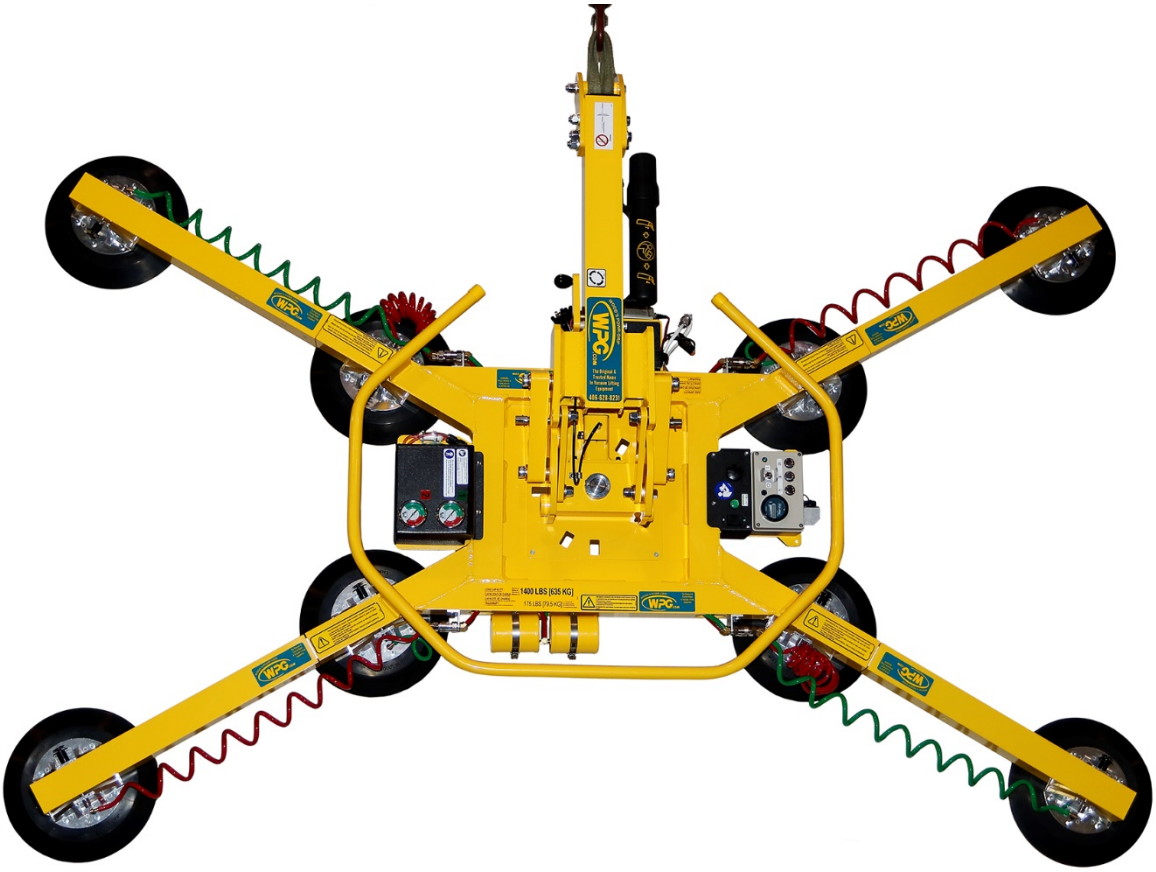
LEAK TEST PROCEDURE

MRTA6/8-DC2 REMOTE READY LIFTERS

APPLICABLE TO MRTA 6 OR 8 PAD DC2 LIFTERS

SERIAL NUMBERS GREATER THAN #20140615



TESTING AND MAINTENANCE MUST BE DONE BY A QUALIFIED PERSON

KEEP FOR FUTURE REFERENCE

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SYMPTOMS OF VACUUM LEAK

Severe leakage is evidenced by a lifter's inability to draw full vacuum while attached to a clean, smooth, nonporous surface. In such cases, the vacuum pump will run continuously and the vacuum level shown on the vacuum gauges will be less than 16" Hg [-54 kPa], the red zone of the vacuum gauge.

Moderate leakage is indicated by intermittent cycling of the vacuum pump during a lift. If the vacuum generating system turns on more than once every 10 minutes, leakage is serious enough to warrant repairing the lifter's vacuum system.

To determine if your lifter has a vacuum leak, perform the Vacuum Test as described in the Maintenance section of your instruction manual.

Note: This lifter is equipped with quick connect couplings to each vacuum pad. The initial leak test should be performed with all pads attached to verify the condition of the vacuum pads and all system components. A second vacuum test should then be performed with all the quick connects disconnected to verify that the quick connects will seal properly when disconnected. This will verify the integrity of the lifter's vacuum system with all possible configurations. Additionally, testing the lifter both ways (with all vacuum pads connected and alternatively, with all quick connects disconnected) may provide helpful information, should a vacuum leak be noted.

If the vacuum lifter did not leak when all the pads were attached, but did leak when the quick connects were disconnected, this indicates that one or more of the quick connects leak when disconnected. Conversely, if the lifter did leak when all the pads were attached, but did not leak when the quick connects were disconnected, this indicates that one or more of the vacuum pads or the connection from the vacuum pads to the quick connects is the cause of the leak.

In both of the examples above, the vacuum leak is located in the vacuum pad system and not the vacuum generating system. If this is the case, please read the remaining information provided in this section and then proceed to the Pad System Test for information on testing either the quick connects or vacuum pads.

If the vacuum lifter leaked under both circumstances (with all pads connected and also with all quick connects disconnected), the Preliminary Test shown in the following section will need to be performed.

When you perform the vacuum test, we recommend that you note the time and leakage rate, such as "lost 5" Hg [-17 kPa] in 10 minutes". If both the blue/green and red circuits of the lifter's vacuum system are leaking, record this information for each circuit. This information can assist in diagnosing the location of the leak because there may be more than one component leaking vacuum. For example, when you are performing maintenance, if an isolated section tests positive for a leak but the leakage rate is less than that of the whole lifter, this indicates that there is still one or more vacuum leak elsewhere in the system.

If the rate of leakage is sufficient to warrant repair, proceed as follows:

To locate the cause of leakage, begin by inspecting the vacuum pads, fittings and hoses of the entire vacuum system. Look for contamination, cuts or abrasions on pad faces, cracks, abrasions or cuts in hoses, damaged fittings and loose hoses at connection points. If leakage is severe, the cause is often a visibly damaged part.

Do not apply soapy water to fittings or vacuum hoses in an attempt to find leaks, since it will only be drawn inside the vacuum system.

If the source of leakage is not immediately evident, the various sections of the entire vacuum system must be systematically isolated and tested to determine the leakage point. The process to accomplish this is described in the tests to follow.

Please note, the information that is gathered when performing a vacuum test is only valid if the tools used to perform the test are accurate. Be sure that the tools you use are capable of completely sealing the isolated parts of your system when tested. Recommended tools, in addition to an appropriate test surface, are plugs for hoses and fittings, a ball valve with vacuum gauge attached, push-in hose adapters and extra vacuum hose. This procedure is written with the assumption that you have access to the appropriate tools.

If needed, test equipment is available from Wood's Powr-Grip Co. To find out what is available, contact our sales staff for additional information.

A set of screwdrivers may also be needed if the valve enclosure or pump cover needs to be removed. Note: Always proceed with caution when removing enclosure covers. Since wiring is often connected to components in the cover, gentle removal is recommended so as not to damage the attached wiring.

When removing a hose from a barbed fitting, take care to avoid damaging the barbs of the fitting to which the hose is attached. Cuts or nicks in fitting barbs can create a leak that did not previously exist. Additionally, if a hose is removed from a barbed fitting, cut approximately 1/4" [6 mm] off the end of the hose before reinstalling it on the fitting, in order to remove damaged hose ends.

For push-in fittings, the hose end must be cut straight and square to seal properly. To remove a hose from a push-in fitting press the locking collar in towards the fitting and pull out on the hose. If a hose is removed from a push-in fitting it is recommended to cut approximately 1/8" [4 mm] off the end of the hose before reinstalling it on the fitting, in order to remove damaged hose ends and to provide a fresh point of contact for the locking collar. When installing a hose in a push-in fitting, push the hose in firmly and then gently pull outward on the hose to ensure that it is fully secured (the hose should not pull out). Additionally, when a hose is installed in a push-in fitting, it needs to run reasonably straight out from the fitting with minimal sideways pressure on the hose locking collar, to reduce the chance of a vacuum leak.

Note: The vacuum system of this model lifter provides release using a "blow off" feature. This is where the pressure side of the vacuum pump is plumbed to the control valve and pumps air into the pad system when release mode is engaged, to help speed the release of the vacuum pads. When testing the lifter for leaks, it is often necessary to seal off the system in some manner (cap off or plug fittings and or lines). Due to this, the use of the release function is not recommended during the repair process, as it will cause pressure to build in the sealed off section and may damage components.

PRELIMINARY TEST

This test determines whether leakage is located in the vacuum generating system or the pad system.

Note: Since the vacuum tanks are part of the pad system, any leakage will appear to be faster due to the reduced system volume.

1) Carefully remove the valve enclosure cover (**1A**) and lay it to one side. See **FIGURE 1**.

   This exposes the two Y-fittings (**1B**) that attach the filters and vacuum gauges to the pad lines and provides access to the fittings.

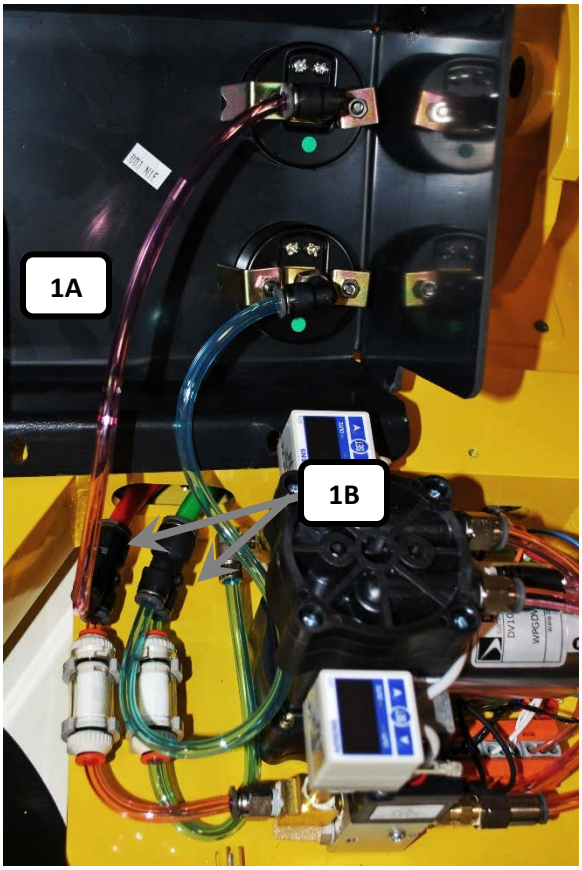

FIGURE 1

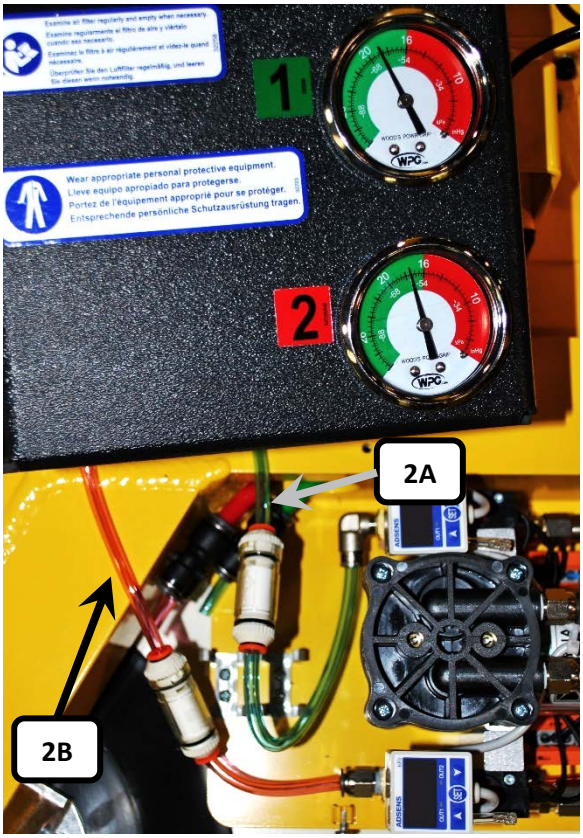

FIGURE 2

2) Remove the hose from the Y-fitting that attaches to the vacuum gauge of the affected circuit (**2A** blue/green or **2B** red). Remove the hose from the filter of the affected circuit (blue/green or red) that is attached to the Y-fitting.

3) Attach the hose from the vacuum gauge directly to the corresponding filter to seal off the vacuum generating system from the pad system. The gauges for both circuits (blue/green and red) are shown attached to their corresponding filter in **FIGURE 2**.

   Note: If only one filter assembly is attached directly to its vacuum gauge, disconnect the quick connects to all the vacuum pads of the other pad circuit, so the remaining section will seal during testing.

4) Switch the power to on (I), and activate the vacuum generating system by pressing the apply ( ) push button.

5) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically and, with the lifter still applied, switch the power to off (O).

   Observe the vacuum gauge(s) to locate the general area of leakage.

   - If the vacuum level on the vacuum gauge (s) starts and continues to drop, this indicates the vacuum generating system does leak. Proceed to the Vacuum Generating System Test.

     Note: If, when the general Vacuum Test (as described in the Maintenance section of the instruction manual) was performed, both gauges indicated a vacuum leak, but now, when testing only the vacuum generating system, only one gauge is indicating a leak, this indicates that the one circuit (blue/green or red) that currently shows a leak is leaking in the vacuum generating system and the other circuit, that is now holding, is leaking in the pad system. When this is the case, the leak in the vacuum generating system should be dealt with before continuing on to the Pad System Test.

   - If the vacuum level on the vacuum gauge(s) holds steady and does not drop, this indicates the vacuum generating system does not leak; therefore, the leak is located in the pad system. Proceed to the Pad System Test.

VACUUM GENERATING SYSTEM TEST

Note: The following assumes that you have access to suitable plugs, a ball valve with vacuum gauge, and additional hose and adapter fittings for connecting the ball valve to the lifter's vacuum lines and fittings.

Note: If you are testing only one of the two circuits, disconnect the quick connects to the vacuum pads of the other circuit to allow the remaining section to seal to during testing.

The most likely leak points in the vacuum generating system are the check valve, the hose connections to the filters and gauges, or the control valve. Leave the Y-fitting disconnected from the filter and test these items as follows:

Isolate the filter from the control valve / check valve assembly:

1) Disconnect the hose from the control valve fitting that connects the valve to the filter (blue/green or red). Disconnect the vacuum gauge hose from the filter. Connect the vacuum gauge hose to valve fitting (**3A** or **3B)** where the filter was connected. See **FIGURE 3**.

2) Switch the power to on (I), and activate the vacuum generating system by pressing the apply ( ) push button.

3) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically and, with the lifter still applied, switch the power to off ( ).

4) Observe the vacuum gauge(s) to locate the general area of leakage.

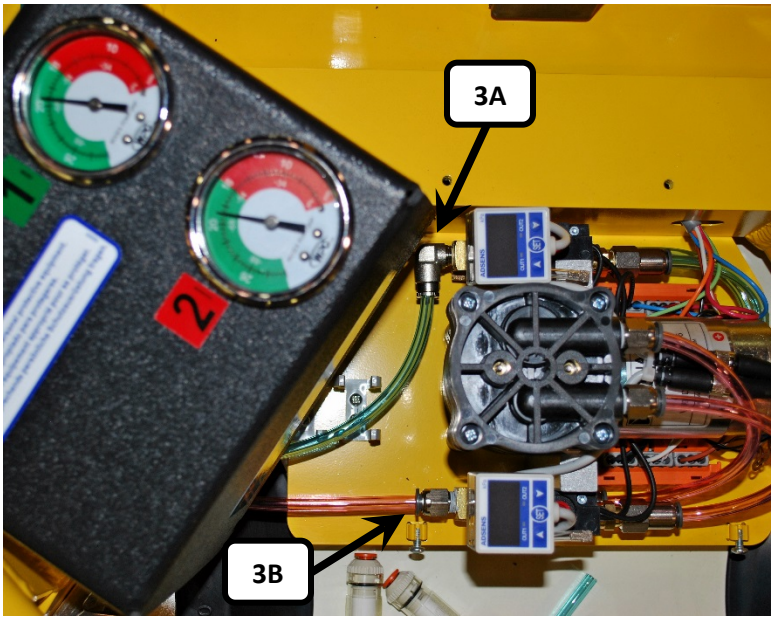

FIGURE 3

- If the vacuum level on the lifter's vacuum gauge holds steady, this indicates the filter is the source of the leak. Verify that the O-ring seal of the filter cap is in good shape, that the cap is tight and that the filter housing is clean. Check the filter and the ends of the hoses attached to the filter. Cut approximately 1/8" [4mm] from the ends of the hoses, ensuring that the cuts are straight and square. Reattach the hoses to the filter in the same manner as done in the preliminary test and retest the lifter. If the lifter continues to leak, replace the filter and or hoses.

  Note, when reassembling the lifter, it may be prudent to also replace the hose from the Y-fitting to the filter. Also, when the filter is installed in its holder, it is critical that the hoses be positioned so that there is minimum sideways pressure on the filter.

- If the vacuum level on the lifter's vacuum gauge starts and continues to drop, this indicates that the leak is located in either the control valve assembly, the check valve or the vacuum gauge assembly. Proceed to next step.

Test the control valve / check valve assembly for leakage:

5) Remove the hose from the valve assembly that connects the vacuum gauge. Install a short piece of ¼" O.D. hose that is capped off to create a fitting plug as shown in **FIGURE 4,** items **4A** and **4B**.

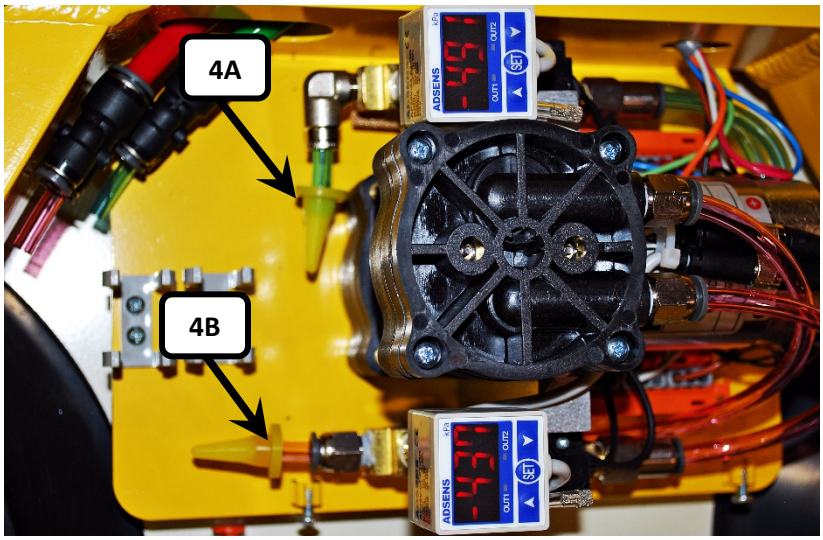

FIGURE 4

6) Switch the power to on (I), and activate the vacuum generating system by pressing the apply ( ) push button.

Note: Since the vacuum gauge has been removed from the system, the digital vacuum switch will be used to indicate whether or not the leak still exists. This is only possible if the lifter shuts off automatically. If the leak is too severe for the lifter to shut off automatically, switch the power to off (O), and proceed to step 8.

7) With the lifter still powered on, observe the vacuum switch to locate the general area of leakage.

Note: Vacuum switch scales have changed since the initial implementation of the digital switches. The switch may stop at ≥ 18.0 or ≥ -458, depending on the age of the lifter and the scale used to set the switch. Regardless of the scale used, you will be watching for a drop in the vacuum level shown (decreasing number) and a regular cycling of the vacuum generating system.

- If the vacuum level on the vacuum switch holds steady, this indicates the leak is between the valve assembly and the vacuum gauge. Check and/or recut the hose ends, or replace the hose to the vacuum gauge. Reconnect the gauge and repeat the test shown in step 1 of this section.

  If the leak continues, check the fitting attached to the gauge. This is a swivel elbow with a composite elbow section. Rotate the fitting and, with slight pressure, push and pull on the elbow section while vacuum is applied. If a change in the leak is noted (faster or slower), replace the elbow.

  Check the vacuum gauge for indications of damage and replace the gauge if needed.

- If the vacuum level on the vacuum switch drops and the lifter recycles repeatedly, this indicates that the leak is located in the control valve assembly. This includes both the control valve and the check valve. Switch the power to off (O), and proceed to step 8.

8) Note: This step requires the use of the ball valve with vacuum gauge and appropriate adapters for the ¼" O.D. hose. If, as is likely, you have only one ball valve assembly, only one circuit (blue/green or red), can be tested at a time. Each circuit can be addressed individually.

9) The ball valve assembly required for the next step consists of the standard ball valve with vacuum gauge and barbed fittings (for 1/4" I.D. hose), two barbed fitting to 3/8" O.D. push-in hose adapters and two 3/8" O.D. push-in hose to 1/4" O.D. push-in hose adapters. See the following graphic.

10) Remove the hose from the control valve that connects to the vacuum pump intake (vacuum) port. This will be the fitting of the control valve with the check valve installed. See **FIGURE 5**.

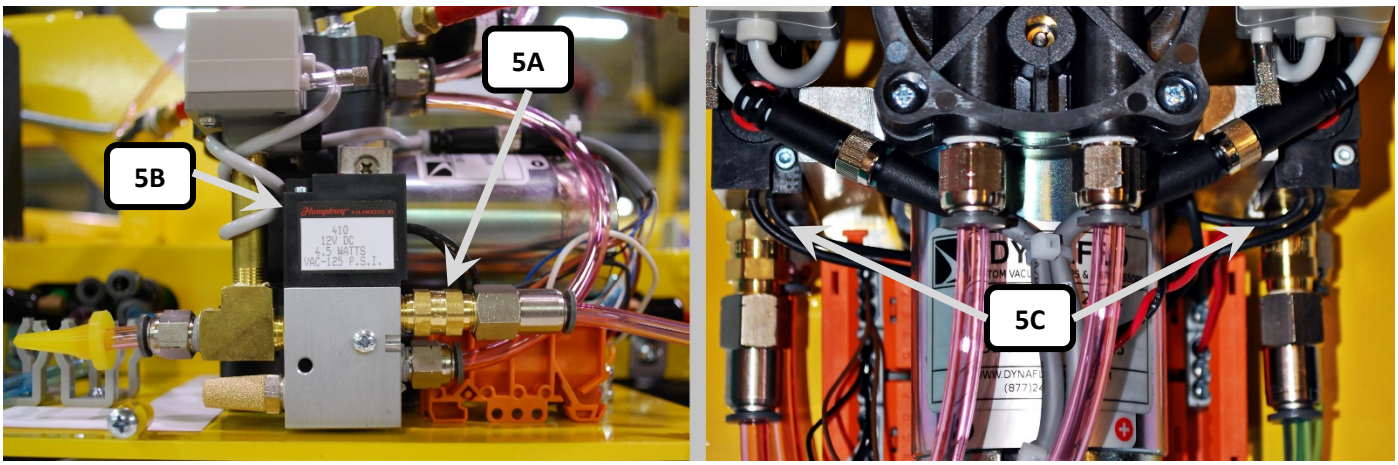

FIGURE 5

In the left panel, the check valve, **5A**, is connected to the control valve, **5B**. See the right panel for the location of the check valves of both valve assemblies, **5C**, shown from the top view.

Remove the hose from this fitting for the circuit (blue/green or red) being tested.

11) Using additional hose and fitting adapters, attach the end of the ball valve with the vacuum gauge to the control valve port with the check valve, where the pump hose was attached. Using fitting adapters, attach the other end of the ball valve to the pump hose. See **FIGURE 6**.

12) With the ball valve in the open position (handle in line with the valve), switch the power to on (I), and activate the vacuum generating system by pressing the apply ( ) push button.

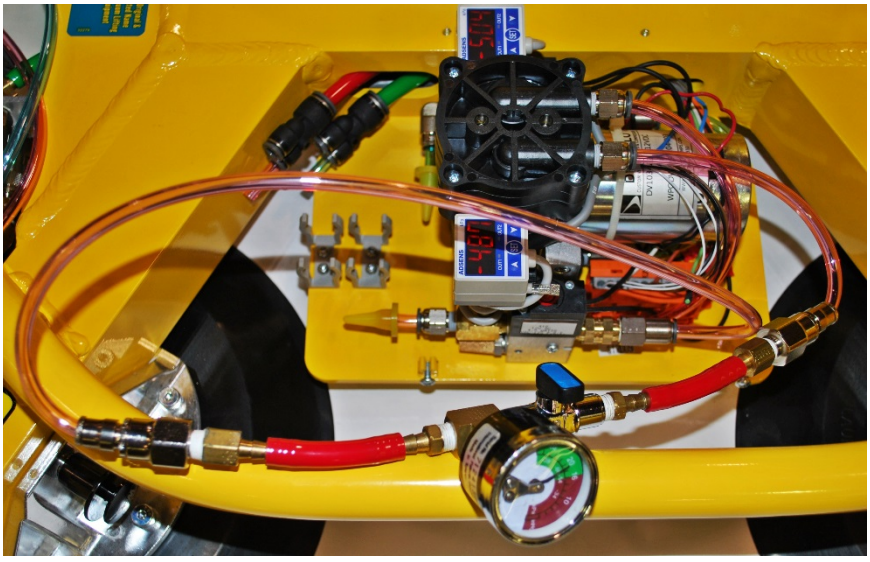

FIGURE 6

13) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically and, with the lifter still on and in apply mode, close the ball valve (turn handle perpendicular to valve) as shown in **FIGURE 6**. Note: With the ball valve closed, if there is a leak, the vacuum level will not recover even though the vacuum pump may be running.

14) Observe the vacuum gauge on the ball valve and the vacuum switch readout to locate the area of leakage.

- If the vacuum level on the both the ball valve's vacuum gauge and the vacuum switch holds steady and does not drop, this indicates that the check valve is the cause of the leak. Replace the check valve.
- If the vacuum level on either the ball valve's vacuum gauge and/or the vacuum switch starts and continues to drop, this indicates that the leak is located in the control valve assembly. The most likely cause is the control valve, so replace the control valve. However, check all the attached fittings of the assembly closely for any indication of damage or cracks as, although less likely, this too could be the cause.

  Note, leaks in the vacuum generating system should be repaired prior to performing repairs to the pad system. Also, although the vacuum generating system can be built as a virtually leak-free system, minor vacuum leaks are not always worth the effort to locate and repair. As mentioned at the start of the preliminary test, the vacuum tanks are located in the pad system. This is the area of volume that helps diminish (slow) the effects of vacuum leaks. Due to the difference in volume, when the vacuum generating system is isolated from the pad system, the amount of leakage noted in the vacuum generating system over the course of 5 minutes can take over an hour to have the same result when the pad system is attached. This assumes that the pad system itself is not leaking and that the only leakage is what was noted in the vacuum generating system when it was tested.

  Once the vacuum generating system is confirmed to hold (no significant leaks noted per the vacuum gauge readings), reconnect the pad system, proceed to system confirmation and retest the vacuum system as described.

PAD SYSTEM TEST

Isolate the vacuum pads, fittings and vacuum line sections until the leak point can be located, as follows:

If the Preliminary Test was performed, reattach the vacuum gauge and filter lines to the Y-fittings to reconnect the vacuum generating system to the pad system.

To determine where to begin testing, identify which previous test indicated the pad system to be the cause of the leak.

Condition A:

If, during the initial vacuum test of the whole lifter, it was determined that the lifter's vacuum system did leak when all the vacuum pads were connected but it did not leak when all the quick connects were disconnected, go to **Isolating vacuum pads and pad line fittings**.

The conclusions that can be made based on the results of the test as described above are:

a) The vacuum generating system does not leak.
b) The internal vacuum lines of the vacuum pad system do not leak up to the quick connects.
c) The quick connects do not leak when disconnected.

Condition B:

If, during the initial vacuum test of the whole lifter, it was determined that the lifter's vacuum system did not leak when all the vacuum pads were connected but it did leak when all the quick connects were disconnected, go to **Isolating quick connects and internal vacuum fittings**.

The conclusions that can be made based on the results of the test as described above are:

a) The vacuum generating system does not leak.
b) The internal vacuum lines of the vacuum pad system do not leak up to the quick connects.
c) The quick connects do not leak when connected.
d) Neither the vacuum pads nor the lines running from the quick connects to the vacuum pads leak.

Note: If, per the Preliminary Test, you have determined that the vacuum generating system does not leak and if, when the lifter was vacuum tested as a whole, the lifter's vacuum system did leak when all the vacuum pads were connected and continued to leak when all the quick connects were disconnected, begin testing the pad system at **Isolating quick connects and internal vacuum fittings**.

Isolating quick connects and internal vacuum fittings:

This section will deal with vacuum testing of the internal hose fittings and the quick connects when they are disconnected from the vacuum pads. It assumes that the vacuum generating system has been verified to not leak.

Begin by testing the individual quick connects (disconnected from the male portion) as follows.

1) Remove the hose (**7A**) attached to one quick connect. Attach a piece of hose to the end of the ball valve with the vacuum gauge (**7C**) and attach the other end of this hose to the quick connect (**7B**). Connect the other end of the ball valve to the hose that was removed from the quick connect.

   See **FIGURE 7.** The quick connect for the green circuit is shown being tested.

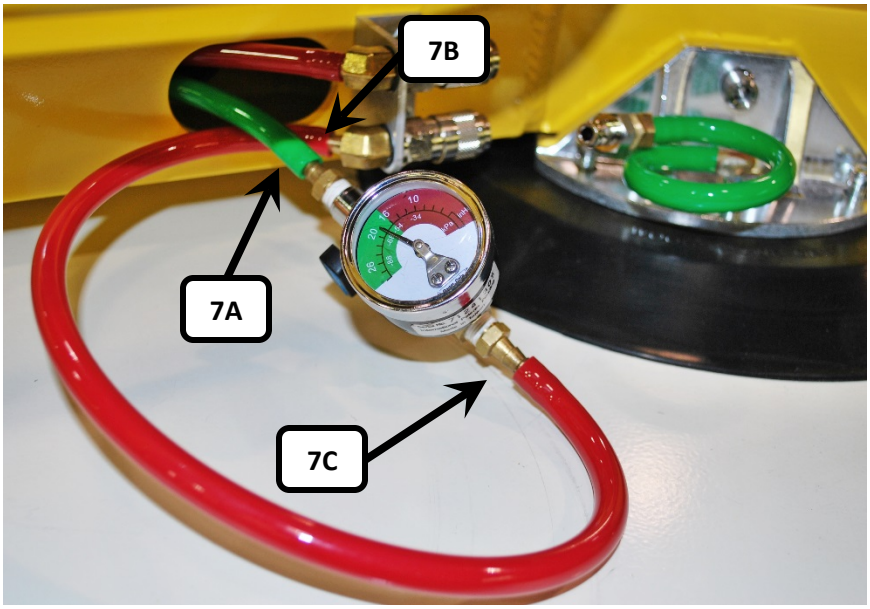

FIGURE 7

2) With the ball valve in the open position (handle in line with the valve), switch the power to on (I) and activate the vacuum generating system by pressing the apply ( ) push button.

3) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically, close the ball valve (turn handle perpendicular to valve) and switch the power to off ( ).

   - If the vacuum level on the ball valve's vacuum gauge holds steady and does not drop, this indicates that this quick connect does not leak.
   - If the vacuum level on the ball valve's vacuum gauge starts and continues to drop, this indicates the quick connect does leak and will need to be replaced.

4) Continue checking each quick connect of the leaking circuit (red or green) using the method described above.

   Once all the quick connects have either been verified to not leak or have been replaced, perform a vacuum test with all quick connects disconnected.

   - If the vacuum level on the lifter's vacuum gauge holds steady and does not drop, this indicates that all leaks up to the quick connects have been repaired. Attach the vacuum pad lines to the quick connects and retest with all pads attached. If the vacuum level now starts and continues to drop, go to **Isolating vacuum pads and pad line fittings** to isolate the leak. If the vacuum level on the lifter's vacuum gauge still holds steady, proceed to System Confirmation.
   - If the vacuum level on the lifter's vacuum gauge starts and continues to drop, this indicates that there is a leak between the quick connects and vacuum generating system. This will require you to check the internal hoses and fittings.

If it is necessary to replace internal hoses, it is recommended that a drawing of the internal hose routing be obtained prior to proceeding further, in order to understand how the hoses are routed. Please contact Wood's Powr-Grip Co. for additional assistance.

The internal hoses use brass Y-fittings to make the hose connections. Note, these have only one barb on each of the three hose nipples. Remove hoses carefully to avoid damaging the single barb.

To test these for leaks, the individual fittings can be connected to the ball valve and vacuum tested using any active vacuum port or hose as the vacuum source. This may be the Y-fitting that connected the internal hose to the vacuum generating system, the other pad circuit (if only circuit one was removed) or the vacuum pump itself with the use of adapter fittings. See **FIGURE 8**.

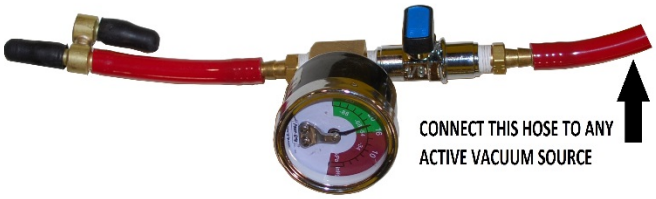

FIGURE 8

Isolating vacuum pads and pad line fittings:

Note: This section assumes that you have verified that the lifter does not leak when the quick connects are disconnected.

5) Connect the vacuum pads of the leaking circuit to their respective quick connect.
6) Remove each pad fitting from the vacuum pads of the leaking circuit (**9A** green circuit or **9B** red circuit), disconnecting the pads of this circuit from the vacuum system.
7) Cap the pad fittings of the disconnected pads, to seal off the vacuum lines.

   See **FIGURE 9**. Note, both the red and green circuits are shown capped off.
8) With the vacuum pads of the circuit being tested capped off, switch the power to on (I) and activate the vacuum generating system by pressing the apply ( ) push button.

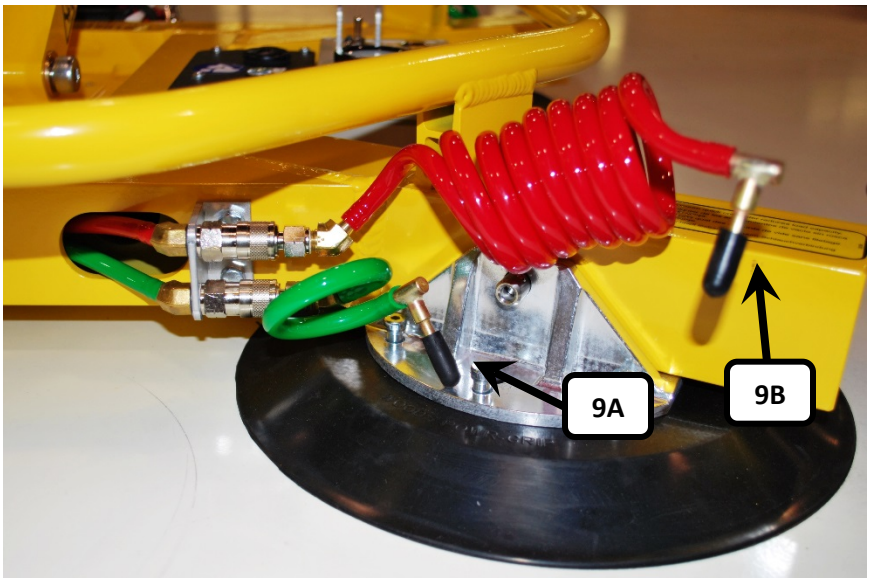

FIGURE 9

9) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically, close the ball valve (turn handle perpendicular to valve) and switch the power to off (O).
   - If the vacuum level on the vacuum gauge of the circuit (red or green) that is being tested holds steady and does not drop, this indicates the leakage is in one or more pads. Reconnect one pad to its vacuum line and retest. If indications of leakage resume, replace that pad. Continue testing until all pads have been reconnected and all defective pads have been replaced.

- If the vacuum level on the vacuum gauge of the circuit (red or green) that is being tested starts and continues to drop, this indicates the leakage is in the fittings or coiled hoses between the quick connects of that section and the vacuum pads or that one or more quick connects leak when connected.

10) The MRTA6 lifter has three vacuum pad lines and the MRTA8 has four vacuum pad lines connected to each (red and green) circuit. Since, at this point, you should have determined that the lifter did not leak with the quick connects disconnected and that the leak is present when the vacuum pad fittings are capped off, disconnect two of the vacuum pad lines from the quick connect of the leaking circuit, leaving only one vacuum pad line connected.

    Repeat the test above with just one vacuum pad line attached. If the vacuum level on the vacuum gauge of the circuit (red or green) that is being tested holds steady and does not drop, this vacuum line is not the cause of the leak. If the vacuum level on the vacuum gauge of the circuit (red or green) that is being tested starts and continues to drop, this vacuum line does leak and will need to be repaired.

    Repeat this process for each vacuum pad line of the affected circuit, one line at a time. Once all the vacuum pad line assemblies that leak are identified, effect repairs as follows.

11) Remove the pad fitting (**10A**) from the coiled hose (**10B**) of the vacuum pad line to be tested. Attach a short piece of hose to the end of the ball valve with the vacuum gauge and attach the other end of this hose to the pad fitting. Attach the other end of the ball valve to the coiled hose as shown in **FIGURE 10**.

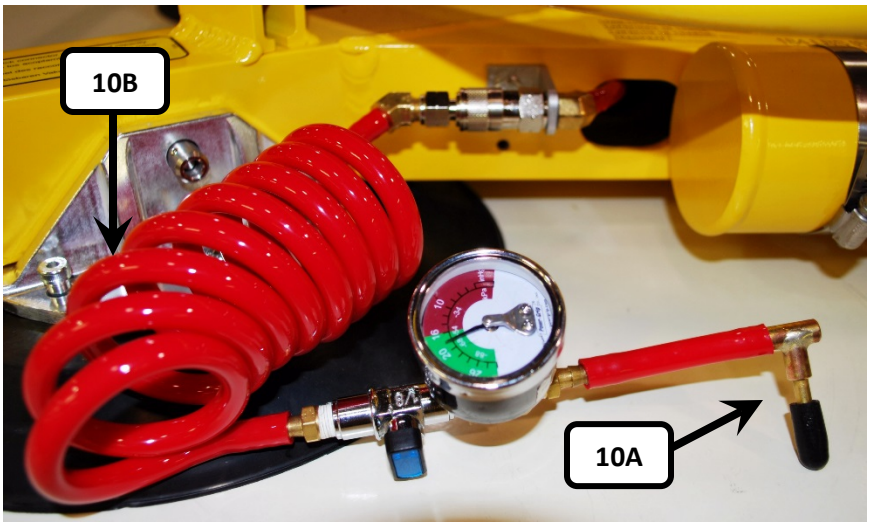

FIGURE 10

12) With the ball valve in the open position (handle in line with the valve), switch the power to on (I) and activate the vacuum generating system by pressing the apply ( ) push button.

13) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically, close the ball valve (turn handle perpendicular to valve) and switch the power to off (O).

- If the vacuum level on the lifter's vacuum gauge holds steady and does not drop, and the vacuum level on the ball valve's vacuum gauge starts and continues to drop, this indicates that the leak is located in the pad fitting. Replace the pad fitting.
- If the vacuum level on the ball valve's vacuum gauge holds steady and does not drop, and the vacuum level on the lifter's vacuum gauge starts and continues to drop, this indicates that either the leak is located in the coiled hose or the connected quick connect. Proceed as follows.

14) Remove the ball valve from the coiled hose and reinstall the capped pad fitting. Remove the coiled hose from the hose nipple of the male quick connect (**11A**) and install the end of the ball valve with the vacuum gauge in this end of the coiled hose. Using an additional piece of hose, connect the other end of the ball valve to the quick connect.

See **FIGURE 11**.

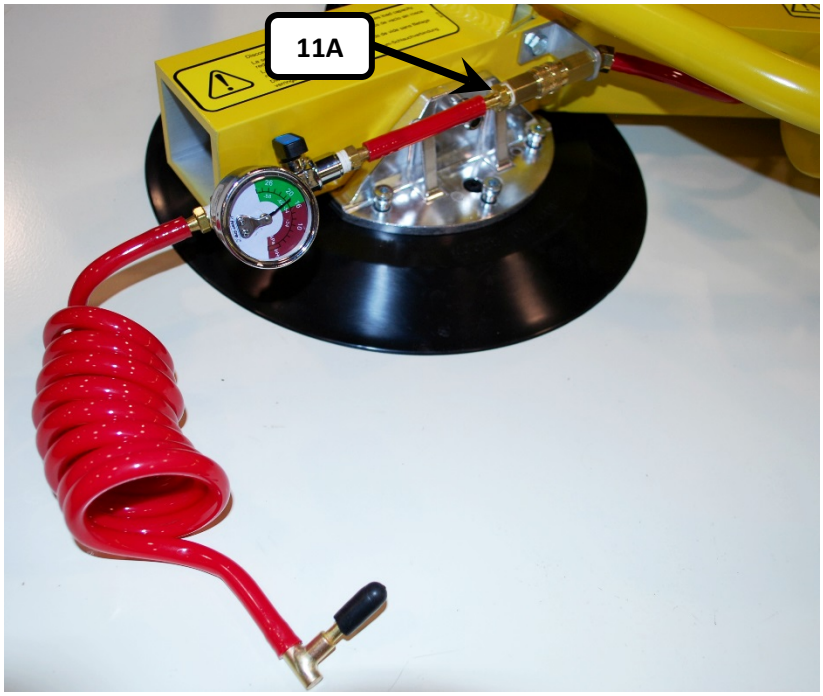

FIGURE 11

15) With the ball valve in the open position (handle in line with the valve), switch the power to on (I) and activate the vacuum generating system by pressing the apply ( ) push button.

16) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically, close the ball valve (turn handle perpendicular to valve) and switch the power to off (O).

- If the vacuum level on the lifter's vacuum gauge holds steady and does not drop, and the vacuum level on the ball valve's vacuum gauge starts and continues to drop, this indicates that the leak is located in the coiled hose. Replace the coiled hose.
- If the vacuum level on the ball valve's vacuum gauge holds steady and does not drop, and the vacuum level on the lifter's vacuum gauge starts and continues to drop, this indicates that the leak is located in the connected quick connect. Replace the quick connect.

13) If additional verification of the quick connect is desired, remove the coiled hose from the ball valve and remove the ball valve from the male quick connect. Cap off the hose nipple of the male quick connect (**12A**). Remove the hose from the female portion of the quick connect (**12B**). Using an additional piece of hose (**12C**), attach the end of the ball valve with the vacuum gauge to the female portion of the quick connect and attach the other end of the ball valve to the hose that was removed from the quick connect.

See **FIGURE 12**.

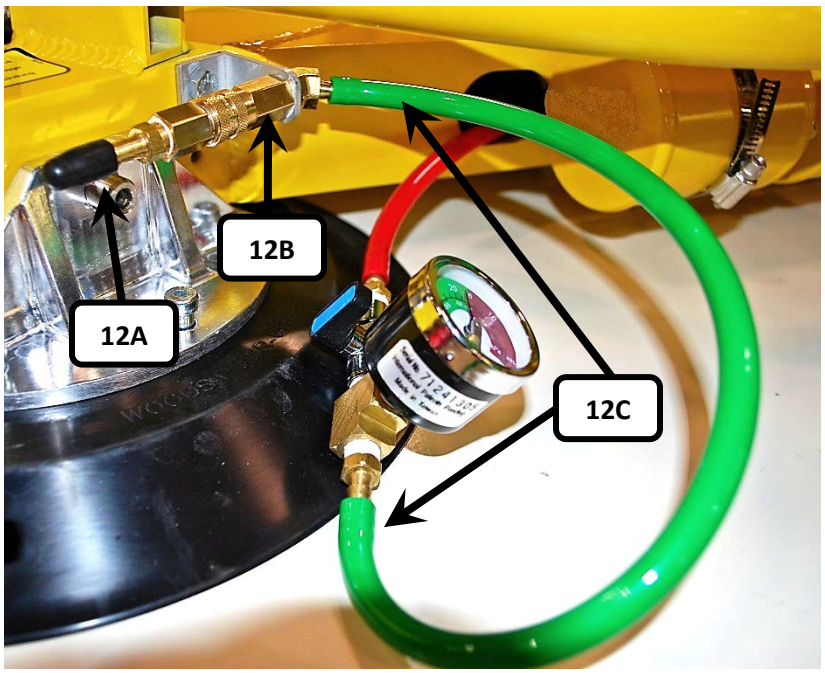

FIGURE 12

17) With the ball valve in the open position (handle in line with the valve), switch the power to on (I) and activate the vacuum generating system by pressing the apply ( ) push button.

18) Allow the vacuum system to reach a suitable vacuum level or to shut off automatically, close the ball valve (turn handle perpendicular to valve) and switch the power to off ( ).

- With the male portion of the quick connect attached to the female quick connect, based on the previous test, the vacuum level on the ball valve's vacuum gauge should drop.
- Disconnect the male quick connect and repeat the test. The vacuum level on the ball valve's vacuum gauge should now hold steady.

  If a quick connect leaks when connected, the cause is typically due to damage to the male portion of the quick connect. However, the damaged male connector can also cause damage to the internal sealing ring of the female portion of the quick connect.

  Due to this, it is recommended that both halves (male and female portions) of the quick connect be replaced.

SYSTEM CONFIRMATION

Once all leaks are identified and repaired, reassemble all parts of the lifter.

The Vacuum Test, as described in the instruction manual, should be performed following any repair or service to a vacuum lifter. Note: On lifters such as this one, with quick connects installed, a second vacuum test should be performed with all quick connects disconnected. All parts must be verified in relation to their function and the lifter must pass the Vacuum Test before returning the lifter to operation.

ADDITIONAL INFORMATION

NOTES:

1) When requesting information on a particular lifter, please have the model number and serial number available, in order for us to properly identify components.
2) **CAUTION:** Always proceed with caution when opening enclosures containing electrical wiring. Wiring is often connected to components in the cover, as well as the enclosure itself.
3) In some cases a leak may be identified to be in an assembly (such as a filter or valve assembly) but the actual cause is not apparent (neither the filter nor the valve itself are the cause). In these cases, the leak may be caused by a cracked fitting. Cracks in fittings may be visible but are often virtually impossible to locate except under factory test conditions. They may appear as dark lines along the seam of female fittings, along the hex nut section of female hose nipples, or at the base of the threads on male fittings. If a leak is traced to an assembly and the cause is not visibly apparent, it may be best to simply replace the whole assembly rather than a single component.
4) If any metal fittings are disassembled during testing, ***always*** apply thread sealant (Teflon tape or similar product) to the male threads prior to reassembly, in order to avoid vacuum leaks.

   For plastic fittings use only Teflon tape; liquid sealants must not be used because they may damage plastic parts.
5) When assembling fittings, do not over-tighten. After first applying adequate thread sealant or tape, the fitting should be finger-tightened as much as possible.

   A straight fitting should be tightened no more than two additional revolutions with a wrench.
   An elbow fitting should be tightened no more than one and one-half additional revolutions with a wrench.
   Once an elbow or tee fitting is tightened with a wrench, the fitting should be aligned in the clockwise direction with a wrench
6) Please note: The information that is gathered when performing a vacuum test is only valid if the tools used to perform the test are accurate. Be sure that the tools you use are capable of completely sealing your system.

If needed, test equipment is available from Wood's Powr-Grip Co.

There are various ways to approach testing vacuum lifters.

For further suggestions or information, please contact our staff at:

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908 West Main
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800.548.7341
406.628.8231
406.682.8354 (fax)
www.WPG.com

ALL LIFTERS MUST BE TESTED AFTER MAINTENANCE
SEE INSTRUCTION MANUAL