SECTION 2 - CHASSIS

MERCURY
SNOWMOBILES

PART B - DRIVE BELT

MERCURY MARINE

A BRUNSWICK COMPANY

INDEX

VARIABLE SPEED DRIVE BELT

GENERAL

The variable speed belt is an essential part of the drive mechanism, and it is recommended that a spare belt be carried at all times.

Follow these simple precautions to ensure full performance and longer service from the variable speed drive belt:

1. DO NOT operate at full throttle in deep snow, when stuck, or when load conditions restrict vehicle speed in relation to engine RPM.
2. Before operating in extreme cold weather, run vehicle while set up on kickstand. Operate at low speeds until normal movement of track and drive mechanism is attained.
3. Avoid easing clutch into engagement. Start vehicle movement by accelerating throttle to give positive clutch engagement.

IMPORTANT: Drive belts with baked or glazed appearance or premature wear in width are a result of drive belt slippage. Under these circumstances, drive belt wear is not covered by warranty.

REMOVAL

MANUAL and ELECTRIC MODELS

1. Spread the 2 halves of driven sheave to ease belt tension. Rotate sliding half of sheave in a clockwise direction while holding fixed half of sheave in a counterclockwise direction. (Figure 1)

   NOTE: To open driven sheave, a certain degree of force must be exerted to overcome spring tension which is applied to keep sheave closed for normal operation.

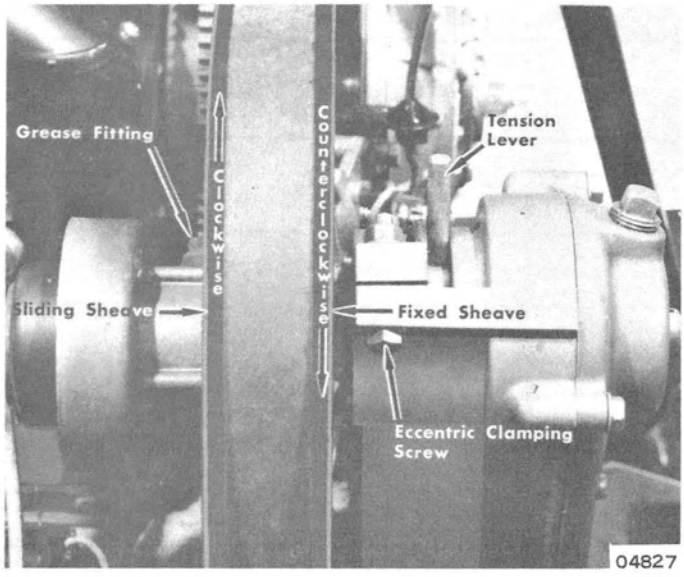

Figure 1. Driven Sheave Assembly

2. With the 2 halves of sheave spread apart, belt will drop further into sheave, easing belt tension. To simplify continued separation of the 2 halves, a suitable spacer may be used between them while removing or installing a belt.
3. Work belt off top rear side of sliding half toward steering column. (Figure 2)
4. After removing belt from driven sheave, belt can be removed easily from between the 2 halves of drive sheave.

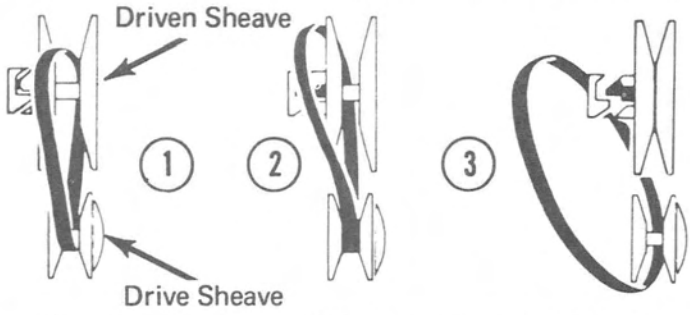

Figure 2. Variable Speed Drive Belt - Hurricane (644cc)

ELECTRIC REVERSE MODELS

Electric-reverse models are equipped with reverse locking bars to prevent driven sheave assembly from opening when vehicle is operated in reverse direction. For this reason, reverse locking bars must be held in a neutral position in order to spread the 2 halves of drive sheave for belt replacement.

1. Remove reverse lock-out tool from vehicle tool kit. Shape tool to form a semi-circle and insert tool in rear side of drive sheave assembly to hold reverse locking bars in a neutral position. (Figure 3) Reverse locking bars are in a neutral position when held out against the inner spring retainer.
2. Follow procedures outlined in Paragraphs 1-2-3-4, preceding.

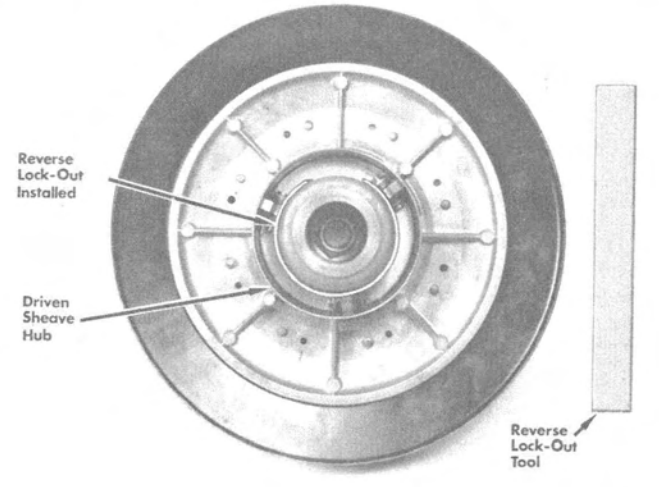

Figure 3. Reverse Lock-Out Tool Placed in Position

INSPECTION

Periodic belt inspection is recommended and, if it is found to be severely worn, replace the belt. If a drive belt is excessively worn, it should be removed, and a new drive belt installed.

VARIABLE SPEED DRIVE BELT INSPECTION CHART

Belt Condition	Probable Cause	Remedy
Flex cracks between cogs	Considerable use; belt wearing out	Replace belt.
Worn down excessively in top width	Excessive slippage or Rough sheave surface or Incorrect belt	Discontinue full throttle in extreme load condition or Repair or replace sheave or Consult parts list.
Glazed or baked appearance	Excessive slippage caused by: 1) Abuse by driver or 2) Incorrect belt or 3) Oil or grease on sheaves	Discontinue full throttle in extreme load condition or Consult parts list. or Clean sheaves.
Worn in one spot	Frozen track or Clutch not functioning properly	Proper warmup - see Operator's Manual or Repair clutch.
Snapped belt	Frozen belt - Improper warmup	Proper warmup - see Operator's Manual.
Excessive belt wear on one side only	Sheave misalignment	Align sheaves.
Cord popout	Sheave misalignment	Align sheaves.
Belt disintegration	Sheave misalignment	Align sheaves.
Concave sides	Riding too high in drive sheave	Adjust drive belt tension.
Belt "dishing" at top	Excessive spring pressure on driven sheave	Replace or lighten spring tension.

INSTALLATION

1. Place new belt between the 2 halves of drive sheave and, with halves of driven sheave separated, start belt on top forward edge of sliding half of driven sheave. Belt now can be rolled on with ease.

CAUTION: Do not force or use tools to pry belt into place, as this could cut or break cords in belt.

2. If a spacer has been used during removal or installation of belt, make certain that it is removed before attempting operation of the snowmobile.
3. On ER (electric-reverse) models, make sure that reverse lock-out is removed before attempting operation of the snowmobile.

"TWISTER" MODEL (Typical)
VARIABLE SPEED DRIVE BELT TENSION

GENERAL

Maximum performance of your snowmobile cannot be attained unless drive belt tension is correct. Drive belt tension MUST be checked and, if necessary, adjusted whenever a new drive belt is installed.

A loose drive belt will not allow engine to reach peak accelerating RPM rapidly and will cause a "bog-down" effect during acceleration as a result of an excessively high clutch ratio. Another indication of a loose drive belt would be engine's inability to maintain recommended engine RPM at full throttle (accelerating).

A drive belt, that is too tight, could result in clutch drag at idle, drive belt squeal and/or higher than recommended engine RPM at full throttle. It is desirable to have drive belt slightly tight, rather than too loose.

CHECKING and ADJUSTING DRIVE BELT TENSION

1. Check sheaves. Driven sheave MUST be fully closed and drive sheave MUST be fully open.

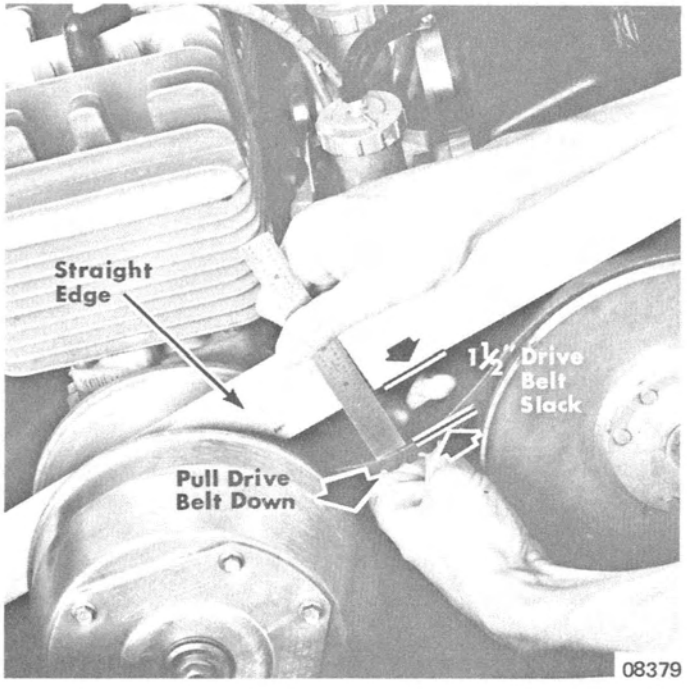

Figure 1. Checking Drive Belt Tension (Typical)

2. With straight edge positioned on top of drive belt as shown in Figure 1, pull down on drive belt to remove slack and measure "sag" at center of drive belt. Drive belt tension is correct when 1½" (38mm) of "sag" is measured between top surface of drive belt and bottom edge of straight edge. (Figure 1)
3. If a drive belt tension adjustment is necessary, readjust as follows:
   a. On 400 S/T, loosen 4 engine mount plate attaching locknuts and install shims (D-15-67374) between mount plate and engine mounts, as required.

   IMPORTANT: If drive belt tension is too loose, it will be necessary to remove shims from front engine mounts and/or add shims to rear engine mounts. If drive belt tension is too tight, remove shims from rear engine mounts and/or add shims to front engine mounts.

   b. On 340 T/T, 440 T/T, 340 S/T and 440 S/T, loosen 4 engine mount plate attaching locknuts. Move engine assembly forward or backward (mount plate is slotted) on engine mounts until required belt tension is achieved.
4. Torque engine mount plate attaching locknuts to specification. (Refer to "Specifications" Section 8.)
5. Refer to Steps 1 and 2, preceding, and recheck drive belt tension. If necessary, readjust until correct tension is attained.