile on a flat surface with the headlight 25 feet from a vertical surface. With an operator on the seat and the headlight on **high** beam, the light beam centerline should be straight ahead of the machine and 21-1/2 inches above the ground level.

To adjust beam, turn adjusting screws by headlight.





## TIGHTENING HARDWARE AND COMPONENTS



The following hardware and components should be checked for tightness on a yearly basis, before or after placing snowmobile in summer storage.

While tightening these items, also check for worn or damaged parts. Replace any parts found questionable, especially if they pertain to skis and steering.

**CAUTION:** Worn, bent, or damaged ski and steering components are unsafe. Remember, your snowmobile travels at near-highway speeds.

Check these items:

1. Wear rod nuts.
2. Ski saddle cap screws.
3. Ski bolts.

4. Shock absorber attaching cap screws.
5. Bumper attaching cap screws.
6. Steering arm cap screws.
7. Tie rod end cap screws and jam nuts.
8. Tension block cap screws.
9. Secondary shaft bearing cap screws.
10. Drive sheave retaining cap screw.
11. Engine mounting bolts.
12. Carburetor attaching nuts.
13. Air intake clamps and fuel lines.
14. Driven sheave retaining cap screw.
15. Muffler clamp.
16. Check suspension as outlined on pages 18 and 19.



# Trouble Shooting

## ENGINE

### Engine Starts Hard or Will Not Start

Fuel Tank Empty.

Emergency Stop Switch in "OFF" Position or "Tether" String not in place.

Plugged Fuel Tank Screen.

See page 16.

Plugged In-Line Filter in Suction Line.

Change in-line filter.

See page 16.

Fuel Pump Malfunctioning.

See dealer for carburetor service.

Faulty Ignition System.

Check all electrical connections. See dealer for ignition system repair.

Ignition Timing Wrong.

See dealer for ignition timing.

### Engine Lacks Power or Acceleration

Running On One Cylinder.

Check spark plug of dead cylinder.

Throttle Cable Improperly Adjusted.

Adjust throttle. See page 14.

Improper Fuel Mixture.

Drain tank and fill with fuel of proper mixture.

See Page 6.

Carburetor Out of Adjustment.

See page 14.

Restricted Fuel Tank Screen or In-Line Filter.

See page 16.

Ignition Timing Wrong.

See dealer for ignition timing.

### Engine Backfires and Runs Unevenly

Ignition Timing Wrong.

See dealer for ignition timing.

### Engine Overheats

Carburetor Set Too "Lean."

See page 14.

Engine Fan Belt Slipping or Broken.

See page 16.

Fan Blade(s) Broken Off.

Intake Manifold or Carburetor Gaskets Leaking.

## LIGHTS

### Stoplight Not Lighting

Bulb Burned Out.

See page 22.

Stoplight Switch Defective.

Stoplight Switch Frozen.

### Lights Won't Light

Sealed-Beam and/or Bulbs Burned Out.

See page 22.

Faulty Light Switch.

See dealer.

Loose Electrical Connections.

Faulty Lighting Coil.

See dealer.

## WINDSHIELD

### Windshield Becomes Clouded and Brittle

Fuel or Other Hydrocarbons Cause Windshield to Deteriorate, Become Fogged or Brittle.

Keep fuels and hydrocarbons off windshield.

Clean windshield with a damp cloth.

## **POWER TRAIN AND CHASSIS**

### **Clutch Does Not Disengage Properly**

Engine Idles Too Fast

Set idle at slower speed. See page 14 and 15.

Faulty Clutch (Drive Sheave).

See dealer.

Short Drive Belt.

### **Clutch Engages Too Slowly**

Faulty Clutch (Drive Sheave).

See dealer.

Stretched or Worn Drive Belt.

### **Excessive Drive Belt Wear**

Driving Snowmobile Long Distances at Clutch Engagement Speed.

Drive and Driven Sheaves Misaligned.

See dealer.

Freeing Frozen Track With Engine.

Free track manually.

### **Rapid Track Wear**

Operating on Bare Ground.

Track Improperly Tensioned.

See page 18 or 19.

Track Not Adjusted Equally (Side-to-Side).

See pages 18 or 19.

Track Wearing on One Side.

Track not adjusted equally (side-to-side) or track too loose. See pages 18 or 19.

## **SKIS AND STEERING**

### **Loose Steering**

Worn Tie Rod Ends.

See page 22.

Worn Spindle Bushings.

See page 22.

### **Poor Maneuverability**

Worn Ski Wear Rods.

See page 21.

Loose Steering Linkage.

See page 22.



# Storage

## PLACING SNOWMOBILE IN STORAGE

1. Thoroughly clean your machine with a hose to remove dirt, rocks, or grass from track area. Remove debris from inside console and hood areas.

**IMPORTANT: Do not spray water around engine or carburetor. Allow all parts ample time to dry.**

2. Clean and polish the hood, pan, and tunnel with an automotive-type wax. Use an upholstery cleaner on the seat. If metal parts are scratched or bare, touch up these areas with paint. Oil or paint bottom of skis to prevent rust. See your John Deere dealer for matching paint.

3. Check condition of all parts and assemblies so that needed parts may be ordered and installed during the summer months. Check cap screws and components for tightness. See page 24.

4. Siphon fuel from tank. Start engine and run it out of fuel at IDLE SPEED. Clean fuel tank screen. See page 16. Check in-line fuel filter for contamination and replace as necessary.

5. Wrap carburetor and air intake system with a plastic sheet and tie securely.

6. Remove spark plugs and add 1 teaspoon of John Deere Snowmobile Oil into each spark plug hole. With plugs removed, pull starter rope several times to properly lubricate cylinder walls. Replace plugs.

7. Remove drive belt and lubricate the drive and driven sheave surfaces with a light grease to prevent corrosion.

8. Change oil in chain case. See page 18.

9. Support snowmobile so track is off ground. Loosen track adjusting screws to remove tension from track during storage.

10. Place a cover over your snowmobile and store it inside if at all possible.

## REMOVING SNOWMOBILE FROM STORAGE

1. Check for loose cap screws and components if not done prior to storage. See page 24.

2. Wipe all grease, oil, or other lubricants from drive and driven sheave and reinstall drive belts.

3. Fill fuel tank with properly mixed fuel. See page 6.

4. Check throttle and brake controls for proper adjustment and operation. See pages 14 and 17.

5. Adjust track to proper tension. See pages 18 or 19.

6. Familiarize yourself once more with all operating and safety suggestions.

7. Start engine and test operation of emergency stop switch, headlight, dimmer switch, taillight and stoplight.

8. Take the snowmobile on a short ride at slow operating speed. Increase speed as you become assured machine is operating properly.



# Specifications

## SNOWMOBILE SPECIFICATIONS

Component	Item	Specification
Engine	Manufacturer	John Deere
	Model	295RS/2
	No. of Cylinders	2
	Bore	55.9 mm
	Stroke	60 mm
	Displacement	295 cm <sup>3</sup>
Fuel System	Carburetor Mfr.	Mikuni
	Carburetor Number	VM34-55 (2 used)
	Tank Capacity	2.2 gals.
	Fuel Mixing Ratio	20:1
Chassis and Body	Material:	
	Tunnel	Aluminum
	Hood and Console	Polyester
	Windshield	Polycarbonate
	Overall Length	103.4 in.
	Overall Width	35.5 in.
	Overall Height	40 in.
	Weight	350 lbs.
Track and Suspension*	Suspension Type	Slide Suspension**
	Track Material	Rubber
	Track Width	15.5 in.
Power Train	Transmission:	
	Type	2 Sheave Variable
	Manufacturer	John Deere (Comet)
	Model	100
	Final Drive Ratio:	
	Standard	244:1
	Brake	External Band
	Drive Belt	M64550

\*A bogie-slide suspension system is also available.

\*\*Bogie suspension also available with studded polyurethane track.

**SNOWMOBILE SPECIFICATIONS—Continued**

Component	Item	Specification
Electrical System	Spark Plug (Champion)	N19-V
	Timing	"F" Mark on flywheel engine running at 4000 rpm.
	Lighting Coil Capacity	120 Watt
	Light Bulbs:	
	Headlight	AM52959
	Stop-taillight	AM52619
	Speedometer	AM52847
	Tachometer	AM52847



# A Guide to Safe Snowmobiling

Snowmobiling has opened up a whole new world of winter family fun. But like any sport involving machines capable of high speed, there is a certain degree of hazard.

You can significantly reduce, or perhaps even eliminate, the possibility of an accident by being aware of the hazards of improper snowmobiling and by operating your snowmobile in a responsible manner.

The following tips provide a guide to safe snowmobiling. Play it smart. . . play it safe. . . and have fun.

## General Safety Tips

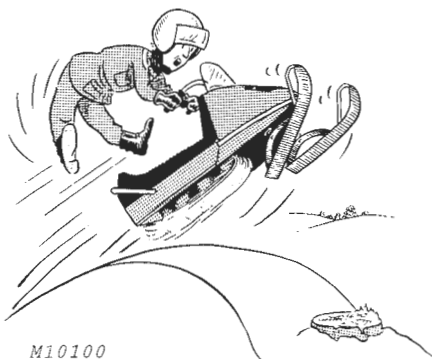
*Observe all safety precautions* contained on the inside front two pages of this operator's manual.

*Ask your John Deere Dealer* for a free copy of the 12-page "Guide to Safe Snowmobiling."

*Respect the property of others.* Keep snowmobiling fun for all. Observe the Code of Ethics on page 11.

*Join a snowmobile club.* If there's none in your area, start one. Keep alert to current and recommended snowmobile legislation. Protect the snowmobiling sport.

*Observe all governmental regulations* regarding use of streets, highways and railroad right-of-ways. Avoid trespassing on private property. Don't cut fences.



*Don't show off,* act in a reckless manner or dare friends into hazardous forms of operation. Confidence is a valuable aid in snowmobiling. . . but overconfidence can be dangerous.

*Don't cut across another snowmobiler's path.* Don't cause other operators to panic by sudden changes in direction. Don't tailgate.

*Use understandable hand signals* when traveling in groups. Let others know your intentions when stopping or turning.

*Always allow adequate stopping distance,* based on ground cover conditions. Remember, ice requires a greater stopping distance. . . makes turning more difficult. Avoid skidding. . . don't apply brakes rapidly on ice.

*Don't loan your machine,* to unreliable operators. You may be sued in case of injury. . . or held accountable in other ways for their mistakes.

*Always wear an approved helmet* . . . one that will not only keep you warm, but that will provide adequate protection from injury in case of an accident. A face shield could save your eyesight should you hit a small tree branch.

*Do not speed through wooded areas.* Hidden obstructions, hanging limbs, unseen ditches and even wild animals can cause accidents.

## Preparing for a Trip

*Check all cap screws and carriage bolts* for tightness. Be sure snowmobile is properly maintained to be in top operating condition. Don't operate your snowmobile when it is in need of repairs.

*Check the weather forecasts* (both long range and local) before starting out on a trip. Cancel your plans if a storm is suspected.

*Know where help is located* . . . study maps of the area before the trip. Note locations of phones, resorts, shelters, towns, farms and ranches. Know where fuel is available. Use the buddy system when possible.

*Secure snowmobile to trailer* when driving to your starting point and be sure trailer lights are working. Winch the machine on the trailer . . . don't drive it on.

*Don't overload your snowmobile.* Use a sled with a stiff towbar to haul your supplies.

*Don't risk a heart attack if your snowmobile gets stuck in deep snow.* Carry a small block and tackle for such situations. Never let someone manually pull on the skis while you attempt to drive machine out.

*Don't operate beyond one-half the round trip cruising range of your fuel.* Keep in mind how far it is home.

*Remember . . . improper fuel mixtures can lead to engine problems that could leave you stranded during severe weather conditions.*

*Always carry emergency survival supplies* when going on long trips or traveling in unknown territory. Let friends and relatives know your destination and expected arrival time.

*Carry adequate eating and cooking utensils* (small pans, kettle, plates, cups, etc.) on longer trips. Carry matches in a waterproof container . . . candles for building a fire . . . food that is easy to pack . . . food that won't be damaged by freezing. Carry emergency rations such as dry food or space energy sticks.

*Pack extra clothing, a tent, sleeping bag, hand axe and compass.* A first aid kit and snow shoes may come in handy. Space age blankets (one side silver-foil) furnish warmth and also can be used as heat reflectors or signaling devices for aerial search parties.

## Emergency Survival Techniques

*In the event of an emergency . . . don't panic.* Relax, think the situation over and decide on a course of action. You may be within a short distance of help. Attempt to repair your snowmobile so you can drive to safety. But remember, conserve your energy . . . and stay warm.

*Avoid frostbite while servicing your machine.* Keep hands and feet active to promote circulation.

*Mentally retrace your route.* Where was the last point where help could be located? Don't attempt to walk long distances in deep snow. Make yourself comfortable until help arrives.



*Be properly equipped for your trip and you can turn any undesirable area into a suitable campsite.*

*Build a small shelter if necessary,* with tree branches or evergreen boughs. Look for a cave or sheltered area against a hill or cliff. Even burrowing in the snow offers protection from the cold and wind.

*Prepare a signal.* Set a fire using evergreen boughs and snowmobile oil. If you can't build a fire, make an S-O-S in the snow.

*Beat cooking utensils or use a policemen's whistle* to attract attention or frighten off wild animals.

*When camp is established, climb the nearest hill* to determine your whereabouts. Observe landmarks on the way, so you can find your way back to your campsite. Don't rely on your footprints that may be covered in by blowing snow.

*Conserve food.* Eat for strength, not out of boredom. Your food may have to last you some time.

Snowmobiling makes the wide, white, wonderful world of winter your playground. It's an astonishingly beautiful place. Do your part to help keep it that way.



# Memoranda



# Safety Precautions

**CAUTION:** A snowmobile is no safer than the person operating it. Improper use or maintenance on the part of the operator can result in injury. To reduce this possibility, follow these safety suggestions.

## Preparation

*Before starting the engine, read your operator's manual from cover to cover. Knowledge can prevent accidents.*

*Always operate your throttle and brake controls several times before you start your engine. Stuck or frozen controls could cause serious injury or damage.*

*Know your controls. Learn how to stop in an emergency.*

*Know your state, provincial, federal and local laws pertaining to snowmobiling. Respect property of others. Don't spoil this fine winter sport by creating a bad image. See "Code of Ethics" on page 11.*

*Never add fuel when smoking or while engine is running. Use a safe gasoline container. Always use fresh, clean fuel of the proper mixture. See page 6.*

*Wear clothing designed for snowmobiling. . . avoid frostbite. Never wear scarves, loose belts, or clothes that could catch on moving parts or tree limbs.*

*Always wear eye and headgear protection to guard against injury.*

*Avoid sun blindness. Wear properly tinted goggles or face shields. Never wear yellow eye protection in the bright sun.*

*Do not allow anyone to operate snowmobile without proper instructions. Take proper precautions before allowing young operators to drive.*

*Always use the "buddy system" on long trips. Remember you can drive further in 30 minutes than you can walk in a day.*

*Carry adequate tools and repair items for emergency field repairs.*

*Don't overload your snowmobile . . . use sleds to carry provisions.*

*Always carry emergency survival supplies when going on long trips. Let friends and relatives know your destination and expected arrival time.*

## Operation

*Give complete and undivided attention to your snowmobile . . . don't be a show-off.*

*Do not operate snowmobile in crowded areas or steer the machine toward persons.*

*Do not operate snowmobile too close to avalanche areas, or on other unsafe terrain where spills could occur.*

*Observe all state, provincial, federal and local regulations, especially those with regard to operating on streets and highways.*

*When crossing highways (where permitted by law) always stop, look both directions, and cross at a 90-degree angle. Post guards when crossing in groups.*

*Do not operate snowmobiles on or near railroad tracks. Trains cannot always be heard above sound of snowmobile engine . . . it is difficult to escape from between tracks.*

*Skiers and snowmobiles don't mix on the same hillsides. Avoid ski slopes.*