REDEKOP™

SEED CONTROL UNIT

JD S7

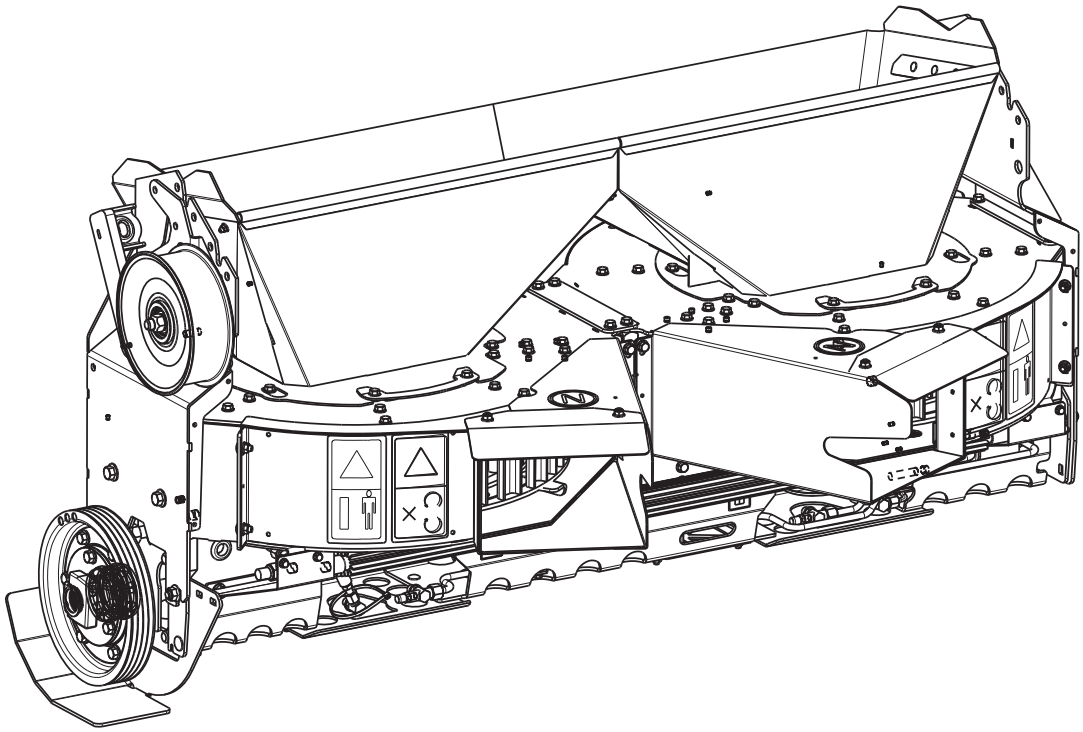
FC, XFC OEM CHOPPER

OPERATOR'S MANUAL

PRODUCT NUMBER: **850-065H**
850-070H

SC001-07_R0

REDEKOP™



Seed Control Unit
Operator's Manual

Table of Contents

Read and Understand This Manual Before Operating This Machine

- Learn how to operate and service the machine correctly. Failure to do so could result in personal injury or equipment damage. Redekop will not accept any responsibility for any damage or malfunctions resulting from failure to comply with the operator's manual.

- This manual provides descriptions of as well as operating and maintenance instructions. This may include accessories or optional equipment not included on your machine. This is to be kept in mind when reading this manual.

- If you do not understand the information in this manual, or if you have questions, contact Redekop Customer Service.

- This manual should be considered a permanent part of your machine and should remain with the machine when you sell it.

- Right-Hand and Left-Hand sides are determined by facing the direction of travel

- Redekop reserves the right to alter illustrations and technical data contained in this manual.

- The contents of this manual are intellectual property of Redekop. All use and/or reproduction not specifically authorized by Redekop is prohibited.

- All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. Redekop reserves the right to make changes at any time without notice.

- This manual should be considered a permanent part of your Seed Control Unit and should remain with the machine when you sell it.

ATTENTION!
Low Battery or alternator voltage can cause system errors

0 Safety

0.1 Instructions

0.1.1 IMPORTANT: Read through this instruction manual thoroughly and familiarize yourself with the Seed Control Unit before operating these components.

This instruction manual explains the proper procedure for operating the Redekop Seed Control Unit.

0.2 Recognize Safety Information

0.2.1 This is a safety-alert symbol. When you see this symbol on your straw chopper or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

0.3 Understand Signal Words

0.3.1 A signal word - DANGER, WARNING, or CAUTION - is used with the safety-alert symbol. DANGER identifies the most serious hazards.

WARNING or CAUTION safety signs are located near specific hazards or precautionary areas in this manual.

0.4 Follow Safety Instructions

0.4.1 Carefully read all safety messages in this manual and on your machine. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new Seed Control Unit components and repair parts include the current safety signs. Replacement safety signs are available from your dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Learn how to operate the Seed Control Unit and how to use controls properly. Do not let anyone operate without instruction.

Keep your Seed Control Unit in proper working condition. Unauthorized modifications to the Seed Control Unit may impair the function and/or safety and affect the Seed Control Unit's life.

If you do not understand any part of this manual and need assistance, contact your dealer.

0.5 Safe Operating Practices

0.5.1 DO NOT stand near the straw chopper and Seed Control Unit when combine is running.

ALWAYS refer to your Combine Operator's Manual, and review the Safety section before operating machine. The Combine Operator's Manual details safe operating practices that must be followed to protect you and others from accidental injury and/or death.

Operate Seed Control Unit only when all guards are correctly installed.

Before moving away, always check immediate vicinity of Seed Control Unit (e.g. for children). Ensure adequate visibility. Use a horn as a warning immediately before moving away.

When making turns, always take into consideration the width of the attachment and the fact that the rear end of the machine swings out. Attachments and ground conditions affect the driving characteristics.

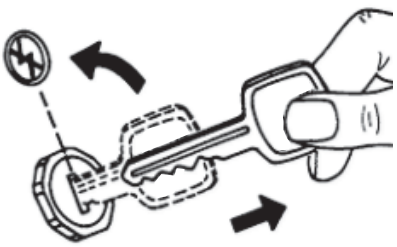
Never leave combine unattended as long as engine is running.

0.6 Work In Ventilated Area

0.6.1 Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

0.7 Remove Key from Ignition



0.7.1 ALWAYS shut off combine engine prior to working on it.

Apply park brake, remove key and lock operators cab.

If the combine is equipped with an additional safety master power switch, turn this to the Power OFF position.

0.8 Block Wheels

0.8.1 Park the combine on level ground.

Always engage the park brake and block the combine wheels prior to working to prevent the combine from moving.

0.9 Practice Safe Maintenance

0.9.1 Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust Seed Control Unit while it is moving. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Keep hands, feet and clothing away from power-driven parts. Tie long hair behind your head. Do not wear rings, jewelry, a necklace, a necktie, scarf, or loose clothing when you work near machine or moving parts. If these items were to get caught, severe injury could result.

Securely support any Seed Control Unit elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on Seed Control Unit.

0.10 Guards and Shields

0.10.1 Keep guards and shields in place at all times. Ensure that they are serviceable and maintained correctly.

0.11 Avoid Contact With Moving Parts

0.11.1 Keep hands, feet and clothing away from power driven parts. Never clean, lubricate or adjust machine when it is running.

Never attempt to clear obstructions from machine unless it is disengaged, engine shut off and key removed.

0.12 Avoid High-Pressure Fluids

0.12.1 Inspect hydraulic hoses periodically - at least once per year - for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire brand or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

0.13 Dispose of Waste Properly

0.13.1 Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste includes such items as oil, fuel, coolant, brake fluid, filters and batteries.

Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

0.14 Use Proper Lifting Equipment

0.14.1 Lifting heavy components incorrectly can cause severe injury or Seed Control Unit damage.

Follow recommended procedure for removal and installation of components in the manual.

Ensure lifting equipment is rated for the job

Ensure operator is appropriately licensed to operate lifting equipment

0.15 Personal Protective Equipment (PPE)

0.15.1 A Qualified Person designated by the employer, who is knowledgeable about and familiar with all relevant specifications and assembly instructions and is capable of identifying existing or potential hazards in surroundings or working conditions which may be hazardous or dangerous to employees shall determine appropriate Personal Protective Equipment required for this assembly.

Personal Protective Equipment (PPE) are devices worn by the employees to protect against hazards in the environment. Examples include safety glasses, face shields, respirators, gloves, hard hats, steel-toe shoes, and hearing protection. Wear close fitting clothing and safety equipment appropriate for the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

0.16 Sound Level

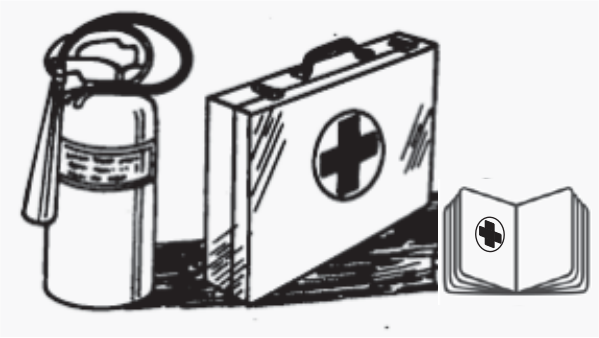
0.16.1 This product produces sound pressure levels in excess of 90 dB within 10m of discharge area.

Hearing protection is required!

Interference with speech communication, acoustic signals is possible.

0.17 Prepare for Emergencies

0.17.1 Be prepared if a fire starts.

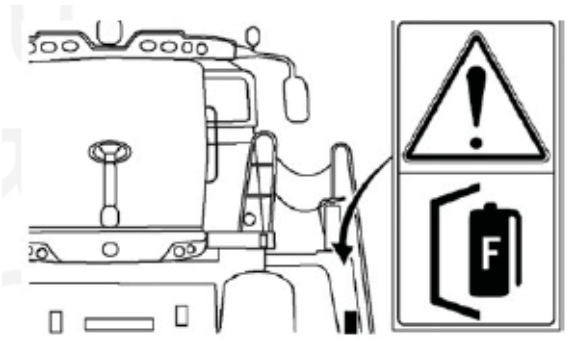


Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

0.18 Fire Extinguisher

0.18.1 A 6 kg (15 lb) general-purpose fire extinguisher meeting national certification requirements must be installed on left side of operator's platform.



Maintain fire extinguisher to keep it in operating condition.

Make sure that the fire extinguisher is always ready for use. Refer to the fire extingisher's manual for instructions on how to operate it. Once extinguisher is operated - no matter how long - it must be recharged.

Keep the engine clean and free of dust, chaff and straw to prevent the possibility of fire.

0.19 Remove Accumulated Crop Debris

0.19.1 The build up of chaff and crop debris in the engine compartment, on the engine, near bearings and moving parts is a fire hazard. Check and clean these areas frequently.

0.20 In the Event of Fire

0.20.1 Stop work immediately at first sign of fire. This may be the smell of smoke or the sight of smoke or flames. Get off the machine immediately and move away from the fire. Do not return to the machine or fire!

CAUTION: Avoid personal injury.
If a fire is too far advanced, do not try to extinguish it.
Call the fire department!
The number one priority is safety. Always put the safety of the operator and bystanders first.

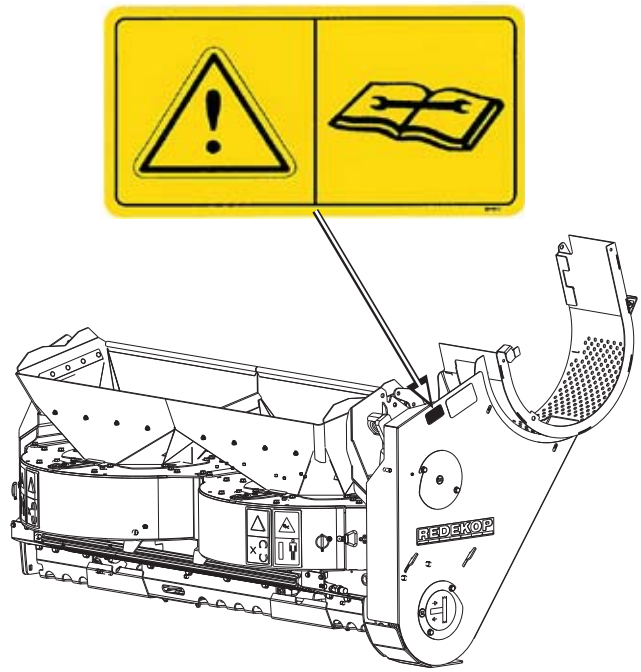
If a fire can be safely extinguished, proceed carefully and follow these guidlines:

1. Remove fire extinguisher from bracket and carry it to the area of fire.
2. Approach area of fire with your back to the wind.
3. Pull the safety pin out of actuating lever.
4. Hold extinguisher upright, pointing nozzle away from you and aim hose at base of the flames.
5. Squeeze the lever slowly and evenly to discharge fire extinguisher.
6. Move extinguisher nozzle side to side to cover the source of the fire evenly with extinguishing agent.

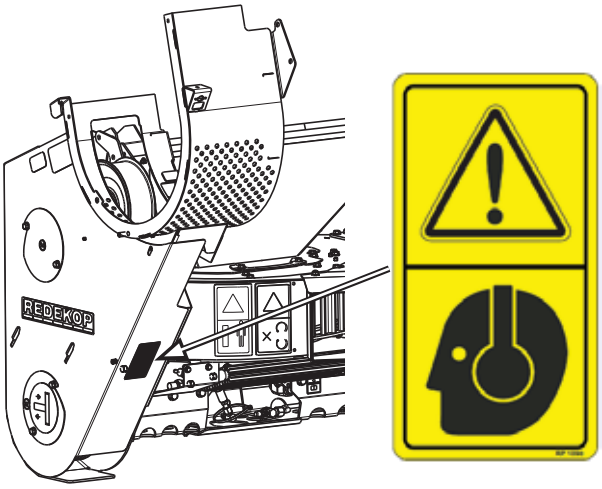
0.21 Safety Decals

Pictorial Safety Signs

At several important places on this machine, safety signs are affixed intending to signify potential danger. The hazard in identified by a pictorial in a warning triangle. An adjacent pictorial provides information on how to avoid personal injury. These safety signs, their placement on the machine, and a brief explanatory text follow.



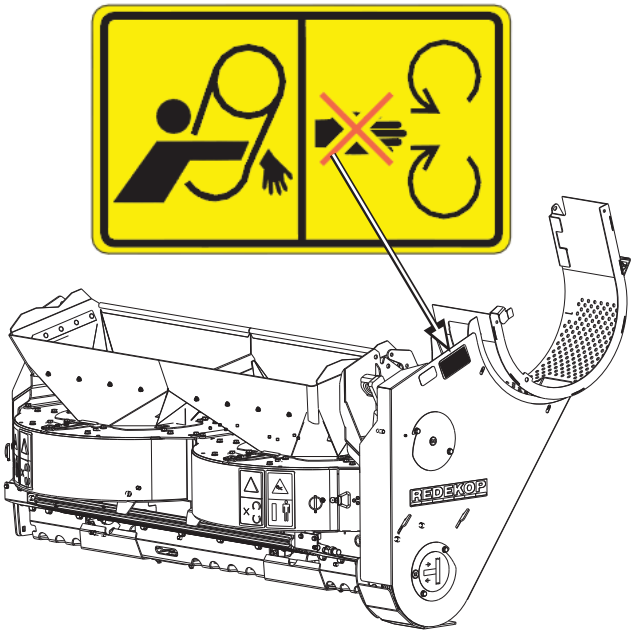
Caution / Check Service Manual
RP1188
This operator's manual contains all important information necessary for safe machine operation. Carefully observe all safety rules to avoid accidents.

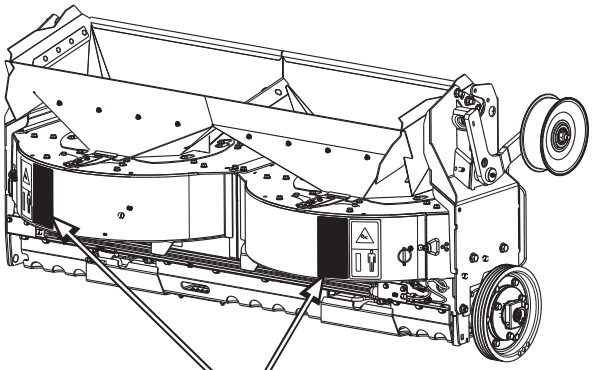


Caution / Hearing Protection Required
RP1090
Use hearing protection whenever operating the machine.

Keep Hands out of Belt Area / Rotate Danger
RP1122

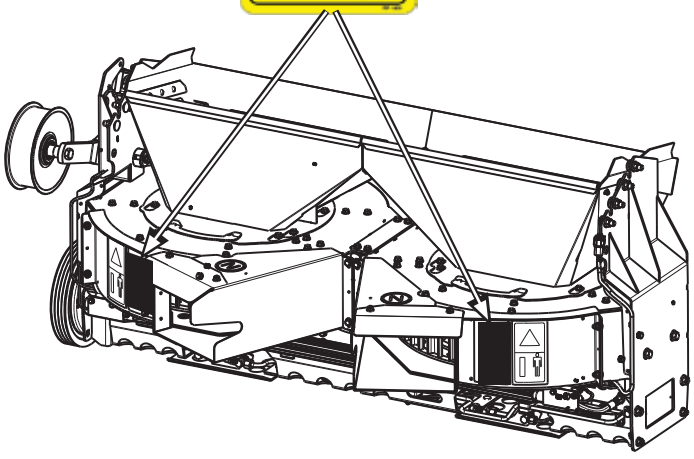
Do not touch any moving parts. Wait until all moving parts have stopped.

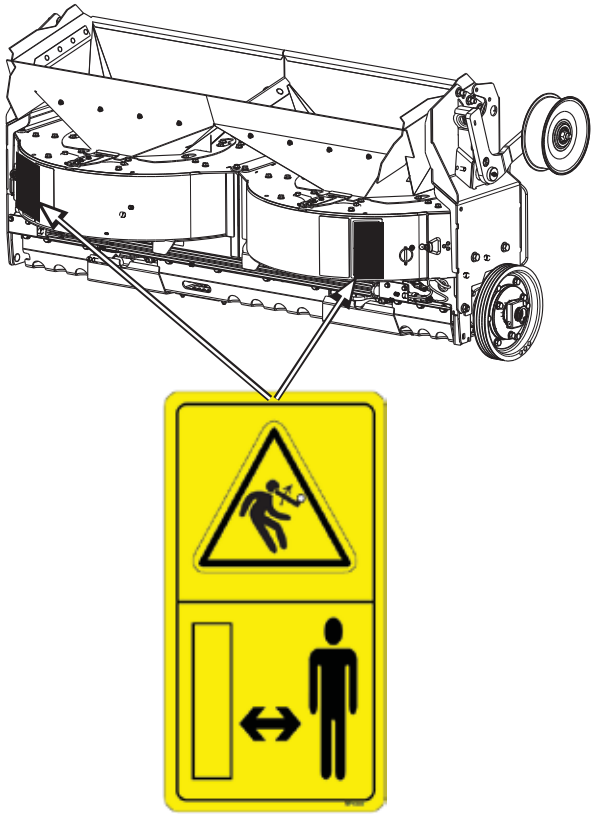




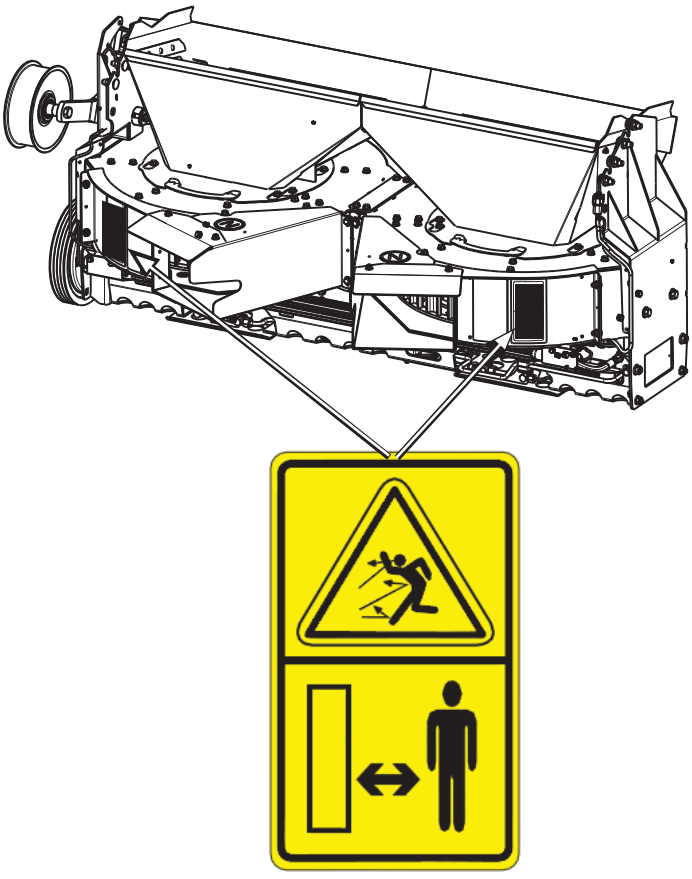
Hand Injury / Rotate Danger
RP1089

Risk of injury caused by rotating parts.

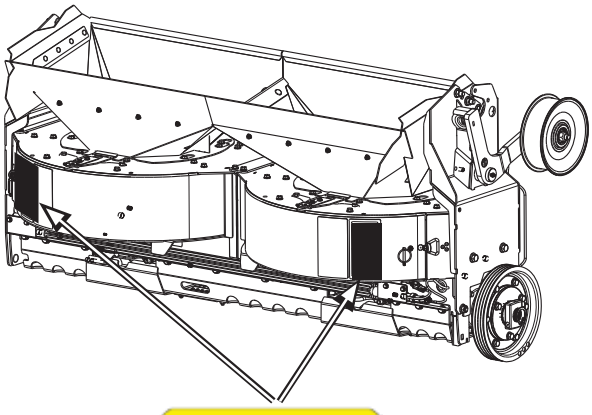




Kickback Hazard / Stand Clear
RP1086
Avoid personal injury. Kickback hazard when removing access panel.

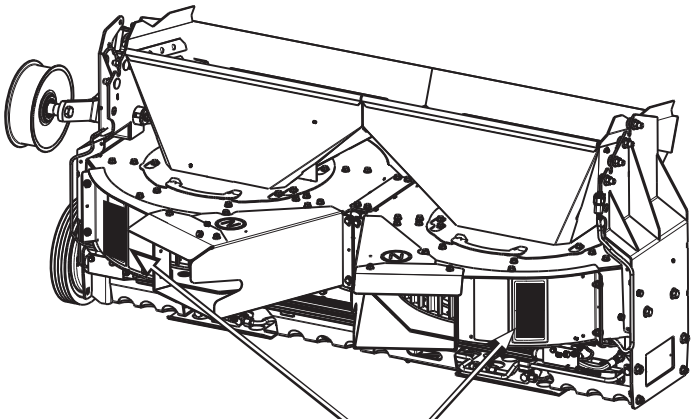


Projectile Hazard / Stand Clear
RP872
Stay clear of these components when the engine is running.



Kickback Hazard / Stand Clear
RP1086

Avoid personal injury. Kickback hazard when removing access panel.



Projectile Hazard / Stand Clear
RP872

Stay clear of these components when the engine is running.

0.22 Information Decals

John Deere Seed Control Unit Serial Number Plate

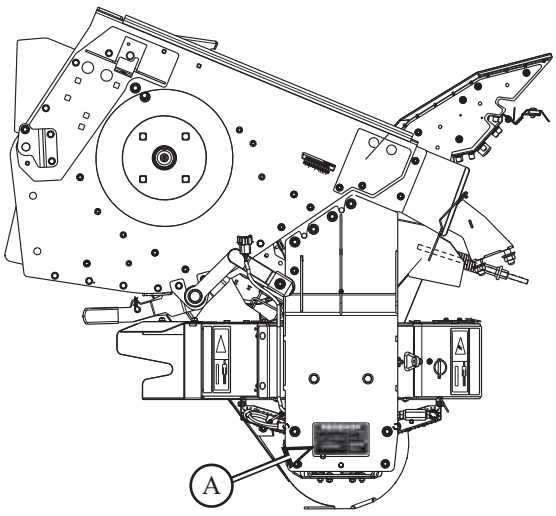
Grease Every 12 Hours / Daily
RP1091

Grease Every 50 Hours / Weekly
RP1092

Oil - use SAE 75W90 GL5 Synthetic
RP1093

0.23 Serial Number

Seed Control Unit serial number plate (A):
- located on the Seed Control Unit's frame, non-drive side



1 GENERAL INFORMATION

1.1 General Information on the components of the Seed Control Unit (SCU)

The Seed Control Unit system may consist of the following components:

Redekop Seed Control Unit (**A**)
Damages the weed seeds to prevent them from germinating

Straw Chopper (**B**)
Cuts the straw into small manageable pieces and creates air velocity to spread this straw evenly across the field

Chaff Pan Extension and Chaff Door (**C**)
Directs chaff from combine seives into SCU (**A**)

Drive Coupling (**D**)
Allows quick engagement or disengagement of SCU drive system

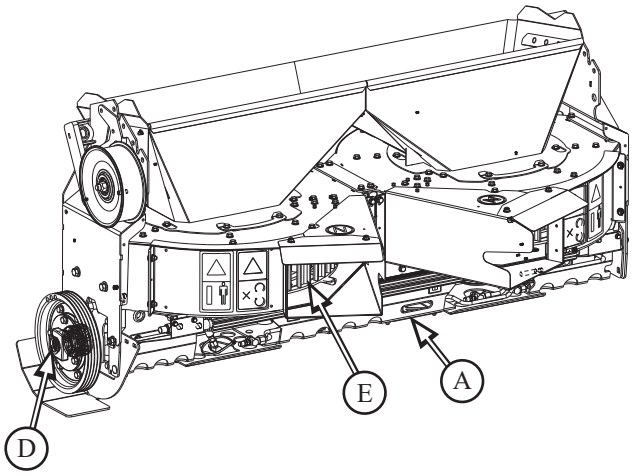
Chaff Impact Mill (**E**)
Damages and devitalizes seeds

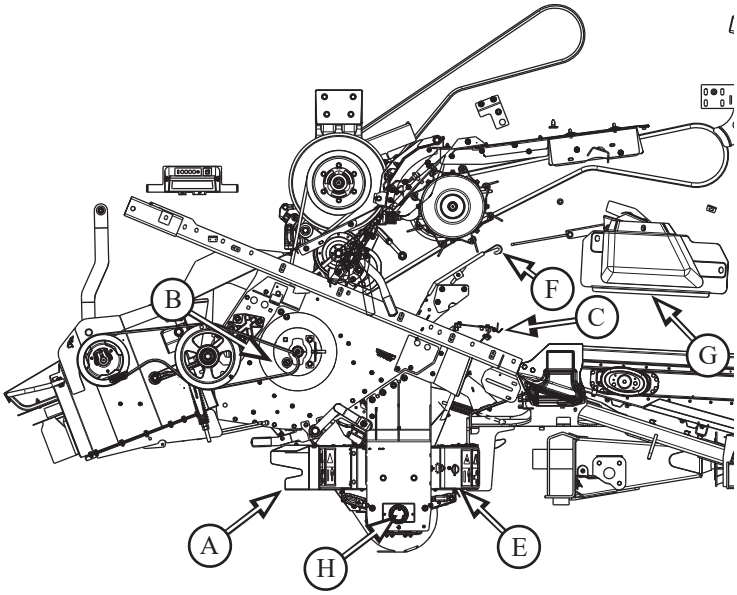
Chaff Baffle (**F**)
Redirects chaff into SCU (**A**)

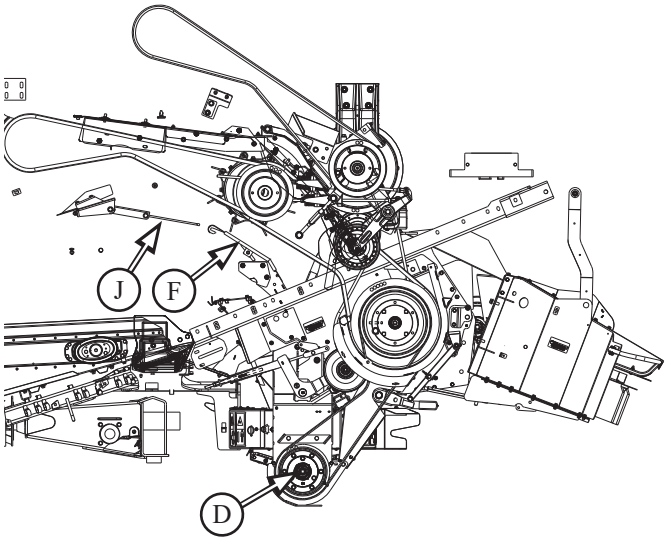
Vent Covers (**G**)
Forces all chaff flow into SCU (**A**)
Prevents seed losses prior to SCU (**A**)

Hydraulic Circulation Pump (**H**)
Circulates gearbox oil through cooling system

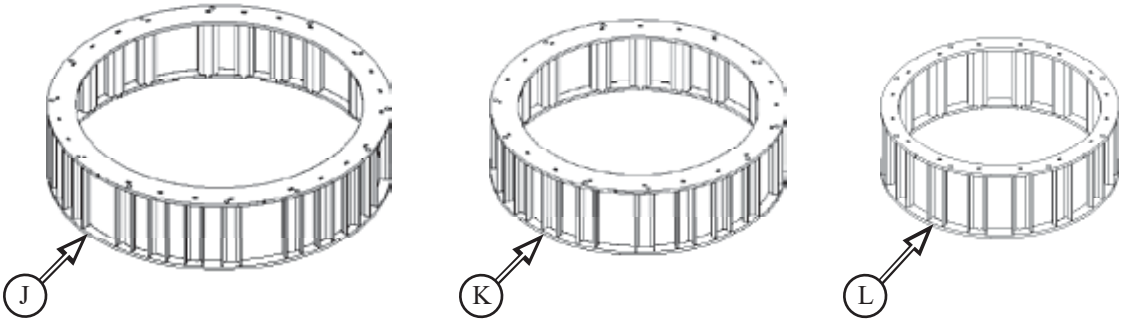
Tine Deflectors (**J**)
Redirects straw into Chopper (**B**)



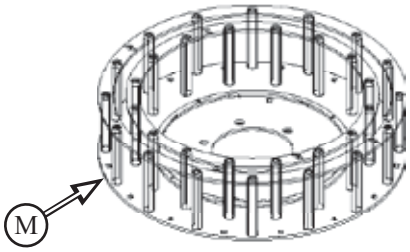




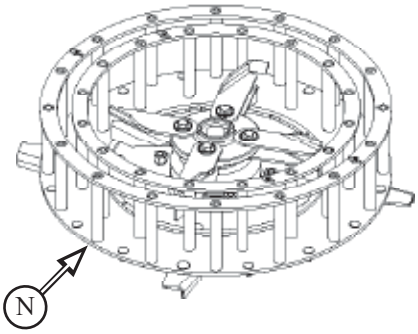
Stator Rings
Outer (**J**), Middle (**K**), Inner (**L**)



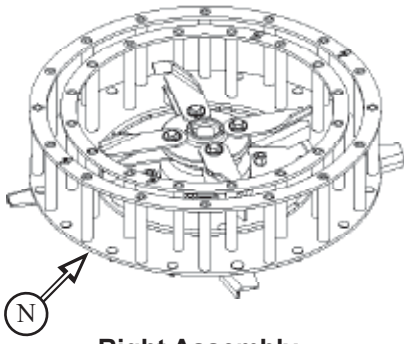
Rotor (**M**)



Rotor Assembly with hub, scraper and fan blades (N)



Left Assembly



Right Assembly

Sound Level

This product produces sound pressure levels in excess of 90 dB within 10m of discharge area.

Hearing protection is required!

Interference with speech communication, acoustic signals is possible.

Start threshing module in low speed and listen for clearance problems. If a knocking noise is heard, stop machine immediately! Fix problem and repeat procedure. Progress to full power when everything is running smoothly at lower speeds.

2.1 Combine Sieve Accessability

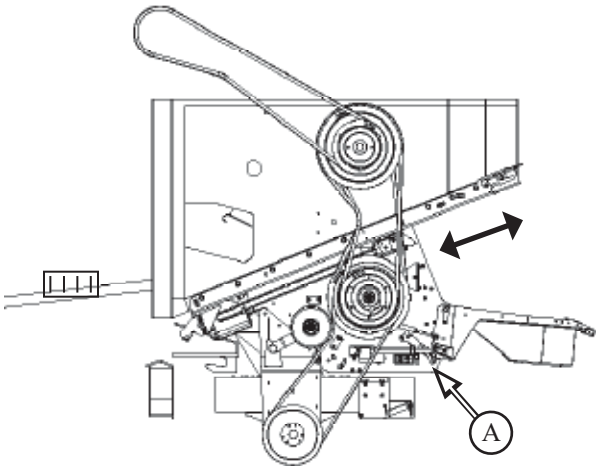
2.1.1 Combine Sieve Accessability / Road Transportation

Combine sieve accessability remains the same procedure as from factory - refer to combine basic operator's manual for complete details.

Accessability / Road Transport
To access the combine sieves, use relevant switch to activate actuators to move straw chopper and SCU (**A**) rearwards.

Operation
To place straw chopper and SCU (**A**) into chopping mode, use relevant switch to activate actuators to move straw chopper and SCU back into position.

Road Transportation:
ALWAYS move chopper and SCU to upper position prior to leaving field



2.2 Operation Modes

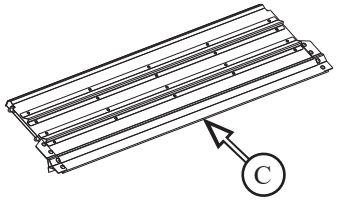
There are two (2) modes of operation:
1 - Chopper only / Grain loss check
2 - SCU mode / Chop mode

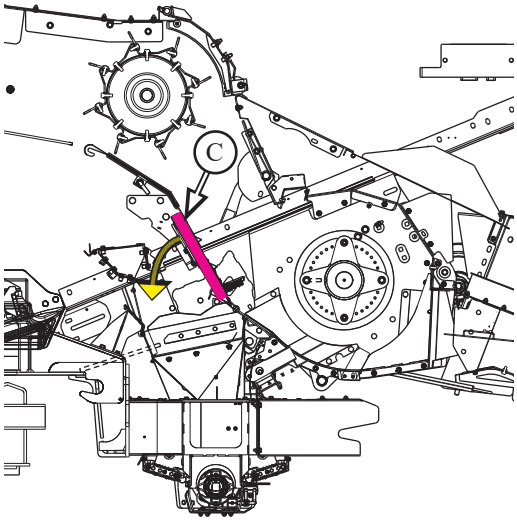
To switch from one mode to another, the following actions are required:
1 - Ripple Divider Pan in upper position = SCU / Chop mode
  - Ripple Divider Pan in lower position = Chopper only mode / Grain loss check

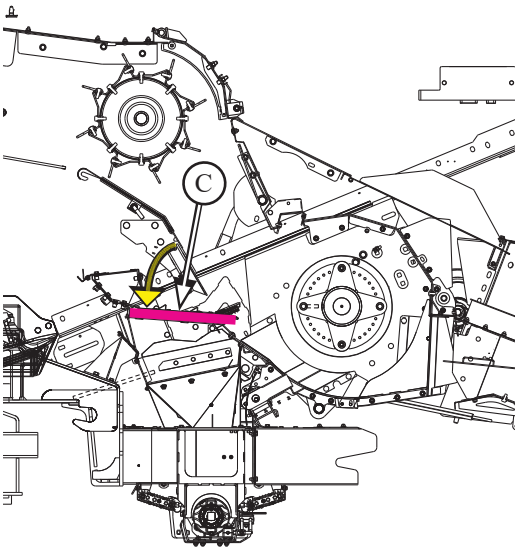
To change modes there are four (2) adjustments:
1 - Set Chaff Internal Baffle Panel position
2 - Engage the SCU Drive

2.2.1 Chopper Only Mode / Grain Loss Checking

2.2.1.1 For chopper only mode or grain loss checking, move ripple divider panel (**C**) from the upper to the lower bypass position.

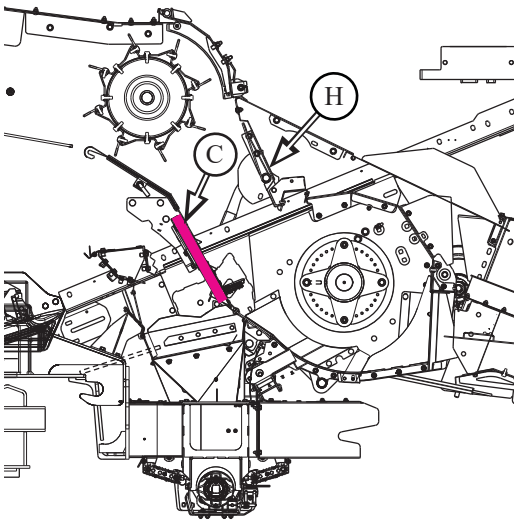






2.2.2 Chopper and Seed Control Unit Mode

CORN DOOR (H) must be set to SMALL GRAIN position!
Refer to machine basic operator's manual

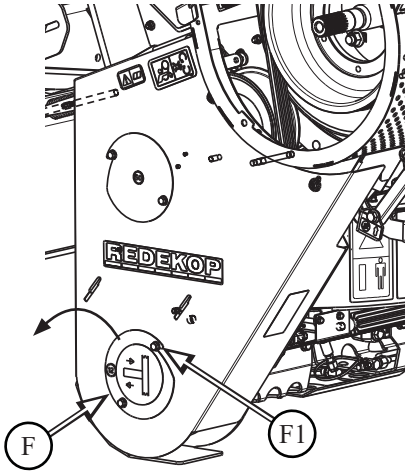


2.2.2.1 Ensure ripple divider panel (**C**) is in upper position

2.2.2.2 Engage SCU drive (see Engage SCU Drive section 2.3)

2.3 Engage SCU Drive

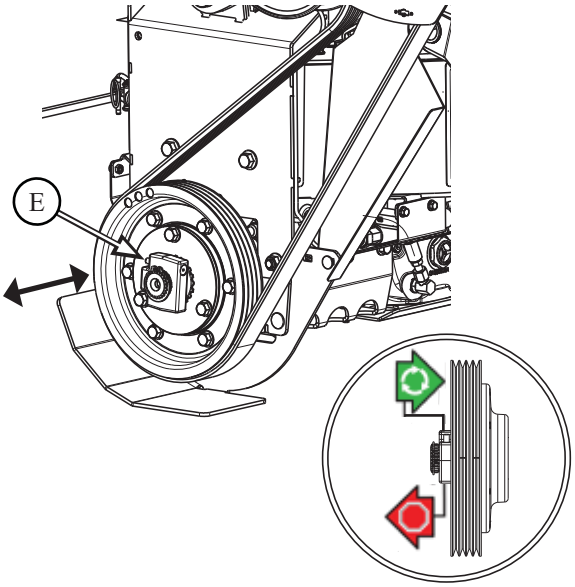
2.3.1 To access the drive shaft coupler (**E**):
- Loosen top bolt (**F1**)
- Rotate access cover panel (**F**) away



2.3.2 To engage the SCU drive:
- unlatch and slide Drive Shaft Coupler (**E**) in

To disengage the SCU drive:
- unlatch and slide Drive Shaft Coupler (**E**) out when SCU is not required.

May be HOT to touch
- wear gloves or wait to cool!



Projectile Hazard from SCU
Stand Clear when SCU is in operation

2.4 Combine Grain Loss Checking

Operate in Chopper only mode (see 2.2.1), Check as normal

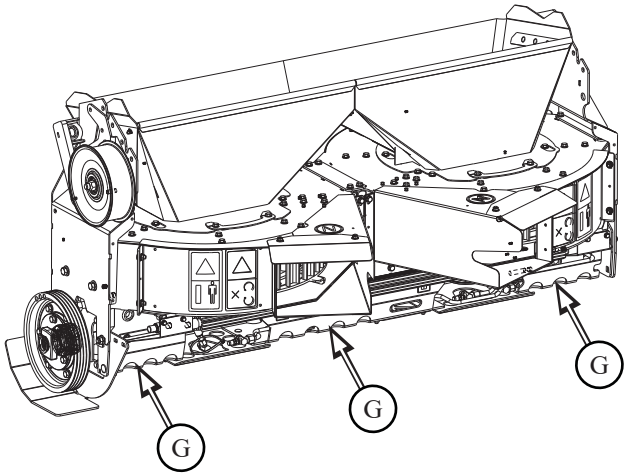
2.5 Windrow Operation - John Deere S7 Series

1 On Combine with overshot beater:
- Operate in chop and SCU mode (see Chopper and SCU mode section 2.2.2)
- Open rear discharge as per OEM windrow instructions
- Operator can choose to install SCU outlet covers for windrow

2.6 Driveline Guards

Do Not operate with Driveline Guards (**G**) removed

Guards provide structural integrity - if removed, SCU frame will crack



3 MAINTENANCE

3.1 Preventative Maintenance Schedule

Although little active maintenance is required to keep your Seed Control Unit system operating smoothly, it is very important that the following preventative maintenance schedule be followed. A regular visual check and replacement of the high wear components will prevent larger scale maintenance in the future. The following areas of your Seed Control Unit should be checked on a regular basis.

Ensure there are no loose tools, hardware or parts left on machine.
Clean up area after maintenance has been completed and prior to startup.

BREAK-IN SERVICE MAINTENANCE - During first 50 hours

- Perform daily or 10 hour service (refer to **Daily Maintenance** in this section)

- Check oil level of both gear boxes more frequently. Watch for any signs of leaks on lines and connections

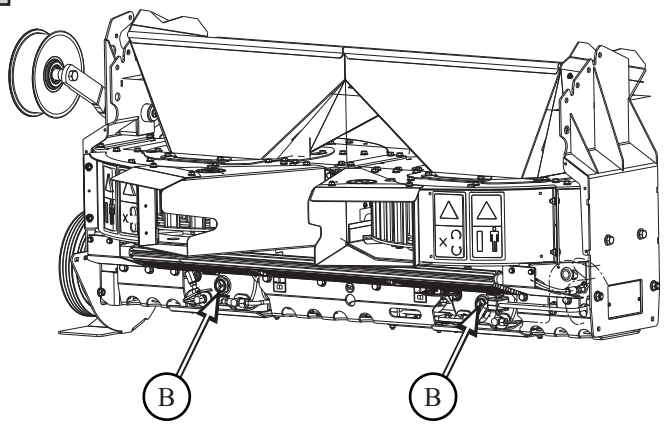
- Check drive belts for proper tension and adjust if necessary

- Check bearing lock collar is locked onto driveline shaft

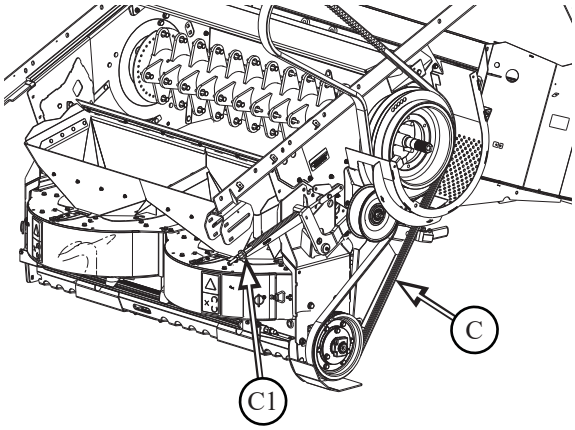
DAILY MAINTENANCE

- Check Oil Level of Gear Boxes through sight glasses (**B**) for both gear boxes

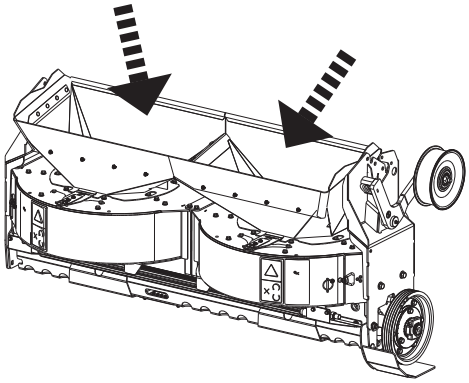
- Check for oil leaks along hoses and connections



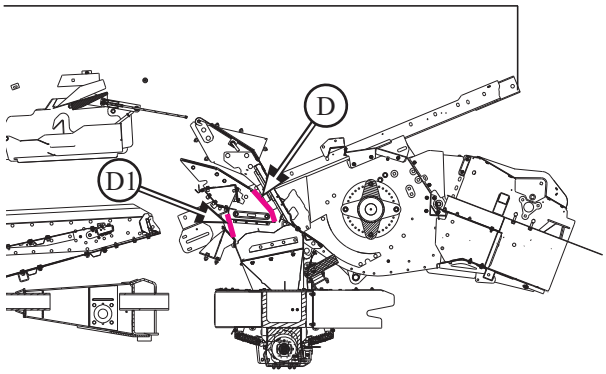
- Check Belt (**C**) Tension and that Spring Tensioner (**C1**) is at indicator on guide



- Clean off residue from top of Seed Control Unit to prevent excess moisture from collecting



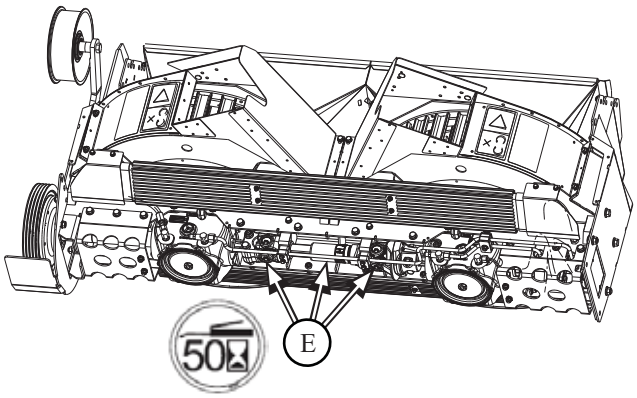
- Check that all rubber components are in place
  - Side of sieve extension tight to wall **D**
  - Top of transition panel **D1**



- Check for loose hardware, broken metal pins or components and loose or broken header parts
- tighten hardware as required
- remove/replace broken pins and components

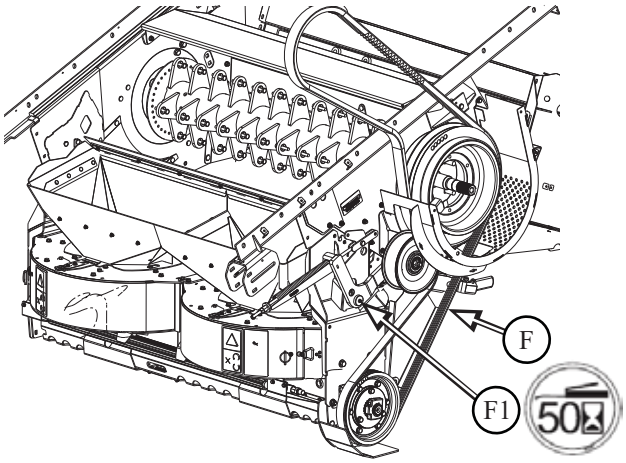
WEEKLY MAINTENANCE

- Grease Drive Shaft between gear boxes at 50 hour grease nipple (**E**) x3
  - turn pulley until grease zerks are visible between guard holes (guards not shown for illustration purposes only)



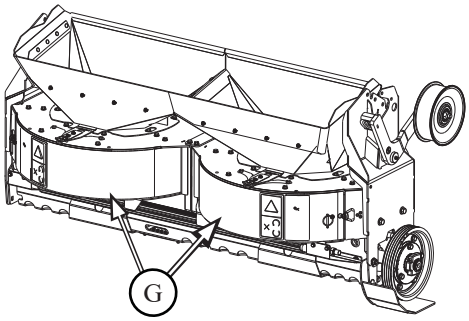
- Check Drive Belt (**F**) for wear and proper tension
  - adjust belt tension if required

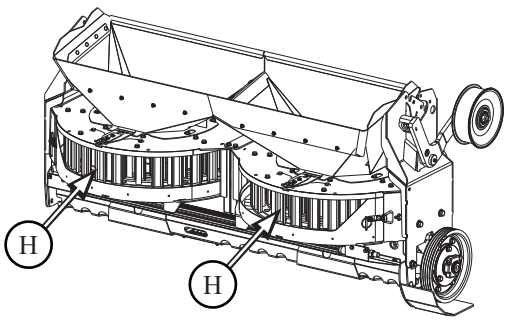
- Grease belt tensioner/idler arm at 50 hour grease nipple (**F1**)
  - Use Extreme Pressure Lithium Grease



- Remove Front Access Panels (**G**) and Check Rotors and Stators (**H**) for build up of material and wear

Kickback Hazard when removing access panels
- panel will spring back when unlatched

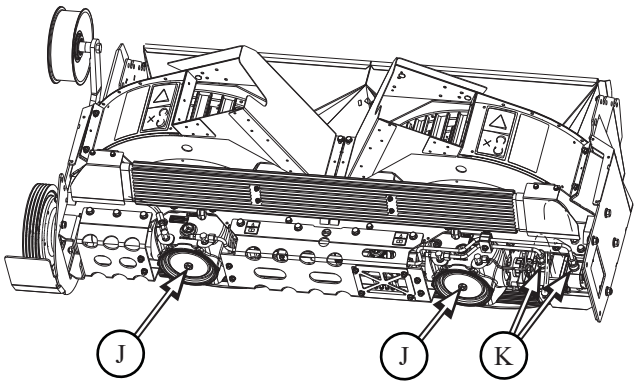




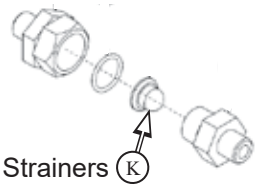
REDEKOP™

FIRST 100 HOURS MAINTENANCE

Change Oil in Gear Boxes **(J**), refer to section 3.4



Check and clean Suction Strainers (**K**), refer to section 3.6



Suction Strainers (K)

ANNUAL MAINTENANCE

- Drain gearbox oil and refill with new oil

- Check and clean suction strainers

- Check for oil leaks

- Check bearing

- Check drive belt wear

- Clean Seed Control Unit interior and exterior

- Check stators and rotor for wear and breakage

- Check fan and scraper blades for wear

- Check for loose hardware, broken metal pins or components

- Check bearing lock collar is locked onto driveline shaft

Review remainder of Operator's Manual for complete maintenance checks and procedures

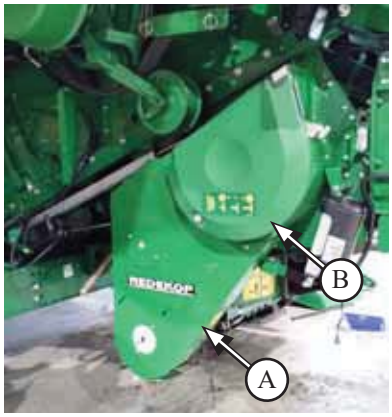
3.2 DRIVE BELT

Recommended Service Interval - 50 hours - Weekly

To access the SCU drive belt, remove lower drive belt shield (**A**) and upper drive belt shield (**B**).
Reinstall after all belt adjustments have been made.

If excessive belt temperatures are evident, or the Seed Control Unit seems to be losing excessive speed during operation in tough or heavy conditions, the belt tension is not sufficient and should be adjusted immediately. Look for cracks, frayed edges, or any imperfections that may result in breakage.

If a belt edge shows excessive wear, check for mis-alignment of the sheaves and correct if necessary.

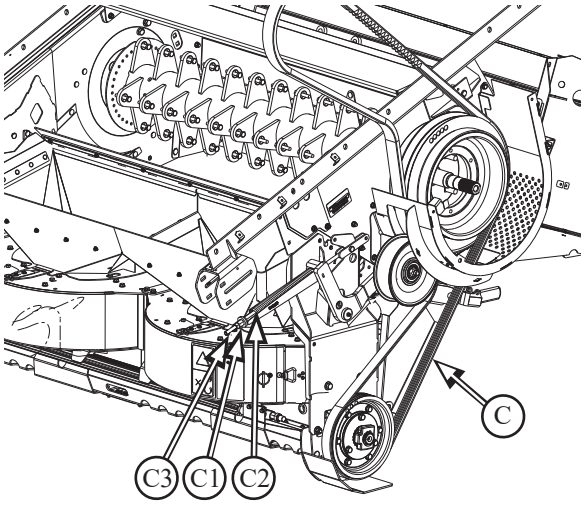


3.2.1 Seed Control Unit Drive Belt

To adjust tension of the drive belt (**C**):
Tighten or loosen tension nut (**C1**) in such a way that the length of the spring (**C2**) equals the length of the gauge (**C3**).
Loosen the tension on the tensioning system if the belt has to be replaced.

Keep Hands Out!

NEVER OPERATE WITHOUT SHIELDS IN PLACE!

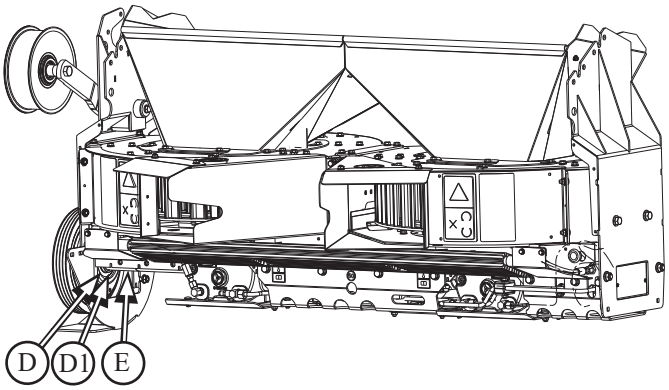


3.3 BEARING (D)

Recommended Service Interval - Annually

Bearing comes pre-greased, there is no requirement to grease in season.

Check bearing lock collar (**D1**) is locked onto driveline shaft (**E**).



3.4 COSMETIC

Recommended Service Interval - 10 hours - Daily

Clean off residue from top of Seed Control Unit to prevent excess moisture from collecting.

3.5 GEARBOX (C)

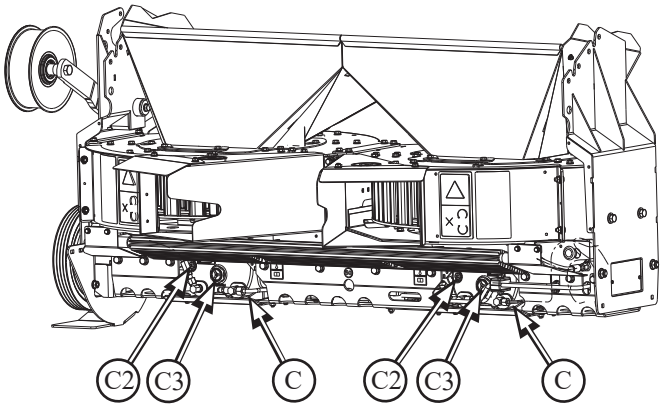
Recommended Service Interval - After 1st 100 hours - Annualy

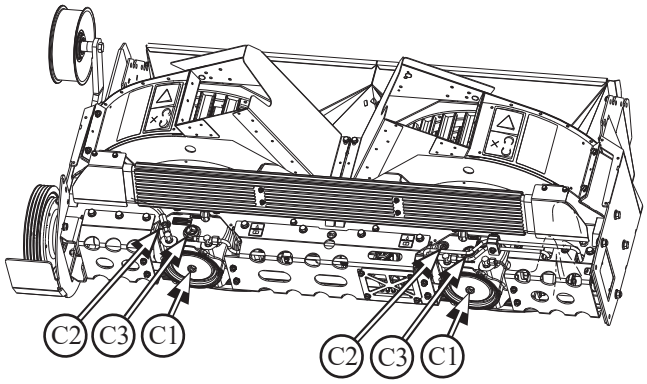
After 1st 100 hours - Gearbox break-in
- Drain oil through bottom plug (**C1**)
- Replace oil with synthetic 75W-90 synthetic gear oil, with GL4 or GL5 extreme pressure rating
  - 1.1 litres of oil per gearbox
  - 3 litres of oil for complete circuit when completely drained, including gearboxes

- Check and clean suction strainers as per section 3.6

- Fill oil at plug (**C2**) until sight guage (**C3**) is full, run system at low speed, stop and fill until oil level is in middle of sight guage

- Check and clean plug magnet (**C1**) before reinstalling

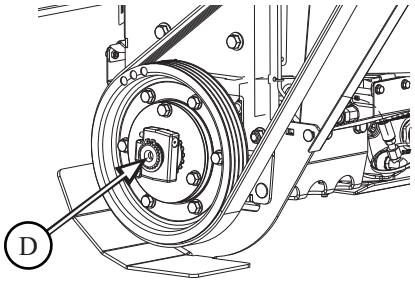




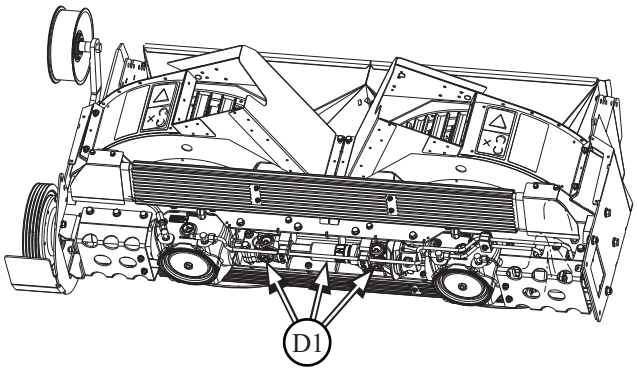
3.6 DRIVELINE (D)

Recommended Service Interval - 12 hours - Daily
Recommended Service Interval - 50 hours - Weekly

Grease daily (**D**)



Grease weekly (**D1**)

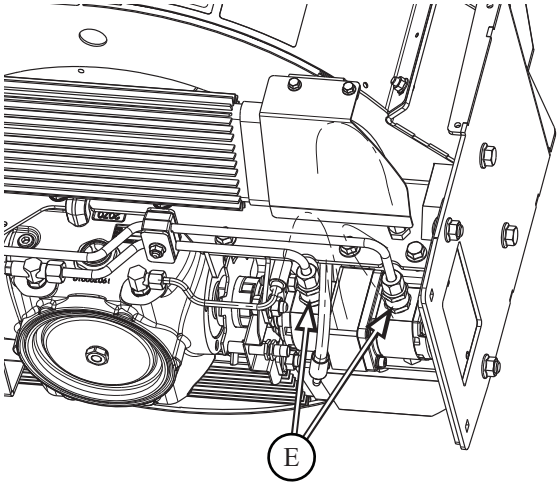


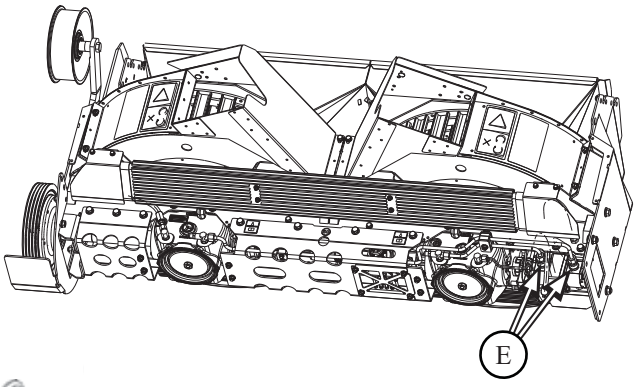
3.7 INLINE COOLING FILTER

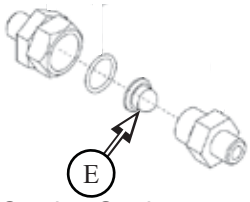
Suction Strainer (E) for Cooling System

Recommended Service Interval - After 1st 100 hours - Annualy

Check and clean suction strainers
Reassemble







Suction Strainer

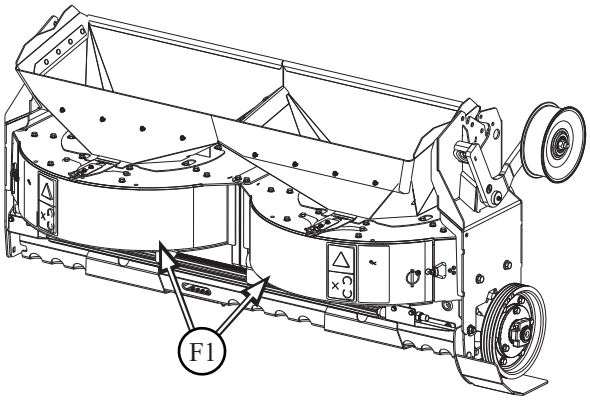
3.8 CLEANOUT (F)

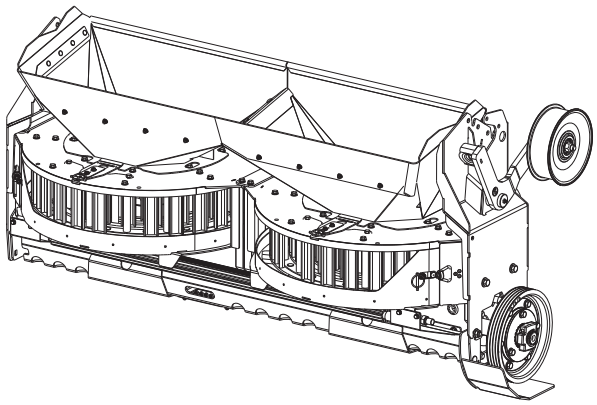
Recommended Service Interval - As required or Annualy

Thoroughly clean the out debris from SCU and inside of chaff impact mill with compressed air (if equipped, use integrated air compressor system).

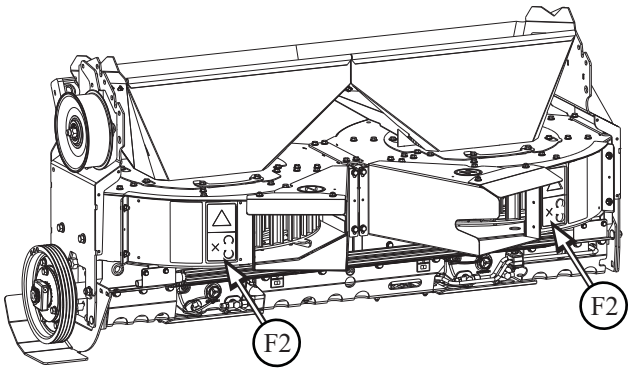
- remove front access panels (**F1)** and use air wand.
If debris is stuck in place, may require to remove rear discharge panels (**F2)** for better access.

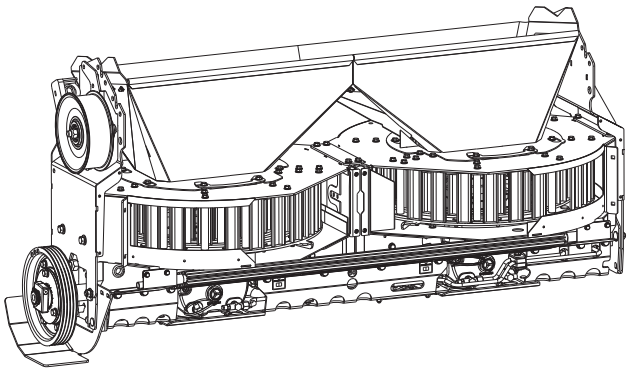
- ensure access panels (**F1**) are sitting on bottom lip and sealed along complete door.





Kickback Hazard when removing access panels
- panel will spring back when unlatched





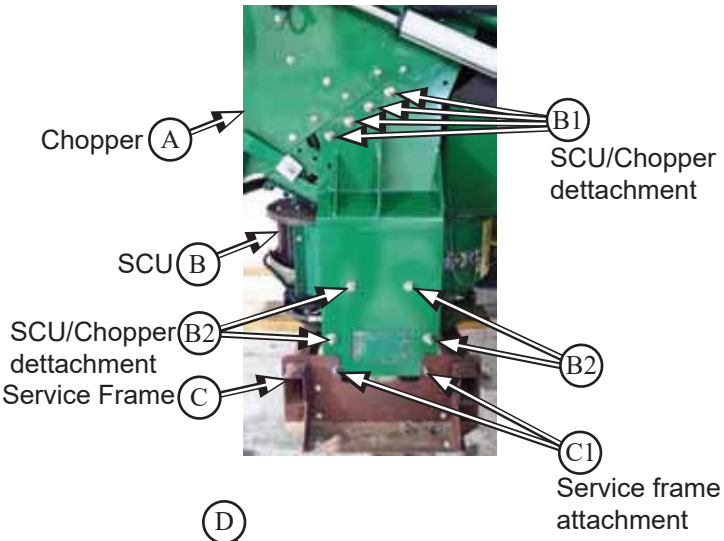
3.9 STATORS (G)

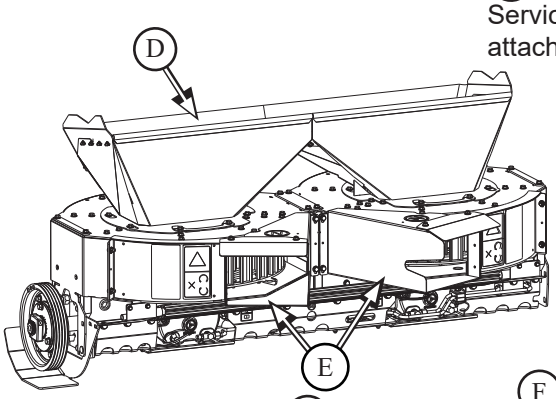
Recommended Service Interval - Annualy

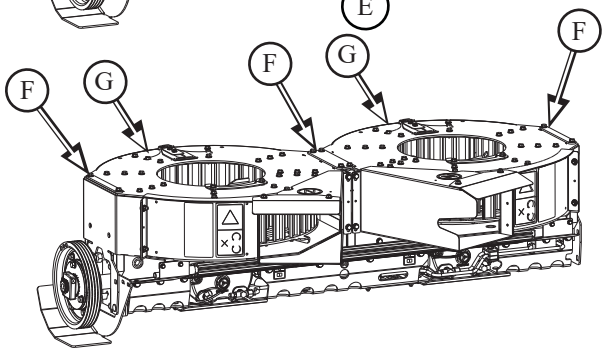
To service/replace the rotors and stators, the SCU must be removed from the chopper.

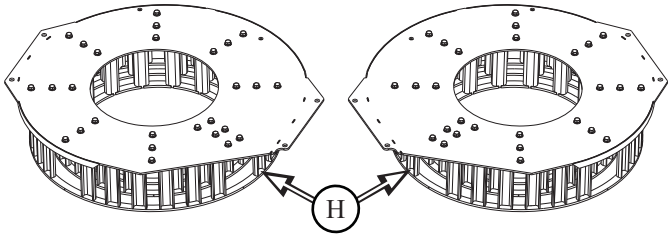
1. Use proper lifting equipment
   - removal of tailboard may be required, if so, follow installation instructions
2. Slide chopper (**A**) with SCU (**B**) up into transport position
3. Attach service frame (**C**) to SCU (**B**) at (**C1**) both sides
   - with forklift supporting SCU in service frame
4. Disconnect all harness connectors and ties on right side plate
5. Remove drive shield and drive belt
6. Remove SCU (**B**) from Chopper (**A**)
   - remove mount hardware (**B1**) x4 from top of side plates
   - both sides
7. Remove SCU (**B**) from side plates
   - remove mount hardware (**B2**) x4 from bottom of side plates
   - on left side, loosen lower mounting bolts (**B2**) x2 on backside, do not remove
   - both sides
8. Set side plates to the side
9. Lower SCU (**B**) until hopper clears bottom of the chopper and set on to level ground for servicing
   - for full access to the SCU, forklift can be removed

To access stators (**G**) with the SCU removed from the straw chopper:
- remove hopper (**D**) from top of SCU
- remove rear discharge panels (**E**)
- remove top stator link brackets (**F**)
- remove top stator plate assemblies (**G**) left and right
- clean and inspect for wear and breakage on stators (**H**) left and right





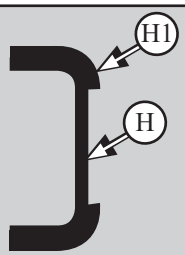




Remove the top plates (**G1**) from the stator assembly (**G**)

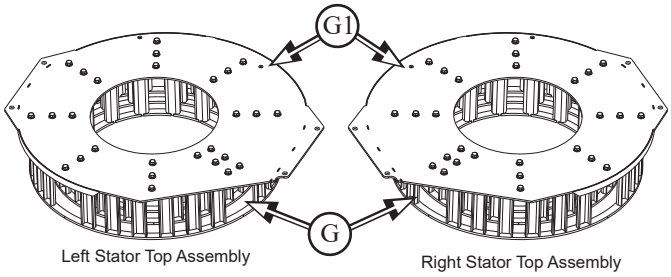
Worn Stators on left assembly can be removed from top plate, reassembled to right stator plate, and mounted on the right side. Same process applies for the right assembly.

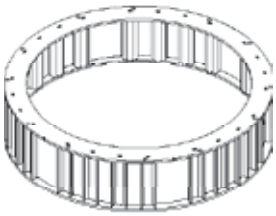
Replace worn out or broken stator sections.



Once coating (**H1**) on stator bars (**H**) has worn through one side, move the stator ring to the opposite side.

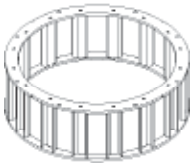
If allowed to continue wearing beyond the coating into the material of the bar, the structural integrity will be damaged and cannot be reused.





Outer Stator Ring Insert 24 U Bar

Mid Stator Ring Insert 20 U Bar

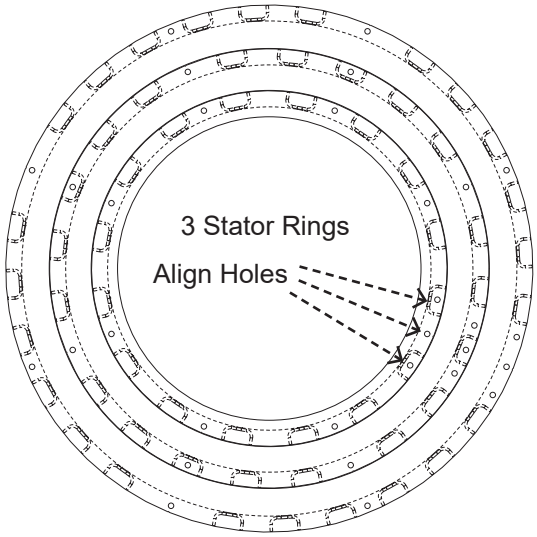


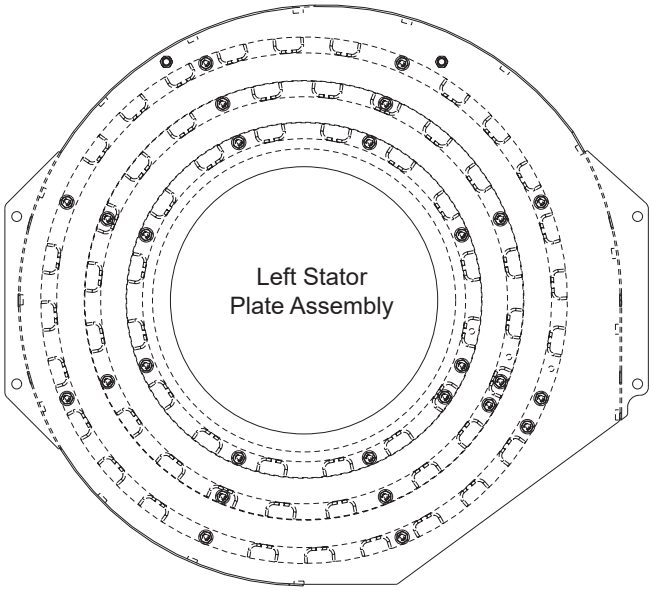
Inner Stator Ring Insert 16 U Bar

Assemble stators to top cover plates as follows:

- place stator rings inside of each other
  - inner, middle and outer

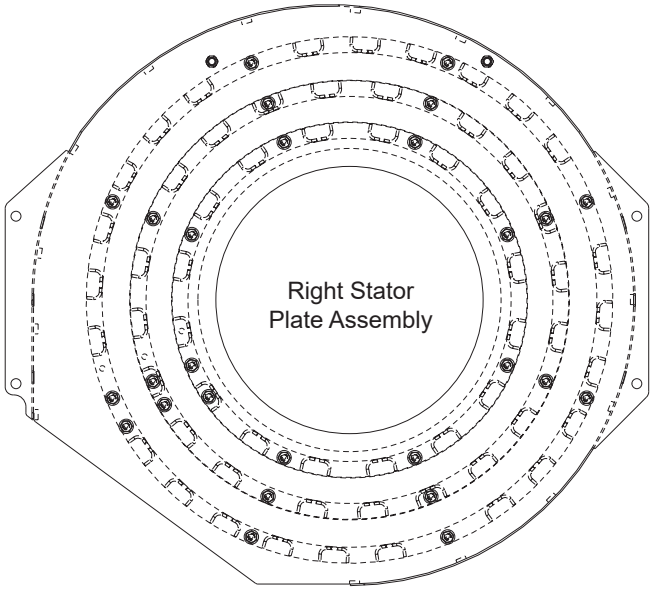
Align the 3 bolt holes on top of each of the stator rings together, middle holes will line up

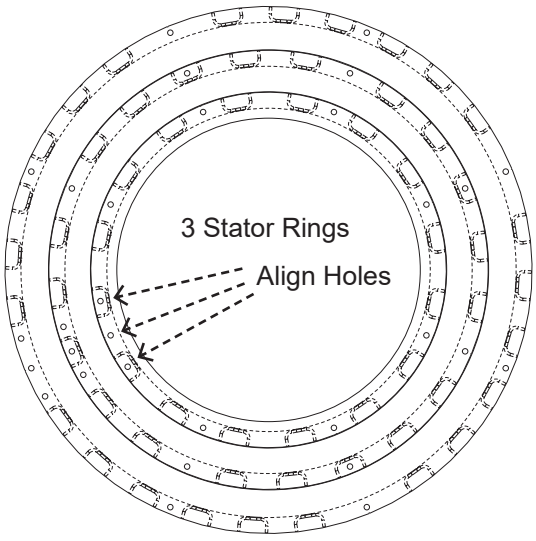




Assemble top plate onto stators

- Start all mounting bolts by hand and hand wrench/spanner so threads do not get damaged in stators

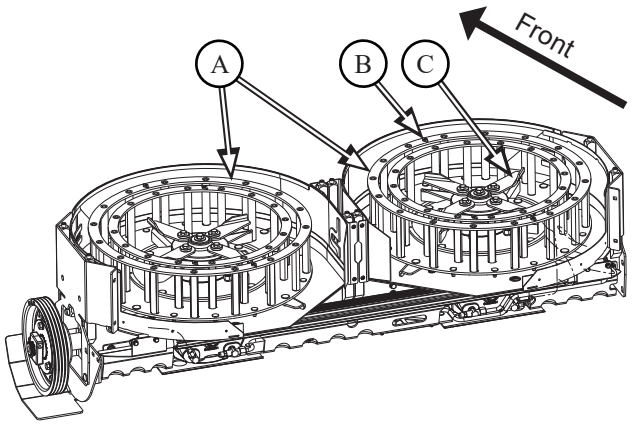




3.10 ROTOR (H)

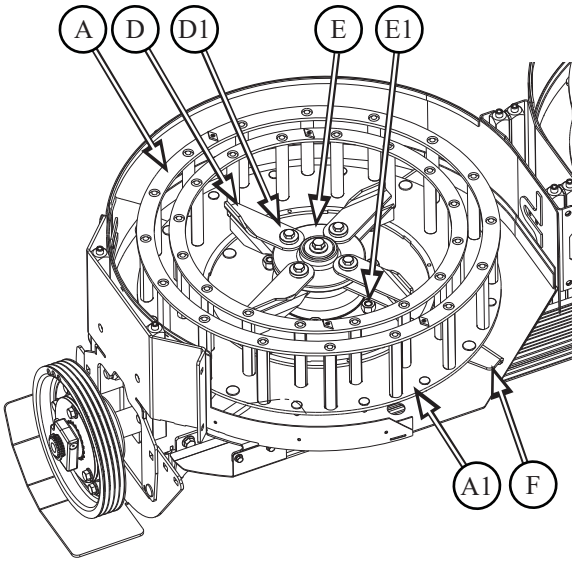
Recommended Service Interval - Annualy

With Stator Assemblies removed:
Clean and check Rotor Assemblies (**A**) left and right for wear and damage
Replace worn out top Scrapers (**B**)
Replace worn out Fan Blades (**C**)



The Rotor Assemblies (**A**) may have to be removed to replace the bottom scraper blades (**F**) or for rotor (**A1**) replacement or to move to other side of SCU.

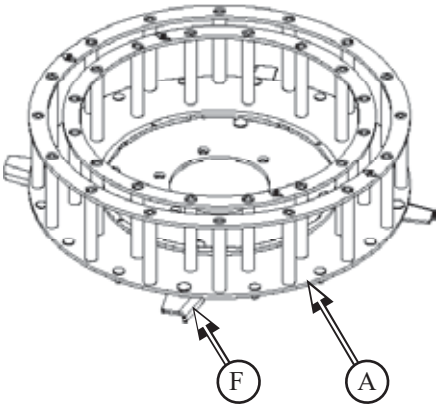
To remove the Rotor Assembly (**A**) from the SCU:
- remove fan blades (**D**) mounting bolts and hardware (**D1**) x4
- remove rotor to hub (**E**) mounting bolts (**E1**) x6 from bottom of rotor (**A**)
- pull rotor (**A**) off of SCU
- repeat for other side



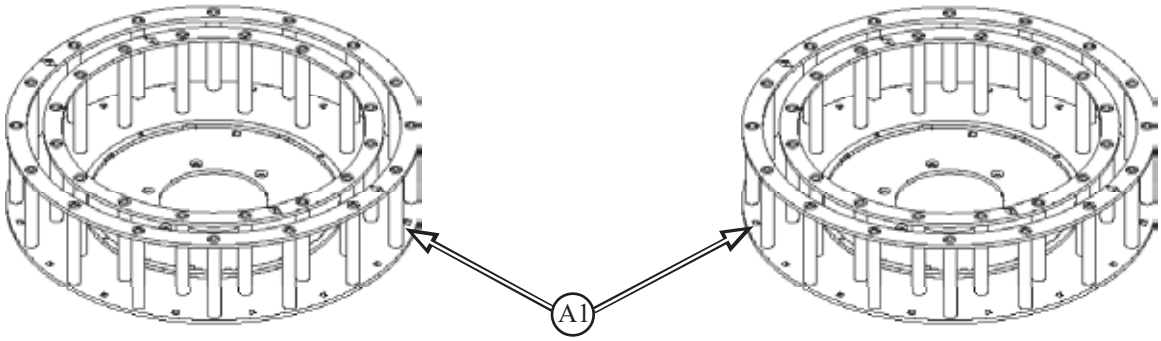
Fan Blades and Hardware:

Check all bushings and hardware for cracks, breaks and wear. Replace with new if broken.

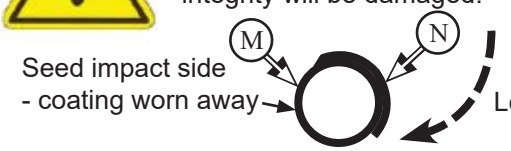
Remove scraper blades (**F**) from bottom of rotor assembly (**A**)



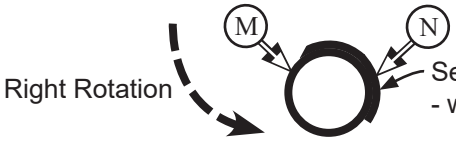
Check rotor for wear on rotor bar coating



Once coating (**N**) on rotor bars (**M**) has worn through one side, move the rotor (**A1**) to the opposite side. If allowed to continue wearing beyond the coating (**N**) into the material of the bar (**M**), the structural integrity will be damaged.



Worn out rotor bar on left rotor



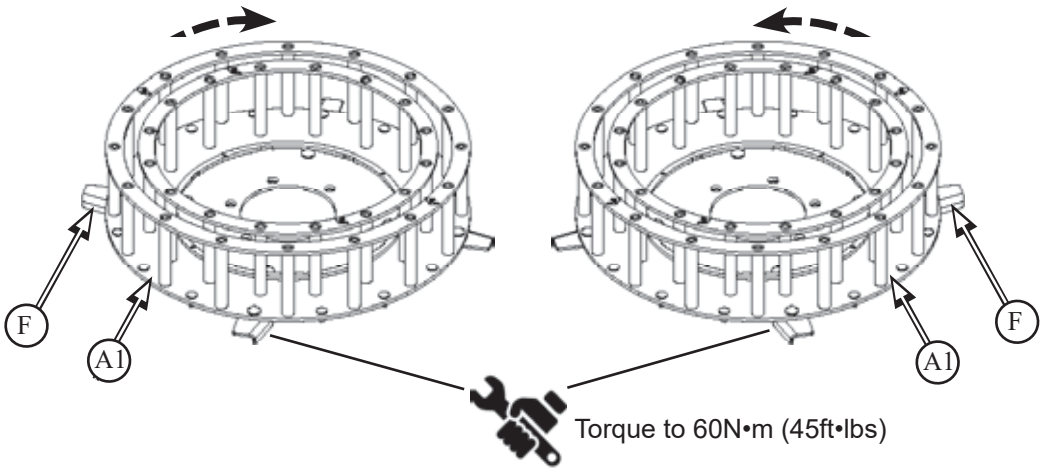
Worn out rotor from left side moved to be used as the right rotor

If coating has worn out and the structural integrity is intact, the rotors can be switched to the opposite side. All blades will have to be reinstalled with correct orientation of rotation.

Assemble scraper blades (**F**) x4 to bottom of rotors (**A1**) x2
- torque to 60N*m (45 ft*lbs)

Note orientation of coating on rotor bars - ensure coating is facing direction of rotation.

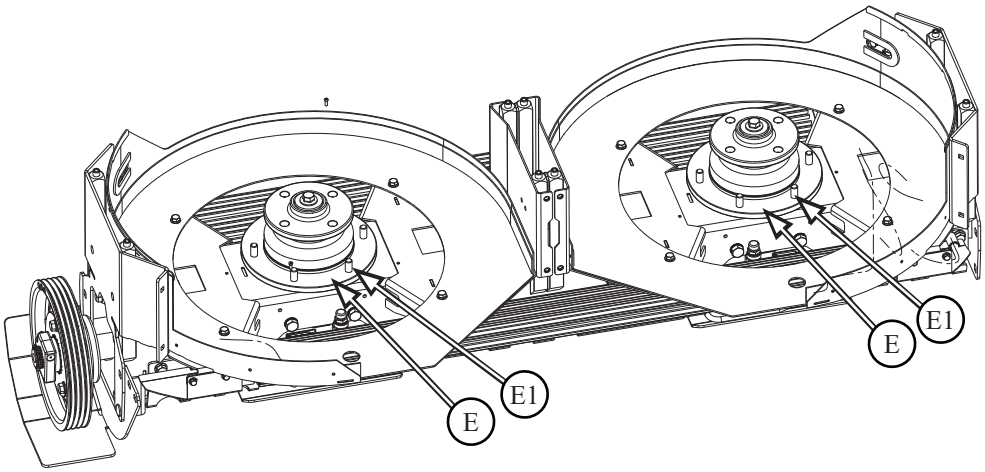
Note orientation of paddle on blades for each rotor if replacing.



Left Rotor Assembly

Right Rotor Assembly

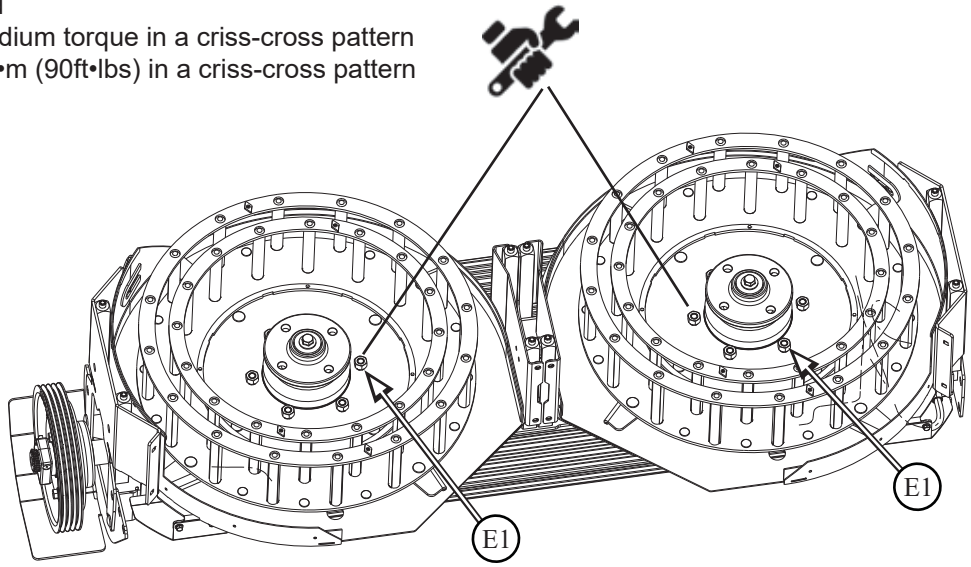
Reinstallation of rotor assemblies (**A**)
- Clean bottom of rotor and top surface of hub mounting surface (**E**)

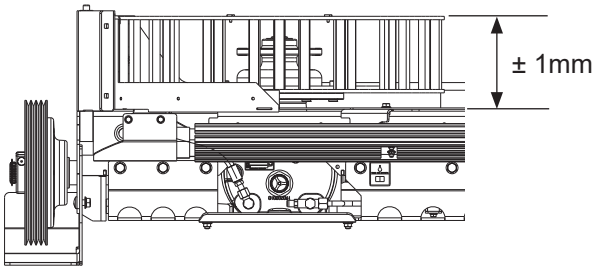


Place rotor assembly (**A**) onto hub (**E**). Ensure rotor is sitting flat on the hub

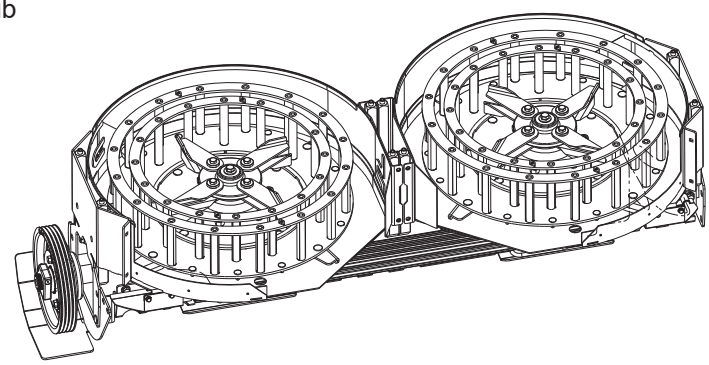
Attach rotor to hub mounting bolts (**E1**) x6 - torque to 122 N*m (90 ft*lb)
- measure top of rotor to surface of bottom frame plate
- rotate rotor 1/4 turn and measure again
- repeat 2 more times
- all measurements should be within 1mm of each other
  - if not, remove rotor and ensure all surfaces are clean
- reattach rotor, repeat measuements

Tighten all nuts by hand
Tighten all nuts to a medium torque in a criss-cross pattern
Torque all nuts to 122N•m (90ft•lbs) in a criss-cross pattern



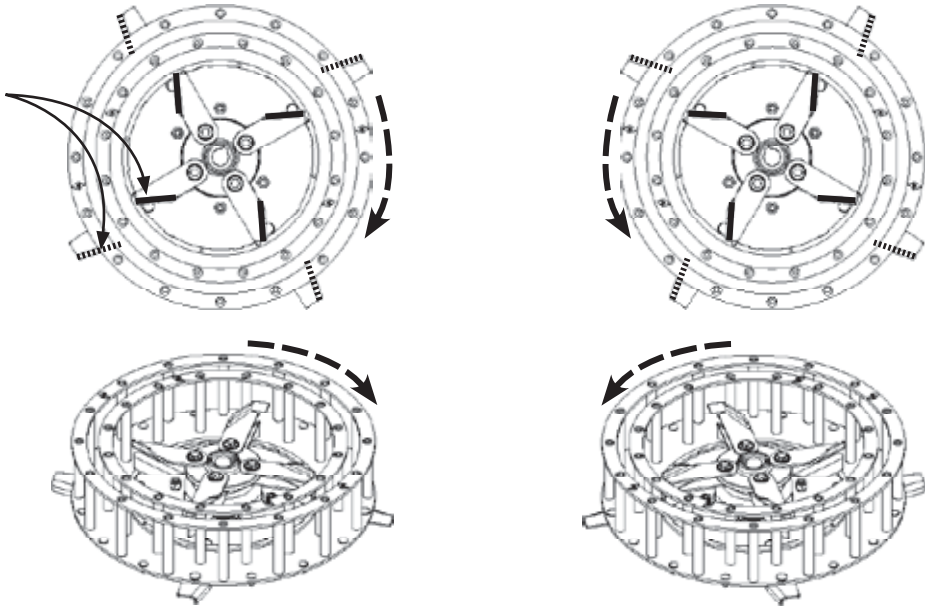


Reattach fan blades to hub



Note orientation of fan blades for each rotor if replacing

Note orientation of paddle on fan blades (**L**)



Left Rotor

Right Rotor

Fan Blades and Hardware:

Torque to 60N•m (45ft•lbs)

M10x55 Bolt

Bushing

Fan Blade

Bushing

Torque bolts to 60 N*m (45 ft-lbs)

Ensure blades rotate freely

Bushing

Fan Blade

Bushing

M10 Nut

**** ENSURE BLADE ORIENTATION MATCHES ALL BLADES IN ASSEMBLY WHEN COMPLETE ****

3.11 Miscellaneous

Recommended Service Interval - as required

Check tire pressures on combine

Tire Pressure:
The SCU adds 660kgs / 1450lbs to the rear of the combine.
Refer to the specifications of the tire and adjust tire pressures accordingly.

4 SCU MONITOR

The Redekop Control System is designed to be displayed on ISO compatible virtual terminals

The Home Screen for each combine version and version of the monitor will look different, however, the Redekop SCU Monitor will appear on a separate page of the monitor once set up as a run screen
– scroll to the right or left (**B**) to find the Redekop Home screen once the run screen has been setup.

4.1 ISOBUS Display

Showing John Deere S700 series - generation 4 display

(A) - Run Page

(B) - Next or Previous Run Page Buttons

(C) - Menu Button

Locate Redekop screen upon initial connection:
select <Menu> button (**C**)

select <Applications> button (**D**)

select <ISOBUS VT> button (**E**)

select <Sensor System / RM (Redekop)> (**F**)

REDEKOP™

The following monitor icons display throughout the pages:

(**A**) = Straw Chopper

(**B**) = SCU

(**C**) = Settings Screen

(**D**) = Home / Parent Screen

(**E**) = ECU Information

(**F**) = Alarm History

(**G**) = Defaults Screen

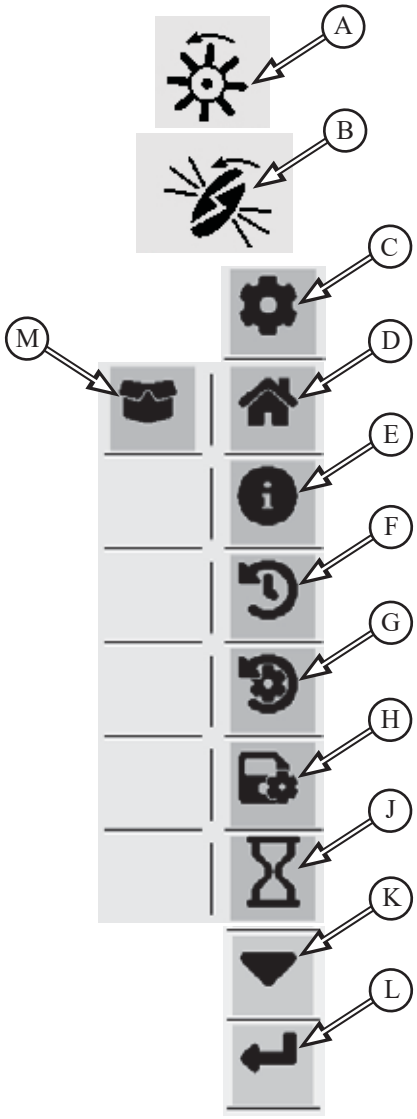
(**H**) = Save Settings

(**J**) = Time

(**K**) = Page Up or Down

(**L**) = Back one page

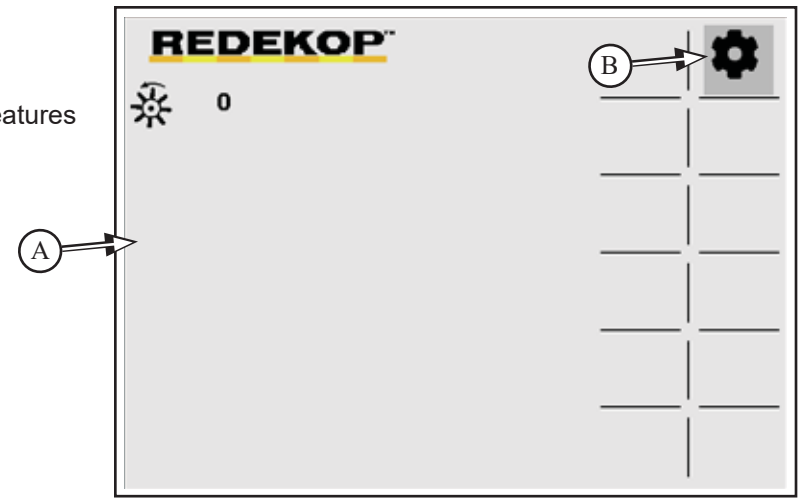
(**M**) = Installed Features Screen



4.2 Installed Features Screen

Redekop Home screen (**A**)

Select <Settings> button (**B**) to display Installed Features page (**C**)

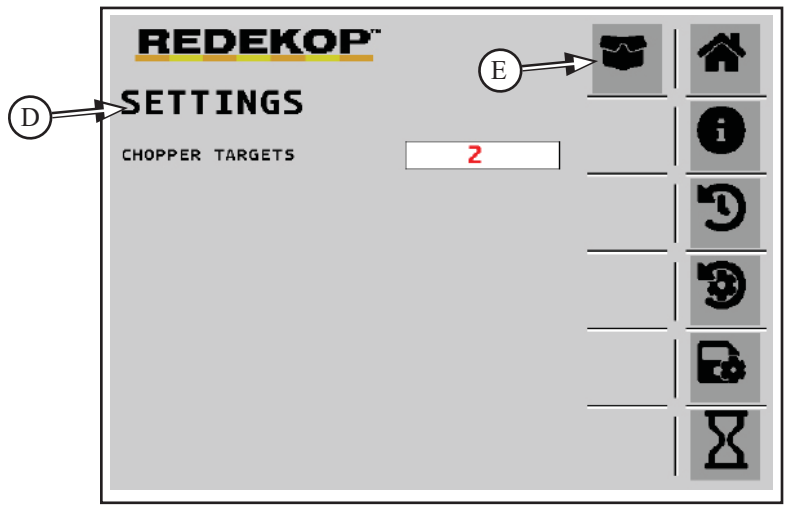


4.2.1 Installing SCU Feature

SCU feature needs to be installed with software code

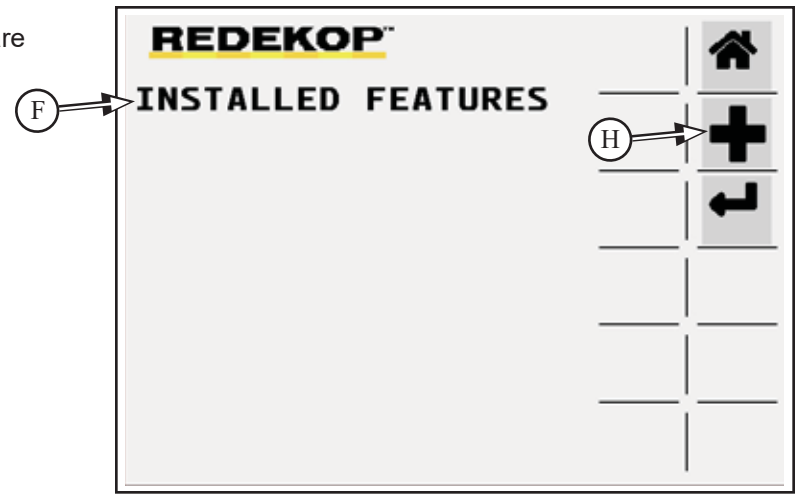
From the installed features screen, select <plus sign> button (**C**) to display Settings screen (**D**)

Select <Installed Features> button (**E**)

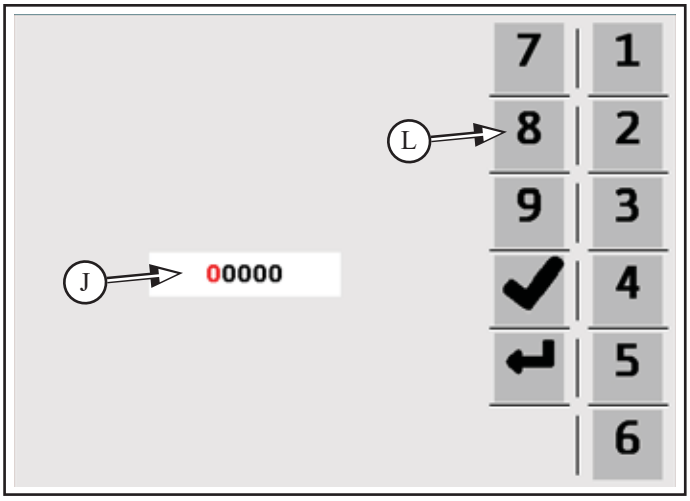


Installed Features screen (**F**) displays list of software features that are installed

Select <Plus Sign> (**H**)



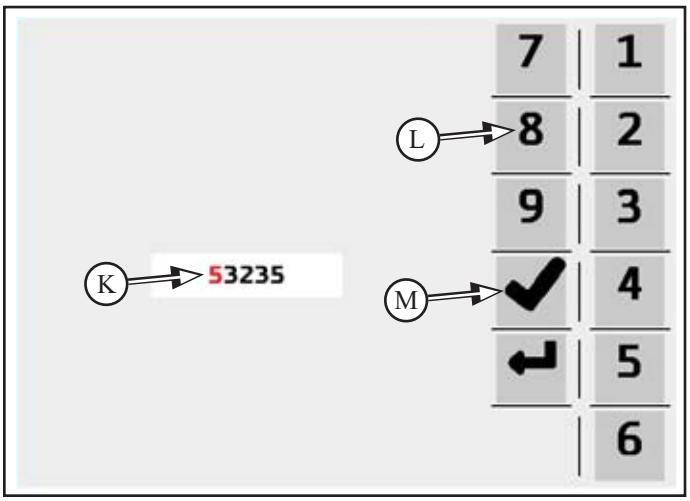
Screen defaults to code input screen displaying 00000 (**J**)



To enter new code (**K**), select <numbers> (**L**) on sidebar, code (**K**) will dispay in center of screen.
To correct a mistyped number, start over. The cursor returns to the first digit after the last digit is entered.

SCU Code: 53235

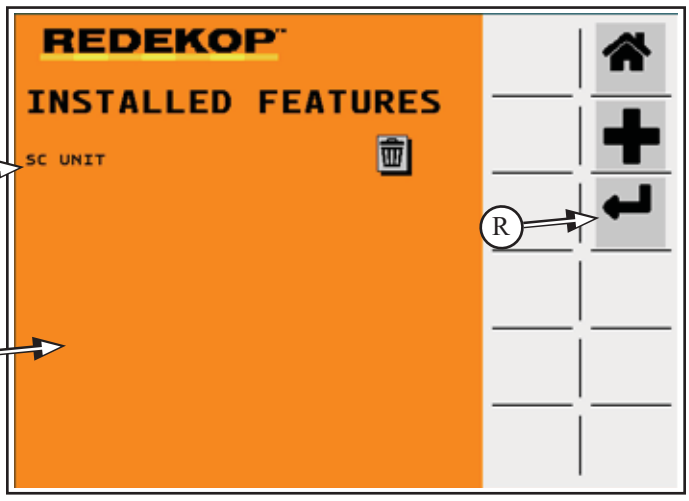
Select <Checkmark> (**M**) to confirm code



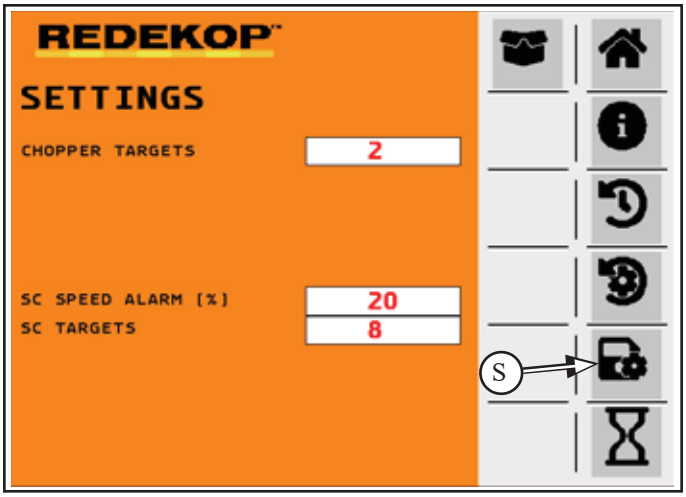
SC Option (**N**) now displays on INSTALLED FEATURES page

Orange color (**P**) display signifies unsaved feature

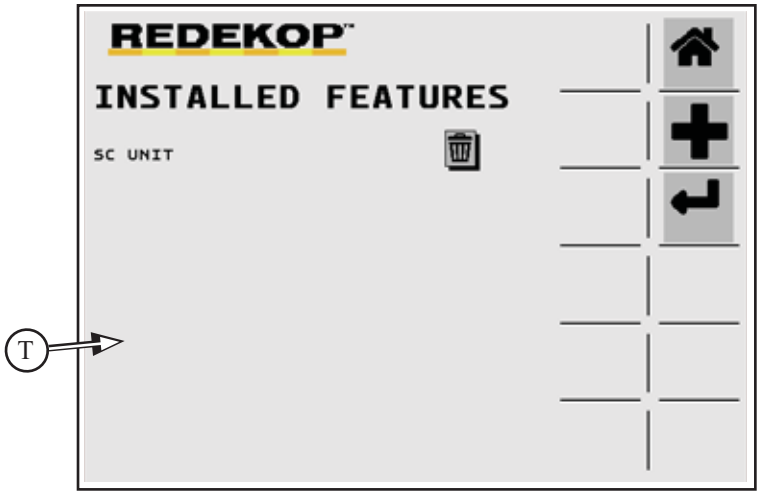
Select <Back Arrow> button (**R**) to display settings screen to save feature code



Select <Save> button (**S**)

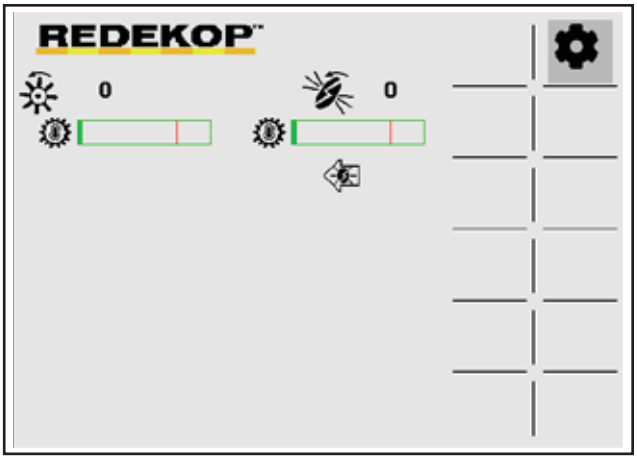


Installed Features screen now displays in gray (**T**)



4.3 Redekop Screen

REDEKOP page is displayed and ECU verified connected



To create a Redekop run screen, see 4.8 or consult your combines operators manual

After run screen has been created, the Redekop page appears, the following information is displayed:

(**A**) = Chopper Operating Speed

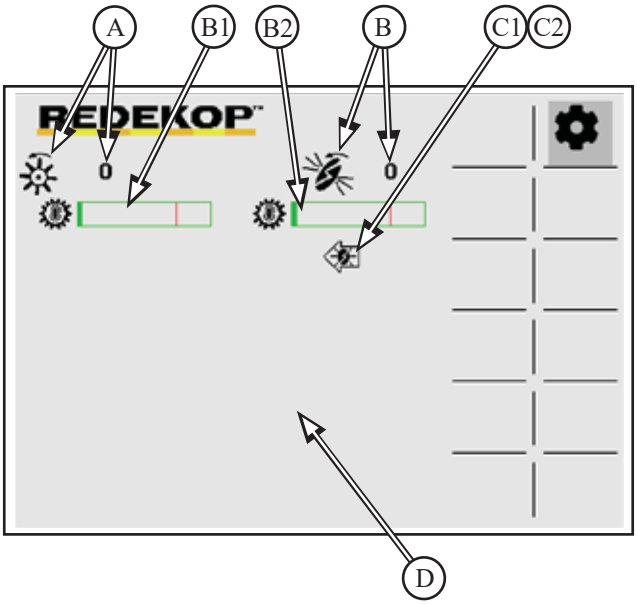
(**B**) = SCU Operating Speed

(**B1**) = Temperature Indicator of the left-hand side Gearbox

(**B2**) = Temperature Indicator of the right-hand side Gearbox

Chopper Door Position Indicator
(**C1**) = SCU Position
(**C2**) = Chopper only mode

(**D**) = Alarm Display Zone to display the alarms. See Settings Screen in this section for defined alarm setpoints.

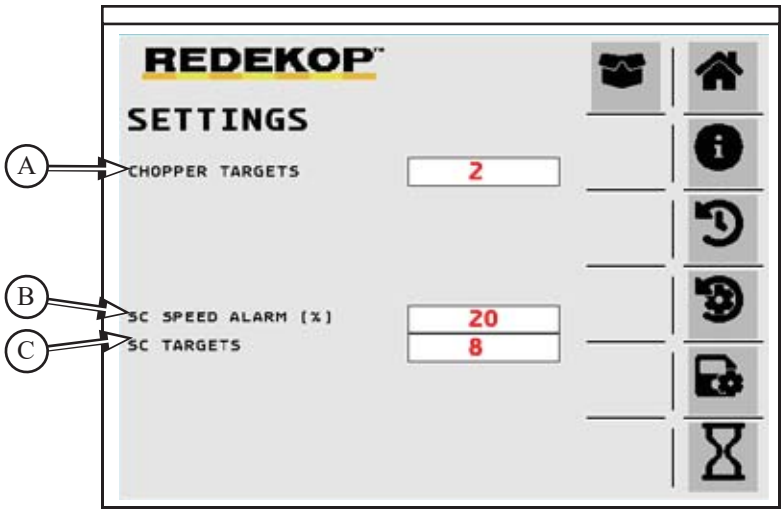


4.4 Settings Screen

CHOPPER TARGETS (**A**) - targets recorded per revolution of the chopper shaft (default is 2 for JD S7-Series)

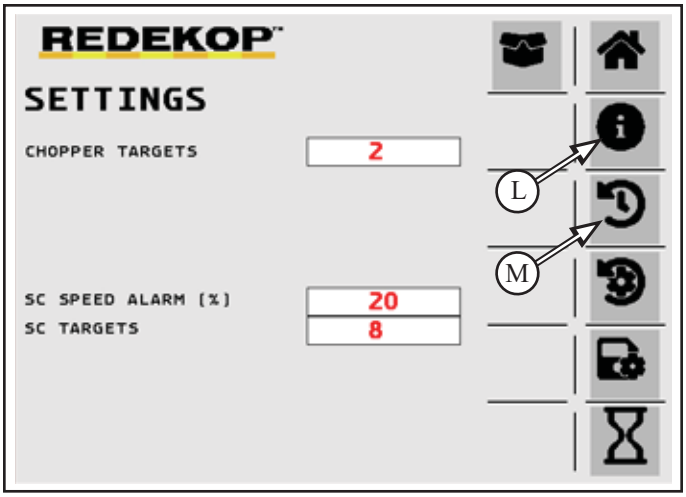
SC SPEED ALARM (**B**) - the alarm setpoint % below the maximum recorded speed measured during system startup - default is 20% (if the speed drops by 20% the alarm will go off)

SC TARGETS (**C**) - targets recorded per revolution of the SCU shaft (default is 8 for JD S7-Series)



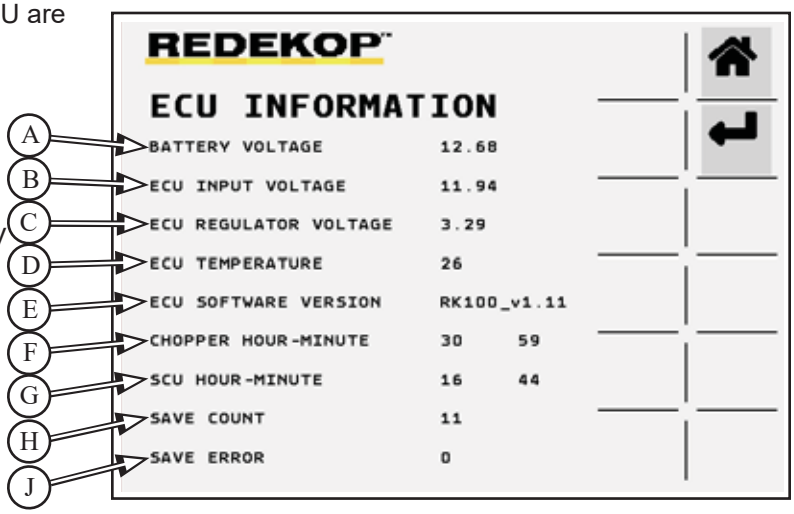
4.5 ECU Diagnostics Screen

From the Settings Screen, select <ECU Information > button (**L**)



4.5.1 ECU Diagnostic Screen

The following operation values for the Redekop ECU are displayed:



Operating Ranges:

(**A**) Battery Voltage - above 10V

(**B**) ECU Input Voltage (from ISO Bus) - above 9.5V

(**C**) ECU Regulator Voltage - above 2.8V

(**D**) ECU Temperature - range of -40 to +105C

(**E**) ECU Software Version

(**F**) Chopper Runtime (hours - minutes)

(**G**) SCU Runtime (hours - minutes)

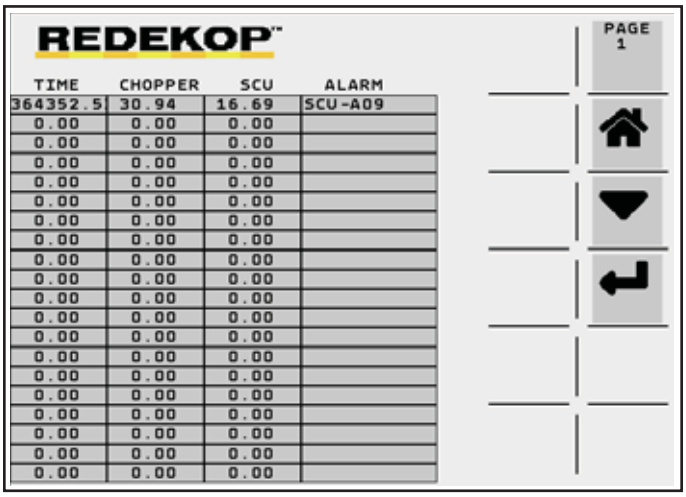
(**H**) Save Count - diagnostic value - above 0

(**J**) Save Error - diagnostic value - should be 0

4.5.2 Alarm History Screen

From the Settings Screen, select <Alarm History > button (**M**)

Records Chopper time, SCU time and alarm triggered at that time



4.6 Alarm Displays

ATTENTION!
Low battery or alternator voltage can cause system errors

ALARM TEXT	ALARM SYMBOL	ACTION / INFORMATION
Low Battery Power Check Fuse (Battery Voltage Low)		Check fuse on Redekop wiring harness - replace if required
Low ECU Voltage Check ECU (ECU Voltage Low)		Check the harnessing and connectors for damage or clean connectors (make sure Combine is running and alternator is good)
Low Regulator Voltage Check ECU! (Regulator Voltage Low)		Internal failure to ECU - send for repair
Internal Baffle Out of Position (may indicate Plugging condition)		Check position of internal baffle - see section 2.21 & 2.2.2
Disengage SCU! Chopper is Disengaged (SCU Spinning)		Check sensor clearance (range =)
Current Overload (Actuator Overload)		Check chopper slide, if binding fix problem
Chopper On, Tailboard Down (Actuator Ladder Position)		If equipped with ladder sensor / ladder, check position
ECU Temperature above 115C (ECU Temperature High)		Internal failure to ECU - send for repair
Pressure Below Threshold (Oil Pressure Low)		Check cooling circuit for leaks, add oil to middle of sight gage
Temperature Above Threshold (Oil Temperature High)		Check oil level, check suction strainers, check cooler elements
SCU Unit RPM Low (SCU Low RPM)		Check sensor & belt, belt tension
Temperature # Sensor Disconnected (Oil Temperature Disconnected)		Check sensor

4.7 Creating a Redekop Run Page for S7 Series Combine

On home screen, select <Menu>

Select <Applications>

Select <Layout Manager>

Select <All Run Pages>

Select <Add New>

Select <Run Page Name>

Type in <REDEKOP>
or other eg: SCU etc
Select <OK>

Select <Add to Module>

Select <Applications>

Select <ISOBUS VT>

Scroll down until Agtron Enterprise
Inc Sensor System appears

Important: Agtron Enterprise
Inc Sensor appears only if the
relevant control unit is detected

Select <Add>

14 - select <Save>

Select <Active Set>

Select <Active Run Pages>

Select <Add Run Page>

Select <Redekop>

Select <Checkmark>

To finalize the Run Page creation, select <Save>. The Redekop run page is now available in the active run pages list that can be recalled

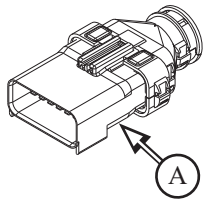
Screen showing total run pages in system

4.8 Changing Monitor to Chopper Service Mode

To allow actuators to move for chopper installation

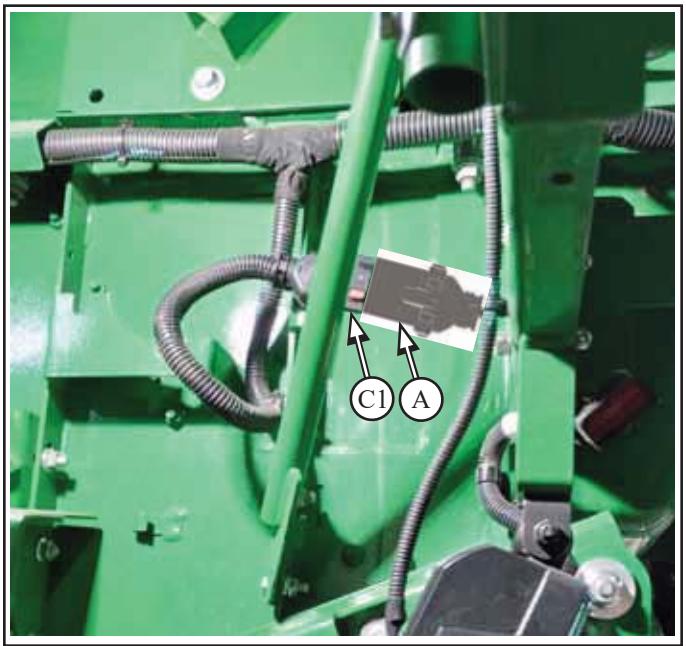
Parts List:

RP1737 Harness Loop S7 Active Tailboard (**A**) Qty 1



4.8.1 Disconnect tailboard spreader controller harness connector (**B1**) from main harness connector (**C1**)

4.8.2 Connect harness loop connector (**A**) into main harness connector (**C1**)
- to be removed when spreaders are reinstalled
- this will bridge the CAN BUS connection when spreaders are removed and alow the movement of the chopper actuators



4.8.3 Configure console in cab

4.8.4 Changing Monitor to Chopper Service Mode Steps

4.8.4.1 Select Menu (**A**)

4.8.4.2 Select System (**B**)

4.8.4.3 Select Diagnostics Center (**C**)

4.8.4.4 Select Controllers (**D**)

4.8.4.5 Scroll down (**D1**)

4.8.4.6 Select HAD Controller (**E**)

4.8.4.7 Stay on Readings Tab (**F**)

4.8.4.8 Select Search (**F1**)

4.8.4.9 Type in SERVICE (**F2**)

4.8.4.10 Select OK (**F3**)

4.8.4.11 Select Chopper Position Service Mode Enable (**F4**)

4.8.4.12 Select Disabled (**F5**)

4.8.4.13 Select Enabled (**F6**)

4.8.4.14 Select OK (**F7**)

4.8.4.15 Screen displaying Chopper Service Mode - Enabled (**F8**)

4.8.4.16 Leave combine key in ON position in order to operate actuators

4.8.4.17 Once chopper is reinstalled, complete steps in reverse order to disable Service Mode

5 TROUBLESHOOT

5.1 Are your drive belts slipping?
- Check belt
    - for wear, rips or any glazing
    - glazing indicates sign of belt slipping
- Check the tension of your belt
    - end of the spring must align with the tension indicator
    - If the belts are too loose you'll get insufficient traction and cause excessive wear on the belts
    - If the belts are too tight there will be excess wear on the belt and on the sheave
- Check belt tensioner
    - freely moving and not binding
    - set correctly
- Check drive sheaves
    - are aligned
        - visually or by alignment tool
        - check paint wear in sheave grooves. Should be even between all grooves
    - excessive wear on grooves of sheave

5.2 Is there chaff / grain embedded in the drive belt and sheaves?
- Determine where the chaff is coming from and redirect chaff flow away from the belt.

5.3 Can the SCU stator rings be reused?
- The stators are designed to wear on only one side for each rotor - left or right. If the stator hardening coat has worn out and the base steel material has not worn out or through, the stator then can be reused on the opposite side. If the stator material has worn through, the structural integrity will be damaged and cannot be rused - use a new stator.

5.4 SCU Gearbox is hot
- Check oil level - ensure level is in middle of sight gage
- Check oil is circulating - check and clean suction strainer screen at pump inlet
- Check that correct oil has been used - Synthetic 75W90 GL4/5
    - change oil annually
- Check that coolers are clean. If static buildup, add static discharge chain to SCU

5.5 Green crop residue is plugging in the SCU mill
- Check scrapers on top of rotor ring and fan blades on bottom of rotor - replace if worn

5.6 Chaff plugging in SCU inlet?
- Check fan blade wear. If fan blade is worn, suction and airflow through the mill will be reduced
- Ensure all sieve extension belts are intact and installed to keep chaff and straw flow seperate

5.7 SCU Inlet hoppers are plugging
- Ensure the corn door (if equipped) is in small grains position to allow the straw to go through the chopper
- Ensure discharge beaters are throwing straw beyond chaff divider panel
    - Adjust discharge beater pan higher if possible
- If installed: check condition of straw tine deflector rods
- If installed: ensure conveyor is operating and properly tensioned

5.8 Monitor system errors?
- Low battery or alternator voltage - recharge battery
- Check the fuse in the harness connected to the battery
- Check harness is connected to battery

continued on next page

5.9 Monitor is blank/grey
- Ensure that the 12 volt auxillary power plug is plugged into the combine 12 volt socket
- Ensure the toggle switch on tablet harness adapter box is on and LED light is lit
- Ensure tablet battery is charged
- Power cycle monitor on and off

5.10 Actuator control / Monitor issues as a result of Electrical problems
- Check harnesses are not pinched
- Check harnesses are intact and not cut
- Check connectors are seated to each other
- Check pins in connectors are fully seated and clean
    - disconnect harness connector, review both male and female ends that pins are fully seated

6 WARRANTY

Redekop Manufacturing 2014, hereinafter referred to as “Manufacturer”, warrants each new Redekop Seed Control Unit (SCU) sold by the Manufacturer to be free from defects in material and workmanship, under normal use and service, for a period of one (1) year after the date of delivery to the original retail purchaser. The Manufacturer will, at its option, replace or repair, at the Manufacturer’s factory, or at a point designated by the Manufacturer, any part or parts which shall appear to the satisfaction of the Manufacturer upon inspection at such point, to have been defective in material or workmanship. This Warranty does not obligate the Manufacturer to bear any transportation charges in connection with the replacement of defective parts.

This Warranty shall not apply to any alteration which shall have been installed or operated in a manner not recommended by the Manufacturer; nor to any repaired, altered, neglected or used part in any way which, in the Manufacturer’s opinion, adversely affects its performance; nor to any modification in which parts not manufactured or approved by the Manufacturer have been used; nor to any accessories installed on the SCU where the accessory manufacturer has its warranty; nor to normal maintenance or replacement of normal service items.

Manufacturer reserves the right to modify, alter, and improve any SCU or parts without incurring any obligation to replace any SCU or parts previously sold with such modified, altered or improved SCU or part.

THIS WARRANTY, AND THE MANUFACTURER’S OBLIGATION HEREUNDER, IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, OR OF FITNESS FOR A PARTICULAR PURPOSE, and all other obligations or liabilities, including special or consequential damages or contingent liabilities arising out of the failure of any SCU or part to operate properly. No person is authorized to give any other warranty or to assume any additional obligation on the Manufacturer’s behalf unless made in writing and signed by an officer of the Manufacturer.

This Warranty is effective only for the original purchaser.

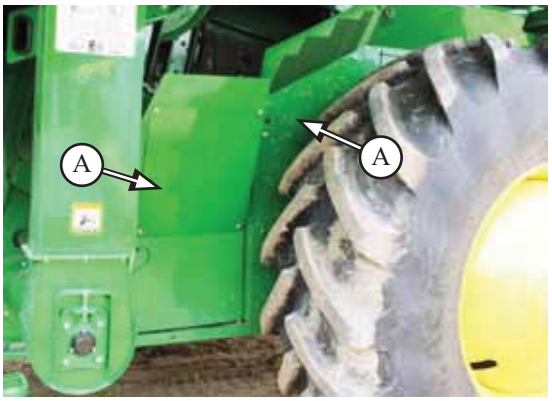
Redekop Manufacturing 2014
Saskatoon, SK Canada

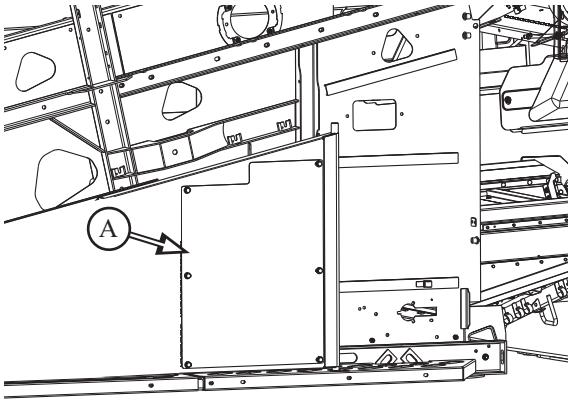
Activate your warranty.

Scan the code or visit www.redekopmfg.com/warranty

Warrantable Conditions

Seed Control Unit (SCU) parts are guaranteed against manufacturing defects and/or materials used in the product and are covered during the period mentioned in the warranty policy. SCU wear is directly related to soil type and the amount of soil on plant material processed by the combine. Crops laying on the ground dramatically increases the soil brought through the combine and SCU. The following table lists the types of damage covered under this warranty.





Ensure that inlet screen covers (**A**) are in place before SCU operation.
If combine inlet screen covers (**A**) are not in place, accelerated wear will occur.
Warranty will be voided without cover plates in place!

Seed Control Unit (SCU)		
Conditions		Warrantability
6. Rotor & Stator Component Conditions		
A	Breakage due to foreign object	NOT WARRANTABLE
B	Failure due to wear - not replaced soon enough	NOT WARRANTABLE
C	Nicks on blades/bars (foreign object)	NOT WARRANTABLE
D	Uneven wear	NOT WARRANTABLE
E	Excessive wear	NOT WARRANTABLE
F	Fan blade wear	NOT WARRANTABLE
G	Scraper blade wear	NOT WARRANTABLE
7. Drive Component Conditions		
A	V Belt breakage or burn due to slippage/improper tension	NOT WARRANTABLE
B	V Belt surface cracks	NOT WARRANTABLE
C	Gear Box failure	NOT WARRANTABLE
D	Drive line between gearboxes - twisted	NOT WARRANTABLE
E	Input drive shaft wear	NOT WARRANTABLE
F	Oil pump - no longer circulates	NOT WARRANTABLE
8. Outside Visible Surface Conditions		
A	Cosmetic damage	NOT WARRANTABLE
B	Faded appearance	NOT WARRANTABLE
C	Punctures due to foreign objects	NOT WARRANTABLE
D	Paint flakes off due to improper application	WARRANTABLE
E	Discharge outlets wear	NOT WARRANTABLE
9. Electronics		
A	Harness wires break/tear	NOT WARRANTABLE
B	Harness wires separate from connectors	WARRANTABLE
C	Harness connectors break	WARRANTABLE
10. Frame and Rotor Housing		
A	Cracked/bent frame due to field damage	NOT WARRANTABLE
B	End/middle plate wear	NOT WARRANTABLE

All warranty claims must be submitted with photographs of problem, photo of serial #, photo of monitor hour meter, photo of monitor service history.

Warranty not provided when foreign object enters SCU and seizes or damages unit.

Warranty not provided on items due to wear

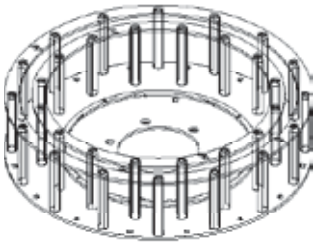
Warranty not provided on frame if driveline guards are not in place during operation

ECU software must be current, download updates on a regular basis

7 STANDARD WEAR REPLACEMENT PARTS

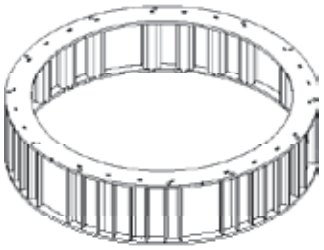
Reference Parts Manual for Part Numbers

Rotor SCU



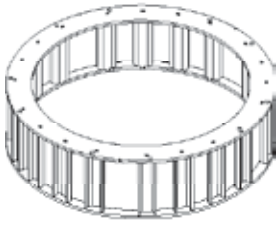
Kit Insert Stator U Bars - set of 3

- includes:
  - Stator Ring Outer - 24 U Bar



660mm Dia.

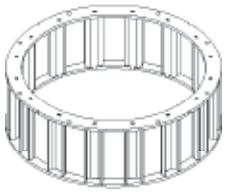
  - Stator Ring Mid - 20 U Bar



550mm Dia.

  - Stator Ring Inner - 16 U Bar

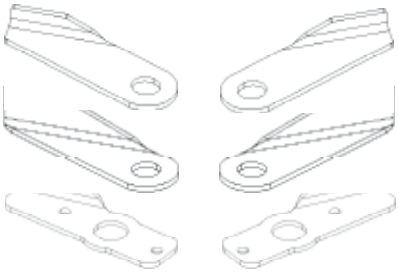
or sold seperately



445mm Dia.

Kit Blade Fan SCU

- includes:
  - .75W Fan Blade Lt & Fan Blade Rt (x4)
  - 1.5W Fan Blade Lt & Fan Blade Rt (x4)
  - Bottom Scraper Blade Lt & Bottom Scraper Blade Rt (x4)



Kit Bushing Blade SCU (32)

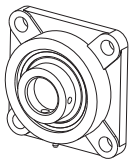
- includes:
  - Inner Bushing (16)
  - Outer Bushing (16)

Kit Scraper SCU Rotor Top (8)

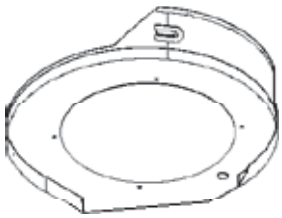
7 STANDARD WEAR REPLACEMENT PARTS

SCU Drive Belt

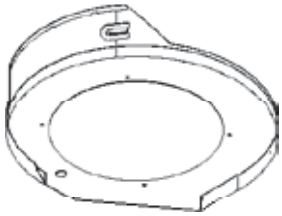
Bearing



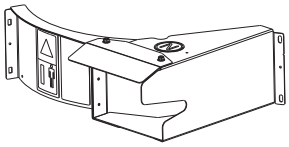
Housing Bottom SCU Lt



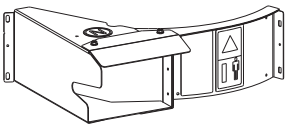
Housing Bottom SCU Rt



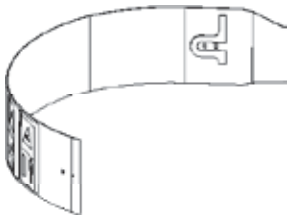
Outlet SCU Assembly Lt



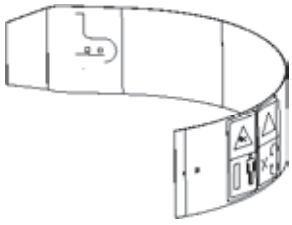
Outlet SCU Assembly Rt



Cover Front Cleanout SCU Assy Lt



Cover Front Cleanout SCU Assy Rt



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