



**JOHNSTON
NORTH AMERICA**

ES 351

TRAINING & QUICK REFERENCE GUIDE



**THE JOHNSTON ES351
MECHANICAL SWEEPER**

NIROSTA®
IN MY BODY



SAFETY IS ALWAYS FIRST!!

***ALWAYS CHECK FOR OVERHEAD
OBSTRUCTIONS BEFORE RAISING THE
HOPPER***

***NEVER GO UNDER THE HOPPER WITHOUT
THE SAFETY BLOCKS INSTALLED. ALWAYS
FOLLOW SAFETY PROCEDURES IN THE
MANUAL AND DISPLAYED DECALS***





CONTROLS



1-PAUSE RESUME
2- VARIABRISH IN/OUT
3- GUTTERBROOM ON/OFF
4- WORKLIGHTS
5-ROTATILT
6- REAR BROOM/ ELEVATOR ON/OFF
7- WATER ON/OFF
8- HOPPER DUMP/ RETRACT
9-WATER LEVEL HIGH/ LOW
10- HOPPER RAISE/ LOWER
11- ELEVATOR FWD/ REVERSE
12- ELEVATOR RAISE
13- WINTERIZE/ PRESSURE DRAIN ON/ OFF
14- BEACON ON/ OFF
15- SWEEPER IGNITION ON/ OFF

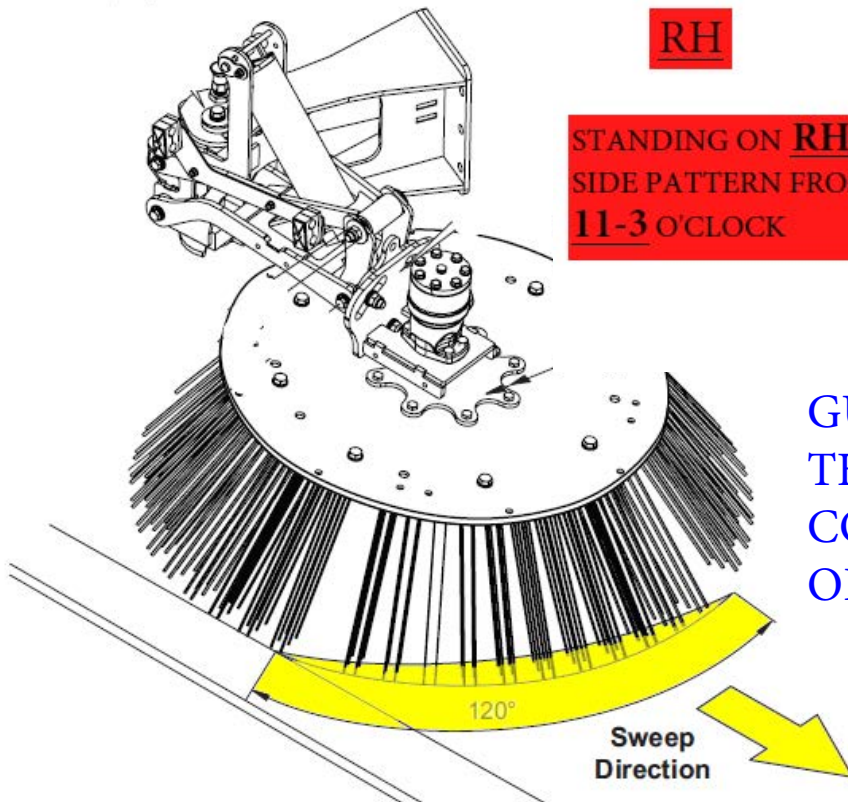
STARTUP PROCEDURE

- 1) START CHASSIS AND FULLY BUILD AIR PRESSURE
- 2) ENABLE PTO ON CHASSIS DASH.
- 3) ENABLE SWEEPER IGNITION (#15 ABOVE)
 - a) **ALL FUNCTIONS WILL BRIEFLY TURN ON TO PREPARE THE SWEEPER FOR OPERATION**
- 4) TURN ON DESIRED FUNCTIONS AND BEGIN SWEEPING.





GUTTERBROOM ADJUSTMENT



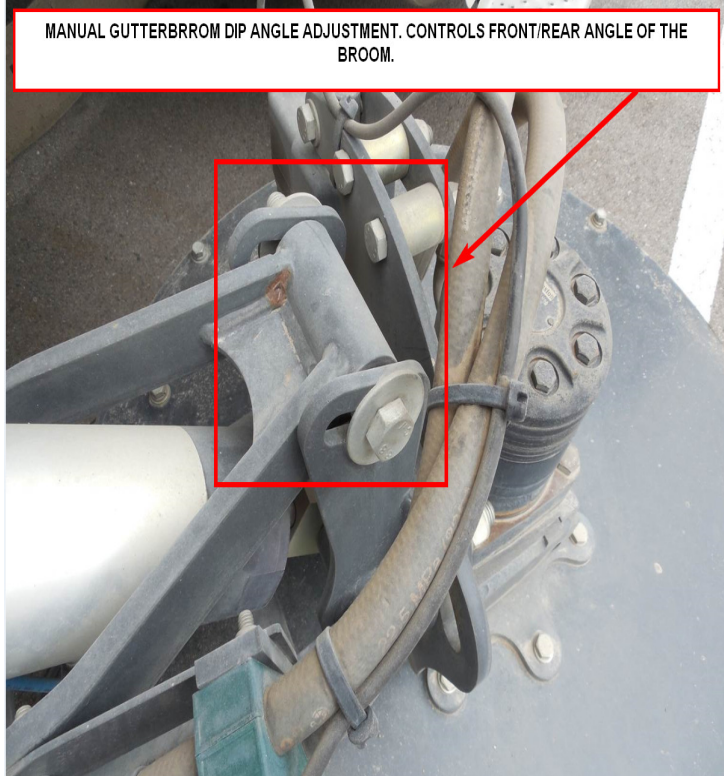
RH

**STANDING ON RH
SIDE PATTERN FROM
11-3 O'CLOCK**

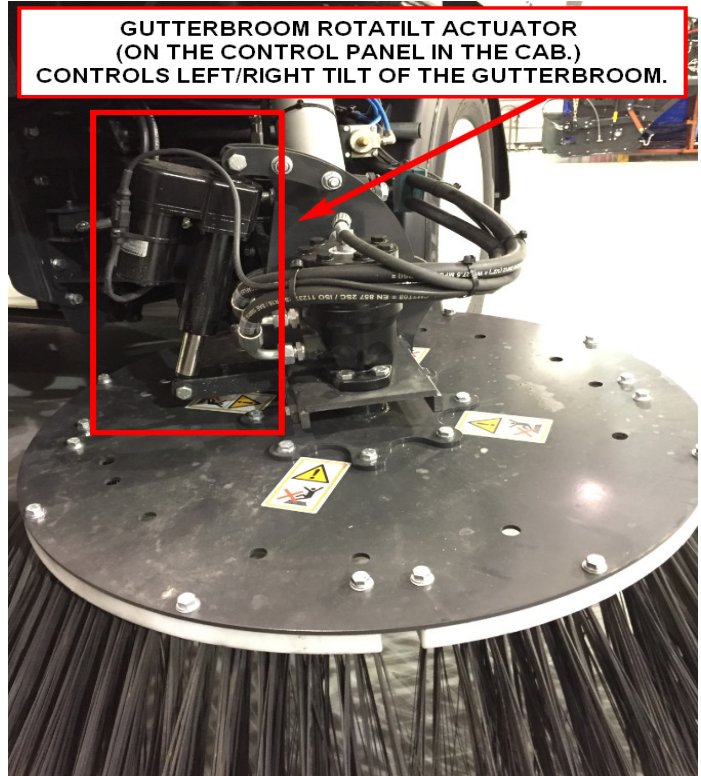
LH

**STANDING ON THE LH
SIDE PATTERN FROM
9-1 O'CLOCK**

GUTTERBROOM SO
THERE IS A
CONTACT PATTERN
OF 120*



MANUAL GUTTERBROOM DIP ANGLE ADJUSTMENT. CONTROLS FRONT/REAR ANGLE OF THE BROOM.

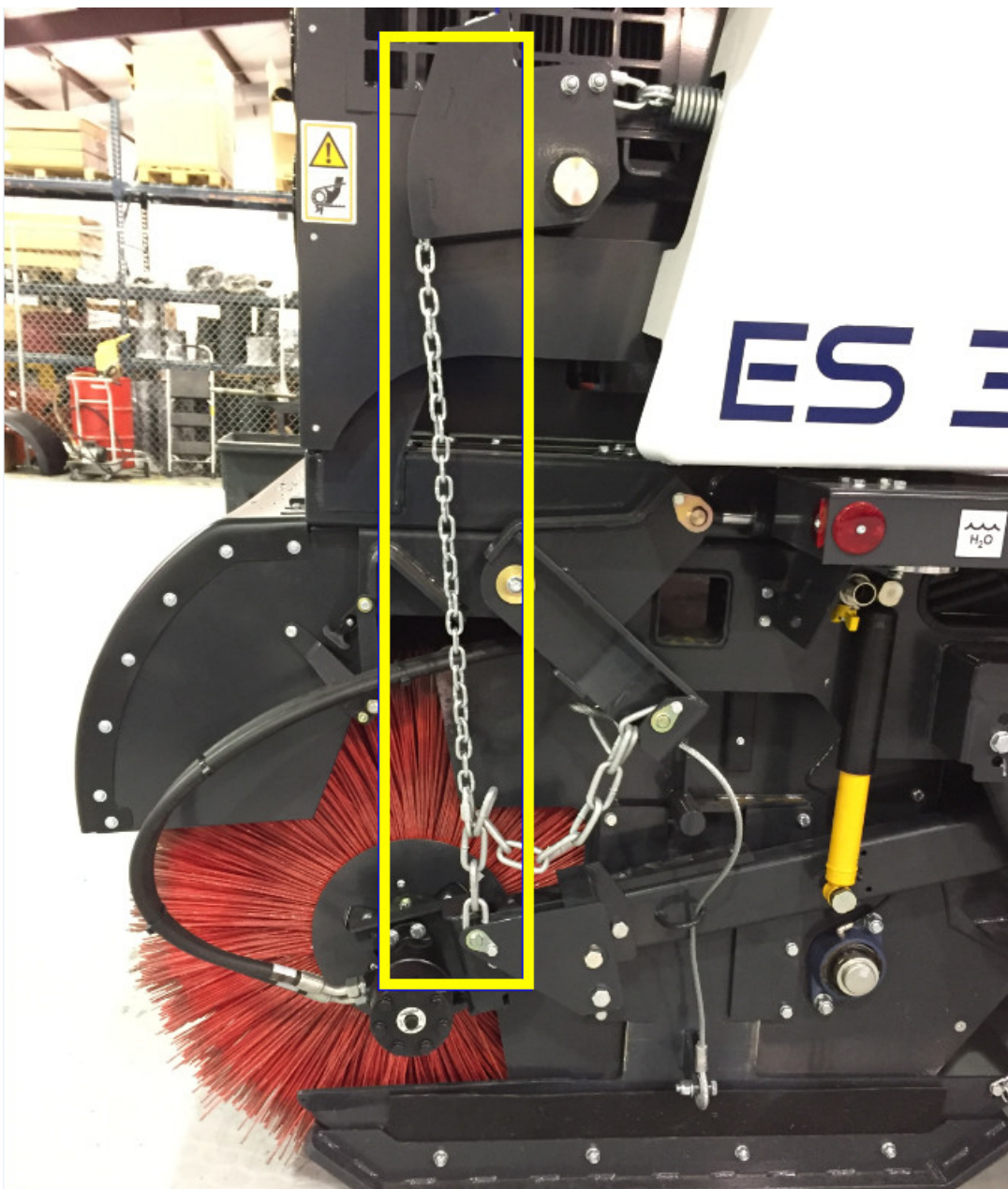


GUTTERBROOM ROTATILT ACTUATOR (ON THE CONTROL PANEL IN THE CAB.) CONTROLS LEFT/RIGHT TILT OF THE GUTTERBROOM.



MAIN BROOM (PUB) ADJUSTMENT

- 1) TURN ON PUB TO "BURN" A PATTERN.
- 2) VERIFY A 3-6" EVEN PATTERN THE FULL WIDTH OF THE BROOM
- 3) FOR LIGHTER PATTERN- MAKE CHAIN SHORTER
- 4) FOR HEAVIER PATTERN- MAKE CHAIN LONGER



**REAR BROOM/ ELEVATOR ON (SWEEP MODE)
SMALL CHAIN "TAKES OVER" FOR DOWNPRESSURE
AND ALLOWS FOR ADJUSTMENT**



ELEVATOR ADJUSTMENTS

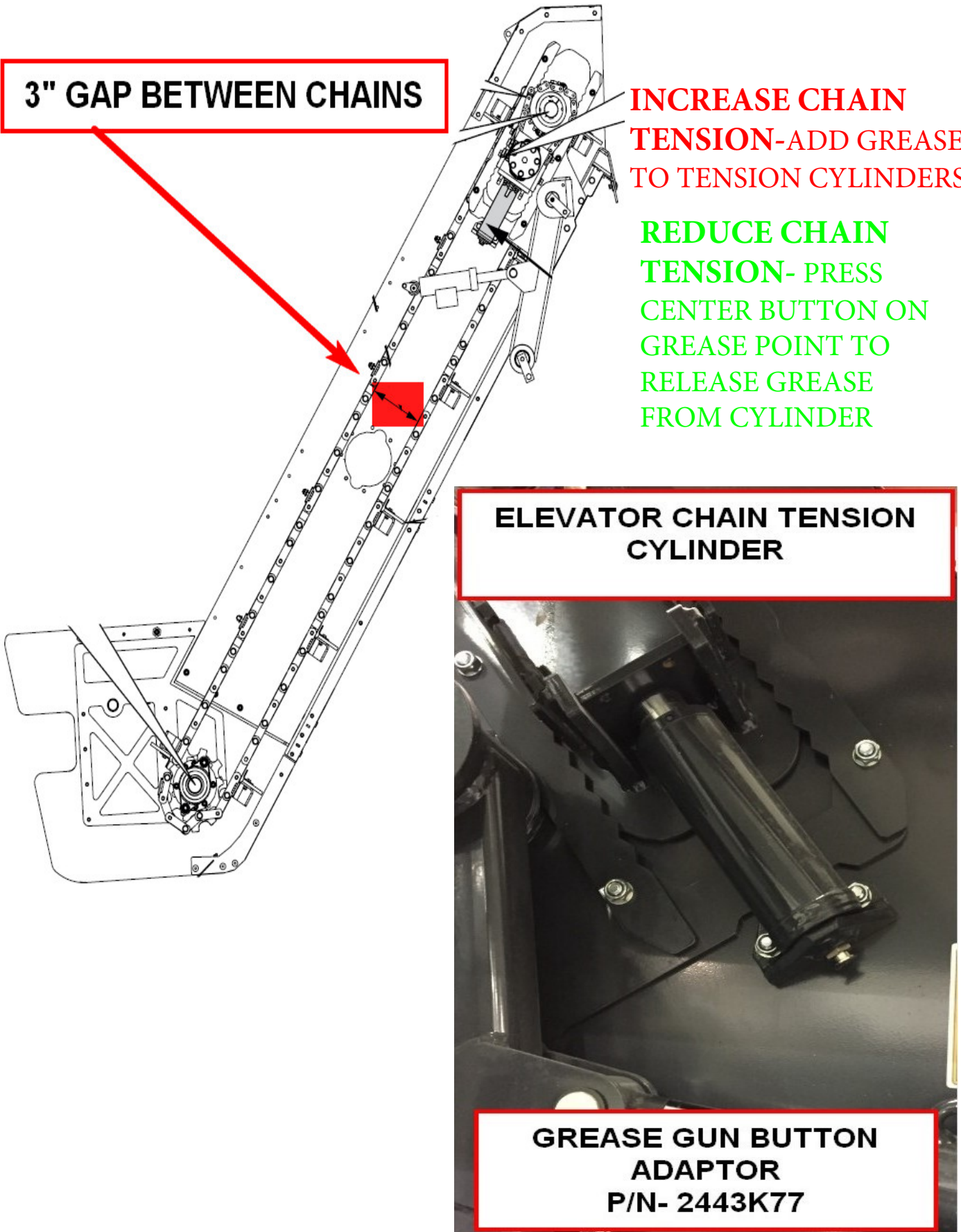
3" GAP BETWEEN CHAINS

INCREASE CHAIN TENSION-ADD GREASE TO TENSION CYLINDERS

REDUCE CHAIN TENSION- PRESS CENTER BUTTON ON GREASE POINT TO RELEASE GREASE FROM CYLINDER

ELEVATOR CHAIN TENSION CYLINDER

**GREASE GUN BUTTON ADAPTOR
P/N- 2443K77**





DUMPING THE HOPPER (DISCHARGE CONTROLS)



Safety Notice



Before carrying out the load discharge operations ensure the following safety aspects are observed

- **Ensure the machine is clear of overhead power cables.**
- **Ensure the machine is standing on firm, level ground, and that no obstructions are located above or on the rear before raising the body.**
- **Ensure no one is near the load discharge area when opening or closing the door.**
- **Ensure the safety props are in position, and the frame rests on them securely when it is left in the raised position, or when working under the frame.**
- **To operate the discharge system, both the parkbrake and neutral have to be selected.**
- **Do not shunt the load, in order to aid discharge or drive with the body raised.**
- **Do not raise a loaded body on any gradient greater than 5%, as stability could be affected.**
- **Do not raise a loaded body when trying to clear an obstruction from the elevator.**

The disposal of sweepings should be in accordance with the local waste disposal regulations.

***NOTE- BEFORE DUMP CONTROLS WILL FUNCTION THE FOLLOWING MUST BE COMPLETED.**

- 1) ALL SWEEPING CONTROLS MUST BE OFF**
- 2) PARKBRAKE MUST BE SET AND TRANSMISSION IN NETURAL**
- 3) SWEEPER LOCATED ON FIRM LEVEL SURFACE**

RAISE AND DUMP HOPPER

- 1) PRESS AND HOLD HOPPER RAISE SWITCH (10) UNTILL DESIRED HEIGHT IS ACHIEVED. (THE ELEVATOR WILL DISENGAGE FROM THE HOPPER BEFORE THE HOPPER WILL RAISE)**
- 2) PRESS AND HOLD HOPPER DUMP SWITCH (8). THE HOPPER DOOR WILL OPEN THEN THE HOPPER WILL TILT TO EMPTY THE HOPPER.**
- 3) WHEN EMPTY, PRESS AND HOLD HOPPER RETRACT SWITCH (8) HOPPER DOOR WILL CLOSE AND HOPPER TILT WILL RETURN TO NORMAL POSITION.**
- 4) PRESS AND HOLD HOPPER LOWER SWITCH (10) UNTILL HOPPER IS LOWERED FULLY AND ELEVATOR RE-ENGAGES THE HOPPER. **ALARM AND WARNING LIGHT WILL TURN OFF WHEN FULLY DOWN.****



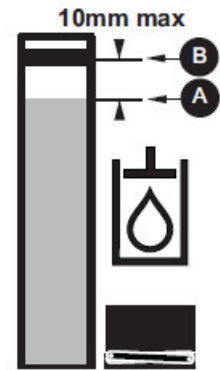
MAINTENANCE



Daily Maintenance - This can be carried out by a suitably trained operator.

Check and Attend to the following items:

- 1 Top up hydraulic oil level.
- 2 Clean oil cooler radiators.
- 3 Clean water filter.
- 4 Clean water spray jets.
- 4 Check central brush curtain is in position.
- 5 Check all sweeping equipment for wear and or damage.
- 6 Check drag shoes for wear and or damage.
- 7 Check brushes for adjustment and wear - adjust or replace as required.
- 8 Check for oil / water / fuel leakages.
- 9 Check chassis items as recommended in chassis manufacturer's handbook.



Weekly Maintenance - This can be carried out by a suitably trained operator.

Check and Attend to the following items:

- 1 Check routing of electrical and hydraulic services for chafing.
- 2 Lubricate all grease points - see page OG4:10.
- 3 Check condition of all chains and cables.
- 4 Check condition of elevator flights - replace as required.
- 5 Check both elevator drive chain and flight chains for correct adjustment.



Service A - Every 500 Hours

1. Check the elevator flights for adjustment and wear - adjust or replace as required.
2. Check both elevator drive chain and flight chains for correct adjustment.



Service B - Every 1000 Hours

1. **Carry out 500 hour service;**
2. Carry out a visual inspection for the security of body mounts, pivot pins and equipment.



Service C - Every 2000 Hours

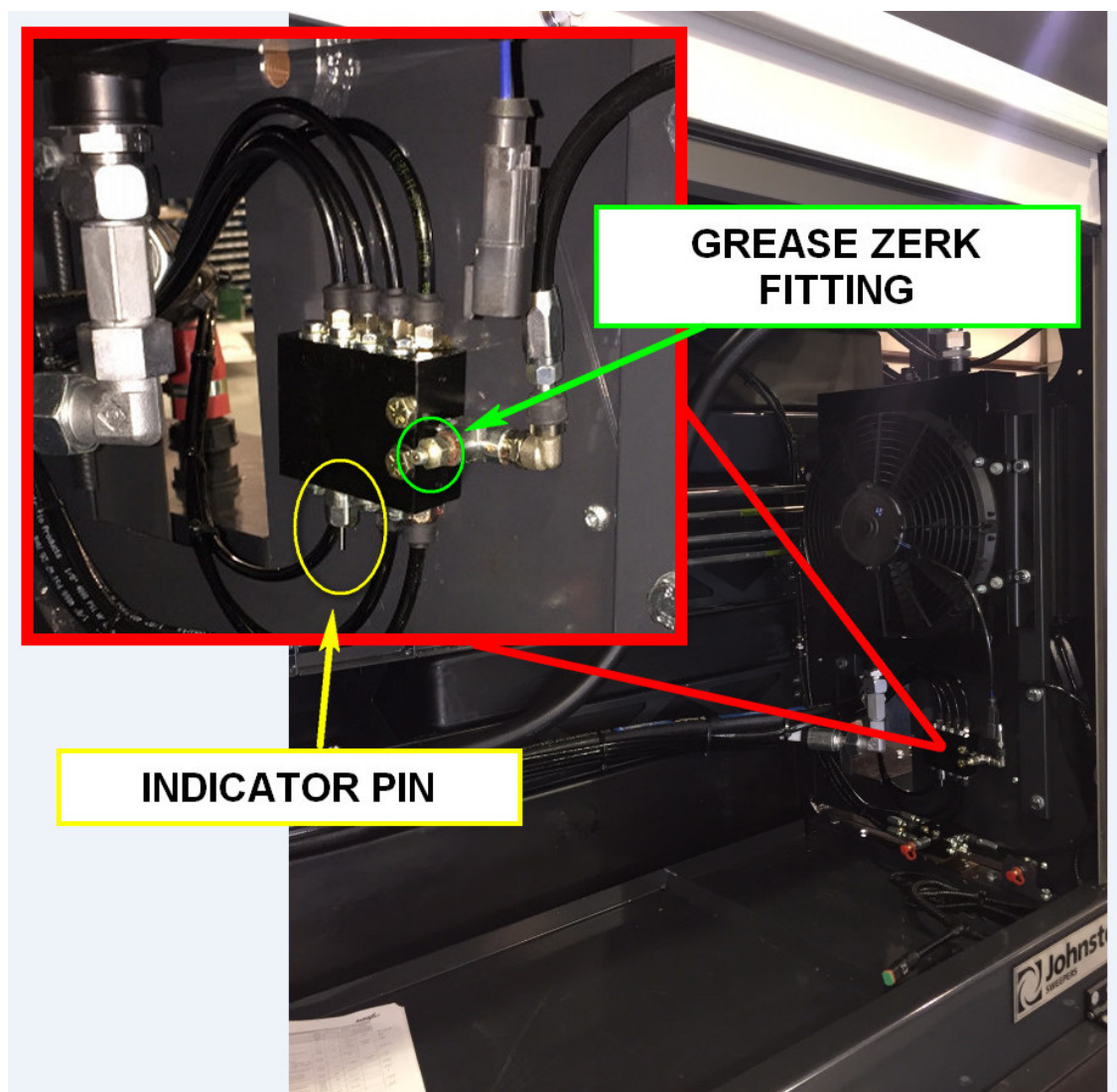
1. **Carry out 1000 hour service;**
2. Drain hydraulic reservoir.
3. Replace suction and return filters.
4. Refill hydraulic reservoir.



LUBRICATION

USE NLGI 2 GREASE (AVOID ANYTHING OVER 5% MOLY)

THE ES351 HAS A CENTRAL LUBRICATION SYSTEM THAT ALLOWS THE MAJORITY OF THE SWEEPER TO BE GREASED FROM 1 ZERK FITTING. THIS IS LOCATED IN THE REAR LOCKER ON THE RIGHT BOTTOM SIDE PANEL.



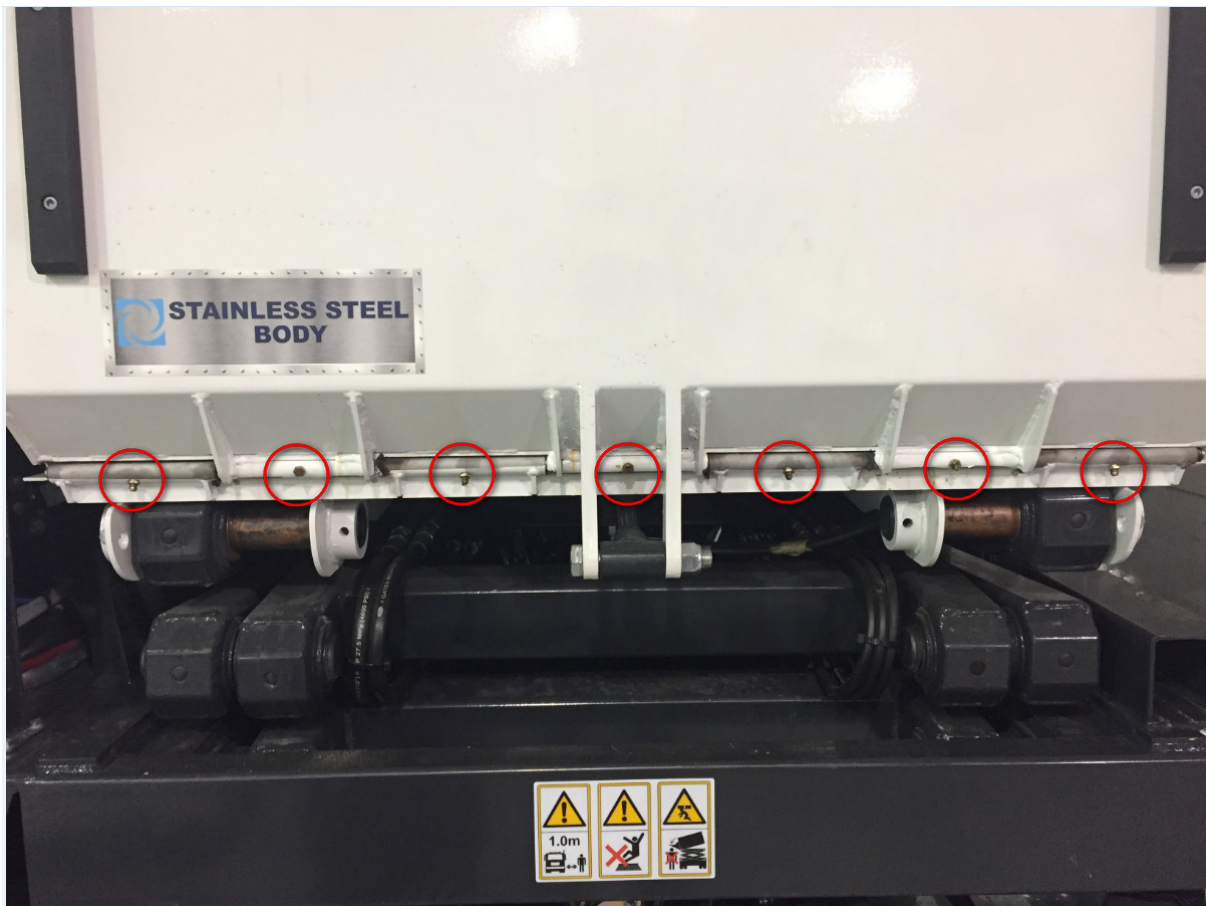
TO GREASE THE SWEEPER PUMP GREASE INTO ZERK FITTING UNTIL THE INDICATOR PIN MOVES IN/OUT 5 TIMES DAILY.



LUBRICATION

THERE ARE 2 LOCATIONS ON THE SWEEPER THAT THE CENTRAL LUBE SYSTEM DOES NOT COVER.

1) 7 ZERK FITTINGS ON THE HOPPER DOOR. (**GREASE WEEKLY OR AS NEEDED WITH HEAVY USE**)



2) 3 ZERK FITTINGS ON THE DRIVESHAFT BETWEEN THE PTO AND HYDRAULIC PUMP. (**GREASE 1x/MONTH**)






WINTERIZE (PRESSADRAIN) PROCEDURE

THIS FEATURE PURGES WATER FROM THE SYSTEM USING CHASSIS SUPPLIED AIR TO CLEAR EXCESS WATER TO PREVENT DAMAGE FROM FREEZING.


Note:

The Pressadrain can only be activated when the low level water indicator is on.

1. Drain the water tank. With the chassis running, the PTO engaged, and ignition active, the water jets can be operated to speed up the process.
2. Close the water tank drain tap.
3. Ensuring the air system is fully charged.

4.  Ensure the low level water indicator is on.

5.  Activate the Pressadrain.

6.  Activate water spray switches J1/J2/J3.

7. Open the water tank drain, remove the red drain plug from the filter, and drain any surplus water that has collected. Refit the drain plug.





COMMON WEAR ITEMS

GUTTERBROOMS

30561 JNA

MAIN BROOM (PUB)

1 PIECE- 30504 JNA

STRIP BROOM- 458 JNA

DRAG SHOE PARTS

<u>DRAG SHOE RUBBER</u>	7037535 JNA
<u>BRUSH DIRT SHOE</u>	7032946 JNA
<u>STEEL SHOE</u>	7034403 JNA
<u>CARBIDE SHOE</u>	7034403-C JNA2"
<u>DRAG SHOE CABLE</u>	21216-15

MAIN BROOM PARTS

<u>REAR CURTAIN</u>	7037959 JNA
<u>40 MM BEARING</u>	16-24
<u>ADJUSTABLE DAMPER</u>	7032494

GUTTERBROOM PARTS

<u>LIFT CYLINDER</u>	7033725
<u>ROTATILT-ACTUATOR</u>	281335-12
<u>CHECK VALVE</u>	72-112

ELEVATOR PARTS

<u>FLIGHT ASSY</u>	7030843
<u>SPROCKET DRIVE</u>	7027802
<u>IDLER SPROCKET</u>	7027804
<u>50MM BEARING</u>	16-23
<u>CURTAIN TOP</u>	7027723