CROSS-COUNTRY RACE

Bulletin 1

JOHN DEERE HORICON WORKS

25 November 1977

340 LIQUIFIRE CROSS COUNTRY SNOWMOBILES
(Serial No. 80,751-80,925)
And Engine Detune Kits AM54702

COMPLAINT OR SYMPTOM:

Engine horsepower too high for I.C.C.S.F. Race Regulations.

PROBLEM:

AM54239 Exhaust Manifold on production cross country snowmobile of above serial numbers and for the AM54702 Engine Kits - does not meet the I.C.C.S.F. Power Requirements.

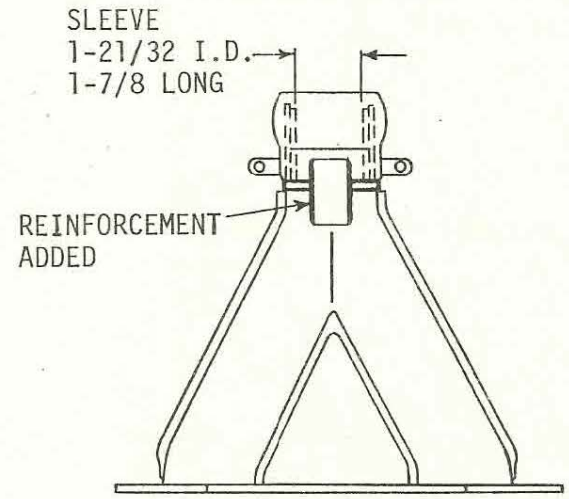
SOLUTION:

A manifold designed to meet the I.C.C.S.F. Engine Horsepower Requirement will be available early December 1977 under part number AM54857.

The new manifold will have an additional 1-21/32" I.D. sleeve in the ball joint and reinforcement pieces at the neck.

IMPORTANT:

These manifolds are to be installed only on the above serial number cross country racers. Detuning by reduction of ball joint I.D. to 1-21/32 inches is essential to I.C.C.S.F. rules.



ADDITIONAL INFORMATION

DO NOT order these manifolds through the parts system. The manifolds will be shipped to race sled and detune kit recipients.

If the "catch up" shipment does not reach you in time, the new manifold will also be available from the Parts Support Van at the races.

LITHO IN U.S.A.

OPTIONAL WHEEL PARTS FOR SLIDE RAIL SUSPENSION
1978 340 Liquifire Cross Country Snowmobile

SYMPTOM:

Race suspension wheel failures.

PROBLEM:

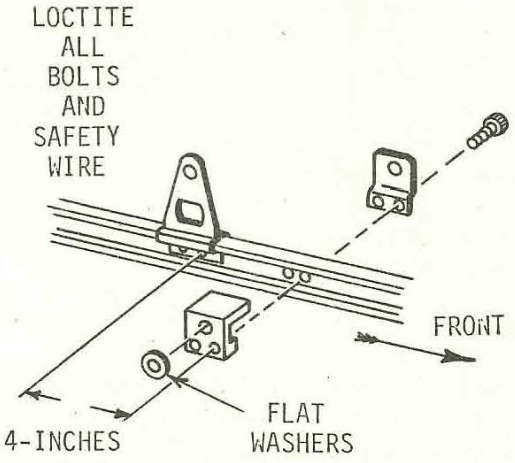
Front inner suspension slide rail wheels wearing rapidly or throwing rubber tire off hub.

SOLUTION:

Mount two additional production wheels directly behind existing front slide rail wheels using parts listed in this bulletin.

Suggest using inner M68100 Bracket as drill guide when drilling holes in slide rail.

QTY	PART NO.	DESCRIPTION
1	M 67865	Axle
2	AM 54402	Wheel
2	M 67866	Spacer
1	M 67854	Spacer
4	19H 3053	Bolts
2	M 68100	Bracket
2	M 68054	Mount

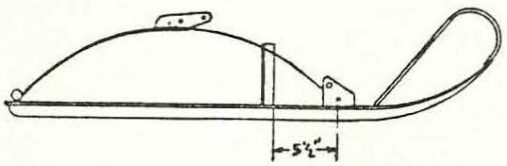


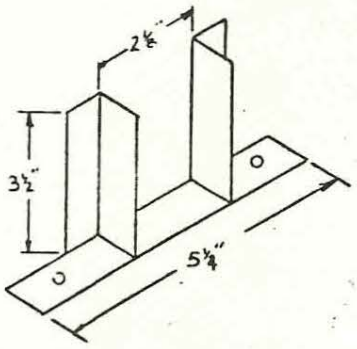
CROSS-COUNTRY RACE

Bulletin 1 - A

JOHN DEERE HORICON WORKS

25 November 1977





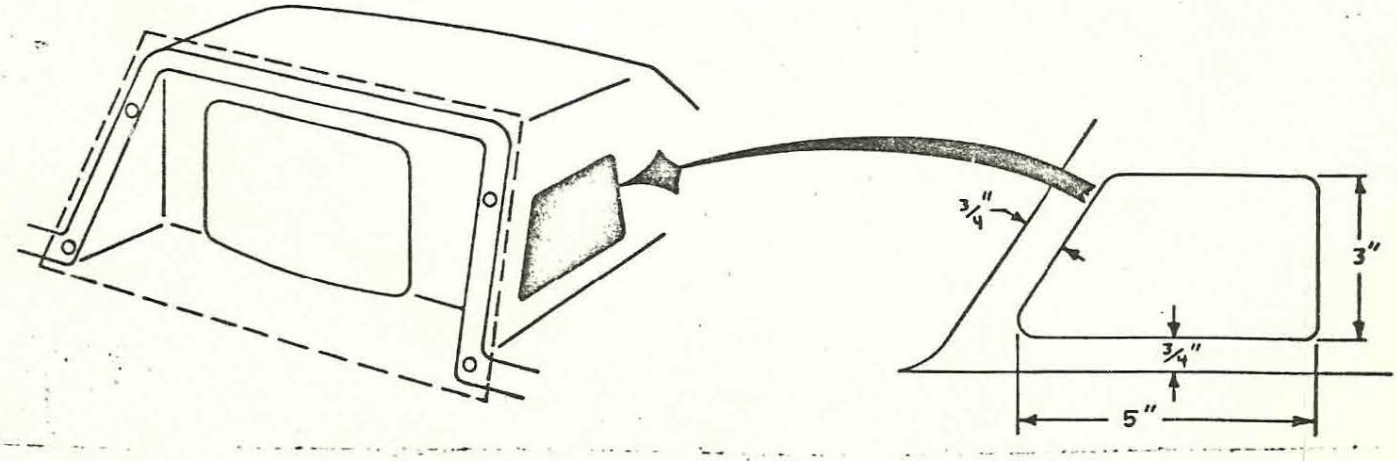
For high speed cornering such as lake races, it is advised to install ski spring stabilizers. Below is a sketch showing the location and needed dimensions to construct your own stabilizers. Use lightweight 1" x 1" angle and 1" flat iron.

I.C.C.S.F. and Winnipeg St. Paul officials recommend a plexiglass shield to protect the headlights. This shield will restrict air flow to the carburetors.

1. Install a plexiglass shield over the headlight opening. (See illustration.) Secure shield with 4 existing windshield retaining screws.

2. Position the air hole in the left side of hood. (See illustration.)

NOTE: You may want to cover the opening with screen, this prevents foreign material from entering into the airbox.



CROSS-COUNTRY RACE

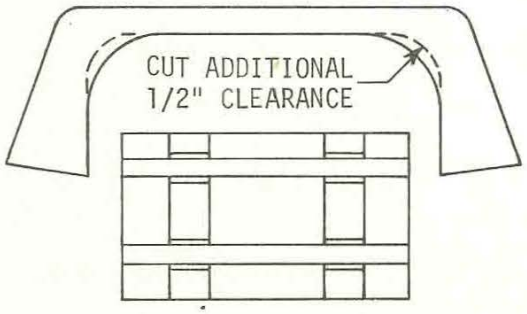
Bulletin 2

JOHN DEERE HORICON WORKS

6 December 1977

PREVENTING TRACK DAMAGE

Increase radius of rear tunnel entry support bracket by 1/2-inch to prevent track edges from wearing on tunnel.



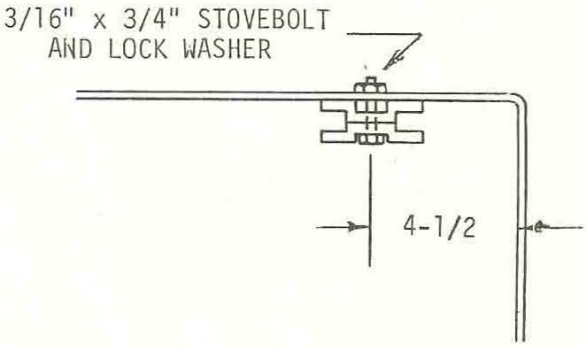
IMPORTANT: File new radius for smooth edge and to prevent cracking.

PROTECTING TUNNEL FROM TRACK STUDS

Remove existing tunnel wear strips.

Install (2) wear strips mounted back to back to increase wear strip thickness.

Move wear strips forward so front of wear strip butts front of tunnel.



ADDITIONAL INFORMATION: Use 3/16" x 3/4" Stovebolt. with lock nuts and Loctite.

Relocate tunnel wear strips 4-1/2" in from each side of the tunnel.

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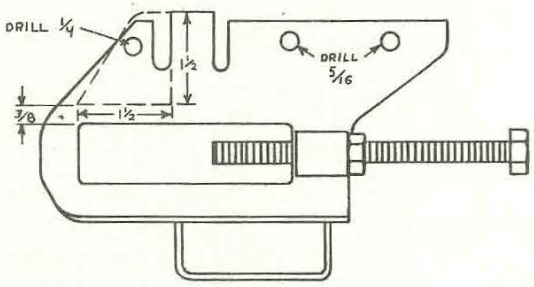
REINFORCING HYFAX RESTRAINT TABS

Weld in a piece of 1/8-inch thick piece mild steel behind hyfax restraint tab to prevent tab from bending.

Re-drill holes to dimensions in Figure below to allow use of larger fasteners.



IMPORTANT: Interval weld reinforcing piece to inboard side of rear idler bracket.

STRENGTHEN FRONT SUSPENSION PIVOT SHAFT

Replace aluminum front pivot shaft with steel rear pivot shaft, part number M67157.

IMPROVE SUSPENSION CENTER WHEEL ASSEMBLY

Replace M67868 Center Wheel Bearings with steel bushing to eliminate spring end wear on the aluminum bushing.

To prevent center aluminum idler wheel, AM54697 from bending use AM54748 Plastic Wheel.

IMPROVED SEAT

Use AM54056 Liquidator Seat in place of production AM54629 Seat for improved rider comfort.

"REMINDER"

1977 DECEMBER RACE EVENTS

11 December 1977 - Vermillion "200" at Tower, Minn.

16 - 17 December 1977 - Peace Garden Classic at Bottineau, N.D.

The Race Parts Van will be at both events.

CROSS-COUNTRY RACE

Bulletin 3

JOHN DEERE HORICON WORKS

19 December 1977

For long distance Cross Country Racing the 1977 multi-leaf ski spring and shock absorbers are available under the following part numbers:

AM54230 - 4 Leaf Spring
M 65189 - Saddle
19H3364 - (2) Cap Screws
AM54231 - Shock Absorber

Recent testing on glare ice at 0° C improved performance with the following:

24:40 Gearing using M66322 and M66323 Sprockets.
68 Pitch chain, part number M66321.
#1 Hole position in secondary with spring relaxed.
"F" Weight with flat profile in primary, part number AM54287.
Silver spring in primary drive clutch.
44° ramp on secondary using cam, part number M66938.
190 Main Jet, (0° C) in carburetor.

Performance in deep snow at 0° C is improved with the following modifications:

21:39 Gearing using M66303 and M65693 Sprockets.
66 Pitch chain, part number M66122.
44° Ramp on secondary using cam, part number M66938.
"F" weights in primary using part number AM54287.
Secondary run with one spacer in hub.
180 Main jet (0° C) in carburetor with needle clip in #4 position.

PART NUMBERS CORRECTIONS

M 67744 - Tunnel Wear Strips
M 67790 - Steel Pivot Shaft
AM54587 - Modified Race Manifold
M 67813 - O-6 Needle Jet
M 66987 - Steel Tie Rod
M 63980 - Reed Valve Gasket
M 66965 - Primary Clutch Cover Plate
M 64480 - Slide Rail Hyfax

REMINDER

The John Deere Parts Support Van will be at Balsam Lake.....Dec. 31 through Jan. 2.

No. M-50-55

Consumer Products

Service Information

Date: 23 December 1976

Factory: John Deere Horicon Works

CROSS COUNTRY RACE RULES
Liquidators and 340 Liquifires

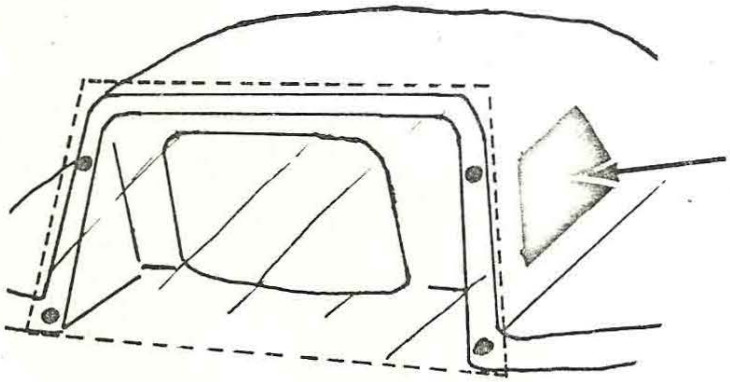
Problem:

I.C.C.S.F. and Winnepeg St. Paul officials recommend a plexiglass shield to protect the headlight. This shield will restrict air flow to the carburetors.

Solution:

1. Install a plexiglass shield over the headlight opening. (See illustration.) Secure shield with 4 existing windshield retaining screws.

2. Position template and cut air opening in left side of hood. (See illustration.)



Applies to:

Please pass to: **Date**

Return to:

Litho in U.S.A.

CROSS-COUNTRY RACE

Bulletin 4

JOHN DEERE HORICON WORKS

6 JANUARY 1978

Improved Track Performance

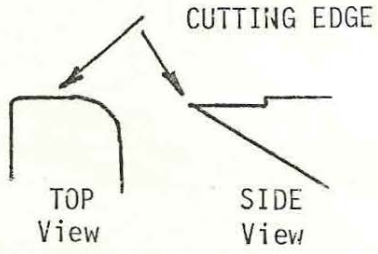
To insure good relationship of drive sprockets to Yokahama Track - turn down drive sprockets to a 5.97 inch dia O.D.

Chuck front drive axle in a lathe setting up with speedometer end of shaft in chuck.

Turn drivers down at a fast lathe cutting speed (approximately 350 - 400 rpm). Use tool profile as illustrated below.

Sand or file smooth driver teeth after turning operation.

Tool Profile



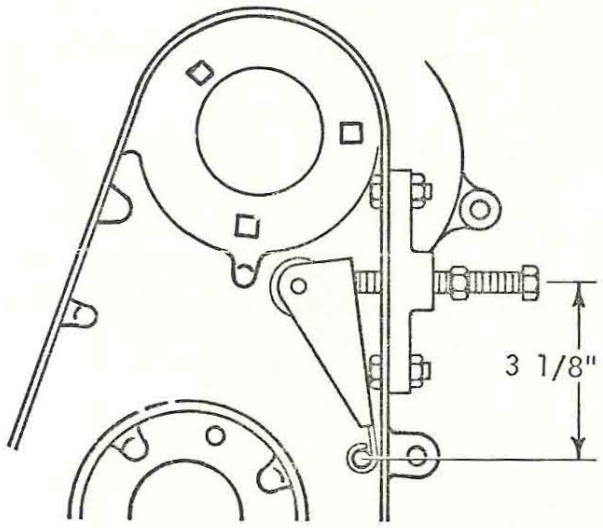
Stronger Chain Tensioner

A stronger chain tensioner assembly for the chain case is available under the following part numbers:

M68192 - Tensioner Arm
M68193 - Tensioner Block
M68194 - Tensioner Roller
M68195 - Roller Pin

The above parts will be available from the Race Van at the Four Seasons Classic in Pembine, WI on 13 - 14 January 1978. For Canadian racers, these parts will be available from Regina.

Install parts as illustrated in Figure 1 below.

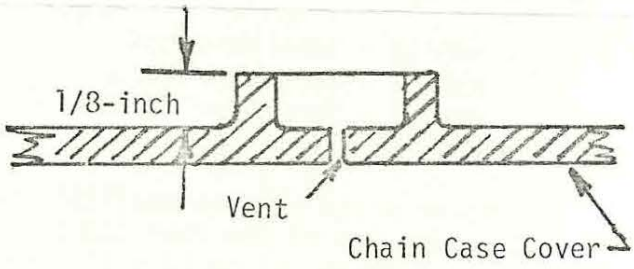


Locate tensioner block mounting to outside surface of chain case by measuring 3-1/8 inches up from lower right-hand cover bolt boss center, to center of tensioner bolt hole. File off parting line flash on outside of chain case in area where block mounts.

LITHO IN U.S.A.

Locate center line of block 1-inch in from outer edge of chain case. Use tensioner block for locating holes. Drill two 5/16-inch holes for mounting bolts and one 3/8-inch hole for adjusting bolt.

Mount block to chain case with a film of RTV #106 between block and case. Put small mount of RTV on adjustment bolt threads.



File chain case vent boss on inside of cover down to 1/8-inch height. This will provide necessary clearance for chain tensioner arm.

Recommended sprockets and chain:

22:35 - 66 Pitch
22:38 - 68 Pitch
21:39 - 68 Pitch

Above chain pitch recommendations include additional chain lengths required for new tensioner.

Engine Maintenance

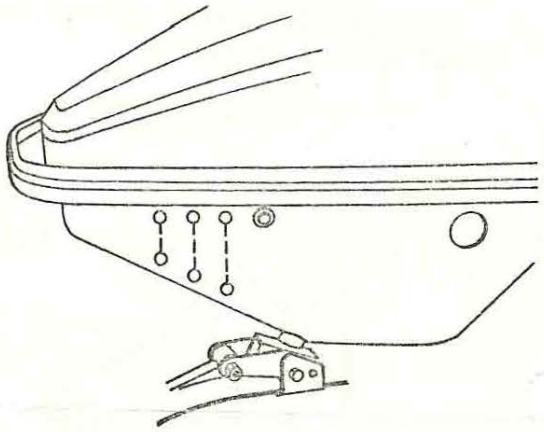
Be sure to check piston rings and lands every 500 miles - if synthetic oil has been run in engine. Piston rings tend to become sticky with synthetic oil.

Suggest running mineral oil fuel mix through engine between races to eliminate internal rust.

Clutch Cooling

To aid in clutch and belt cooling - cut 3 ventilation slots in side pan ahead of left ski spindle.

Drill six 5/16-inch holes as shown in sketch below. Then cut 3 vertical slots between holes. Bend front portion of slot in and rear area out to form louver.



Tape over louver slots if snow tends to build up inside lower pan area.