

INTRODUCTION

Welcome to the Timely Tips section of the forum.

At this point, you may be asking as to what Timely Tips is or was all about. During the time when Case owned and operated the Winneconne Outdoor Power Equipment Division of J. I. Case, they sent out regular Timely Tips bulletins to all of the dealers advising them of a wide assortment of issues that cropped up with the tractors, optional equipment and implements.

Many of these tips are a result of feedback from various dealerships who discovered problems but also came up with clever ways to deal with them. In our Library, there is a Timely Tips publication that was issued by Case and available to the general public. It contains some of the more pertinent of the Timely Tips bulletins but certainly not all.

What is contained in this document are copies of the original Timely Tips bulletins in numerical order. Unfortunately, not every Timely Tip bulletin was included in the stack of old paper that was kindly submitted by one of our members. Case also issued an index of the Timely Tips on a monthly basis and I have included it because it mentions the contents of all Timely Tips bulletins, including the ones that are absent. While the Indexes don't help with information, they at least tell you what is missing.

These Timely Tips begin with Issue 51, dated May 31, 1978. In order to keep these PDF's manageable, I will limit their size to around 50 pages.

I am also going to title this document as Timely Tips – Issue 11 because I want to leave room for earlier Timely Tips should they show up.

Cheers,

Hydriv

PS: As a sidebar, this is an example of how old paper becomes important to the history of the company. All along, the bulletins bore the name J. I. Case right up to Timely Tips Issue 117 dated November 28, 1983. The next Timely Tips was Issue 118, dated December 28, 1983, and was issued by Ingersoll. That helps confirm our understanding of the date when Jack Ingersoll officially took control of the Winneconne division.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

May 31, 1978

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 51

- TIP # 1 - Release of New Transaxle for Hydraulic Drive Tractors
- TIP # 2 - Ignition Failure or Rough Running on Onan Engines
- TIP # 3 - Tiller Hose Length When Used with Quick Couplers
- TIP # 4 - J46 Mower Blade Length

TIP # 1 - Release of New Transaxle for Hydraulic Drive Tractors:

Parts catalog and fiche revisions are in process covering the part number changes for the new transaxle assembly released effective with the following tractor model serial numbers:

220 - 9748634	446 - 9755072
222 - 9750308	644 - 9757922
224 - 9751888	646 - 9758258
444 - 9753175	646 - Loader-Backhoe (Not yet released)

Meanwhile, please use the following as your guide for ordering the parts which are not interchangeable in the new transaxle assembly. All parts, other than those listed below are the same.

<u>DESCRIPTION</u>	<u>PRIOR TO S/N</u>	<u>S/N AND AFTER</u>	<u>QTY.</u>
Bearing, Flanged-outer	C16744	C24804	2
Oil Seal, Axle Shaft	D31945	C24803	2
Bearing, Roller	C13211	F7232	1
Rod, Gear Shift	C16339	C24802	1
Case Assembly	C13770	C24843	1

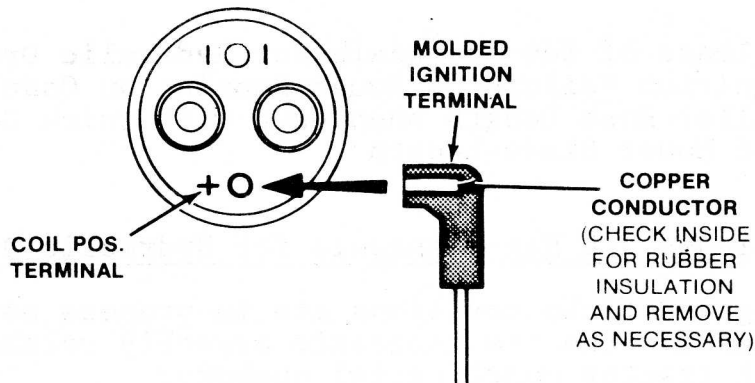
(OVER)



TIP # 2 - Ignition Failure or Rough Running on Onan Engines:

There has been an increase in warranty claims recently for Onan engine ignition coils P/N C20349. When these coils are returned to Onan and tested; they check OK.

The push-on connector for the positive and/or negative coil terminal should be checked to be certain they are free of any insulation on the inside of the connector and that they fit tight on the coil terminals.



The molding process of this connector may allow insulation to flow inside the connector creating the symptom of a defective coil. See illustration for details.

TIP # 3 - Tiller Hose Length When Used with Quick Couplers:

Several reports have been received indicating failed tiller hydraulic hoses on units with dealer installed quick couplers. Tiller hydraulic hoses must not be stretched tight with the tiller operating at maximum tilling depth.

Hoses as much as 4" (100 mm) longer must be used with quick couplers to relieve tension and prevent failure. Hose, P/N T52319, is available through your Case Parts Depot which will meet this requirement. Original hoses, P/N C14676, which fail as a result of being stretched, pulled apart, due to quick couplers are not to be submitted for warranty consideration.

TIP # 4 - J46 Mower Blade Length:

The J46 (48" Mower) uses two size blades. The center blade is 16" (400 mm) long. The outboard blades are 17" (430 mm) long.

The blades must be installed in the proper location to prevent contact and subsequent damage.

Always rotate the blades after installation (of blades) to insure clearance throughout 360° of travel.

Please inform your customers of this requirement during tractor deliveries.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

June 30, 1978

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 52

- TIP # 1 - Availability of Full Range Holding Valve Kits
- TIP # 2 - M-91 Bagger Attachment Instructions
- TIP # 3 - Davis Part Number Prefix Change

TIP # 1 - Availability of Full Range Holding Valve Kits:

Full range Holding Valve Kits are now available as a field add-on option. The kits offer positive holdback ability over the full range of travel speed instead of the one fixed "Retard" speed provided as standard equipment.

This is a desirable option for tractors equipped with tillers or being used in hilly terrain. The operator's manual instructions on Safety Cautions for Hillside Operations still apply, however.

The Holding Valve Kits have been assigned the following accessory numbers and are to be ordered as a machinery item. They are NOT available from the Case Parts Depots.

200 Series - L-7

400 Series - L-9

600 Series - LL-9

Dealer cost is \$75.00 and suggested list price is \$97.00. A copy of Price Bulletin No. OPE 78-1 is attached.

Installation time is approximately 30 minutes and instructions, which must be precisely followed with regard to system flushing and bleeding, are packaged with the kits.

TIP # 2 - M-91 Bagger Attachment Instructions:

Early reports indicate that some improperly set up Mod 80 Riding Lawnmowers with M-91 Bagger attachments are not working satisfactorily.

Operational procedure listed in Operator's Manual 9-50902 must be followed to insure proper bagging. Also, at least one dealer has found that spraying the bagger chute with silicone helps to reduce clogging.

MOWING AND BAGGING GRASS

The bagging of grass clippings is dependent on high air movement from the mower thru the chute to the hopper. The clippings are airborne from the mower to the bag hopper. To achieve proper bagging, the following guidelines must be observed.



(OVER)

TIP # 2 - M-91 Bagger Attachment Instructions: (CONTINUED):

1. Install special "High Lift" Blade: A special high lift blade is included with your bagger attachment. This blade creates greater air movement and must be installed to propel grass clippings to the bagger. Make certain the cutting edge is a full 3-1/2" long to assure cleanest cutting, reduced mulching and optimum bagging efficiency.
2. Cut and bag dry grass only: Grass wet from dew or rain is more apt to stick to the bagger chute and mower deck causing a clog.
3. Cut and bag grass before it grows too tall or dense: If necessary to cut heavy grass, set mower at highest setting and reduce width of cut until plugging is reduced. Keep engine at maximum speed. Take several passes lowering the height adjust lever one notch after each pass.
4. Cut and bag grass with height adjust lever in a higher cutting position: This allows more air to enter under the mower deck to propel clippings into the hopper.
5. Cut and bag grass at maximum engine speed: This provides maximum blade tip speed to cut and propel clippings efficiently.
6. Cut and bag grass with clean deck, chute and bag: Air must be expelled from the hopper thru the fabric mesh, therefore, keep the hopper fabric clean of accumulated clippings.

This will allow collected clippings to be moved with least resistance, and minimize chance for plugging.
7. Do not overfill grass hopper: As hopper is filled, air discharge is reduced, thereby, increasing the chance of plugging.
8. Level mower deck properly: Follow mower deck leveling procedure as described in mower operator's manual. An incorrectly leveled mower deck will not bag grass properly due to excess mulching of the cut grass.

TIP # 3 - Davis Part Number Prefix Change:

All Davis Part Numbers containing the "HO" prefix must be changed to the "H" prefix when placing parts orders. Numbers currently containing the "H" prefix remain unchanged.

Davis parts are those found in parts catalog A1275 for the D-100 backhoe.

Correct part numbers will appear in future publications.

DO NOT ALLOW ANYONE OTHER THAN THE OPERATOR TO RIDE ON THE TRACTOR OR TO BE TOWED BEHIND.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

July 31, 1978

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 53

- TIP # 1 - Mod 80 Travel Control Lever Engagement to Insure Smooth Starts
- TIP # 2 - Hydraulic Motor Output Shaft Seal Leakage
- TIP # 3 - Oversize Piston Rings for Kohler Engines
- TIP # 4 - J40, J44, J46 Mower Deck Leveling Procedure
- TIP # 5 - Hydraulic Oil Dipstick No Longer Provided

TIP # 1 - Mod 80 Travel Control Lever Engagement to Insure Smooth Starts:

The travel control lever usage found in Mod 80 Operator's Manual 9-3862, Page 4, Step 5, has been superceded by the following information.

Shifting from neutral to forward and reverse can be done without use of the clutch-brake pedal. Smoother starts may be obtained by slowly and gradually moving the travel control lever from neutral into either forward or reverse. Preventing jerky starts will eliminate shock loads and possible damage to drive chain, differential and rear axle pillow block bearings.

If desired to start motion using the clutch-brake pedal, position the travel control lever in the SLOWEST position, release the pedal slowly and then increase forward speed slowly using the travel lever only. (There is only a single reverse speed).

A third method for smooth starts is to place the engine throttle at 1/2 speed and then advance the throttle after drive engagement. Smoother starts will also lead to better demonstrations and customer satisfaction.

TIP # 2 - Hydraulic Motor Output Shaft Seal Leakage:

The hydraulic motor output shaft outboard needle bearing in the new style (Part Number C24843) transaxle housing is consealed.

The condition of this bearing must be inspected if hydraulic motor output shaft seal leakage occurs. Inspection may be made through the motor mounting hole with the motor removed.

TIP # 3 - Oversize Piston Rings for Kohler Engines:

The oil control ring supplied with oversize piston ring sets may have an end gap which exceeds the specification shown in the service manual. This occurs because this ring is a universal service part and is used in several applications.

The end gap of both upper rings must, however, fall within the specification shown in the service manual.

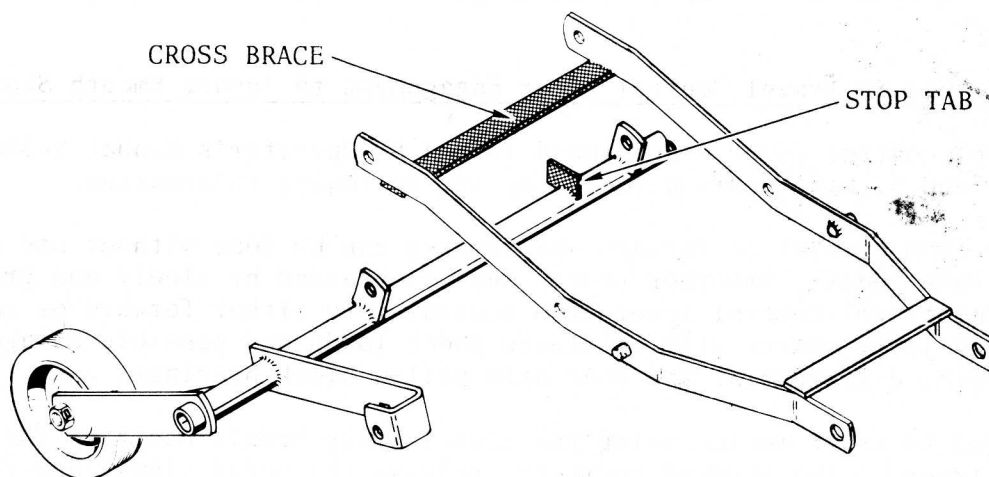


(OVER)

TIP # 4 - J40, J44, J46 Mower Deck Leveling Procedure:

Mower deck level adjustments are normally done at the 2-1/2" height setting. When properly leveled at the 2-1/2" setting, the deck will remain very near level throughout the total height selection range.

If the deck does not remain level when put in the 2" and 1-1/2" settings, check for contact between the stop tab on the gauge wheel axle and the flat cross brace on the mounting frame. Remove or reduce the tab, if required, to prevent any contact.



If the tab is not contacting the cross brace, make leveling adjustments at the "J" bolts as described in the mower operator's manual.

Mowers currently leaving the factory are being double checked in this area. The cross brace is now located between rather than below the two longitudinal members.

TIP # 5 - Hydraulic Oil Dipstick No Longer Provided:

A hydraulic oil dipstick is not required for 1978 Model 200 and 400 series tractors (with polyethylene reservoirs). Oil level, although always important, is not as demanding with the new reservoir design. One full inch (25 mm) of oil level fluctuation is allowed.

Oil level should be maintained between 5" or 6" (125 mm and 150 mm) from the top of the filler neck.

CLEAR THE LAWN OR AREAS TO BE MOWED OF STICKS, STONES OR ANY HARD OBJECTS WHICH COULD COME IN CONTACT WITH THE BLADES AND BE HURLED OUT THE DISCHARGE OPENING.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

August 31, 1978

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 54

- TIP # 1 - Engine Will Not Shut Off. All Models 210 through 446 With Flywheel Alternator
TIP # 2 - Hydraulic PTO Valve Tube Fit
TIP # 3 - Automatic Compression Release (ACR) Changes - Kohler Engines

TIP # 1 - Engine Will Not Shut Off. All Models 210 through 446 With Flywheel Alternator:

Examination of the electrical wiring diagram in Service Manual Section 9-51171 shows that the positive charging lead from the rectifier regulator to the battery is routed through the ignition terminal of the key switch.

If the engine keeps running (with ignition) after keyswitch is turned to the "OFF" position, the following troubleshooting procedure should be followed:

1. While engine is still running, disconnect battery negative (-) cable.
 - a. if engine stops, faulty keyswitch is indicated.
 - b. if engine does not stop proceed to Step 2.
2. While engine is still running, disconnect rectifier - regulator from system (remove 3 - prong plug or remove ground connection).
 - a. if engine stops, faulty rectifier - regulator is indicated

NOTE: NEVER PULL HIGH TENSION LEAD FROM SPARK PLUG TO STOP ENGINE. THIS WILL CAUSE DAMAGE TO THE IGNITION COIL. Ground coil negative (-) post with jumper wire to stop engine if necessary.

TIP # 2 - Hydraulic PTO Valve Tube Fit:

Field reports have indicated some difficulty in installing the C23962 supply tube (from pump supply hose to PTO valve inlet port) used in J17 and K17 Hydraulic PTO Kits.

At least one dealer has found that installing two (2) Part Number 218-5232 elbows between the hose and tube simplifies this installation.

The elbows provide a little additional length and offsets the tube slightly to provide clearance at the frame rail.

(OVER)



TIP # 3 - Automatic Compression Release (ACR) Changes - Kohler Engines:New ACR Tabs

Engines with serial no. 9006118 and after have hardened and ground steel ACR tabs on the camshaft assemblies. These new assemblies are manufactured with improved techniques, which permanently set the ACR mechanism, making adjustments to the mechanism unnecessary and impossible.

NOTE: Do not attempt to bend these hardened steel ACR tabs. These tabs will break if bent.

Procedure For Checking and Adjusting ACR On Engines Prior To Serial No. 9006118

On engines manufactured before serial no. 9006118 the ACR can still be checked and re-set using the procedure described below.

ACR is set according to the amount of valve lift on the exhaust valve. The correct amount of lift is established by the height of the lifting tab in relation to the camshaft. If improper lift is suspected, the setting can be checked and adjusted as follows:

STEP 1: Check valve tappet clearances and adjust as necessary to specification.

STEP 2: Remove cylinder head and turn the engine over by hand until you reach BDC of the intake stroke (intake valve will be closing).

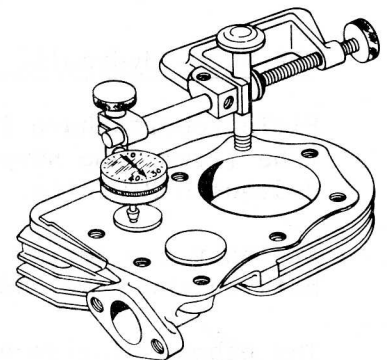
STEP 3: Mount a dial indicator on the top of the exhaust valve and set at 0.

STEP 4: Slowly turn the flywheel clockwise and watch the dial indicator. When the piston is about 2/3 of the way up the cylinder, the exhaust valve should open for ACR. Exhaust valve opening as indicated on the dial indicator should be .031"(.79 mm) - .042"(1.06 mm).

If the exhaust valve does not open to the specified amount, adjust the ACR according to STEP 5.

NOTE: Caution must be exercised in the bending of the tab as it is hardened and may crack or break if bent back and forth more than 3 or 4 times.

STEP 5: If the valve lift was above .042"(1.06 mm), hold a wooden dowel on the top of the valve and tap it down carefully to within the .031"(.79 mm) - .042"(1.06 mm) range. If the valve lift was below .031"(.79 mm), remove the camshaft cover on the side of the engine exposing the cam gear and bend the ACR tab carefully upward until the valve lift is within the specified range.



DO NOT EMPTY MODEL L90 SWEEPER HOPPER, DRIVE CLOSE TO, OR BACK UP TO, AN OPEN FIRE. HOPPER FABRIC AND BRUSHES ARE FLAMMABLE AND MAY IGNITE RESULTING IN POSSIBLE PERSONAL INJURY OR PROPERTY DAMAGE.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

September 28, 1978

TIMELY OPE TIPS FOR THE MONTH

ISSUE #55

- TIP # 1 - Battery Charging Safety Tip
- TIP # 2 - Parts Catalog Title Correction
- TIP # 3 - Kohler Dipstick O-Ring Part Number
- TIP # 4 - Model 108 Wiring Change

TIP # 1 - Battery Charging Safety Tip:

CAUTION: Always turn ignition switch off, or disconnect the battery cables while charging the battery. A switch left on with the battery connected can cause the ignition coil to overheat and possibly explode.

If the switch is left on and the breaker points are closed during charging, the increased voltage from the charger will cause the ignition coil to overheat and eventually fail. In the case of oil filled coils, the can may bulge from the pressure of the heated oil and in some instances the heated oil may leak from the can. This leaking oil is hot and can burn the skin.

Pitch filled coils present a similar hazard when they are overheated. The pressure from the heated pitch will bulge the can and if the coil gets hot enough, it may actually explode. This explosion can spray hot pitch and possibly other coil parts into the surrounding area, producing a dangerous situation.

TIP # 2 - Parts Catalog Title Correction:

Due to a printing error, the cover of Catalog B1274 includes the Model K-41 Mower.

The K-41 Mower is now included with Parts Catalog C1232 R1.

Please cross out the K-41 Title on Catalog B1274 and add it to the cover of Catalog C1232.

TIP # 3 - Kohler Dipstick O-Ring Part Number:

The following o-ring part number is provided to service the C24491 Dipstick Assembly.

F62075

Please add this part number to your catalogs.

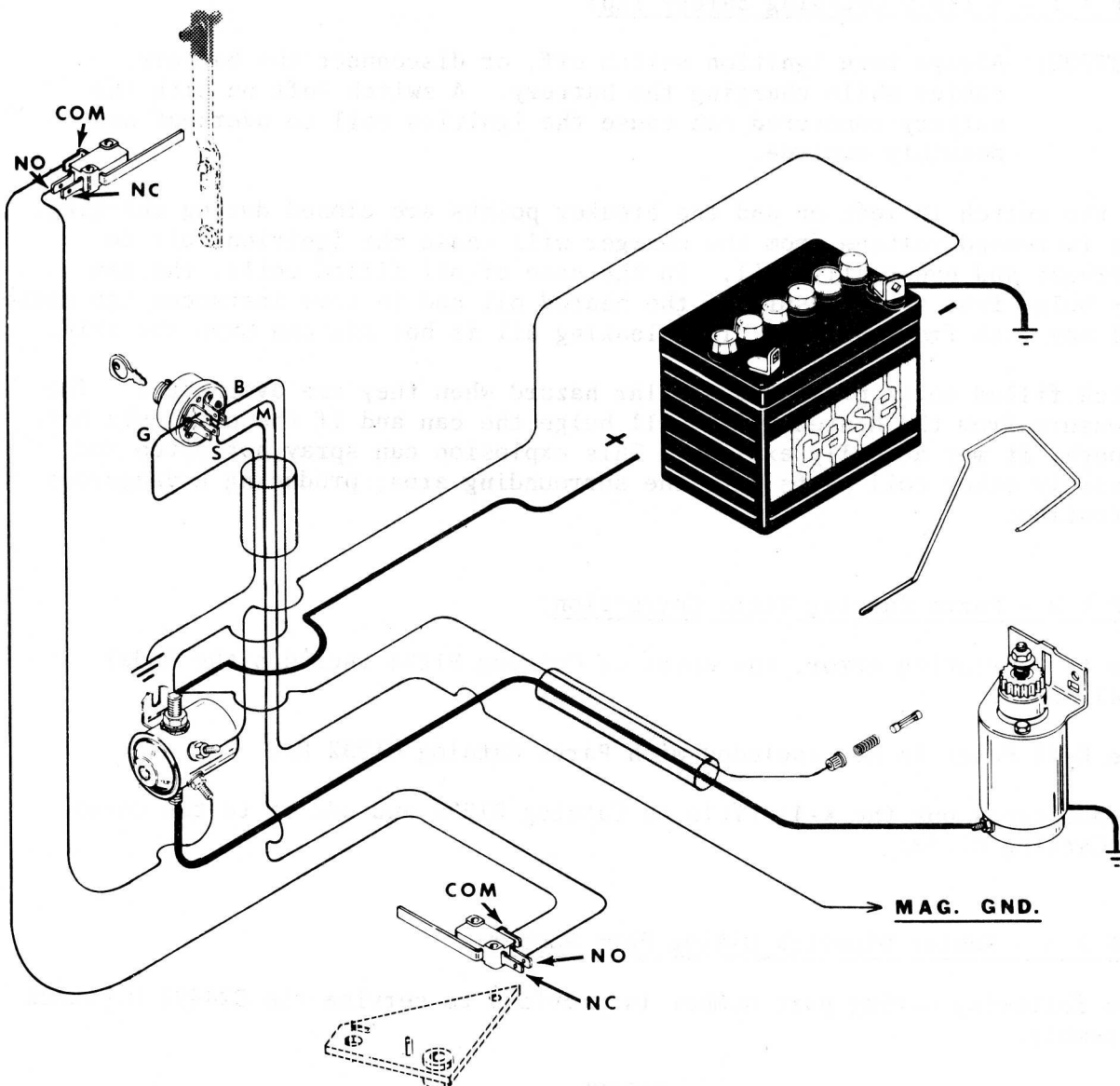
(OVER)



TIP # 4 - Model 108 Wiring Change:

The Model 108 tractor neutral start circuitry was changed beginning with S/N 9747008. The neutral start switches are wired in series on the positive (+) side of the starter solenoid. A grounding wire is connected from the second solenoid small terminal directly to ground.

See the accompanying wiring diagram.



SPINNING BLADE - KEEP CLEAR OF THE TILLER TINES WHEN EITHER THE TILLER OR ENGINE IS RUNNING

119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

November 28, 1978

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 57

- TIP # 1 - L80, L84 Snow Caster Cotter Pin Change
TIP # 2 - L84 Snow Caster - 446 - Possible Interference
TIP # 3 - Swivel Tee Fitting for 3-Point Hitch Installation
TIP # 4 - D-100 Backhoe Usage and Boom Down Secondary Relief Valve
TIP # 5 - Holding Valve Installation

TIP # 1 - L80, L84 Snow Caster Cotter Pin Change:

L80 Snow Casters, S/N A10501 and after and L84 Snow Casters, S/N S11201 and after are being built with special hardened cotter pins (P/N 132-300) to secure the chute control coil to the chute control rod.

During set-up and predelivery of "L" model snow casters prior to the above listed serial numbers, discard the original cotter pin and install a P/N 132-300 pin.

Whenever replacing this cotter pin for service, be sure to use the special hardened pin, P/N 132-300.

TIP # 2 - L84 Snow Caster - 446 - Possible Interference:

Check for possible interference between the L84 snow caster chute crank support on the lift arm and engine air baffles when mounting to a Model 446 tractor.

If interference exists, use common washers as spacers to move the lift arm out slightly. The chute crank support has been relocated on current production.

This inspection should be made during set-up and predelivery.

TIP # 3 - Swivel Tee Fitting for 3-Point Hitch Installation:

Part Number 218-5479 swivel tee fitting is now used with H-26 and LT-26 3-Point hitch attachments. This tee fitting is also available from your regular Service Parts Supply source. Prices are found in the Parts Price Bulletin, Dated September 1, 1978.

This swivel tee fitting connects directly to the straight fittings installed in the hydraulic lift circuit valve work ports. This eliminates the need to remove the straight fittings and greatly reduces hitch installation time.

Note that some slight reforming of the center mounted attachment lift cylinder tubes may be required to achieve alignment when used with the new swivel tee fittings.



(OVER)

TIP # 4 - D-100 Backhoe Usage and Boom Down Secondary Relief Valve:

Proper backhoe operation occurs when the backhoe bucket is filled at every pass without pulling the loader rearward. To achieve this, several requirements must be met. The first is proper manipulation of the backhoe controls. The second is, the backhoe stabilizers must remain firmly on the ground to anchor the machine and prevent it from being pulled rearward.

As the dipper is crowded in during the digging cycle, a lifting effort is exerted against the boom.

This lifting effort is overcome by feathering the boom lever toward the boom raise position.

If the boom lever is not used, this lifting effort will lift the stabilizers from the ground and the loader will be pulled rearward as the dipper is crowded in.

In order to eliminate the need for the operator to manipulate the boom lever toward the boom raise position while crowding the dipper in, a low pressure boom down secondary relief valve is now available on backhoes leaving the factory and from your Service Parts Supply Depot.

This low pressure secondary will allow the boom to drift upward while the dipper is crowded in, therefore, preventing lifting of the stabilizers from the ground.

Boom down pressure is sufficient to lift the rear of the loader for repositioning, however, when the loader bucket is raised and the dipper is positioned vertically under the boom.

Boom down Secondary Relief Valve, P/N H-644450, is factory installed on the new Model 646 Loader-Backhoes beginning with Serial Number 9758399.

This secondary relief valve is installed under the lower work port of the "Boom" valve section.

IMPORTANT NOTE: To protect the structural integrity of the front loader bucket and loader arms, THE FRONT LOADER BUCKET MUST BE POSITIONED FLAT ON THE GROUND WHEN USING THE BACKHOE.

DO NOT place the bucket on the ground in the full dump position.

TIP # 5 - Holding Valve Installation:

Interference may exist with Holding Valve Kits installed on tractors with J-17 PTO Kits with tubes extending below the rear axle.

The tube closest to frame rail (PTO valve outlet to travel valve inlet) should be replaced with Part Number C23888 tube which passes above the rear axle.

OBSTACLES SUCH AS DRIVEWAY MARKERS, WATER OR GAS SHUT OFFS, ETC. SHOULD BE MARKED SO THEIR LOCATIONS UNDER THE SNOW ARE VERY OBVIOUS DURING SNOW REMOVAL OPERATION.

45.45
138
47.38

December 22, 1978

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 58

- TIP # 1 - Modification Program - Model 80 Riding Mower
- TIP # 2 - Models 80 and 108 Welding Precautions
- TIP # 3 - Differential Assembly Nut Part Number Change
- TIP # 4 - Kohler Engine Fuel Recommendations
- TIP # 5 - Replacement Hood Hinge Now Available at SPS
- TIP # 6 - 3-Point Hitch Cylinder Hose Position (Rod End)
- TIP # 7 - Model 446 Tractor Electrical Test Procedure

TIP # 1 - Modification Program - Model 80 Riding Mower:

All Compact Dealers should now have received their copy of Service Bulletin No. G1-78 (A30-78) dated December 4, 1978 announcing the Model 80 Riding Mower Kit, P/N C25124 - Modification Program #9-G-78.

The kits are now available through SPS and should be promptly ordered so they can be received and installed on all customer and inventory Model 80 riding mowers during the winter offseason.

Should any affected dealer have not received this Service Bulletin, please contact us or your Service Representative for a copy.

TIP # 2 - Models 80 and 108 Welding Precautions:

Before performing any welding on the Model 80 Riding Mower or the Model 108 tractor, disconnect the battery ground cable and throttle cable from the engine to prevent the possibility of damage to the magneto.

Always connect welder ground as close as possible to weld area.

TIP # 3 - Differential Assembly Nut Part Number Change:

The proper nut for the differentials in 200-400-600 series two speed transaxles is Part Number 131-1232. This is a Grade 8 nut and must be torqued to 50 pound foot (67 Nm) when reassembled. Refer to Two Speed Transaxle Service Manual Section 9-99584.

The incorrect part number is listed in parts catalogs. Please mark your catalogs with the correct number.

(OVER)



12/22/78

NIAGARA
Co-op

ELEVATION

Richard Hannon

TIP # 4 - Kohler Engine Fuel Recommendations:

Kohler Company is now recommending unleaded fuel for use in its engines. Unleaded fuel reduces combustion chamber deposits.

The cylinder head should be removed and carbon scraped every 500 hours when the engine is run exclusively on unleaded fuel.

This interval must be reduced to 250 hours when leaded fuel is used.

A
ATIP # 5 - Replacement Hood Hinge Now Available at SPS:

Part Number C16361 hinge, hood is now available at SPS for all 200-400 series tractor hoods.

Hinges should be ordered from your regular Service Parts Supply source.

Richard Hannon
BobLarry Schott
Richard Hannon
786-2020TIP # 6 - 3-Point Hitch Cylinder Hose Position (Rod End):

Field reports indicate that the rod end cylinder hose on some 3-point hitches interfere with the mounting tabs on the hitch rockshaft.

This can result from the lower cylinder mounting pin holes and the hose port being slightly misaligned.

If this situation is encountered, remove the lower cylinder mounting pin and rotate the cylinder 180 degrees.

Cylinders currently leaving the factory are being double checked for hole alignment.

500-03-885

H9

Midland
Int'lCast Iron
500-03-885
1299 14A2
43644TIP # 7 - Model 446 Tractor Electrical Test Procedure:

On 446 tractors that have had the wiring change made to correct the battery drain problem and now show a no charge condition, be sure to check the area where the red rectifier wire was spliced to the coil wire. If this splice is corroded, an electrical check will indicate a faulty rectifier-regulator. Proceed by unplugging the rectifier-regulator plug and testing for 12 VDC (ie Battery Voltage) at the plug B+ lead (red). 12 VDC should be present when the key switch is in the "RUN" position.

If battery voltage is not present, an open circuit exists between the plug and the battery positive terminal. Check the splice and other connections and repair as required.

If battery voltage is present, proceed with the rectifier ground check and stator output check as described in Service Manual Section 9-51171.

Reference Issue #1 - Tip #1

-773-1351

Lillian
Lillian
Sunflowers
(500-03-885)
STATES60768
Plates

Asland Equine

NOTE: Insert this INDEX immediately behind the INDEX FOR 1978
in the "BULLETIN" section of your Service Manual

INDEX

TIMELY OPE TIPS FOR THE MONTH - 1979

<u>ISSUE NO.</u>	<u>DATE</u>	<u>TIP NO.</u>	<u>SUBJECT</u>
59	1/26	1	Water Freezing in Choke and Throttle Cables
		2	C24828 Hydraulic Pump Disassembly - Repair
		3	Tractor Lifting Sling
		4	Gasoline in Engine Crankcase - Twin Cylinder Engines
60	2/28	1	Tire Chain Installation Tip
		2	Battery Filling Device
		3	Excessive Engine Oil Carry-Over Model 446 Tractor
		4	Timing Sight Hole for Kohler Engines with Starter-Generator
61	3/29	1	Holding Valve Standard Equipment on 600 Series Tractor
		2	Wheel Weight Hardware Change
		3	Battery Filling Device Address Correction
		4	210 Jackshaft Repairs
		5	Engine Oil Leak at Rear of Crankshaft Model 446 Tractor
		6	Flexible Fuel Line Inspection
62	4/30	1	K41 Mower Drive Belts Prior to Serial Number E51606
		2	Finding Oil Leaks
63	5/30	1	Correction to Issue 62, Tip #1, K41 Mower Drive Belt
		2	Correction to Issue 56, Tip #2
		3	Preventive Maintenance for Engines
		4	Flowmeter Hook-Up Tip
		5	Setting Starter Gear Lash on Twin Cylinder Engines
64	6/25	1	446 Tractor Fuel Line Connection at Fuel Pump
		2	Engine Failure Analysis
		3	Kohler Engine Replacement of Flywheel Ring Gear
		4	Reporting of Shortages on Machinery Items
		5	Oiling Precleaners
		6	Inspection of Oil Pumps in Onan Engines
65	7/31	1	New LL20 Forklift and LL21 Check Valve Kit
		2	Onan Engine Carburetor Float Swell
		3	REMINDER - Hydraulic Oil Dipstick No Longer Provided
		4	Protective Sleeving for Hydraulic Hoses
		5	Non-Current Attachment Log

(OVER)

<u>ISSUE NO.</u>	<u>DATE</u>	<u>TIP NO.</u>	<u>SUBJECT</u>
66	8/30	1	K-41 Mower Drive Belts
		2	1980 Model 220 and 222 Brake Rod
		3	Fuel Filter in Tank Outlet Fitting
		4	Use of Wing Nuts on Battery Terminal Bolts
		5	Kohler Engine Oil Recommendations
67	9/28	1	Tire Pressure is IMPORTANT
		2	Gloss Power Red Paint in Quarts Now Available at SPS
		3	PTO Clutch Adjustment
		4	<u>Black Doors and Covers</u> for J1 and J2 Cabs Now Available at SPS
68	10/30	1	K41 Mower Drive Belts
		2	Mod 80 Battery Charging Procedures
		3	Holding Valve Deceleration Orifices
		4	Carburetor Adjustment Tip
		5	1980 Attachment Matching Chart
69	11/26	1	Model 80 Final Drive Sprocket Bolt Torque Specification Change
		2	Model 80 Riding Mower High-Lift Blade, P/N C24686
		3	Unleaded Fuel Extends Four-Cycle Engine Valve Life
		4	Removal of Hydraulic Reservoir
		5	Battery Winter Storage Recommendations
70	12/20	1	Reduced Mower Clearance on 1980 Model 210 Tractors
		2	Improved Vee Idler Pulley For Mowers and Snow Casters
		3	New Mower Gauge Wheels
		4	Importance for Using "Original Equipment" Oil Filters on Model 646 (Onan) Engine

119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

January 26, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 59

- TIP # 1 - Water Freezing in Choke and Throttle Cables
- TIP # 2 - C24828 Hydraulic Pump Disassembly - Repair
- TIP # 3 - Tractor Lifting Sling
- TIP # 4 - Gasoline in Engine Crankcase - Twin Cylinder Engines

TIP # 1 - Water Freezing in Choke and Throttle Cables:

When snowcaster discharge is allowed to blow back over the tractor, ice may form on the choke and throttle cables making them inoperative.

Always direct snowcaster discharge away from and down wind from the tractor.

The following procedure may be used to prevent the freezing of choke and throttle cables.

1. If cables are frozen they should be thawed and dried. Also, gas line anti-freeze may be used to remove water.
2. Cables should then be saturated with penetrating oil and light machine oil.
3. Keep cables dry and oil frequently to prevent reoccurring freeze up.

TIP # 2 - C24828 Hydraulic Pump Disassembly - Repair:

Refer to Service Manual Section 9-99664 - - Hydraulic Pump - Compact Tractors for repair procedures for the P/N C24828 Parker Hannifin hydraulic pump used on 200-400 series tractors beginning with the 1978 model year.

There is one notable difference between the older style Parker pump (C15481 and C19054) shown in this service manual and the current C24828 pump.

The driving (top) gear shaft is 9/16" diameter to receive the drive coupling, but then steps down to 1/2" diameter to pass through the shaft seal, bushing and gear.

The spiral retaining rings and gear must be removed from the top shaft and the shaft pushed through the front cover in order to replace the shaft seal. Use care, as the gear is light press fit and keyed to the top shaft.



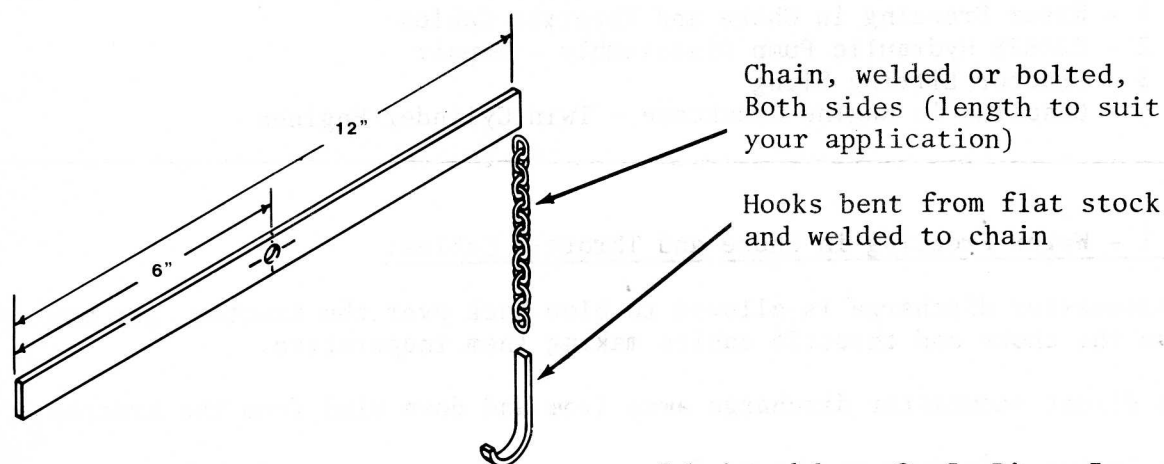
(OVER)

TIP # 3 - Tractor Lifting Sling:

The tractor lifting sling illustrated hooks into the lower hood latch slots and enables the tractor to be lifted with a chain fall. The tractor balances when lifted at this point.

It is used during set up to lift tractor off skid and to hold tractor up while installing front spindles and rear wheels.

Be sure to use proper blocking and jackstands when working under the tractor.



Submitted by: O. C. Rice, Inc
Biglerville, Pa.

TIP # 4 - Gasoline in Engine Crankcase - Twin Cylinder Engines:

While operating twin cylinder engines at light loads and usually in low temperature conditions, it is possible to foul out a spark plug. Under light load conditions this could go undetected (running on one cylinder) for some time. In turn, this may cause gasoline to enter the crankcase by way of the piston rings on the cylinder which is not firing. Under this condition, the oil level may raise due to fuel entering the oil. Also, the following items may be observed:

1. Air filter becoming oil and fuel soaked.
2. Engine exhausting - black smoke.
3. Engine leaking oil.

This condition does not necessarily mean that the carburetor, piston rings, ignition coil-wires-points, or gaskets are defective.

Proper servicing should include:

1. Change both spark plugs.
2. Check air filter element; replace if necessary
3. Change oil and install proper grade.
4. Advise the customer that running the engine under light loads at low temperatures may cause this condition. The following items, if done, will minimize this condition from happening again:
 - Replacing spark plugs annually/or 50 hours, whichever occurs first.
 - Avoid overchoking when starting and when engine is running.

119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

February 28, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 60

- TIP # 1 - Tire Chain Installation Tip
- TIP # 2 - Battery Filling Device
- TIP # 3 - Excessive Engine Oil Carry-Over Model 446 Tractor
- TIP # 4 - Timing Sight Hole for Kohler Engines With Starter-Generator

TIP # 1 - Tire Chain Installation Tip:

It is important that tire chains be installed properly to prevent damage to fenders.

One method is to reduce tire pressure, install chains tightly and then increase tire pressure to the specified amount. Be sure that any extra links are wired down.

To gain the most clearance between tire and fender, loosen the four (4) fender mounting bolts, pull fender upward and retighten the bolts.

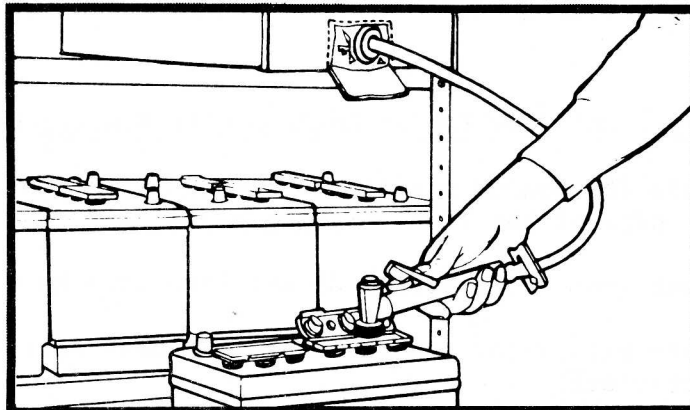
Submitted by: Sherwood Products
Harrison, Michigan

TIP # 2 - Battery Filling Device:

A battery filling device, such as the one pictured, will speed up battery servicing and eliminate acid spills.

IMPORTANT: Batteries still must be removed from the tractors for servicing.

This one is the Thexton Activator, Part Number 604 Dry Charged Battery Filler, and costs approximately \$10.00. It is available from Thexton Manufacturing Company, Minneapolis, Minn., 56426.



(OVER)

TIP # 3 - Excessive Engine Oil Carry-Over Model 446 Tractors:

If excessive amounts of engine oil are carried over into the carburetor through the crankcase breather, a lack of crankcase vacuum is indicated.

The following steps should be followed:

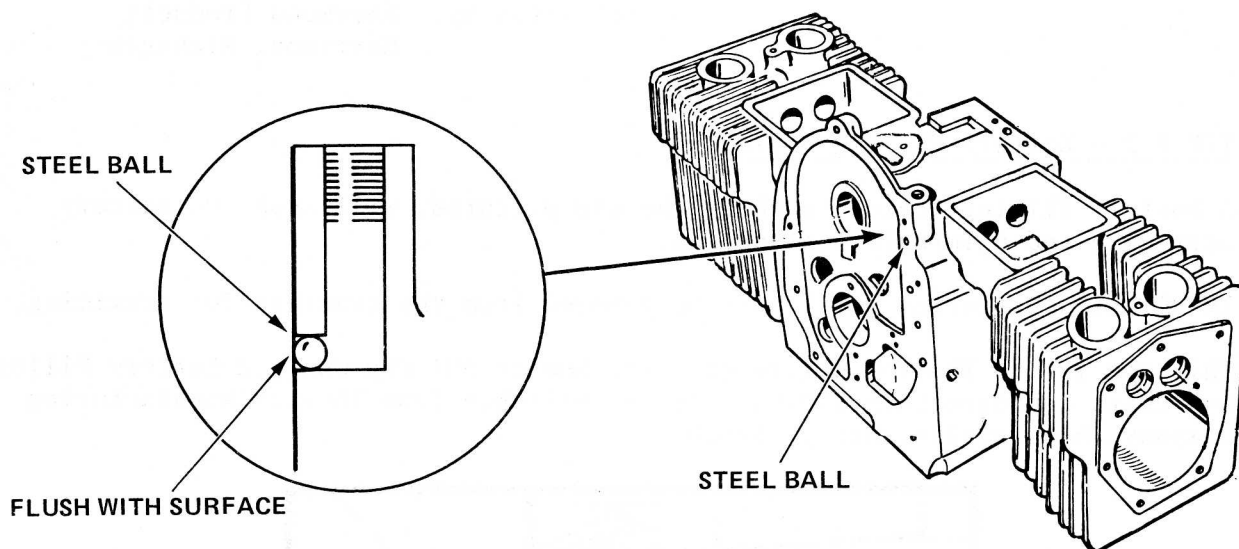
1. Check for correct oil level.
2. Check for dirty or malfunctioning breather reed valve.
3. Check for worn oil seals or damaged gaskets that would allow air to enter the crankcase.
4. Check for blow-by or leaking valve guides.

Another cause of this problem found in the Onan Model BF or B43 (both used in Model 446 tractors) may be the absence of the oil by-pass plug.

This plug is a 1/4" diameter steel ball which prevents by-pass oil from spilling into the gearcase cover where it can be picked up by the breather. The by-pass plug insures that by-pass oil is directed into the cylinder block.

This ball must be driven flush to the block surface. If driven too deep it will hold the oil pressure valve open causing low oil pressure. If not driven deep enough the gearcase cover will not seal properly. Use a hammer to properly seat the ball.

The hole location for this ball is at the 3 o'clock position from the cam opening. See illustration below.

TIP # 4 - Timing Sight Hole for Kohler Engines With Starter-Generator:

The timing sight hole for Kohler engines to be used with a starter-generator must be on the left edge of the front bearing plate.

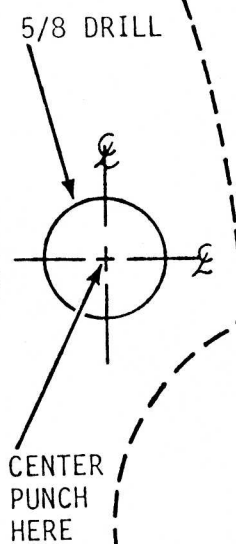
Reports indicate that some short blocks do not have this hole.

The attached template will allow you to locate and make this hole BEFORE assembling the short block.

Place this template in your Outdoor Power Equipment Service Manual behind the Kohler Engine Electrical Section No. 9-99772.

TEMPLATE FOR LOCATING TIMING
SIGHT HOLE (J.I. CASE)

1. Cut along dotted line.
2. Set template on bearing plate.
3. Center punch hole location.
4. Drill 5/8" hole in plate.





119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

March 29, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 61

- TIP # 1 - Holding Valve Standard Equipment on 600 Series Tractors
- TIP # 2 - Wheel Weight Hardware Change
- TIP # 3 - Battery Filling Device Address Correction
- TIP # 4 - 210 Jackshaft Repairs
- TIP # 5 - Engine Oil Leak at Rear of Crankshaft Model 446 Tractor
- TIP # 6 - Flexible Fuel Line Inspection

TIP # 1 - Holding Valve Standard Equipment on 600 Series Tractors:

Beginning with the below listed product identification numbers, the LL-9 Full Speed Range Holding Valve is standard equipment on 600 series tractors and loader-backhoes.

Model 644 P.I.N. 9771567

Model 646 P.I.N. 9771784

TIP # 2 - Wheel Weight Hardware Change:

Effective on February 26, 1979, all K-8 and K-10 wheel weights include self-locking nuts.

The nut part number is 131-1182 and can be ordered from your SPS Parts Depot for use on K-8 and K-10 wheel weights built prior to February 26, 1979.

Submitted by: Rochester Lawnmower
Rochester, N.H.

TIP # 3 - Battery Filling Device Address Correction:

Refer to Timely Tip, Issue #60, Tip #2.

If you wish to write Thexton Manufacturing Company for more information and availability of their battery filler, their complete mailing address is:

Thexton Manufacturing Co.
P. O. Box 35008
7685 Park Lawn Avenue
Minneapolis, Minn. 55435
Phone: 612-831-4171

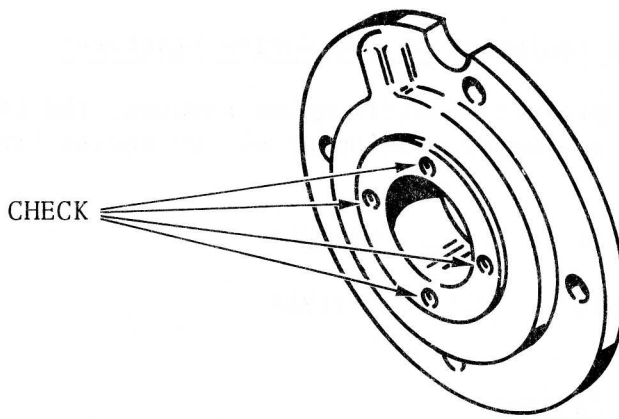
(OVER)



TIP # 4 - 210 Jackshaft Repairs:

The application of loctite between the jackshaft and inside bearing race is recommended for longer lasting repairs. This will prevent the shaft from turning in the bearing race and will eliminate corrosion between the shaft and bearing race.

Use Number 35 retaining compound - high strength, Part Number B17197 and Safety solvent, Part Number M20863.

TIP # 5 - Engine Oil Leak at Rear of Crankshaft Model 446 Tractor:

The four small screw holes in the rear main bearing carrier should be inspected for oil leaks before replacing the rear main seal.

Several units have been reported to have the screw hole drilled too deep and into an oil passage.

To stop the leak, apply thread sealer to a 1/2 inch long 10-32 screw and install the screw in the leaking hole.

No disassembly of the engine is required.

TIP # 6 - Flexible Fuel Line Inspection:

It is recommended that flexible fuel lines be checked whenever service is performed on a unit. Look for leaks or potential leaks, such as, loose clamps or aging of materials (worn, checked, cracked, etc.) and replace as required.

NEVER OPERATE A TRACTOR IN A CLOSED SHED OR GARAGE. EXHAUST GASES ARE POISONOUS AND MAY CAUSE DEATH IF INHALED.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

May 30, 1979

TIMELY OPE TIPS FOR THE MONTH

Alt.
Frank

ISSUE # 63

- TIP # 1 - Correction to Issue 62, Tip #1, K-41 Mower Drive Belt
- TIP # 2 - Correction to Issue 56, Tip #2
- TIP # 3 - Preventive Maintenance for Engines
- TIP # 4 - Flowmeter Hook-Up Tip
- TIP # 5 - Setting Starter Gear Lash on Twin Cylinder Engines

TIP # 1 - Correction to Issue 62, Tip #1, K-41 Mower Drive Belt:

Step # 4 Should read:

4. Drill new holes in the mower according to the diagram 13/32" diameter.

TIP # 2 - Correction to Issue 56, Tip #2:

The illustration of the D-100 backhoe cylinder is incorrect. Callout number 5 is a bolt and not a nut. The correct part number for the bolt is given.

TIP # 3 - Preventive Maintenance for Engines:

Our customers must be frequently reminded to perform preventive maintenance on the engines in their tractors. Since most customers do not bring their tractors to your dealership for preventive maintenance, they soon forget when the engine was last serviced.

Normally, an approximation of operating time rounded off in the engines favor can be made very easily.

An hourmeter can be installed to all tractors with battery ignition if the customer desires.

Regardless of the method of determining engine hours of use, it must be done reasonable and maintenance service must be done consistantly to prevent premature engine failure.

TIP # 4 - Flowmeter Hook-Up Tip:

Save one of the hydraulic tubes that are removed when installing a holding valve.

This tube can be used to connect the flowmeter to a tractor. Install this tube to the travel control valve inlet port so that it extends downward from the tractor frame.



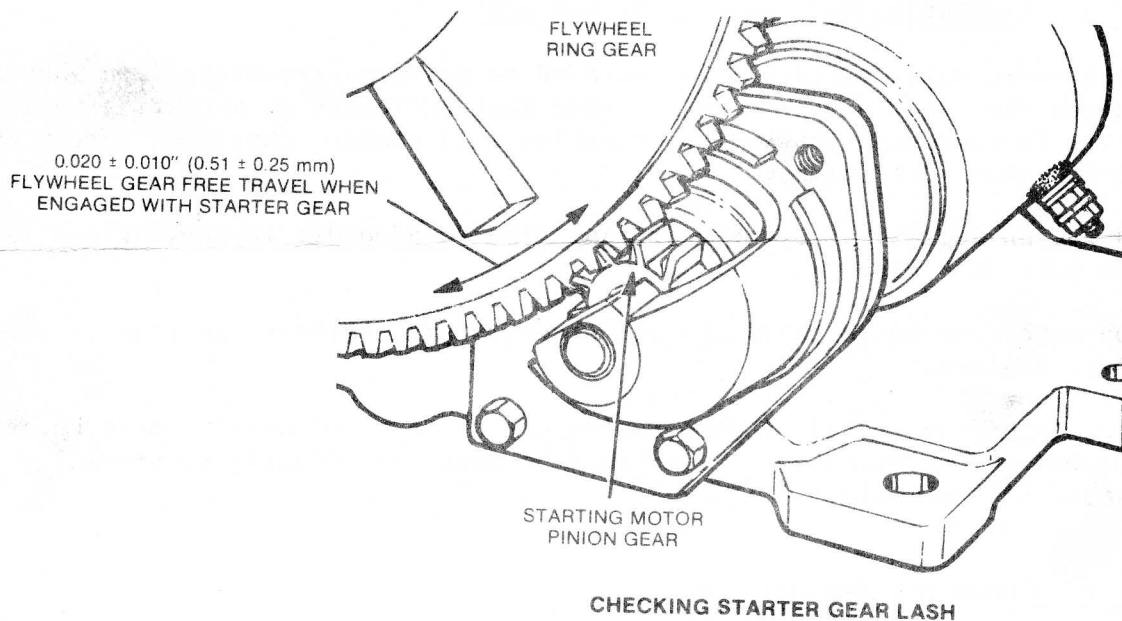
Submitted by: H. P. Starr
Valencia, Pa.

TIP # 5 - Setting Starter Gear Lash on Twin Cylinder Engines:

All Onan twin cylinder engines allow for repositioning of the starter motor to assure proper gear lash between the starter pinion gear and the flywheel ring gear. If a starter binds or slips during cranking, or is excessively noisy, the gear lash may be incorrect and should be checked. Gear lash should also be checked anytime the starter has been loosened or removed.

Use the following procedure for checking and adjusting the starter gear lash:

1. Install the starter motor and tighten its mounting bolts just enough to hold the starter in place.
2. Remove the spark plugs from the engine to allow free movement of the flywheel. Or, if the flywheel is off of the engine, temporarily mount it on the engine with no key in the crankshaft keyway.
3. Pull the starter pinion gear outward on its shaft so that its teeth mesh fully with those on the flywheel.
4. Measure the amount of free travel, or lash, between the pinion gear teeth and the ring gear teeth, as shown in the figure below. The proper lash is 0.020 ± 0.010 (0.51 ± 0.25 mm). Loosen and adjust the starter motor as necessary to obtain the correct setting.
5. Tighten the starter mounting bolts and install the spark plugs.



KEEP FEET AND HANDS AWAY FROM DISCHARGE OPENING AND MAKE NO REPAIRS UNLESS BOTH THE TRACTOR ENGINE AND ATTACHMENT DRIVE ARE SHUT OFF AND THE KEY IS REMOVED FROM THE TRACTOR.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

June 25, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 64

- TIP # 1 - 446 Tractor Fuel Line Connection at Fuel Pump
- TIP # 2 - Engine Failure Analysis
- TIP # 3 - Kohler Engine Replacement of Flywheel Ring Gear
- TIP # 4 - Reporting of Shortages on Machinery Items
- TIP # 5 - Oiling Precleaners
- TIP # 6 - Inspection of Oil Pumps in Onan Engines

*Att.
Kyle
Frank*

TIP # 1 - 446 Tractor Fuel Line Connection at Fuel Pump:

All 446 tractors prior to Serial Number 9769214 must be inspected for correct fuel line connection at the fuel pump. This inspection should be made during pre-delivery.

The fuel line clamp must be positioned near the end of the fuel line and over the nipple on the fuel pump. Some clamps may not be over the fuel pump nipple. This will allow air to enter the fuel pump and cause the engine to stall.

Tractors after the above serial number have been checked at the factory.

TIP # 2 - Engine Failure Analysis:

Correct analysis of engine failure is a requirement for submission of warranty or justification for retail repair.

An analysis of the cause of the engine failure made to the best of your ability must be provided on each Service Adjustment Request that is submitted. Keep in mind that all engine parts replaced under warranty are subject to recall on request. Where factory inspection determines incorrect problem analysis or lack of maintenance, such as, low or dirty oil, dirt entry through air cleaner or overheating due to foreign material blocking air intake screen or cooling fins, the Service Adjustment Request will be charged back to the dealer.

Engine failures caused by lack of maintenance or abuse must not be submitted for warranty consideration.

TIP # 3 - Kohler Engine Replacement of Flywheel Ring Gear:

Flywheel ring gears for Kohler engines can no longer be replaced at the dealership. If a ring gear is damaged, you must replace the flywheel and ring gear assembly. Flywheel and ring gear assembly part numbers in your parts catalogs are correct.



(OVER)

TIP # 4 - Reporting of Shortages on Machinery Items:

Shortages on Machinery Items received in broken boxes must be reported to the carrier.

Shortages on Machinery Items received in undamaged boxes must be reported to your Branch Machinery Department. Shortages will be corrected by the replacement of missing parts. Requests for parts credit will not be considered.

Machinery shortages are NOT warranty. Service Adjustment Requests submitted for machinery shortages will be denied.

TIP # 5 - Oiling Precleaners:

After extensive laboratory testing, Kohler Company is recommending that when precleaners are used with air cleaners, the precleaners be oiled. The test results show that oiled precleaners trap and hold many times more dirt than non-oiled precleaners.

Precleaner Service Procedure

Precleaners should be cleaned and re-oiled every 25 operating hours, or more often under extremely dusty or dirty conditions, as follows:

1. Wash precleaner in water using a detergent.
2. Rinse thoroughly until all traces of detergent are eliminated.
3. Squeeze away excess water and air dry. (Do not wring precleaner)
4. Soak in fresh, clean engine oil and squeeze to remove excess oil.
5. Reinstall precleaner over air filter element.

Follow this procedure when servicing precleaners, and also caution engine owners to service accordingly.

TIP # 6 - Inspection of Oil Pumps in Onan Engines:

When doing an overhaul on an Onan engine, inspect the suction tube and screen for the oil pump. Foreign material must be removed before assembly.

The suction tube and screen assembly cannot be taken apart.

The suction tube has a small diameter and is bent. You can not see through the suction tube.

Wash the suction tube and screen assembly in solvent. Apply low pressure air through the suction tube and screen assembly.

Make sure all foreign material is removed from the suction tube and screen assembly.

TO REDUCE FIRE HAZARD, KEEP THE ENGINE FREE OF GRASS, LEAVES, OR EXCESSIVE GREASE.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

August 30, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 66

- TIP # 1 - K-41 Mower Drive Belts
- TIP # 2 - 1980 Model 220 and 222 Brake Rod
- TIP # 3 - Fuel Filter in Tank Outlet Fitting
- TIP # 4 - Use of Wing Nuts on Battery Terminal Bolts
- TIP # 5 - Kohler Engine Lubricating Oil Recommendations

TIP # 1 - K41 Mower Drive Belts:

NOTE: Refer to Timely Tip Issue #62, Tip #1

- A. Model K-41 mowers, S/N E51595, E51600, E51601, E51606 and above, have the fixed idler and the spring loaded idler arm relocated to increase the belt tension.

The belt tension must be inspected during the set up and predelivery of the tractor and mower.

If there is too much tension, it must be reduced. Reduce the tension by moving the spring loaded idler arm back to its original mounting hole. The fixed idler may be left in the new position.

- B. To move the PTO jackshaft out at the bottom (if required for belt alignment), weld the appropriate size key stock to the lower front face of the front axle support or to the back lower side of the PTO bracket.

TIP # 2 - 1980 Model 220 and 222 Brake Rod:

1980 Model 220 and 222 tractors with mechanical lift are being shipped with the brake rod disconnected at the brake pedal cross shaft. This is done to permit the lift lever to be tipped rearward in the crate.

The brake rod must be connected during dealer set up and before operating the tractor. Follow Predelivery Check Sheet to insure proper brake adjustment.

Install the rod through the arm on the brake pedal cross shaft from the inside and fasten with the cotter pin.

(OVER)



TIP # 3 - Fuel Filter in Tank Outlet Fitting:

Do not overlook the fuel filter screen in the tank outlet fitting when troubleshooting "running out of fuel" or "vapor lock" symptoms.

Some reports of filters plugged with plastic particles have been received.

Drain the fuel tank and sight through the tank filler with a flashlight to check this filter.

Older tractors may have accumulations of dirt or varnish around this filter.

Clean the filter and tank if required.

TIP # 4 - Use of Wing Nuts on Battery Terminal Bolts:

Terminal bolts with wing nuts must not be used on batteries installed in Case compact tractors.

The size and position of the wing nut is such that it can contact other surfaces on the tractor or the current plastic coated battery hold down clamp. A wing nut can wear through this plastic coating.

If the wing nut on the positive terminal touches a metal surface, a short circuit will result. This will cause arcing and possible explosion.

Only genuine Case replacement batteries should be used.

TIP # 5 - Kohler Engine Lubricating Oil Recommendations:

Oils meeting the requirements of SAE service class SC, SD, SE and CC are recommended for use in Kohler engines. Oil viscosity should be selected according to the anticipated temperature in the area of operation as shown below.

AIR TEMPERATURE

Above 32°F. (0°C)
Below 32°F. (0°C)

OIL VISCOSITY

SAE 30*
SAE 5W20 or 5W30

Use straight weight oils as specified whenever available. Tests at Kohler Co. have shown that in warm temperatures more oil is consumed and carbon buildup increases when multi-viscosity oils are used.

The oil should be changed after 25 hours of operation.

On new or overhauled engines or those rebuilt with new short blocks or miniblocks, the use of any SB or SC single viscosity oil is recommended during the first five hours of operation to promote seating of the piston rings. If these oils are unavailable, any single viscosity oil may be used. After this initial run-in period, change to the oils listed above.

*If SAE 30 is not available, 10W30 or 10W40 may be used as an alternate.

DO NOT WEAR LOOSE CLOTHING WHICH MAY CATCH IN MOVING PARTS



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

September 28, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 67

- TIP # 1 - Tire Pressure is IMPORTANT
TIP # 2 - Gloss Power Red Paint in Quarts Now Available at SPS
TIP # 3 - PTO Clutch Adjustment
TIP # 4 - Black Doors and Covers for J1 and J2 Cabs Now Available at SPS

TIP # 1 - Tire Pressure is IMPORTANT:

Adjusting the tire pressures as specified in the tractor operator's manual is an important pre-delivery procedure.

The following problems can result from improperly inflated tires:

SYMPTOM

CAUSE

- | | |
|--|--|
| 1. Harsh, bumpy ride, jerky operation | 1. Tire pressure too high |
| 2. Mower, blade or snow blower low on one side | 2. Tire pressure high on one side, low on the other side |
| 3. "Ragged" finish cut lawn | 3. Tractor bumpy from high tire pressure |

Use an "extra low pressure" tire gauge for accurate tire pressure measurement.

TIRE PRESSURE CHART

<u>MODEL</u>	<u>FRONT</u>	<u>REAR</u>
80	8 PSI	8 PSI
108	12 PSI	6 PSI
210, 220, 222, 224	8 PSI**	8 PSI*
444, 446	8 PSI**	8 PSI***
644, 646	45 PSI	12 PSI***

* Up to 10 PSI when rear attachments are mounted

** Up to 14 PSI when snow caster or front weights are mounted

*** Up to 14 PSI when rear attachments are mounted



(OVER)

TIP # 2 - Gloss Power Red Paint in Quarts Now Available at SPS:

High gloss power red paint for hoods and fenders is now available in quarts at SPS.

The part number is B17505.

TIP # 3 - PTO Clutch Adjustment:

Care must be used when adjusting the PTO clutch to prevent breakage of the adjusting nut guide (part number C23627).

Use the clutch adjusting wrench, Part Number CAS-1449 available from Service Tools (Jobborn in Canada).

Do not use channel lock or locking pliers. The use of pliers causes stress on the adjusting nut guide and subsequent failure.

Please make this correction in your Service Manual. OPE Service Manual 9-99891 or 9-99892 - Attachment Drive Clutch Section 9-51081, Page 4.

ADJUST DISC CLEARANCE

STEP 2: Use the 1-3/4" open end wrench (Part Number CAS 1449) to turn the adjusting nut guide.

Failures caused by the use of improper tools will not receive consideration for warranty.

TIP # 4 - Black Doors and Covers for J1 and J2 Cabs Now Available at SPS:

Add the following information to your Cab Parts Catalog A1326.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>
C25266	Door L.H. for J1
C25267	Door L.H. for J2
C25268	Door R.H. for J1
C25269	Door R.H. for J2
C25264	Cover, Motor for J1
C25265	Cover, Motor for J2

DO NOT EMPTY LAWN SWEEPER HOPPER INTO, DRIVE CLOSE TO, OR BACK UP TO, AN OPEN FIRE. HOPPER FABRIC AND BRUSHES ARE "NOT RESISTANT" FIBERS AND ARE FLAMMABLE AND MAY IGNITE RESULTING IN POSSIBLE PERSONAL INJURY OR PROPERTY DAMAGE.



119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

October 30, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 68

- TIP # 1 - K41 Mower Drive Belts
- TIP # 2 - Mod 80 Battery Charging Procedures
- TIP # 3 - Holding Valve Deceleration Orifices
- TIP # 4 - Carburetor Adjustment Tip
- TIP # 5 - 1980 Attachment Matching Chart

TIP # 1 - K41 Mower Drive Belts:

Reference Issue 62, Tip #1 and Issue 66, Tip #1

Clearance between the mower drive belt and the lift link must be checked on mowers which have the fixed idler and the spring loaded idler arm relocated to increase the belt tension. Also, make certain the lift link is installed through the right hand side of the tractor lift lever as illustrated in Figure 8 of the operator's manual #9-50622.

K41 mower S/N E51595, E51600, E51601, E51606 and above.

The belt tension must be inspected during the set-up and predelivery of the tractor and mower.

If there is too much tension, it must be reduced. Reduce the tension by moving the spring loaded idler arm back to its original mounting hole. The fixed idler may be left in the new position.

If necessary, washers may be added to the lift link between the lift lever and the safety pin. This will stabilize the link and improve belt clearance.

TIP # 2 - Mod 80 Battery Charging Procedures:

Batteries that have been abused and allowed to go dead before being recharged can be sulphated.

A one-amp charging rate applied for a minimum of 72 hours from the P/N C24346 charger supplied with the Mod 80 is required to charge a sulphated battery.

Charging at a higher rate increases the risk of internal cell damage.

TIP # 3 - Holding Valve Deceleration Orifices:

Holding valves are equipped with orifices between the motor ports to cushion the stop when the travel control valve is returned to neutral.



(OVER)

TIP # 3 - Holding Valve Deceleration Orifices: (CONTINUED)

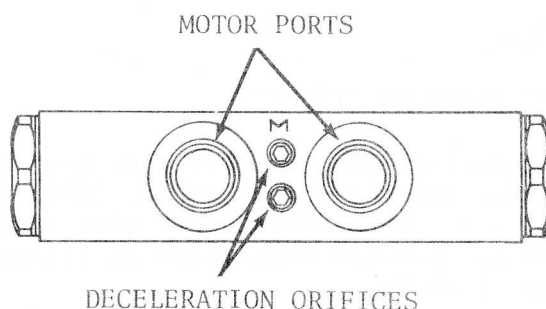
These orifices should be inspected if the tractor stops abruptly after a holding valve is installed.

To inspect the orifices:

1. Remove the large hex plugs from the ends of the holding valve body.
2. Remove the spool.
3. Remove the pipe plugs illustrated and sight through the orifices.

The orifices should be drilled through into the valve bore. If one or both orifices are not drilled through, drill them to .067 inch diameter.

Carefully clean and reassemble the valve.

TIP # 4 - Carburetor Adjustment Tip:

A better carburetor adjustment can be made if the carburetor is cleaned first.

Remove the air cleaner cover. Use a good carburetor cleaner according to the instructions on the container to remove dirt and varnish around the jets and controls.

Submitted by: New Hudson Power & Implement
New Hudson, Michigan

TIP # 5 - 1980 Attachment Matching Chart:

<u>ATTACHMENT NAME</u>	<u>1979 200 SERIES</u>	<u>1979 400 SERIES</u>	<u>1980 200 SERIES</u>	<u>1980 400 SERIES</u>
Hydraulic PTO	J-17	J-17	J-17	L-17
Flow Control Valve	L-19 or M-19	L-19 or M-19	M-19	M-19
Sleeve Hitch	J-22 or K-22	J-24 or K-24	J-22 or K-22	K-24
3-Point Hitch	N/A	H-26 or J-26	N/A	J-26
Holding Valve	L-7	L-9	L-7	M-9
Cab	J-1 or K-1	J-2 or K-2	K-1	K-2

WHEN REMOVING A BATTERY, ALWAYS DISCONNECT THE (-) NEGATIVE GROUND CABLE FIRST.
WHEN INSTALLING THE BATTERY, ALWAYS CONNECT THE (-) NEGATIVE GROUND CABLE LAST.

119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

November 26, 1979

TIMELY OPE TIPS FOR THE MONTH

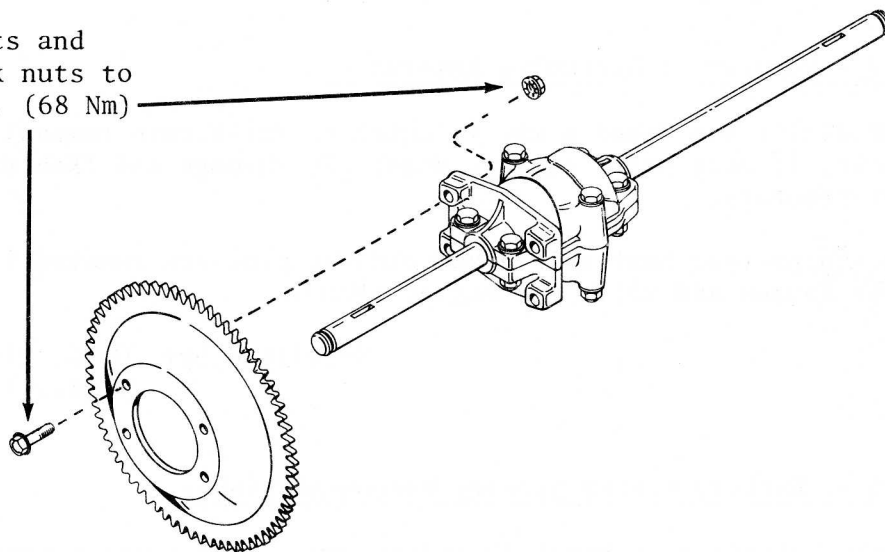
ISSUE # 69

- TIP # 1 - Model 80 Final Drive Sprocket Bolt Torque Specification Change
- TIP # 2 - Model 80 Riding Mower High-Lift Blade, P/N C24686
- TIP # 3 - Unleaded Fuel Extends Four-Cycle Engine Valve Life
- TIP # 4 - Removal of Hydraulic Reservoir
- TIP # 5 - Battery Winter Storage Recommendations

TIP # 1 - Model 80 Final Drive Sprocket Bolt Torque Specification Change:

There have been reports indicating the four, P/N 131-911, flange lock nuts on the Model 80 riding mower final drive sprocket have worked loose. Our supplier for this special 5/16" bolt and lock nut specifies a much higher torque specification than is normally given for this size bolt. The correct torque specification for this special bolt and nut is 50 foot pounds (68 Nm).

Torque bolts and
flange lock nuts to
50 ft. lbs. (68 Nm)



Beginning with P.I.N. 9772896 these four bolts and nuts have been torqued to the new specification in production. All Model 80 riding mowers prior to this P.I.N. should have these bolts retorqued either during predelivery or when they are in for routine service. Also, please advise your Model 80 riding mower customers of the new torque specification, and, if they are unable to do so, to bring their mower in to you for the proper bolt tightening. It is important that these bolts and nuts on all Model 80 riding mowers prior to P.I.N. 9772896 are retorqued to the new specification before they receive further use.

(OVER)



TIP # 2 - Model 80 Riding Mower High-Lift Blade, P/N C24686:

The "High-Lift" blade, Part Number C24686, is no longer supplied with the Model M91 Bagger Attachment beginning with factory shipments after Nov. 15, 1979. This blade is now installed on all Case Model 80 riding mowers beginning with Product Identification Number 9772959. Therefore, if a bagger attachment shipped from the factory after November 15, 1979, is installed on a Model 80 riding mower with a lower number, the "High-Lift" blade, Part Number C24686, must be ordered through your Case Parts Depot.

A "Supplement" with this information is also attached to the M91 Bagger Attachment Operator's Manual beginning with the first one the blade was not included.

TIP # 3 - Unleaded Fuel Extends Four-Cycle Engine Valve Life:

Our Engineering Department has confirmed with Onan that the use of predominantly no-lead fuels will result longer valve life on their engines used in Case Model 446 and 448 compact tractors. This is especially true for tractors operated for prolonged time periods and in commercial use. They also suggest the use of unleaded fuels in Kohler engines both for longer valve life and reduce carbon deposits in the combustion chamber.

TIP # 4 - Removal of Hydraulic Reservoir:

One OPE dealer has found a way in which to facilitate removal of the hydraulic reservoir, if necessary, on Case Model 220 through 444 (Kohler engine equipped) compact tractors.

If the engine rear heat shield and exhaust pipe are removed it is not necessary to first loosen and shift the engine ahead.

Submitted by: O. C. Rice, Inc.
Biglerville, Pa.

TIP # 5 - Battery Winter Storage Recommendations:

Activated batteries in Model 80 riding mowers and compact tractors which will be in storage over the winter months should be removed from the vehicles and stored in fully charged condition in a cool, dry location.

Preferred storage is on a dry wooden surface. Do NOT store a live battery on a concrete floor.

Please advise your customers that following this practice will assure them of maximum battery service life.

OBSTACLES SUCH AS DRIVEWAY MARKERS, WATER OR GAS SHUT OFFS, ETC. SHOULD BE MARKED SO THEIR LOCATIONS UNDER THE SNOW ARE VERY OBVIOUS.

119 South First Street
Winneconne, Wisconsin 54986
Phone 414 582-4455

December 20, 1979

TIMELY OPE TIPS FOR THE MONTH

ISSUE # 70

- TIP # 1 - Reduced Mower Clearance on 1980 Model 210 Tractors
- TIP # 2 - Improved Vee Idler Pulley For Mowers and Snow Casters
- TIP # 3 - New Mower Gauge Wheels
- TIP # 4 - Importance for Using "Original Equipment" Oil Filters on Model 646 (Onan) Engine

TIP # 1 - Reduced Mower Clearance on 1980 Model 210 Tractors:

1980 model year 210 tractors (P.I.N. 9760975 and after) have the redesigned jackshaft assembly eliminating the bearing locking collars and slightly lowered input pulley to permit R & R of the primary drive belt without loosening the jackshaft supports. As a result it is possible that the mower mounting frame rear cross member will come in contact with the tractor primary drive belt in the 3-1/2" cutting height position.

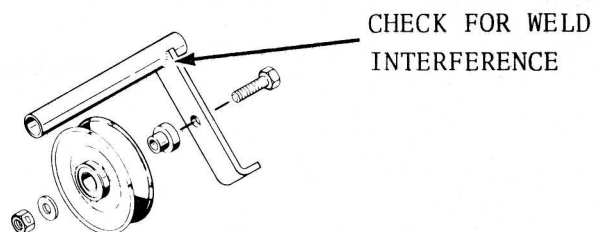
Accordingly, the 3-1/2" cutting height adjusting hole should either be plugged or customers be advised it is not to be used on Model 210 tractors, P.I.N. 9760975 and after. A supplement instruction sheet with this information has been included with the tractor manual package effective with December 3, 1979 production.

The 3-1/2" cutting height is generally not recommended for all 200 series compact tractors except on level terrain due to the limited deck flotation clearance which remains at this setting.

TIP # 2 - Improved Vee Idler Pulley For Mowers and Snow Casters:

Effective with the following P.I.N. the vee idler pulley, Part Number C10463, was changed to Part Number C25370:

J40 - S/N A59542
J44 - S/N C65190
J46 - S/N D63972



(OVER)



TIP # 2 - Improved Vee Idler Pulley For Mowers and Snow Casters: (CONTINUED)

The new idler pulley, Part Number C25370, is made from heavier material and the halves are joined with a continuous weld. The outer diameter of the Part Number C25370 pulley is slightly larger than that on pulley, part number C10463. Therefore, if the new pulley is installed as a replacement part on mowers prior to the above numbers, it will be necessary to check for possible interference with the weld on the mower idler arm bracket. See illustration on page 1. If interference exists either file down the weld or use the prior type pulley, part number C10463. The part number C10463 pulley will remain in the SPS system for this purpose.

All 1980 model year production of snow casters have been built using the new pulley, part number C25370.

TIP # 3 - New Mower Gauge Wheels:

During this past summer and effective with the following P.I.N. the mower gauge wheels were changed from rubber on metal to solid phenolic material with a center bushing.

J41 - S/N E51545

J44 - S/N C63173

J40 - S/N A58089

J46 - S/N D61713

The new gauge wheels eliminate the possibility of damaging or scrubbing off the tires on turns. The new wheel for Model J41, J40 and J44 mowers is available through SPS under part number C25139 and the Model J46 under part number C25140. The old type rubber on metal wheels have been discontinued both in production and SPS.

TIP # 4 - Importance for Using "Original Equipment" Oil Filters on Model 646 (Onan) Engine:

An expensive engine repair resulted when one of this dealer's customers changed engine oil in his Model 646 tractor and replaced the oil filter with a "non-original" type purchased from an auto supply store.

The customer did not notice that the replacement filter was longer than the original and as a result it was worn through due to contact with the R.H. lift cylinder causing loss of oil and subsequent engine seizure. Another good reason to encourage your customer to always insist on original equipment manufactured replacement parts.

Submitted by: S & W Equipment Sales
Corunna, Michigan

CONTACT BY ANY PART OF THE BODY WITH THE ROTATING SNOW CASTER AUGER CAN RESULT IN SERIOUS INJURY.

EXTRA CARE SHOULD BE USED AROUND EXPOSED AREAS SUCH AS THE AUGER AND DISCHARGE CHUTE.