



INSTRUCTION BULLETIN

No. 340512
Machine: LitterHawk™
Published: 12-01
Rev. 00

NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in your machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save you the cost of ordering an entire kit.

NOTE: Numbers in parenthesis () are reference numbers for parts listed in Bill of Materials.

Installation instructions for **kit number 373432**

DESCRIPTION:

This kit contains the parts needed to replace the hydraulic pump on the model LitterHawk™ litter vacuum.

Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: NONE

(Estimated time to complete: 6 hours)

PREPARATION:

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake. Then turn off machine and remove key.

1. Disconnect battery cables from machine.



WARNING: Always disconnect battery cables from machine before working on electrical components.

HYDRAULIC PRINCIPLES:

1. Cleanliness is extremely important when working with hydraulic components. Work in a clean, dust-free area. Dirt or foreign material in hydraulic systems can impair operation and damage equipment.
2. Before disconnecting hydraulic hoses or fittings, thoroughly clean outside of hydraulic component to prevent dirt from entering system.
3. Mark hydraulic hoses and record locations for proper installation.
4. Cap disconnected hoses or open ports to keep dirt out of system.
5. Discard any hydraulic fluid drained from the system. Use only new, approved hydraulic fluid to replenish hydraulic reservoir.
6. Flush hose and fittings at pressure port of hydraulic component with air, solvent or hydraulic fluid to help avoid contamination.

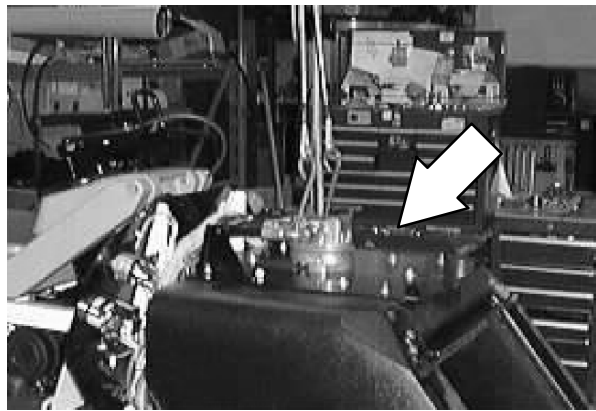
TO REPLACE PROPEL PUMP

**FOR SAFETY: Before Leaving Or Servicing Machine;
Stop On Level Surface, Set Parking Brake, turn off
machine, and remove key.**

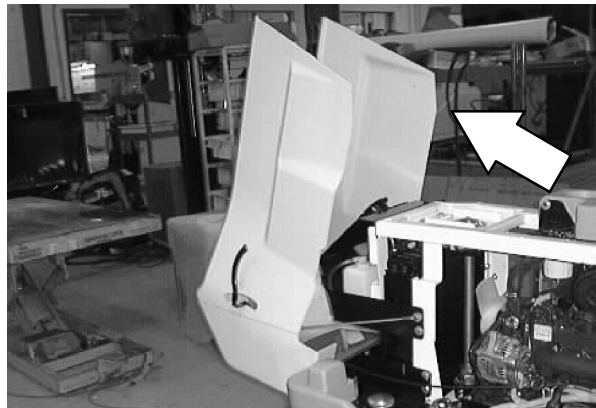
1. Open the front cover and remove the debris container.



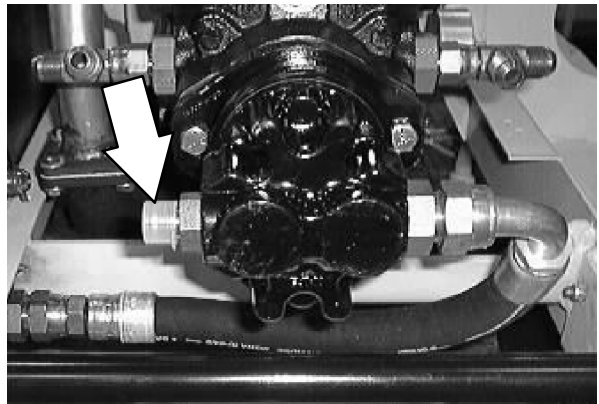
2. Remove the vacuum housing from the machine. See
TO REMOVE VACUUM HOUSING.



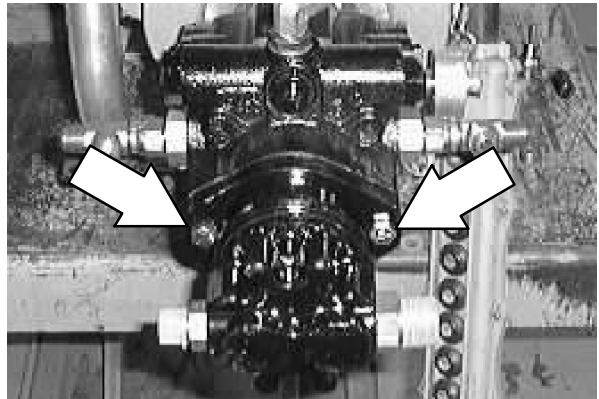
3. Open the seat shroud.



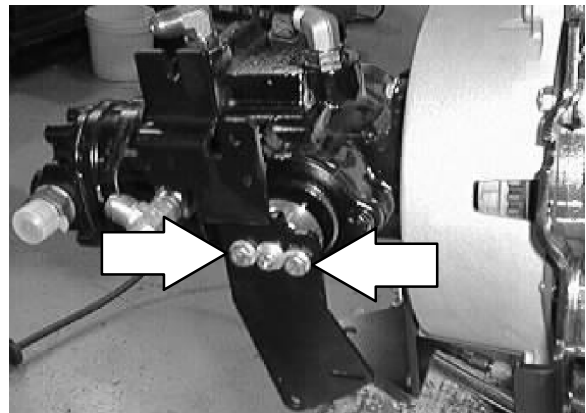
4. Disconnect and plug the small hydraulic hose leading to the back side of the accessory pump. Leave the larger suction line connected.



5. Remove the two screws holding the accessory pump to the propel pump. Pull the accessory pump straight back out of the propel pump. Let the accessory pump drop down out of the way for access to the propel pump. *Make sure to retain the O-ring.*

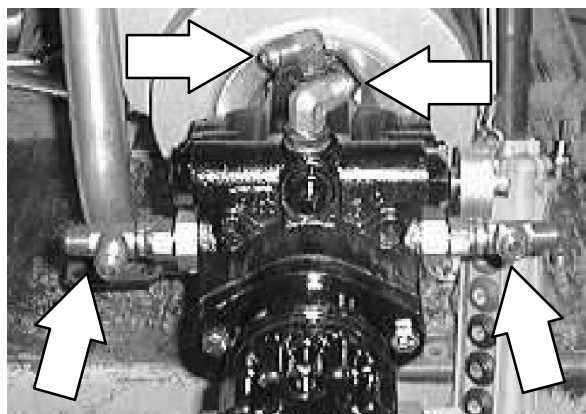


6. Locate the propel pump directional arm on the left side of the propel pump. Remove the two hex screws holding the pump arm to the pump hub.

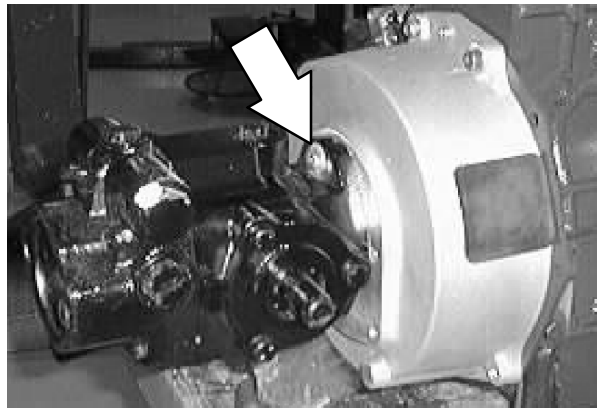


7. Mark, disconnect, and plug the four hydraulic hoses leading to the propel pump.

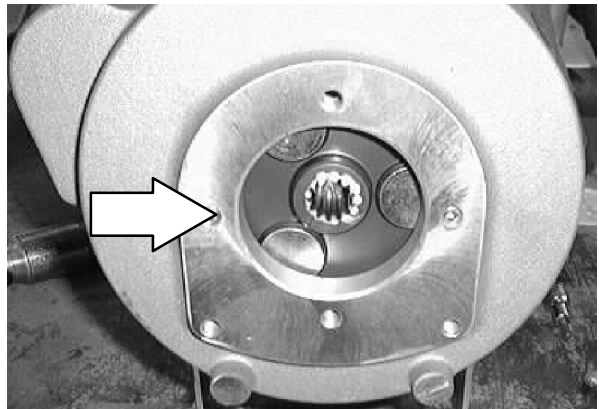
NOTE: Observe hydraulic cleanliness requirements when opening hydraulic lines.



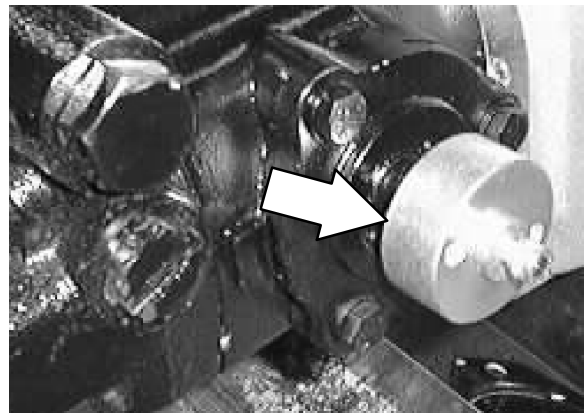
8. Remove the two hex screws holding the propel pump to the bellhousing. *The bottom hex screw can be accessed easier with the motor mount removed.*



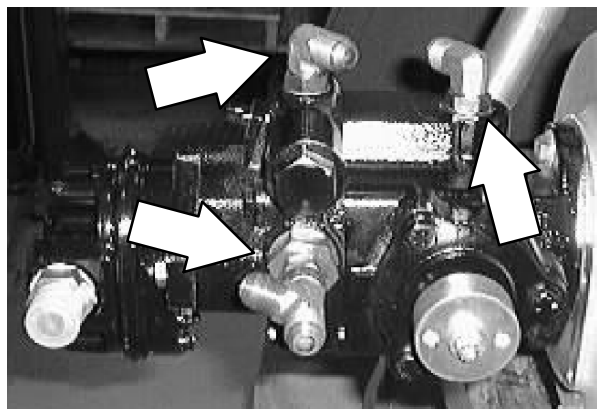
9. Pull the propel pump out of the bellhousing and remove it from the machine.



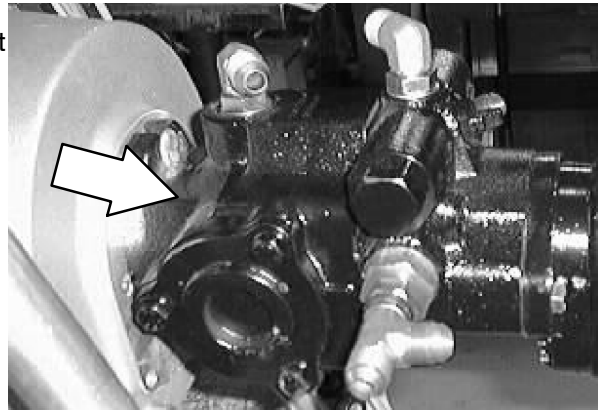
10. Remove the directional hub from the side of the propel pump and install on the new pump in the same orientation. Use blue loctite (242) on the threads of the cap screw. Tighten to 18 - 24 Nm (15 - 20 ft. lb).



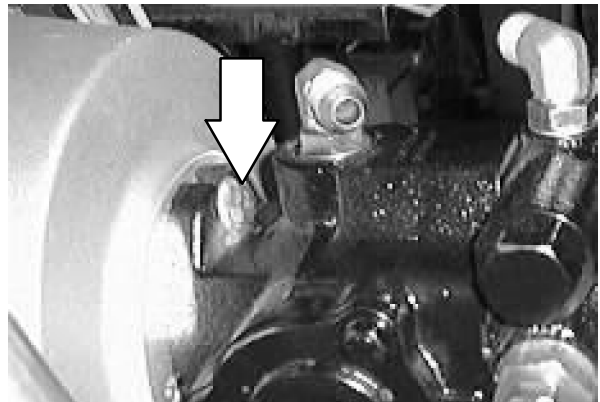
11. Remove the hydraulic fittings from the old propel pump and install into the new pump in the same orientation.



12. Position the new pump assembly into the engine bellhousing. Line up splines on the pump input shaft with the teeth in the flywheel coupling. Push the pump in until it is against the bellhousing plate.

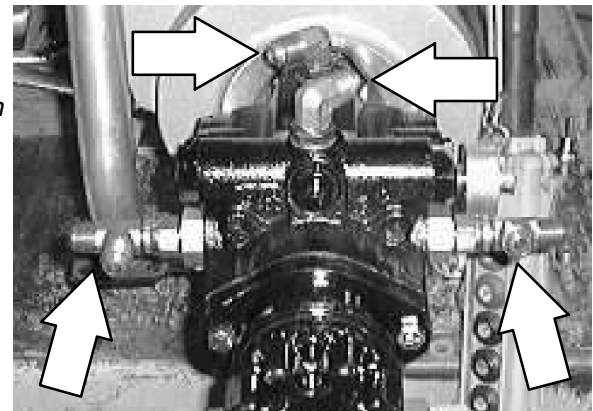


13. Reinstall the two hex screws into the pump mount holes. *The pump directional hub faces the left side of the machine.* Tighten to 31 - 40 Nm (27 - 35 ft. lb).

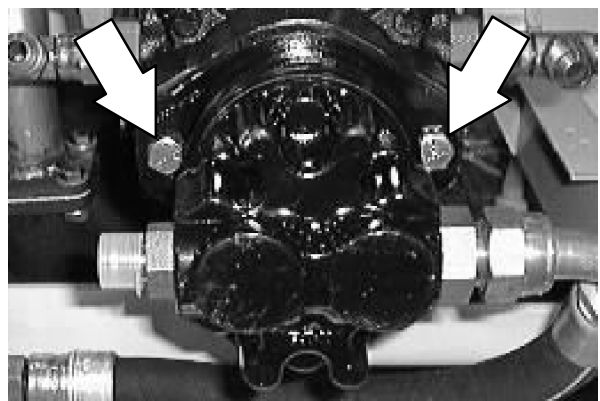


14. Reconnect the four hydraulic hoses to the propel pump. See hose diagram in this section.

NOTE: Observe hydraulic cleanliness requirements when opening hydraulic lines.

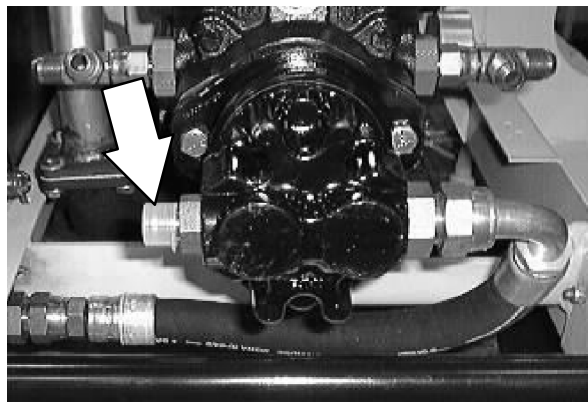


15. Reinstall the accessory pump into the propel pump. Make sure the O-ring is installed on the face of the pump. Reinstall the hardware and tighten to 31 - 40 Nm (27 - 35 ft. lb).

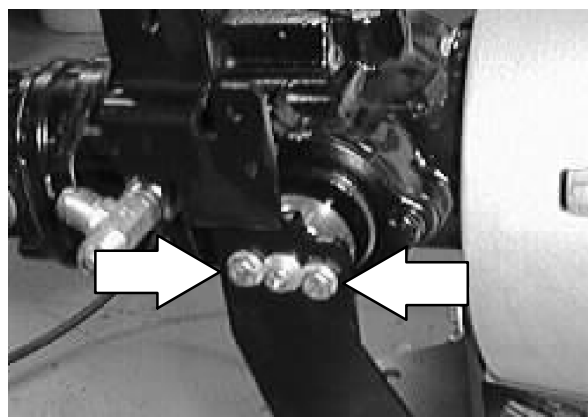


16. Reconnect the one small hydraulic hose to the accessory pump. See hose diagram in this section.

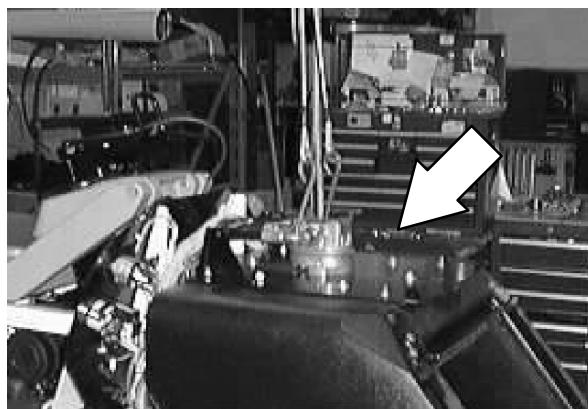
NOTE: Observe hydraulic cleanliness requirements when opening hydraulic lines.



17. Reinstall the directional pump arm onto the pump hub. Reinstall the two hex screws. Leave the screws loose for now.



18. Reinstall the vacuum housing into the machine. See TO INSTALL VACUUM HOUSING.



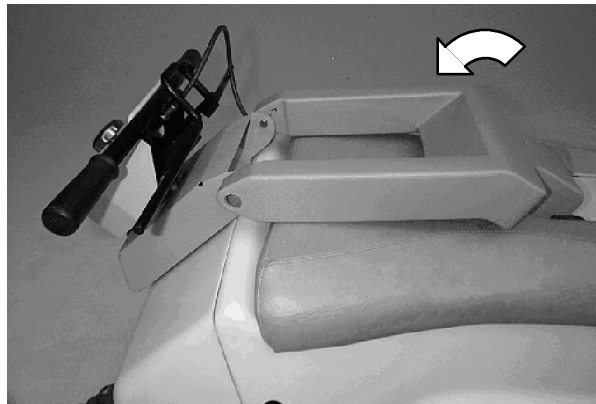
TO REMOVE VACUUM HOUSING

**FOR SAFETY: Before Leaving Or Servicing Machine;
Stop On Level Surface, Set Parking Brake.**

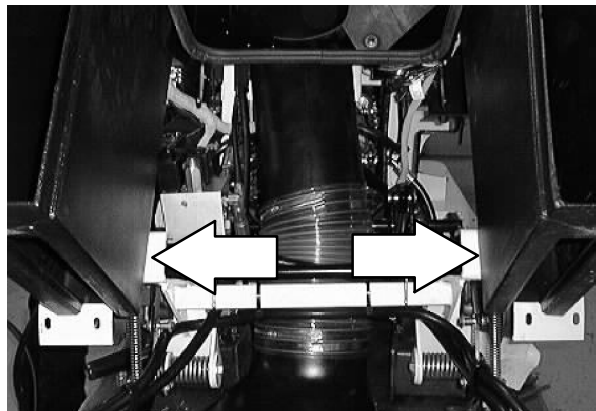
1. Open the front cover and remove the debris container. See TO REMOVE DEBRIS CONTAINER instructions.



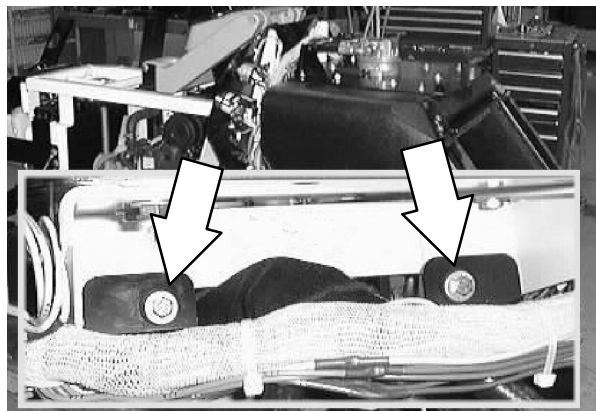
2. Move the steering bar assembly to the *walk behind* position.



3. Go to the back, lower edge of the filter chambers on both sides. Locate the one hex screw at the lower end, on each side, holding the vacuum housing to the machine frame. Remove the two screws.

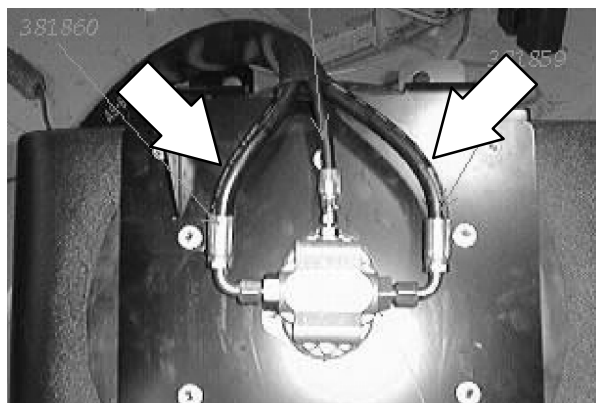


4. Go to the area at the back of the vacuum fan motor mount plate. Locate the two hex screws and nuts holding the vacuum housing to the upper machine frame. Remove the two screws and nuts.

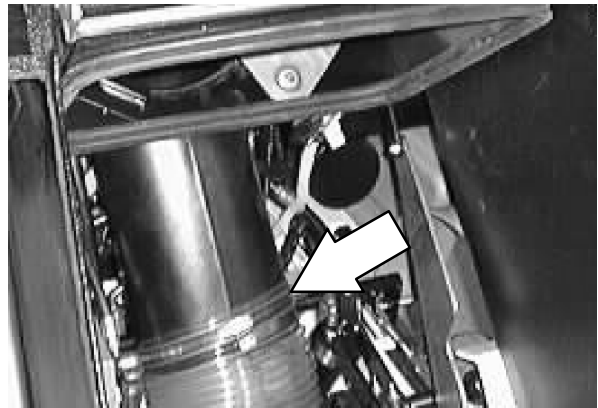


5. Mark, disconnect, and plug the hydraulic lines leading to the vacuum fan motor.

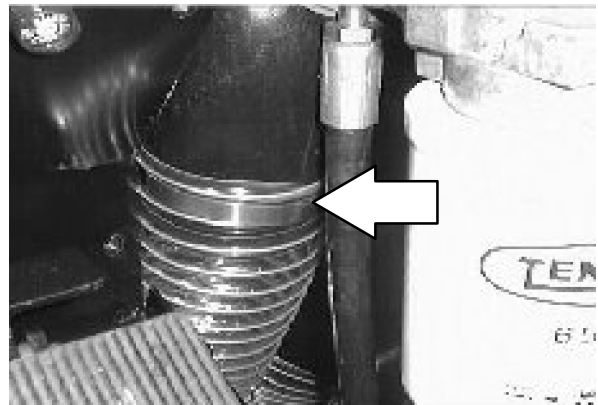
NOTE: *Observe hydraulic cleanliness requirements when opening hydraulic lines.*



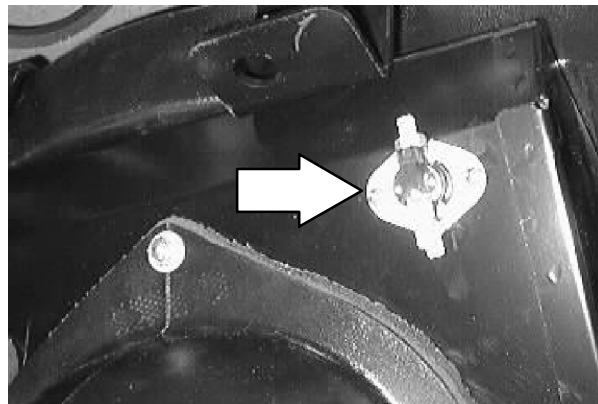
6. Remove the clamp holding the hose leading from the vacuum inlet to the larger tube on the vacuum housing. Pull the hose off the vacuum housing.



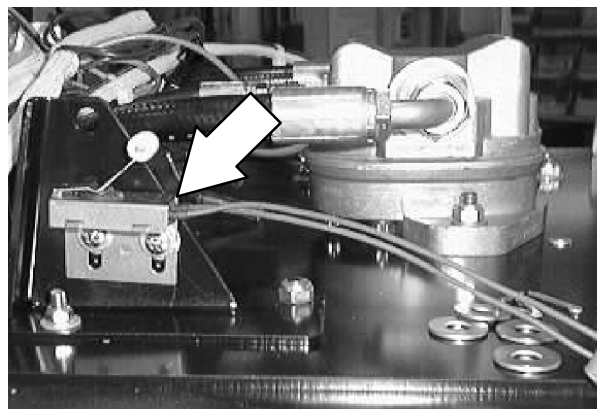
7. Remove the clamp holding the hose leading from the vacuum wand to the smaller tube on the vacuum housing. Pull the hose off the vacuum housing.



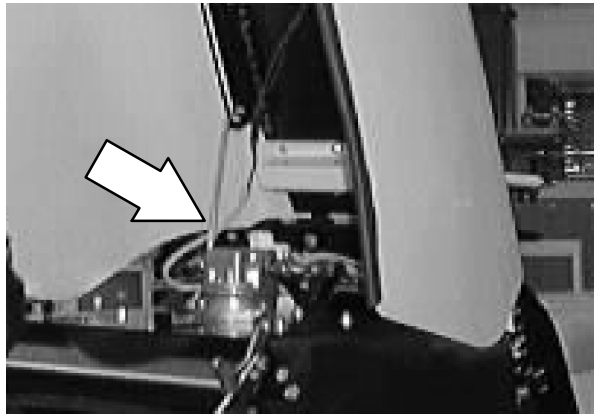
8. Disconnect the wires leading to the Thermo Sentry™ at the back of the vacuum housing.



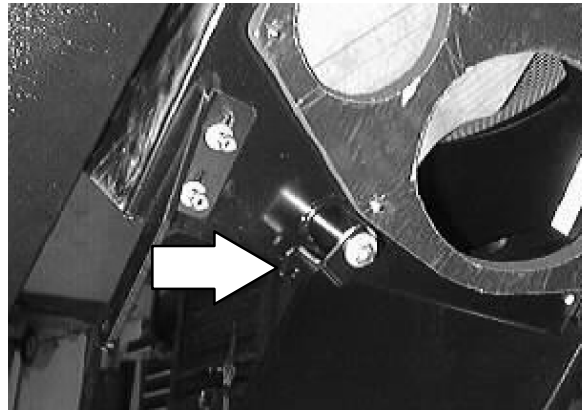
9. Disconnect the wires leading to the vacuum fan shut off switch located in the area of the front cover prop rod.



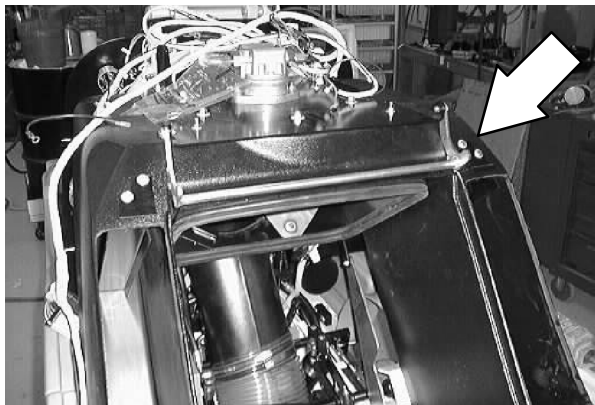
10. Remove the outer cotter pin on the lower end of the front cover prop rod. Remove the prop rod from the slot and pivot the front cover back until it is resting on the operators area.



11. Disconnect the vacuum wand activation linkage on the vacuum wand door arm at the back of the vacuum housing.



12. Lift the vacuum housing up and remove it from the machine.

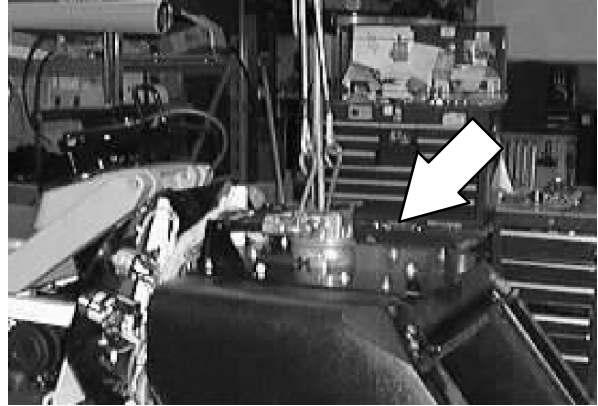


TO INSTALL VACUUM HOUSING

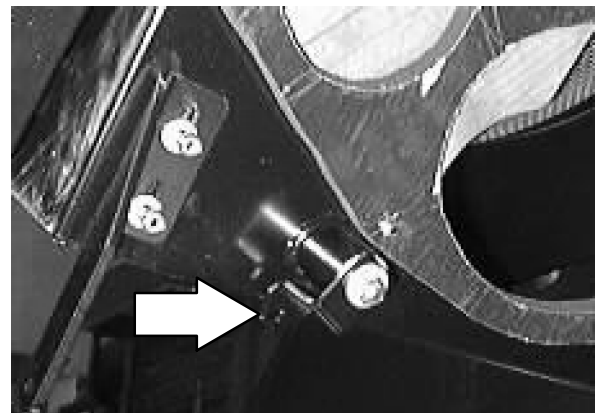
**FOR SAFETY: Before Leaving Or Servicing Machine;
Stop On Level Surface, Set Parking Brake.**

NOTE: Anytime hopper or vacuum system parts are serviced the seals should be inspected and replaced if necessary.

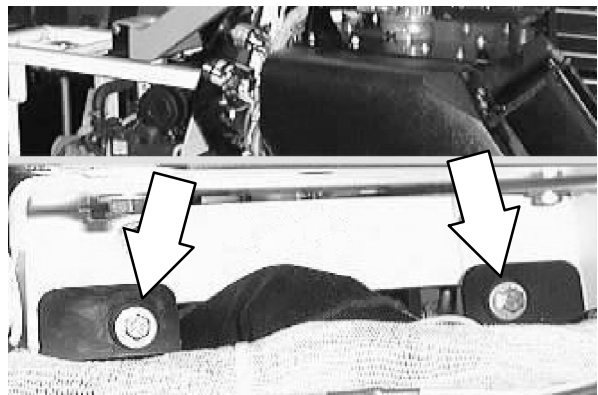
1. Position the vacuum housing into the front of the machine.



2. Before pushing the housing all the way back, reconnect the vacuum wand activation linkage onto the vacuum wand door arm at the back of the vacuum housing and reconnect the wires to the Thermo Sentry™ at the back of the vacuum housing. See schematic in the ELECTRICAL section.



3. Push the housing into place and align the two mount holes and two rubber isolators at the back of the vacuum fan motor mount plate with the mount holes in the machines upper frame. Reinstall the hardware. Leave loose for now.



4. Align the threaded inserts in the back edge of the filter chambers, on both sides, with the mount holes in the machine frame. Reinstall the two screws and tighten to 18 – 24 Nm (15 – 20 ft lb). Go back and tighten the upper hardware to 18 – 24 Nm (15 – 20 ft lb).

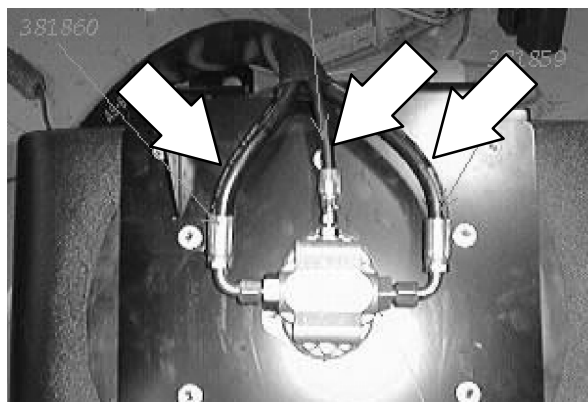


5. Pull the front cover forward and reinstall the prop rod into the mount slot. Reinstall the cotter pin.

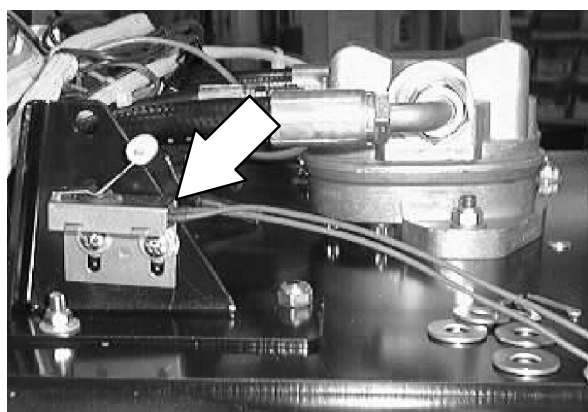


6. Reconnect the hydraulic hoses to the vacuum fan motor. See schematic in the HYDRAULICS section.

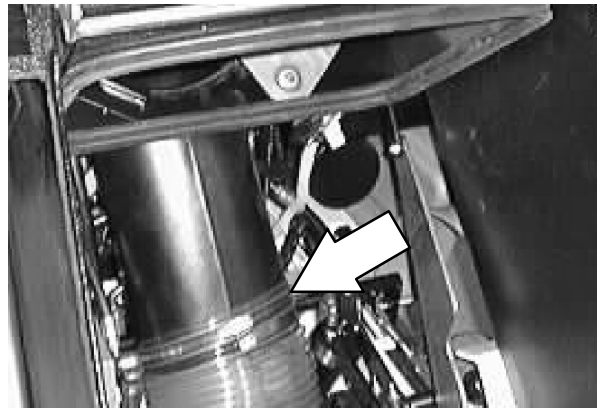
NOTE: Observe hydraulic cleanliness requirements when opening hydraulic lines.



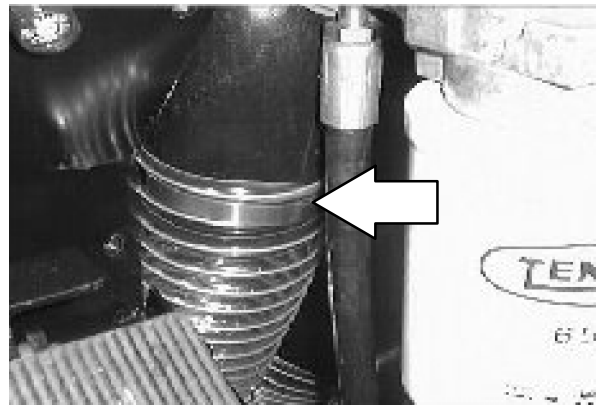
7. Reconnect the wires to the vacuum fan shut off switch in the area of the prop rod. See schematic in the ELECTRICAL section.



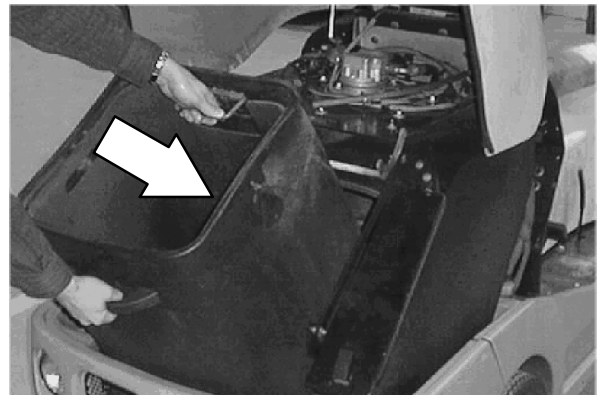
8. Install the large vacuum inlet hose onto the vacuum housing. Reinstall the clamp and hand tighten tight.



9. Install the smaller vacuum wand hose onto the vacuum housing. Reinstall the clamp and hand tighten tight.



10. Reinstall the debris container.



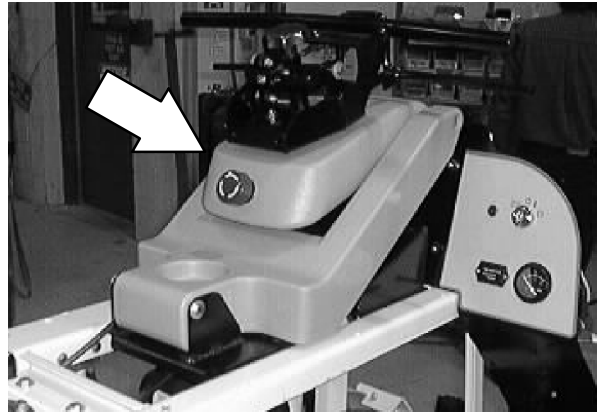
11. The neutral centering will have to be set at this point. See TO ADJUST PROPEL NEUTRAL.



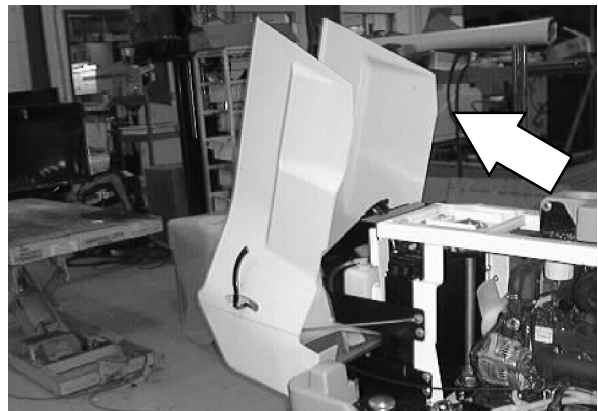
TO ADJUST PROPEL NEUTRAL

**FOR SAFETY: Before Leaving Or Servicing Machine;
Stop On Level Surface, Set Parking Brake.**

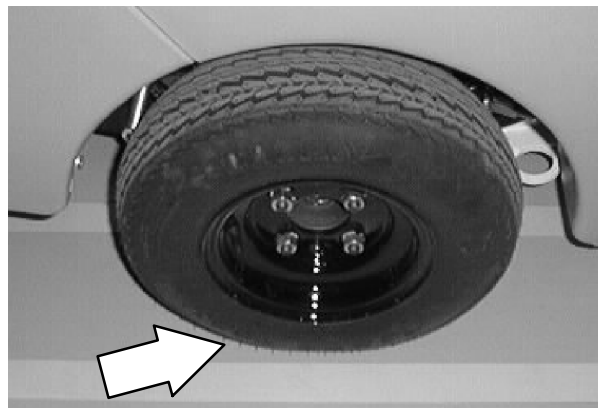
1. Make sure the steering bar assembly is installed in the forward control position.



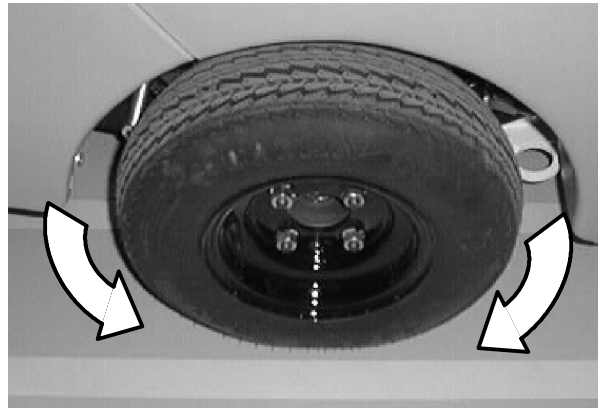
2. Open the seat shroud.



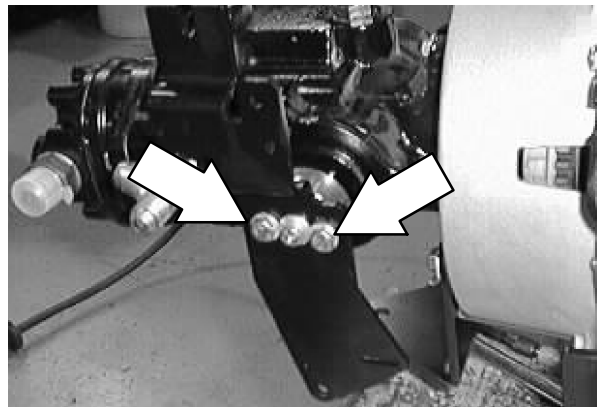
3. Raise the front, left side of the machine and install a jack stand under the frame. **Make sure the left side drive tire is not touching the ground.**



4. Start the machine and observe the front, left drive tire for any rotation. If there is **any** rotation--go to the next step.

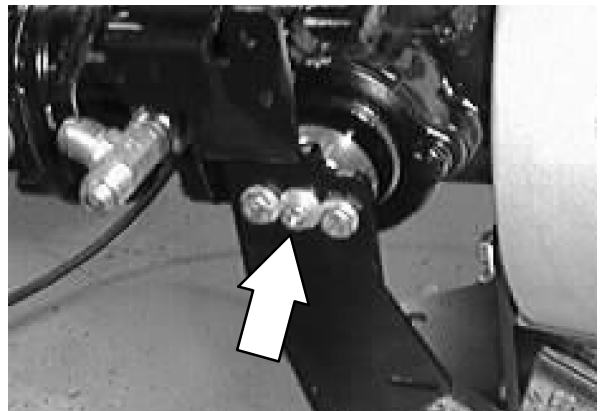


5. Loosen the the two outer hex screws on the propel pump hub.



6. Insert a 1/4 inch allen wrench into the hardware in the center of the propel pump hub.

7. Rotate the propel pump hub until there is no drive tire rotation (both sides).

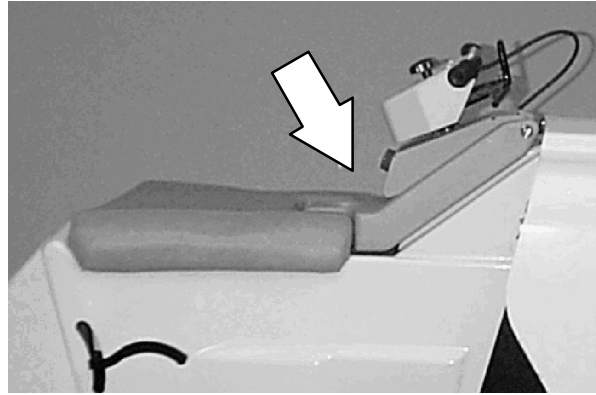


8. Once no rotation is attained--hold onto the allen wrench (on the propel hub center screw). Tighten the two outer hex screws to 7.7 - 9.9 Nm (5 - 7 ft lb).

9. Re-check the front, left drive tire for rotation. If no rotation--remove the jack stand and lower the machine. If any rotation is observed--repeat steps 5 - 8.



10. Close the seat shroud.



11. Start the machine and operate the propel circuit.
Check for proper operation.

BILL OF MATERIALS FOR HYDRAULIC PUMP REPLACEMENT KIT 373432

Ref.	TENNANT Part No.	Description	Qty.
1	373426	Pump, hyd, piston	1
2	373429	Instr, repair, pump	1

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P. O. Box 1452
Minneapolis, MN 55440-1452