DCL1000SE

Automated Self Contained Leaf Collector Rev4

Owner's Manual
Safety Manual
Pre-Operating Manual
Operating Manual
Maintenance Manual
Service Manual
Parts Catalog

2023 Edition

XTREME VAC
5118 Glen Alden Drive
Richmond, VA 23231
800-446-9823

XTREME VAC by ODB

DCL1000SE

⚠ CAUTION

DO NOT ATTEMPT TO OPERATE OR REPAIR THE LEAF COLLECTOR WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL

IF YOU HAVE ANY QUESTIONS CONCERNING THE INSTALLATION OR OPERATION OF THIS UNIT, PLEASE CALL ODB FOR ASSISTANCE BEFORE ATTEMPTING TO REPAIR OR OPERATE THE UNIT.

IMPROPER USE OF ANY MACHINE CAN RESULT IN SERIOUS INJURY!

STUDY AND FOLLOW ALL SAFETY PRECAUTIONS BEFORE OPERATING OR REPAIRING UNIT

THIS MANUAL IS AN INTEGRAL PART OF THE LEAF COLLECTOR AND SHOULD BE KEPT WITH THE UNIT WHEN IT IS SOLD.

ODB COMPANY
5118 Glen Alden Drive
Richmond, VA 23231
800-446-9823

XTREME VAC by ODB

Safety Section

⚠WARNING **Read and understand this entire manual before operating, maintaining or repairing the leaf vacuum.**

⚠ DANGER

DO NOT RIDE, SIT OR STAND ON UNIT.

RIDING ON UNIT COULD RESULT IN BODILY HARM OR FATAL INJURY USE EXTREME CAUTION WHEN UNIT IS IN USE, OR IN MOTION.

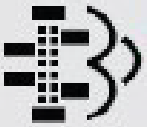
If the decal above is missing or damaged call ODB immediately and we will send you a replacement free of charge. Never operate a unit with damaged or missing safety decals.

⚠ DANGER **DO NOT RIDE, SIT OR STAND ON UNIT**

⚠ DANGER **DO NOT MODIFY THE UNIT FOR RIDERS IN ANY WAY. SERIOUS INJURY OR DEATH MAY OCCUR**

ODB's leaf collectors are NEVER to be used to accommodate riders. If your unit has been modified to accommodate riders, remove these modifications immediately as this can result in serious injury or death.

DIESEL REGEN CHART

Indicators	Description	Operator Action
Exhaust Filter Cleaning Indicator 	**Active when:** 1. Exhaust gas temperature is high. 2. Elevated idle is active. 3. Exhaust filter cleaning is in process.	Machine can be operated as normal. If operating in an area where high exhaust temperatures may be an issue, abort exhaust filter cleaning by using the disable feature.
Exhaust Filter Indicator level 3 	**Active when:** Soot level in the exhaust filter indicates need for an exhaust filter cleaning.	Enable auto filter cleaning to allow a cleaning cycle. OR Begin a manual / parked cleaning.
Exhaust Filter and Warning Indicators level 4 	**Active when:** Machine performance is reduced due to moderately high soot level.	Begin a manual / parked cleaning.
Exhaust Filter and Stop Indi level 5 	**Active when:** Exhaust filter requires service. Machine performance is reduced due to Extremely High soot level and a stop engine request is made.	Service the exhaust filter. Contact your servicing dealer.
Auto Cleaning Disabled Indicator 	**Active when:** Auto exhaust filter cleaning is disabled.	If possible, enable auto cleaning.

WHEN THE UNIT IS UNDERGOING REGEN, WHETHER IT BE AUTOMATIC OR MANUAL, DO NOT TURN THE MACHINE OFF! THIS IS HIGHLY DETRIMENTAL TO THE UNIT. ALLOW IT TO FINISH ITS PROCCESSES.

IF YOU NEED TO STOP THE CLEANING, USE THE INHIBIT BUTTON TO STOP THE REGEN PROCCESS AND MOVE TO A SAFE AREA TO RESUME

IF YOU HAVE A 74HP OR BELOW: THERE WILL BE A "LOW DEF FLUID" ICON ON THE SCREEN, THIS IS NORMAL.

75HP AND ABOVE: THE SCREEN CAN MONITOR YOUR DEF LEVELS AND NOTIFY YOU WHEN IT IS BELOW OPTIMAL LEVELS

Municipal Products
Since 1910

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Since 1910

5118 Glen Alden Drive
Richmond, VA 23231
800-446-9823
www.odbco.com or
www.leafcollector.com

THANK YOU

Thank you and Congratulations on your purchase of your ODB Leaf Collector. Your ODB leaf collector has been carefully designed and manufactured to give you a maximum amount of dependabil- ity and years of trouble-free operation. Take comfort in the fact the ODB has been manufacturing municipal products since 1910 and takes pride in our product's quality and our customer service.

Please take the time to thoroughly read this manual, as well as the engine manual, in its entirety before operating, maintaining, servicing or repairing your leaf collector. Please thoroughly review and follow all the safety procedures located in this manual.

Whenever you need replacement parts, service information or any question regarding your ODB product please feel free to contact us at 800-446-9823 or www.odbco.com.

Please record the following information for future reference:

Model No.: _____

Serial No.: _____

Vin No: _____

Engine Serial No.: _____

Date of Purchase: _____

Safety Section

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Safety Section

⚠ WARNING **Read and understand this entire manual before operating, maintaining or repairing the leaf vacuum.**

1.1 Safety Symbol Definitions

This manual provides the owners/operator with procedures for safe operation, maintenance and repair of your leaf collector. As with any machine, there are hazards associated with their operation. For this reason safety is emphasized throughout this manual. To highlight specific safety information the following safety definitions are provided to assist the reader.

The purpose of safety symbols are to attract your attention to possible dangers. The safety symbols, and their explanations, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

SYMBOL	MEANING
▲	**SAFETY ALERT SYMBOL:** Indicates danger, warning or caution. Attention is required in order to avoid serious personal injury. May be used in conjunction with other symbols or pictographs.
⚠ DANGER	**Disregarding this safety warning WILL result in serious equipment damage, injury or possible death.**
⚠ WARNING	**Disregarding this safety warning CAN result in serious equipment damage, injury or possible death.**
⚠ CAUTION	**Disregarding this safety warning MAY result in minor or moderate injury or property damage.**

⚠ WARNING **Read and understand this entire manual before operating, maintaining or repairing the leaf vacuum.**

1.2 Do's and Do Not's:

This section contains some general safety precautions to do and not to do. This is not an all inclusive list and and it is the responsibilty of the operator to have proper training and use common sense in work situations.

⚠ WARNING

DO NOT:

1. **DO NOT** operate, maintain or repair this unit without having fully read and understood ALL the aspects of this manual.
2. **DO NOT** ride, sit or stand on unit at anytime.
3. **DO NOT** modify the leaf vacuum for any reasons to allow for riders.
4. **DO NOT** operate the unit in a state of disrepair.
5. **DO NOT** operate the unit with ANY guards or safety devices broken, missing, or inoperable.
6. **DO NOT** operate the unit without wearing proper safety equipment.
7. **DO NOT** operate this unit while under the influence of any alcohol or medication.
8. **DO NOT** operate this unit if you have a record of mental instability or dizziness which could result in injury to yourself or others.
9. **DO NOT** operate this unit if you are under 18 years of age.
10. **DO NOT** operate this unit without fully inspecting the unit for any damage or leakage.
11. **DO NOT** operate if the unit has any excessive vibration.
12. **DO NOT** operate unit with the inspection door limit switch damaged or missing.
13. **DO NOT** operate unit unless it is properly connected to a leaf collection box.
14. **DO NOT** operate unit unless it is properly attached to the tow vehicle.
15. **DO NOT** tow unit without using all the safety chains.
16. **DO NOT** tow unit with a damaged tongue.
17. **DO NOT** fill fuel tank with engine running. Allow engine to cool for 5 minutes before refueling.
18. **DO NOT** operate unit if fuel is spilled or with fuel cap off.
19. **DO NOT** smoke or weld near the unit.
20. **DO NOT** run engine in an enclosed area.
21. **DO NOT** place hands or feet near moving or rotating parts.

⚠ WARNING

Do Not, continued;

22. **DO NOT** operate engine with an accumulation of grass, leaves or other debris on the engine.
23. **DO NOT** run engine with air cleaner removed.
24. **DO NOT** leave leaf machine unattended while in operation.
25. **DO NOT** park machine on steep grade or slope.
26. **DO NOT** vacuum a leaf pile without looking for foreign objects such as metal, glass, plastic or large pieces of wood.

⚠ WARNING

Do's:

1. **DO** completely read and understand the owner's manual before operating, maintaining or repairing the leaf collector.
2. **DO** follow engine and PTO manufacturer operating and maintenance instructions.
3. **DO** check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.
4. **DO** completely inspect the unit before leaving the service garage.
5. **DO** check the tow tongue each day for cracks.
6. **DO** inspect and be attentive to what is being vacuumed.
7. **DO** check the impeller, liners and blower housing for cracks or holes daily.
8. **DO** wear proper safety equipment as described in this manual.
9. **DO** watch for pedestrians, animals and other foreign material when vacuuming leaves.
10. **DO** replace any worn or missing safety stickers immediately.

⚠ WARNING

Battery posts, terminals and related accessories contain lead and leaf compounds, chemicals know to the state of California to cause cancer and birth defects or other reproductive harm. Wash Hands after handling

⚠ WARNING

Engine Exhaust, some its constituents and certain vehicle components contain or emit chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

1.3 Training:

⚠ WARNING

Improper use of the ODB leaf collector CAN result in severe personal injury or death. All personnel using this leaf vacuum must be trained and qualified with all the operations, maintenance, repair and safety procedures defined in this manual.

The warnings and procedures regarding safety in this manual are to be used as a guideline only. It is impossible to cover all the events that could happen in the vacuuming process. For this reason, it is vital that the owner accept the responsibility to implement a training program that will provide every operator or mechanic the basic skills and knowledge to make good judgement in all situations.

This training program must include the entire scope of hazards, precautions and government regulations encountered in the vacuuming process. The program should stress the need for regularly scheduled preventive maintenance and detailed equipment safety checks.

It is strongly recommended that all training programs be documented to ensure all operators and mechanics receive initial training on not just the operation but the safety features of the leaf collector.

Safety Section

1.4 Safety Decals

***Read and Follow all Safety Sticker Warnings--Replace all damaged or missing stickers immediately.**

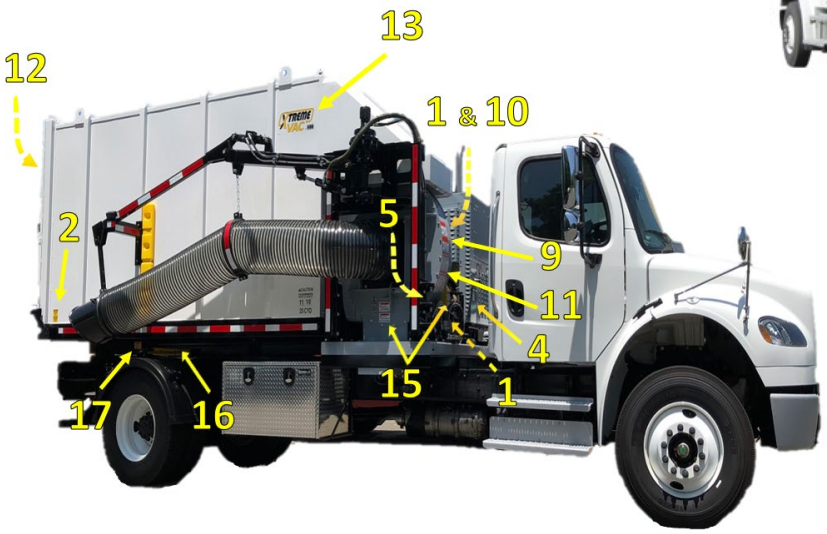
1,2,3,4,5,6,9,
10,11,15

Decals shown on next page

	ITEM NO.	PART NUMBER	DESCRIPTION
	*	800T19DK	Decal Kit - Trucks (includes 1 -15)
	1.	200183	Danger--Rotating Parts
	2.	200106	Caution- Pinch Point
	3.	200192	Caution - Do Not Operate ... without reading manual
	4.	200193	Caution - Allow Engine to Idle
	5.	200194	Caution - Do not use Dielectric grease
	6.	200178	Danger - Explosion hazard
	7.	Call	SCL800 oval sticker
	8.	200195	Clean Hopper screens
	9.	200181	Warning - Head, Eye and Ear Protection
	10.	200109	Do Not Over-Lubricate
	11.	200179	Danger - Do Not Ride, Sit or Stand
	12.	XVODB2DK	XVAC BIG Sticker
	13.	XVODBDK	XVAC SMALL sticker
	14.	200177	Warning - Flammable
	15.	200182	Warning - Do not open cover while in operation
*Not in Kit	16.	*200190	Caution - Unload Body Prop
	17.	*200187	Caution - Body must be braced
	18.	*Call	Caution - Operation of body prop

1.4 Safety Decals

***Read and Follow all Safety Sticker Warnings--Replace all damaged or missing stickers immediately.**



Decals shown on next page

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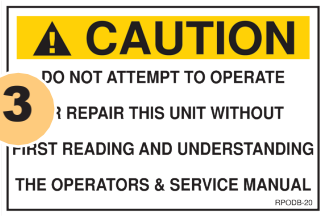
Safety Section

1

2

3



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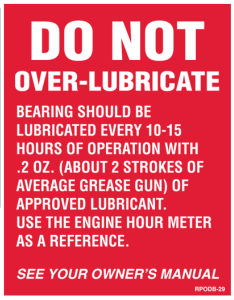

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1.5 Serial Number Location

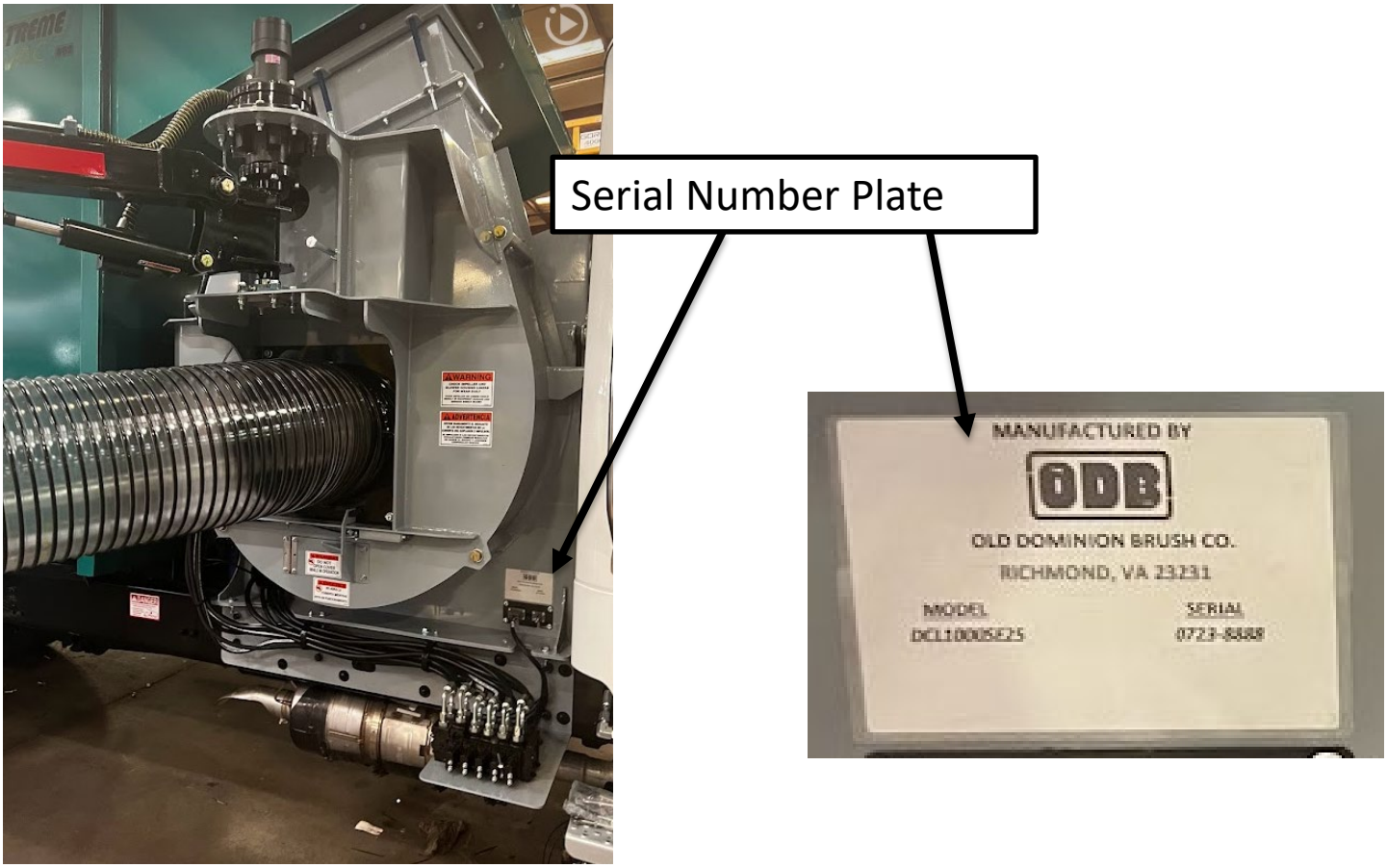
⚠WARNING

Thoroughly read and understand the safety and pre-operating sections of this manual before starting the engine.

⚠WARNING

Make sure each operator knows and understands the load ratings of the towed vehicle and that he/she is qualified to tow the vehicle.

The serial number tag is located on the chassis on boom side of the unit. It should be in front of the fenders going toward the front of the unit. (See figure 1.5a).



Pre-Operating Section

2.1 Safe Operations:

⚠ WARNING

ALL personnel using, maintaining or servicing this unit must be trained in all safety procedures outlined in this manual. Improper or careless use of this equipment CAN result in personal injury or death.

Operations shall be restricted to:

1. Properly trained, qualified and experienced operators and/or qualified and experienced maintenance and test personnel.

2. Trainees under the direct supervision of qualified and experience personnel.

3. Qualified and experienced maintenance and service personnel.

Operators who qualify to operate this equipment under the above restrictions shall also comply with the following physical requirements:

1. Have good vision and the ability to read and understand this manual as well as all safety and operational decals on the equipment.

2. Be capable of hearing, with or without a hearing aid, at a level needed to safely operate this equipment.

3. A record of mental stability with no history of epileptic seizures, dizziness, or any other disability that may result in injury to himself or others.

If any of these requirements are not satisfied at any time, the person failing to meet these requirements **MUST NOT OPERATE THIS EQUIPMENT.**

2.1 Safe Operations (continued):

Additional Requirements:

1. Each operator must demonstrate competence to understand all safety decals, operator's manuals, safety codes, applicable government regulations, and all other information applicable to the safe and proper operation of the leaf vacuum.

2. Each operator must demonstrate the ability to recognize an emergency situation that may arise during vacuuming operations and the knowledge and procedures to implement corrective action.

3. Each operator must demonstrate or provide evidence of qualificatation and experience prior to operating the leaf vacuum.

4. Each operator must be able to recognize existing or potential problems regarding the mechanical integrity of the leaf vacuum and report any maintenance requirements to the supervisor in charge.

5. Each operator must wear the proper personal clothing and safety gear. (Refer to SAFETY PRECAUTIONS Section 5.4)

6. Operators must not be physically or mentally fatigued.

7. Operators must not be under the direct or indirect influence of alcohol and/or drugs. This includes prescription drugs that could cause drowsiness, dizziness, or any other condition that would impair their ability to operate or use this equipment in a safe manner.

2.2 Preparation For Operation

⚠ CAUTION

Before your leaf vacuum is put into operation it is very important to read and follow the procedures outlined in the engine owner's manual. (EOM).

For specific information regarding the following checks please refer to the "Maintenance" section of this manual and the engine owner's manual.

⚠ WARNING

DISENGAGE the clutch and remove the negative battery cable before performing the following checks.

⚠ WARNING

NEVER place any part of the body under or behind guards or any other area in which you cannot see.

IMPORTANT CHECKS:

NOTE: The following checks contained in the next three sections should be performed prior to leaving the storage area.

1. Check engine fuel, coolant and oil levels. (see EOM)
2. Check engine air filter
3. Check all bolts and nuts to ensure they are tight.
4. Check all controls for free and proper operation.
5. Check main drive belt (if equipped) for proper adjustment.
6. Inspect the fan blades to ensure that they are not bent , deformed, fatiqued or cracked. Replace fan if any damage is present.
7. Inspect the intake hose flange to make sure it is connected correctly to the blower housing.
8. Inspect the leaf vacuum frame and structure for any bent, broken, cracked, missing or loose parts.
9. Check all guards to ensure they are undamaged, in place and properly secured.
10. All decals must be in place and legible prior to operating the leaf vacuum. See the decal section for decal replacement.

2.3 Pre-Transport Checks

⚠ WARNING

Failure to verify the road worthiness of the leaf vacuum and the truck and verify all equipment is properly stowed, may cause serious injury or death to yourself or others.

Do not tow the leaf vacuum unless all important checks listed below are completed.

IMPORTANT CHECKS:

1. The hose boom is properly secured.
   a. Be sure nozzle is in the cradle securely.
2. The unit's lighting is operating properly.
3. Check the general condition of the tires, tire pressure and ensure that all lug nuts are securely fastened.
4. Visual examination of the leaf vacuum frame, suspension and structure to determine if all components are correctly positioned and secured for travel.
5. Check the intake hose boom to verify that it is securely fastened to the leaf vacuum and can not swing free.
6. Verify there are no loose tools or materials on the unit, inside the intake and exhaust hoses, or inside the engine sheet metal.
7. Check all cones, wheel-chocks, signs or other support tools and materials to ensure proper stowage.

8 Verify the driver of the unit is qualified to tow the type and weight of the unit.

2.4 Personal Protective Equipment and Clothing

⚠ WARNING

Always wear proper safety equipment as outlined below, not wearing such equipment CAN result in serious personal injury or possible death.

IMPORTANT CHECKS:

Anyone operating the leaf vacuum equipment **MUST** wear appropriate protective equipment and clothing to protect them from injury during operations.

PROTECTIVE EQUIPMENT:

1. **Head Protection:** Hard hats without under-chin strapping.

2. **Eye Protection:** Wraparound goggle type eye protection held in place with an elastic band around the head or a hard hat mounted face shield, which provides full protection of the face.

3. Eye protection must meet ANSI Z87.1 standards.

4. **Hearing Protection:** plug type or “muff type” ear protection should be worn at all times while operating the unit.

5. **Breathing Protection:** Paper filter type dust masks should be worn to protect from dirt and dust particles during the vacuuming process.

6. **Reflective Vests:** Highly visible vests should be worn so motorists can see see the operator in all weather and lighting conditions.

7. **Work Gloves:** Gloves should be worn to protect the hands and wrists from debris.

8. **Steel Toed Boots:** should be worn to protect the feet.

⚠ DANGER

Work clothes MUST be close fitting, but not restrictive of movement, without any loose parts that could be entangled in any parts of the leaf vacuum. This includes items such as jewelry, chains and backpacks.

2.5 Work Site Preparation

⚠ WARNING

Never place any part of the body under or behind guards or any other visually obscured area.

Making sure the leaves are clear of possible dangerous material is critical to safe vacuuming. Vacuuming up metal, glass, rocks or other dangerous material CAN cause serious damage to the equipment or personal injury.

The following guidelines must be followed to insure safety.

1. An inspection of the leaves to be vacuumed must be done prior to the vacuuming process. We realize that it is impossible to completely inspect every inch of leaves being vacuumed, but it is imperative that all leaves be inpsected for obvious dangerous material before vacuuming.

2. The operator should never be in the line of traffic, the operator should work on the shoulder whenever possible.

3. The operators should place cones or other barriers to provide adequate warnings to vehicles and pedestrians that vacuuming is in progress.

4. Strobe lights on the leaf vacuum and on the tow vehicle should be on at all times for high visibility.

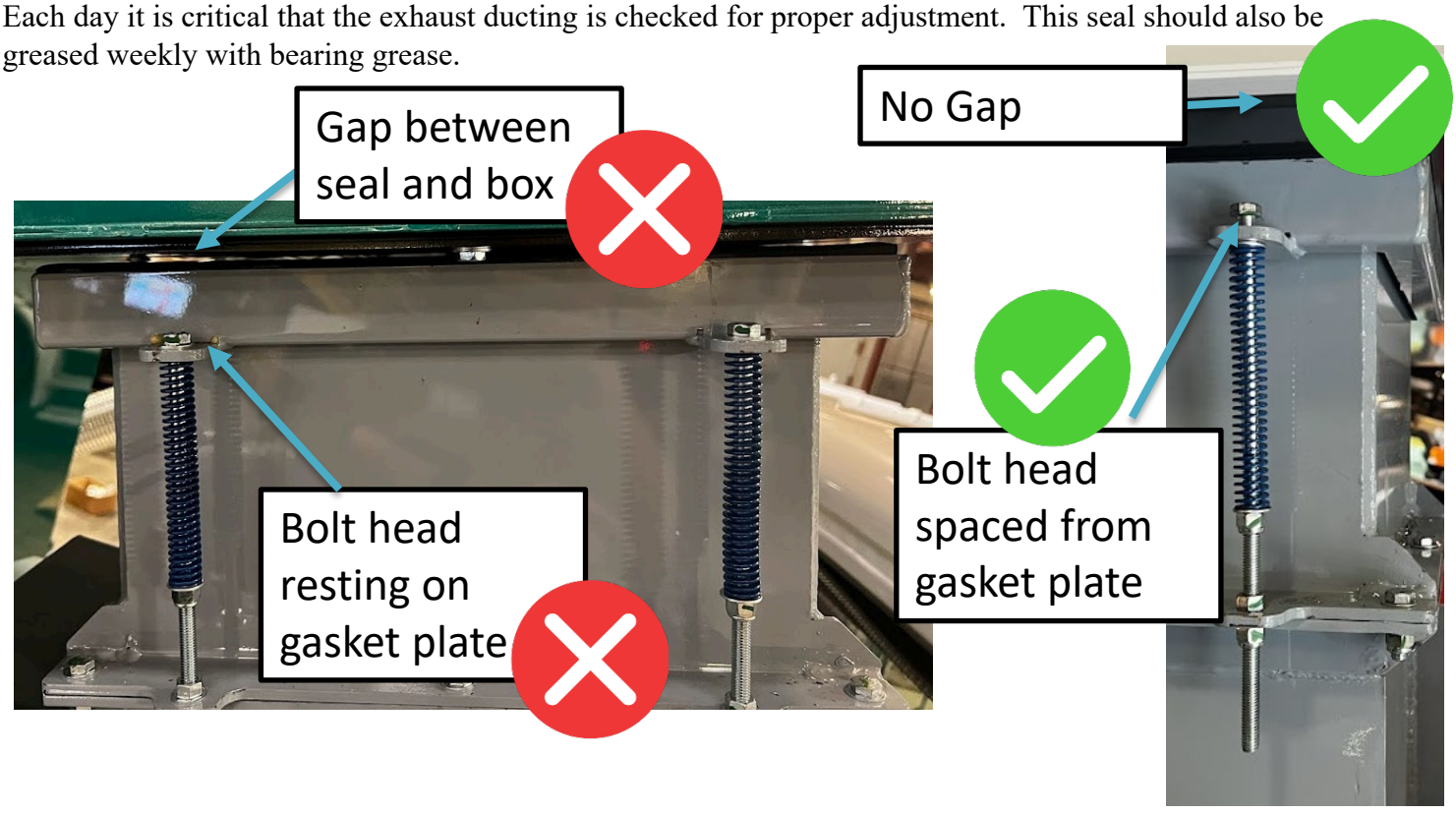
5. Confirm that all operators are wearing proper clothes and personal protective equipment.

6. Restrict all personnel, except the operator from the area near the leaf vacuum. **DO NOT** allow pedestrians, children or animals near the work area.

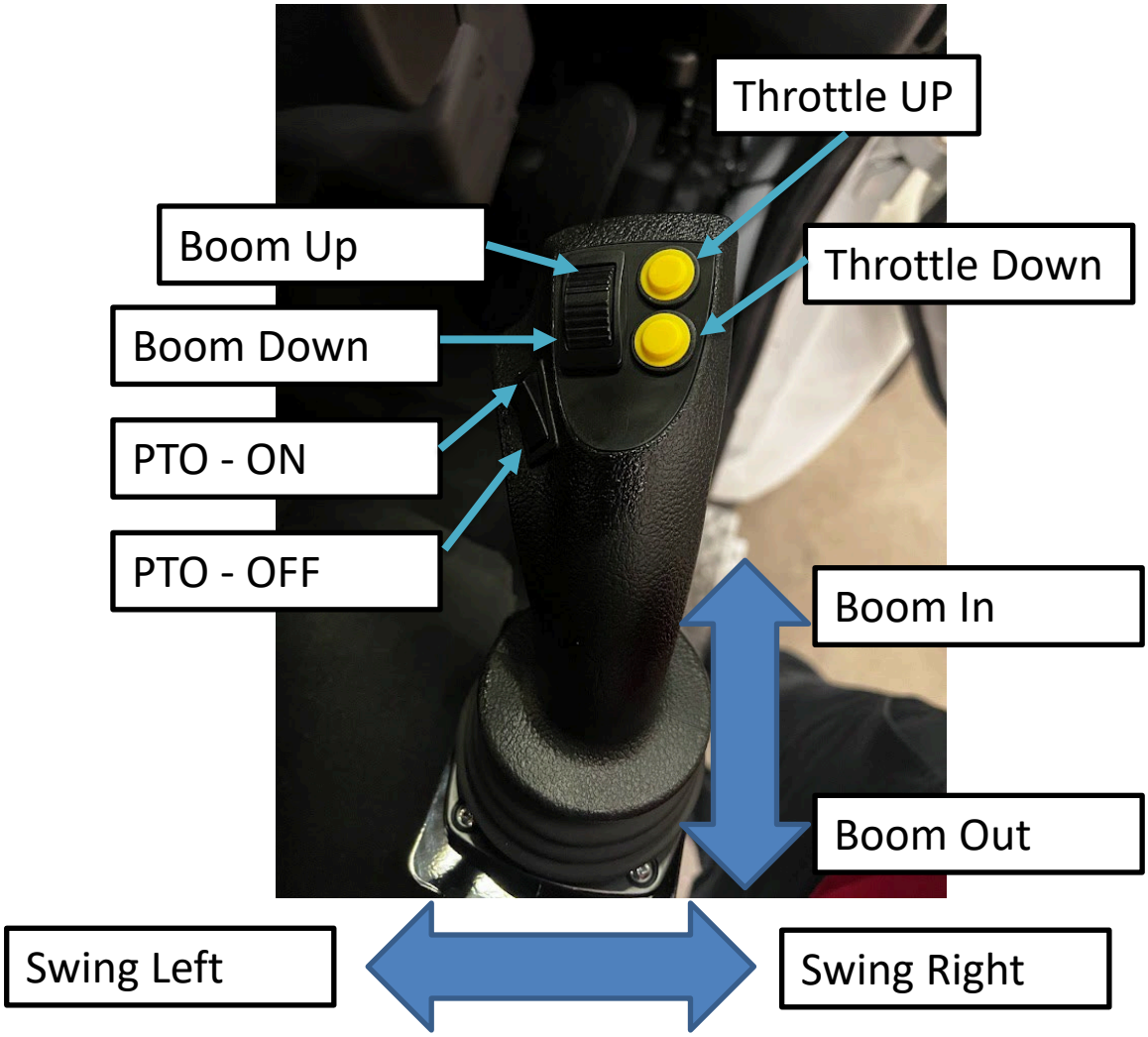
7. Make sure that the exhaust hose (if equipped) fits properly into the box container so that all debris is blown into the box container.

3.1 Basic Operations

1. Turn on the truck's engine
2. Turn on the ignition switch on the display panel
3. Push the rocker switch on the joystick forward to engage the PTO on the Marmon Herrington Unit
4. All operations of the debris collection system must have the deadman trigger pulled
5. Start fan by pushing on the top yellow push button on the joystick. Continue to tap button until desired fan speed is reached.
6. To operate boom, use joystick to uncradle boom and swing into position. The fan and boom can be operated while the truck is driving up to 20 mph.
7. To dump, go to dump mode while PTO is engaged.
8. Unlatch gate latches using the button on the display.
9. Raise dump up until material leaves hopper.
10. Lower dump until bed down prox is met. This is indicated by the dump down icon adjacent to the button turning green.
11. Close latches until street and curb prox sensors are met. This is indicated by the gate close icon adjacent to the button turning green.
12. Press the joystick rocker back to disengage PTO. The PTO can be disengaged up to 20 mph.
13. Diagnostic mode will indicate the state of all inputs, outputs, faults and variable power divider (VPD) faults.
14. Master mode will allow you to enter any page regardless of machine state. This can be valuable for training or diagnostic work. Please contact your dealer or ODB warranty for the password to enter this state.
15. Each day it is critical that the exhaust ducting is checked for proper adjustment. This seal should also be greased weekly with bearing grease.



3.8 Joystick


Throttle UP
Boom Up
Throttle Down
Boom Down
PTO - ON
PTO - OFF
Boom In
Boom Out
Swing Left
Swing Right

Maintenance Section

4.1 Maintenance Overview:

⚠ CAUTION

Only properly trained personnel should perform maintenance or repair on this equipment. Consult ODB before performing any maintenance procedures that is not specifically covered in this manual. Improper maintenance or repair may void any and all warranties on this equipment.

⚠ WARNING

Improper maintenance or repair CAN result in equipment damage and/or personal injuries.

⚠ DANGER

BEFORE CONTINUING, please read and understand the Safety, Pre-operating and Operating sections of this manual before doing any procedures in this section.

A properly maintained leaf vacuum will dramatically extend the life of the unit and will create a safer work place as well. For the general safety and welfare of all personnel it is important to create a scheduled maintenance program that covers all the elements in this manual as well as the engine, PTO and axle owner's manuals provided with this unit.

Use the chart on the following page as a guide for your scheduled maintenance program. If there are any questions concerning any of these procedures please call ODB.

4.2 Maintenance and Lubrication

This chart is only a reference, always **consult the Owners Manual of the Engine, PTO,** etc for actual recommendations

(Use Hour Meter as a Guide)

MAINTENANCE	INTERVAL					
	Daily	First 8 Hours	Every 25 Hours	Every 50 Hours	Every 100 Hours	Every 200 Hours
Check and add engine oil, coolant, fuel and Hydraulic fluid (hoist and boom)*	●					
Check for loose nuts or bolts	●					
Check for fuel, oil, coolant and hydraulic leakage*	●					
Check or clean radiator screen	●					
Lubricate impeller shaft flange bearings(if equipped)	●					
Check lug nuts and tire pressure / condition	●					
Check trailer safety chains and hitch	●					
Check tow bar for damage or wear	●					
Check and clean instrument panel and circ. board	●					
Clean pre-cleaner	●					
Check air filter for dirt or debris*	●					
Check trailer lighting and trailer brake operation	●					
Change engine oil* (for **break in** oil see EOM)		●			●	
Clean and check battery and connections*			●			
Check power band tension (if equipped)			●			
Check power band condition (if equipped)			●			
Check impeller for damage, cracks or wear			●			
Grease (non-conductive) circuit board connectors			●			
Clean hydraulic pump motor/connections			●			
Lubricate throttle and choke cables				●		
Check blower housing liners for cracks or wear				●		
Check Clutch/PTO linkage adjustment				●		
Change hoist hydraulic fluid and filter		●			●	
Change boom hydraulic fluid					●	
Inspect intake and exhaust hoses for damage					●	
Check exhaust duct gasket for wear	●					
Replace oil filter*					●	
Replace air filter primary element*					●	
Inspect radiator and hoses*					●	
Check fan belt conditions and tension*					●	
Inspect all duct work for cracks, holes or wear	●					
Grease / Inspect wheel bearings for corrosion					●	
Change engine coolant*						●
Check fuel tank for leaks						●
Lubricate Hoist and Hinge Fittings						●

* = see the engine owner's manual for complete details

4.2 Maintenance and Lubrication

DCL1000SE Preventative Maintenance

Daily	
Control System	Check active faults frequently throughout operating day. Stop running PTO if there are any critical faults. Critical faults will alert operator with a red light at the top of the display.
Hydraulic - ODB	Check ALL hoses, fittings and valves. Repair and replace as required. Check oil level/ milkiness Check ODB Oil cooler for Damage Check ODB Hydraulic tank breather - clear debris
Hydraulic - VPD	Inspect Hydraulic Hoses Inspect Hydraulic Hard Lines Inspect Housing for Leaks Inspect PTO Seals for Leaks Inspect VPD Oil Cooler for Damage Check Oil Level/milkiness
Impeller Shaft Bearings	2 pumps Lithium Compound No. 2 Grease
Box Screens	Wash with water until clear
Exhaust Duct Gasket	Check for lubrication on sealing faces Check for proper pressure/no air blow-by
Chassis	*Refer to Chassis Manual for Chassis Maintenance Check lug nuts and tire pressure/condition Check air filter for dirt and debris Use Clean Ultra Low Sulphur Diesel Fuel
Every 50 Hours/Weekly	
Impeller wear	Check impeller for damage, cracks or excessive wear (waves in steel are noticeable) Monitor vibration at full speed
Blower liners, Blower, Ductwork, Deflector	Check for cracks, holes or wear
VPD Cooler, ODB Cooler	Check Oil Cooler Fins Check Cooler Fan Function
Exhaust Gasket to Box	Apply grease to sealing surface to box and sealing surface to ducting
Every 250 Hours	
Hoist, body prop, hinge	Lubricate with Lithium Compound No. 2 Grease
Blower liners	Check for cracks or wear
Box Screens	Inspect for damage
VPD Cooler	Inspect for Damage Check Cooler Fan Function - run truck at idle and confirm fan turns on Clean radiator
VPD	Inspect and clean VPD Breather
VPD PTO Shaft Universal Joint Bearings	Lubricate with Lithium Compound No. 2 Grease until grease emerges from sealing lip Ensure both ends of PTO shaft are lubricated
Every 1000 Hours/Annually	
VPD	Change VPD Oil and Filter, See VPD Manual
Impeller Shaft Grid Coupling	Remove Cover Inspect Grid Lubricate with Lithium Compound No. 2 Grease
Hydraulic - ODB	Change Charge Pump Filter Change High Pressure Filter Change Return Filter Change ODB Hydraulic Oil

Released 4/28/23

4.3 Lubrication:

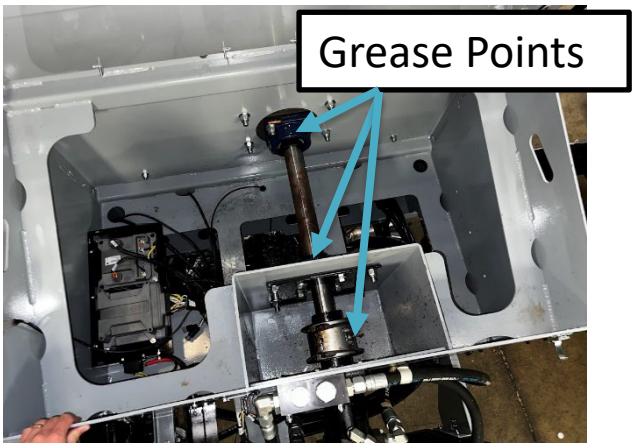
⚠ CAUTION

Remove the negative battery terminal before attempting any lubrication procedures.

⚠ WARNING

Thoroughly read and understand the safety and pre-operating sections of this manual before performing any lubrication procedures.

Figure 4.3A



The following are general lubrication procedures for our standard units. Any special or custom built units may have other lubrication procedures not directly mentioned in this manual. Please consult ODB before any lubricating procedures not specifically mentioned in this manual.

Proper lubrication of your unit correlates directly to how long your unit will last. A properly maintained unit will last much longer than a unit that is not maintained properly. **NOTE:** Always lubricate bearings at the end of each work day. This will displace any moisture in the bearings. Also lubricate thoroughly before extended shutdown or storage.

NOTE; DO NOT mix different types of grease. The old grease MUST BE purged before a different type of grease is used. Mixing grease WILL cause premature failure to the bearings.

Lubrication Points:

1. **Drive Bearings (figure 4.3a):** These bearings are critical components of the belt-driven units. These bearings should be greased every 10 hours with approximately two strokes from the aver- age hand pump grease gun. The type of grease used in these bearings are also critical to the performance of the bearings. A multi-purpose, heavy-load, high-temperature, moisture resistant #2 grease is required for the drive bearings. ODB recommends Mantek Elite Supreme #1 WG Extreme Duty multi-purpose grease.. Other premium quality grease that matches the above requirements may be used but after years of testing ODB recommends the Elite Supreme grease.

Figure 4.3b

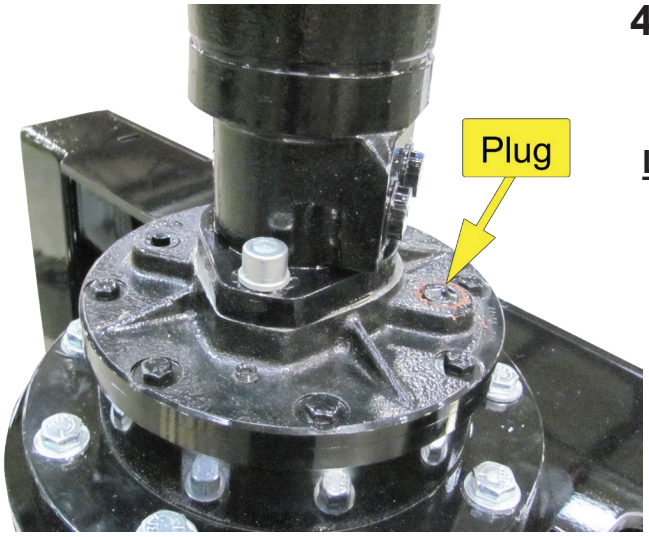
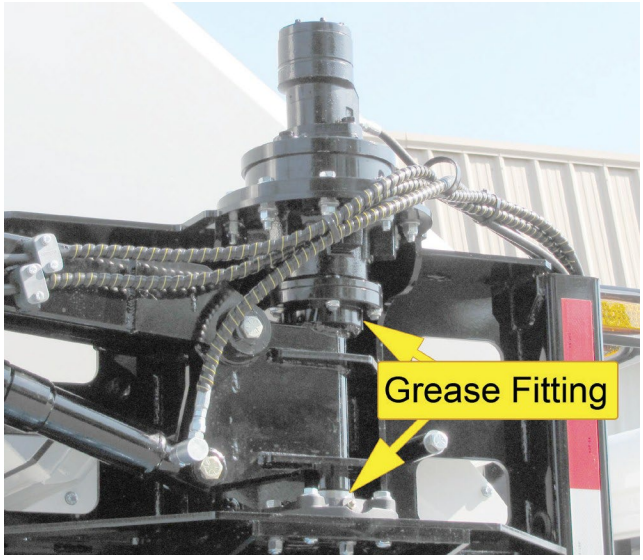


Figure 4.3c



4.3 Lubrication, continued;

Lubrication Points, continued;

1.) Auburn Gear Oil (figure 4.3b): Fill Auburn gear with 90W gear oil. Undue plug as shown and fill. There is a plug at the bottom for draining if necessary.

2.) Boom Swivel (figure 4.3c): Grease the boom bearings once every week with a multi-purpose moisture resistant #2 grease.

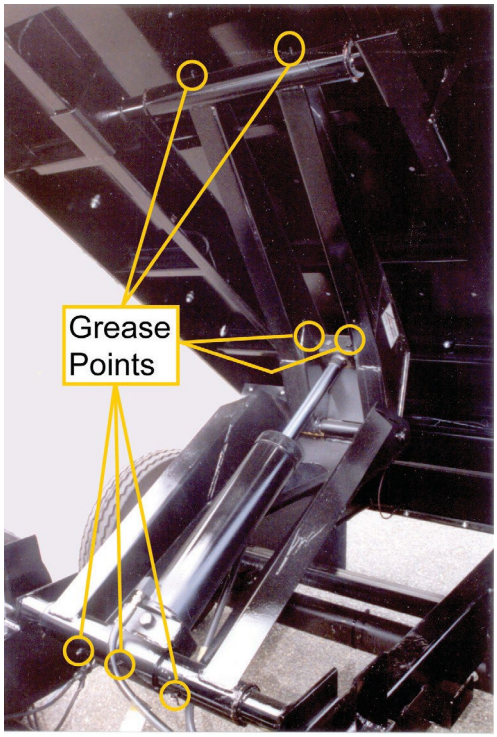
3.) Hinge and Friction Points: Leaf vacuum operation and longevity can be improved by keeping hinges and friction points lubricated. ODB recommends that lubrication be performed weekly. Use SAE30 weight oil on hinges and a premium grade, high temperature lithium based EP#2 grease on friction points.

4.) PTO Driveshaft Coupling: To prolong coupling life and trouble free performance, it is recommended that grid couplings be relubricated at least once annually by using a common industrial grade coupling grease. This lubrication interval should be more frequent when the coupling is being subjected to extreme moisture, frequent stops and starts, or excessive vibration.

4.3 Lubrication, continued;

Lubrication Points, continued;

Figure 4.3e



⚠ WARNING

Never go under the dump body unless the body is empty and the body prop(s) is in the proper position.

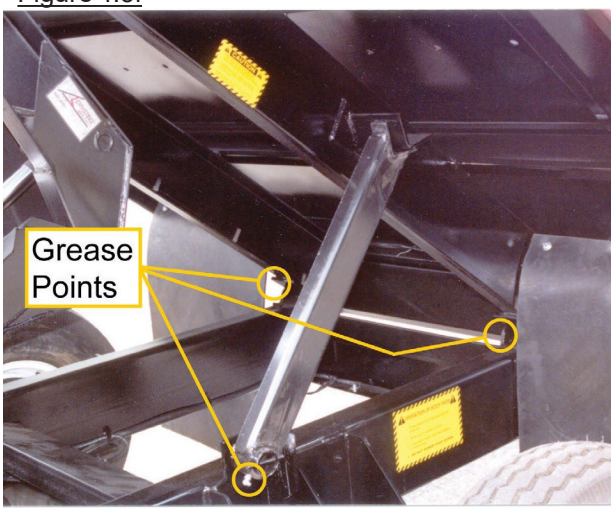
⚠ WARNING

The body prop is designed and intended to support an EMPTY truck body in the raised position. Unload the body before using the body prop(s).

5.) Hydraulic Hoist Fittings (figure 4.3e): Raise and support the dump body as detailed in section 3.2. Lubricate the fittings at least every 200 hours of operation with a #2 high grade grease. There are tremendous forces on the bearing surfaces within the hoist frame. It pays to be generous with the grease gun, to insure proper operation and long life.

6.) Hoist Hinge and Body Prop(s) Fittings (figure 4.3f): Each hinge pivot has a grease fitting that needs lubricating every 200 hours. The body prop(s) has a fitting at the pivot area as shown in figure 4.3f.

Figure 4.3f



4.3 Lubrication, continued;

Lubrication Points, continued;

⚠ WARNING

Never go under the dump body unless the body is empty and the body prop(s) is in the proper position.

⚠ WARNING

The body prop is designed and intended to support an EMPTY truck body in the raised position. Unload the body before using the body prop(s).

7.) Boom Cylinders (figure 4.3i): Grease the pivot joints of the boom cylinder with a high temperature lithium based EP#2 grease once a weak.

4.4 Preventative Maintenance

⚠ CAUTION **Remove the negative battery terminal before attempting any maintenance procedures.**

⚠ WARNING **Thoroughly read and understand the safety and pre-operating sections of this manual before performing any maintenance procedures.**

The following are general preventative maintenance procedures for our standard units. Any special or custom built units may have other preventative maintenance procedures not directly mentioned in this manual. Please consult ODB before doing any preventative maintenance procedures not specifically mentioned in this manual.

Proper preventative maintenance of your unit, just like lubrication, correlates directly to how long your unit will last. A properly maintained unit will last much longer than a unit that is not maintained properly.

Preventative Maintenance:

1. **Engine Oil:** Change the oil and oil filter according to schedules provided in your engine's owner's manual (EOM). The engine oil level should be checked every day. The level should be checked after the engine has been stopped for a period of time. This will allow the oil to drain back into the oil pan, allowing a better indication of the true oil level. If the level is low, see the engines owner's manual for the correct type of oil.

2. **Engine Coolant:** Check the coolant level before starting the unit each day. The coolant level should not be less than one inch below the top of the radiator.

⚠ CAUTION **NEVER check the engine coolant when the engine is hot. Allow the engine to cool at least one hour before checking the coolant. Check the engine owner's manual for instructions. ALWAYS wear eye and hand protection when working with the radiator.**

4.4 Preventative Maintenance, continued;

Preventative Maintenance, continued;

3. **Engine Radiator:** The engine radiator on a leaf vacuum becomes clogged with dust and debris frequently because of the nature of the job. If the radiator is not cleaned properly it WILL cause improper cooling and WILL eventually cause serious damage to your engine. The debris accumulating on the radiator can be lessened by lowering the RPM on the engine to a level just enough to vacuum the leaves. The higher the RPM the more dust that is put into the air. Also, it may be necessary to put mesh or tarps on the top of the leaf box container to reduce the debris and dust. If this is done, make sure there is enough air ventilation on the box so the box is not blown apart. Proper belt condition and coolant mix-ratio, as well as coolant conditioners, are all critical to proper engine cooling. See the engines owner's manual for specifics on coolant mixture ratios and conditioners. The radiator should be inspected and cleaned with compressed air everyday at the very least.

⚠ DANGER

NEVER attempt to clean or inspect the radiator with the engine running or while the engine is HOT. Allow the engine to cool at least one hour before maintaining the radiator. Check the engine owner's manual for instructions. ALWAYS wear eye and hand protection when working with the radiator.

4. **Engine Air Cleaner:** Due to the large amounts of dust generated in collection leaves, it is critical to your engine's life that the pre-cleaner and air filter be maintained properly. The pre-cleaner should be cleaned at least daily of any debris that has accumulated. If conditions warrant it should be cleaned more. The air filter should be checked daily and should be replaced at the first sign of it being dirty. DO NOT attempt to clean the air filter, replace the dirty air filter. It is a good idea to clean out the air filter housing once a week to clean any dust debris that may have accumulated.

5. **Tires and Wheels:** Tires and wheel lug nuts should be checked on a daily basis. Tires should be checked for excessive wear and proper air pressure. Check the side wall of the tire for proper inflation pressure. Torque all 1/2" diameter lug nuts from 90 to 120 foot pounds. Torque all 5/8" diameter lug nuts from 175 to 225 foot pounds. Consult the axle manufacturers owner's manual for more detailed information.

4.4 Preventative Maintenance, continued;

Preventative Maintenance, continued;

6. **Trailer Brakes (if equipped):** Most of the newer ODB leaf vacuums have electric brakes on the axle(s). It is critical that these brakes work properly. The trailer's brakes should be checked daily, before leaving the equipment yard, for proper operation. The trailer brakes are designed to work in synchronization with your tow vehicles brakes. Never use your tow vehicle or trailer brakes alone to stop the combined load. The synchronization between the tow vehicle and the leaf vacuum is accomplished through the brake controller and needs to be set correctly. Please read the brake controllers manual and the axle owner's manual for these procedures.

⚠ WARNING

DO NOT tow the leaf vacuum with damaged or non-operating brakes. Check the brakes daily for proper operation.

The brakes should be adjusted after the first 200 miles of operation when the brake shoes and drums have "seated" and at 3,000 mile intervals, or as use and performance requires. The adjustment procedures are beyond the scope of this manual, please see the axle owners/service manual for specific instructions.

The trailer brakes should be inspected and serviced at yearly intervals or more often as use and performance requires. Magnets and shoes must be changed when they become worn or scored thereby preventing adequate vehicle braking. Again, see the axle owner's/service manual for specific procedures.

7. **FUEL TANK:** Fill the fuel tank at the beginning of the work shift leaving a gap of at the top of the tank for expansion of fuel. A full fuel tank will reduce the possibility of condensation forming in the tank and moisture entering the fuel lines. Check the fuel lines daily for cracks, holes or tightness.

4.4 Preventative Maintenance, continued;

Preventative Maintenance, continued;

⚠ CAUTION **ALWAYS wear eye and hand protection when working with the battery.**

8. **BATTERY:** ODB's units are supplied with "maintenance free" batteries so there is no need to check fluid levels but the battery terminals should be checked daily for corrosion. Remove any corrosion with a wire brush and coat the terminals with light grease or petroleum jelly to reduce the possibility of corrosion. Also check the battery cable for wear all cable connections and battery tie downs to be certain that they are not loose.

9. **DRIVE BELT (if equipped):** The main drive belt should be checked daily for cracks and for proper tension. If the belt shows any sign of

⚠ CAUTION **Remove the negative battery cable before opening the belt guard.**

cracking it should be replaced immediately. The proper tension of the belt should be approximately 1/2" deflection when applying a 8 pound pull.

10. **FASTENERS:** Fasteners should be checked weekly for the first 30 days and monthly thereafter. They must be in place at all times and properly torqued. For general torque values see the torque chart at the end of this section.

11. **INSTRUMENT PANEL AND CIRCUIT BOARD:** The instrument panel and circuit board should be cleaned with compressed air daily. Also the circuit board connectors should be wiped clean and have non conductive grease applied weekly to help maintain solid connections.

12. **BOOM HYDRAULIC PUMP:** Check the fluid level daily. If fluid needs to be added, automatic transmission fluid (ATF) is recommended. Clean debris and oil off the solenoid and pump daily. A build up of debris can cause premature failure to the pump. Check and tighten all hydraulic fittings making sure there are no leaks.

4.4 Preventative Maintenance, continued;

Preventative Maintenance, continued;

13. **Hoist Hydraulic Fluid and Filter:** The hoist hydraulic fluid and filter should be changed every 100 hours of operation. The fluid should be completely drained and fresh high quality **ISO 68 non-foaming** hydraulic fluid should be added.

⚠ CAUTION **ALWAYS raise and support the box container properly using the steps outlined in this manual.**

14. **Exhaust Duct Gasket:** The 1.5" thick gasket should be checked for wear every 200 hours. This gasket creates a tight seal between the box container and the blower housing.

15. **Axle Hangers:** The hanger bolts should be checked periodically for tightness and wear.

16. **Hydraulic Fittings:** Check all hydraulic fittings for leaks and tightness. Any leak could become a hazard, fix immediately.

4.5 Torque Values

INCH BOLT AND CAP SCREW TORQUE VALUES					METRIC BOLT AND CAP SCREW TORQUE VALUES						
TYPE	SAE GRADE					CLASS					
	5		8			8.8 or 9.8		10.9		12.9	
HEAD MARK					HEAD MARK						
SIZE(D)	LB-FT		LB-FT		SIZE(D)	LB-FT		LB-FT		LB-FT	
	Lub*	Dry*	Lub*	Dry*		Lub*	Dry*	Lub*	Dry*	Lub*	Dry*
1/4"	7	9	10	12.5	M6	6.5	8.5	9.5	12	11.5	14.5
5/16"	15	18	21	26	M8	16	20	24	30	28	35
3/8"	26	33	36	46	M10	32	40	47	60	55	70
7/16"	41	52	58	75	M12	55	70	80	105	95	120
1/2"	63	80	90	115	M14	88	110	130	165	150	190
9/16"	90	115	130	160	M16	140	175	200	255	240	300
5/8"	125	160	175	225	M18	195	250	275	350	325	410
3/4"	225	280	310	400	M20	275	350	400	500	460	580
7/8"	360	450	500	650	M22	375	475	540	675	625	800
1"	540	675	750	975	M24	475	600	675	850	800	1000
1-1/8"	675	850	1075	1350	M27	700	875	1000	1250	1150	1500
1-1/4"	950	1200	1500	1950	M30	950	1200	1350	1700	1600	2000
1-3/8"	1250	1550	2000	2550	M33	1300	1650	1850	2350	2150	2750
1-1/2"	1650	2100	2650	3350	M36	1650	2100	2350	3000	2750	3500

***Lub** means coated with a lubricant such as engine oil, or fasteners with phospate or oil coatings. "Dry" means plain or zinc plated without any lubrication.

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Make sure fastener threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening. Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown inthe chart, applied to the nut, not the bolt head.

⚠ CAUTION

DO NOT ATTEMPT TO OPERATE OR REPAIR THE LEAF COLLECTOR WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL

IF YOU HAVE ANY QUESTIONS CONCERNING THE INSTALLATION OR OPERATION OF THIS UNIT, PLEASE CALL ODB FOR ASSISTANCE BEFORE ATTEMPTING TO REPAIR OR OPERATE THE UNIT.

IMPROPER USE OF ANY MACHINE CAN RESULT IN SERIOUS INJURY!

STUDY AND FOLLOW ALL SAFETY PRECAUTIONS BEFORE OPERATING OR REPAIRING UNIT

THIS MANUAL IS AN INTEGRAL PART OF THE LEAF COLLECTOR AND SHOULD BE KEPT WITH THE UNIT WHEN IT IS SOLD.

ODB COMPANY
5118 Glen Alden Drive
Richmond, VA 23231
800-446-9823

5.0 SERVICE SECTION

5.0 Service and Troubleshooting
5.10 Wiring Diagrams
5.20 Hoist Hydraulic System

ODB COMPANY
5118 Glen Alden Drive
Richmond, VA 23231
800-446-9823

5.1 Removing Blower Housing Face

figure 5.1a

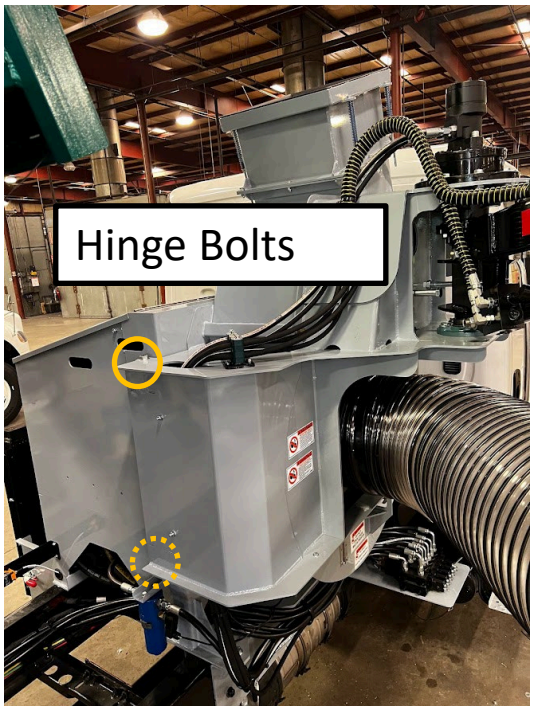
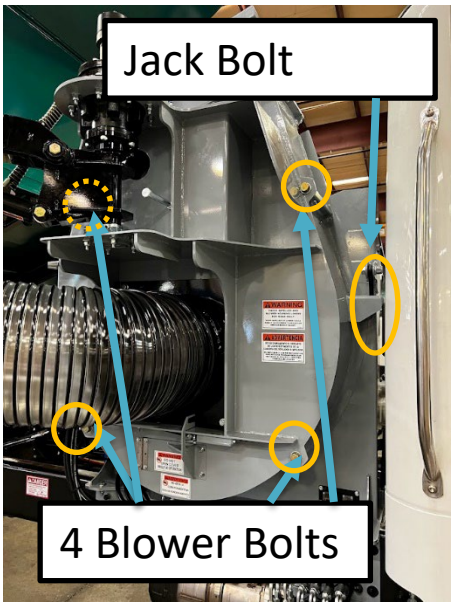


figure 5.1b



⚠ WARNING

Thoroughly read and understand the safety and pre-operating sections of this manual before working on the unit.

⚠ WARNING

Make sure the negative battery cable is disconnected before opening the blower housing.

Review the safety section of this manual before attempting these procedures.

Removing Blower Housing Face (refer to 5.1a and 5.1b):

1. Raise the dump body and secure it as described previously in this manual, making sure the body prop is in place. Position the boom to be straight out from the blower
2. Unbolt the 4 blower bolts holding the blower in place (figure 5.1b).
3. Lower the blower using the jack bolt.
4. Swing out the blower 90 degrees on the hinge bolts (figure 5.1a).
5. To install reverse the above procedure.

5.2 Replacing the Drive Bearings(if equipped)

⚠ WARNING

Thoroughly read and understand the safety and pre-operating sections of this manual before working on the unit.

⚠ WARNING

Make sure the negative battery cable is disconnected before opening the blower housing.

Review the safety section of this manual before attempting these procedures.

figure 5.3b

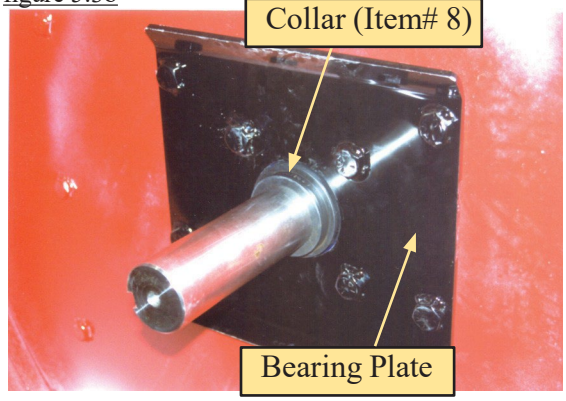


figure 5.3c

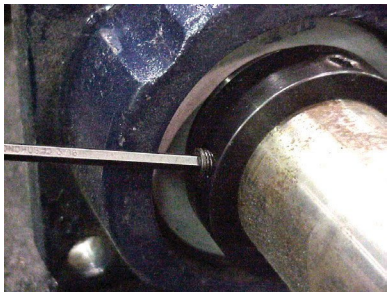
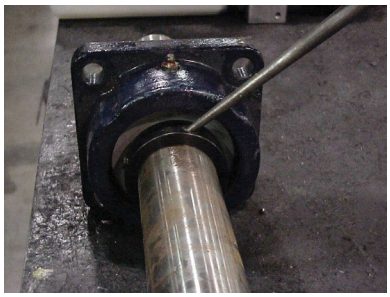


figure 5.3d



Removing Drive Bearings (refer to 5.3a thur 5.3d):

1. Remove the impeller and drive belt as described in this manual.
2. If the bearings have not "seized" onto the shaft then removal is straightforward.
3. Remove the bearing collar (Item# 8, fig. 5.3b), if equipped, at the rear of the front bearing (the bearing closest to the blower housing).
4. On the rear bearing (closest to the engine) loosen the set screw on the bearing lock collar (fig. 5.3c)
5. Using a punch, loosen the lock collar. (fig. 5.3d)
6. Pull the shaft out toward the blower housing. The bearing plate, front bearing and pulley should come out in one unit.

5.3 Impeller Installation and Removal

REMOVAL

CAUTION: Before removing the blower housing face remove the negative battery cable to ensure unit can not be started.

1.The blower housing face must be removed to gain access to the impeller. Use an overhead crane or forklift to support the face while removing.
2.Once the face has been removed, remove the shaft protector (Fig. 1 or 2).
3.Saturate the shaft and bushing using a penetrating lubricant to help loosen the bushing. Clean any grease or debris from the bushing and shaft.
4.Remove the 3 bolts attaching the bushing to the impeller.(Fig. 3) Being careful not to break the bolts. If a set screw is on the lip of the bushing, loosen it using an allen wrench.(Fig. 4)
5.Using two of the bolts that were just removed screw those bolts into the threaded holes on the bushing. Drive the two bolts into the bushing.(Fig. 5) This will separate the bushing from the impeller. Alternate from one bolt to the other driving only about a 1/4" at a time to keep the bushing coming out straight. It is imperative to keep the bushing straight to remove it.

IMPORTANT: Be sure to drive the bushing out evenly or it will get in a bind making removal much harder.

6.If the bushing does not come off using the two bolts, drill and tap several additional 3/8-16 holes around the bushing. Using Grade 8, 3/8-16 - 2 inch bolts, alternately drive the bolts 1/4" at a time to remove the bushing. KEEP THE BUSHING STRAIGHT while removing.

IMPORTANT: If additional holes were drilled in the bushing, it can not be reused. It must be replaced.

7.Once the bushing has been removed use an overhead crane or other suitable device to help lift the impeller out of the blower housing.
8.At this point it would be a good idea to inspect the blower housing liners and blower housing for any damage or wear. Any damage or wear to the liners should be fixed by replacing the liners immediately.

Fig. 1

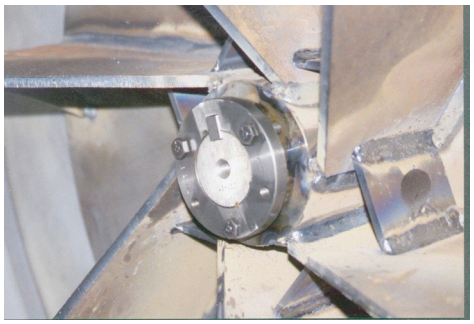


Fig. 2

Fig. 3

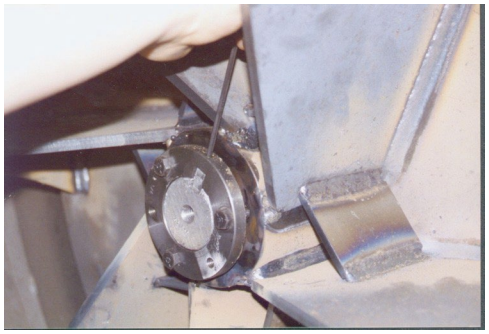


Fig. 4

Direct Drive

Fig. 5

Belt Drive

5.3 Impeller Installation and Removal, continued

INSTALLATION

CAUTION: Before removing the blower housing face remove the negative battery cable to ensure unit can not be started.

1. Clean the shaft of any debris and remove any rust using a 120 grit emory cloth.

3.Using an overhead crane or other suitable lifting device lift the impeller on to the shaft. Turn the impeller to align the keyways of the shaft with the keyway in the impeller.
4.Insert key into the keyway. A light sanding of the keyway may be needed, as well as a few light blows with a rubber mallet.
5. Tap the bushing onto the shaft aligning the keyways.
6. BELT DRIVE UNITS: Align the bushing and key to be flush with the end of the shaft (Fig 1).
DIRECT DRIVE UNITS: The bushing and key should protrude from the shaft about 1/2 inch (Fig. 2).
7.Put the 3 bolts into the non-threaded holes and drive them into the impeller holes evenly. Alternate between the three bolts as you drive the bolts in. Torque to 40 to 50 lbs/ft. There should be a gap of 3/8" to 1/2" between the bushing and the impeller.

IMPORTANT: Slowly spin the impeller by hand making sure that the back of the impeller is not hitting any of the bolt heads located at the back of the blower housing.

8.If the bushing has a set screw on it, tighten the screw snug with an allen wrench (Fig. 3). This will help keep the key in place.
9. Install the shaft protector on to the shaft (Fig. 4 or 5).

Fig. 1

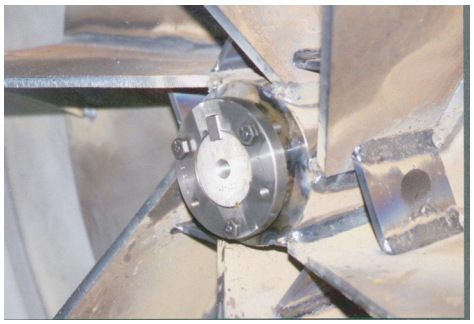


Fig. 2

Fig. 3

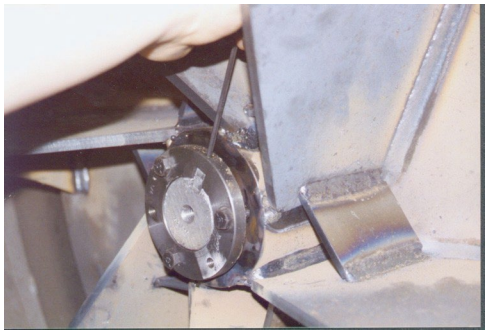


Fig. 4

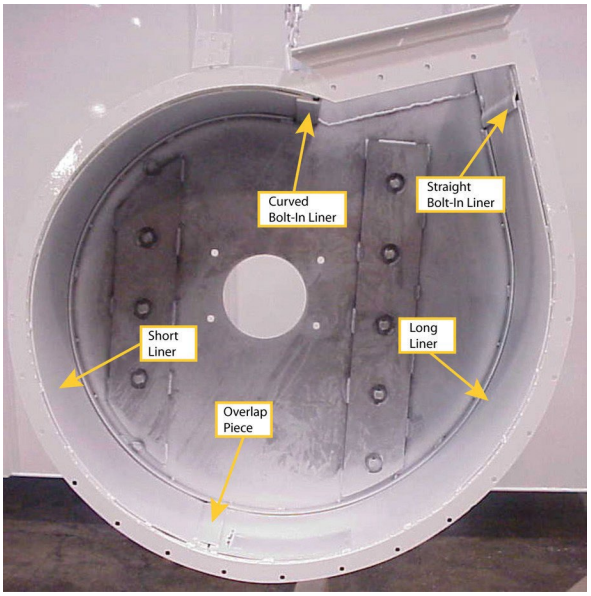
Direct Drive

Fig. 5

Belt Drive

5.4 Replacing the Blower Housing Liners

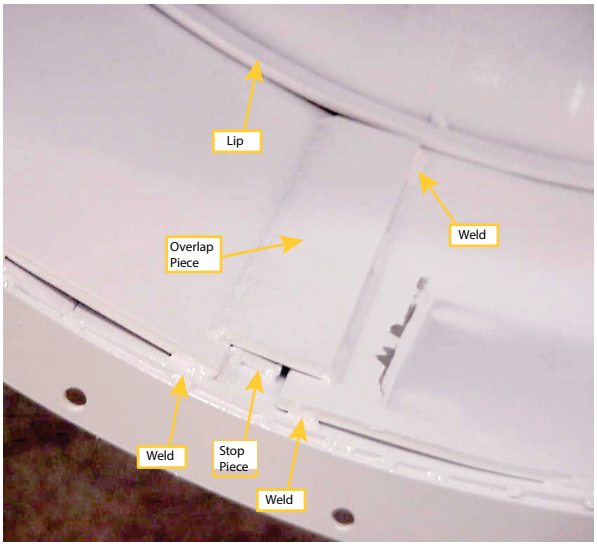
figure 5.5a



⚠ WARNING

Keep all fuel and fuel fumes away from the unit when grinding or welding. Work only in a well ventilated area.

figure 5.5b



⚠ WARNING

Thoroughly read and understand the safety and pre-operating sections of this manual before working on the unit.

⚠ WARNING

Make sure the negative battery cable is disconnected before opening the blower housing.

Review the safety section of this manual before attempting these procedures. To gain access to the interior of the blower housing please see the previous sections.

Removing and installing the Liners (refer to 5.5a and 5.5b):

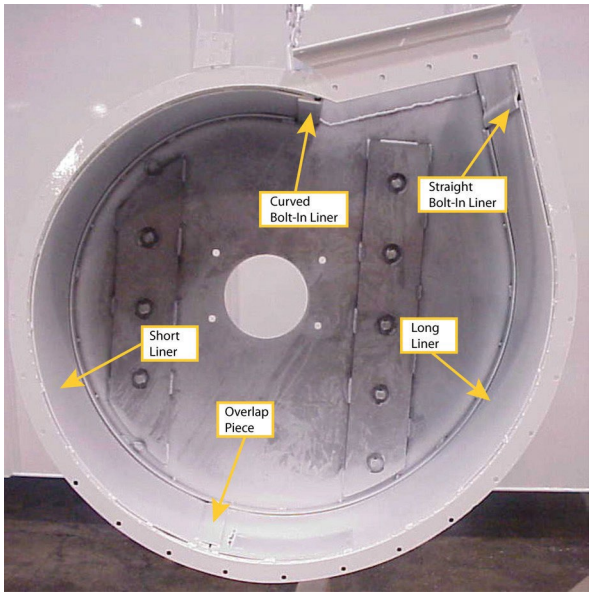
1. Unbolt the blower housing face as described previously in this manual.
2. Remove the curved and straight bolt-in liners by removing the appropriate bolts.
3. With a grinder cut out the remaining welds to free the liners. DO NOT remove the "stop piece" at the bottom of the housing.

TO INSTALL:

1. Place the short liner into lip at the rear of the housing and line up the bottom of the liner with the "stop" at the bottom of the housing. The short liner has the overlap piece on it and should be installed as shown in the pictures at the left.
2. Tack weld the liner in place every 8 to 10 inches to help keep the liner in place.

5.4 Replacing the Blower Housing Liners; continued,

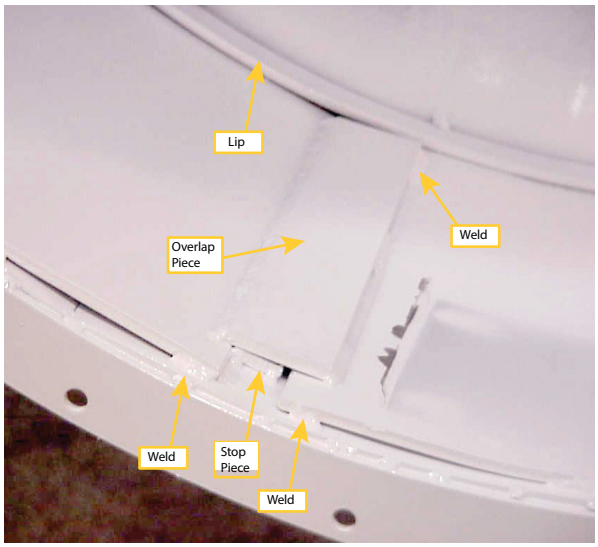
figure 5.5a



⚠ WARNING

Keep all fuel and fuel fumes away from the unit when grinding or welding. Work only in a well ventilated area.

figure 5.5b



⚠ WARNING

Thoroughly read and understand the safety and pre-operating sections of this manual before working on the unit.

⚠ WARNING

Make sure the negative battery cable is disconnected before opening the blower housing.

Review the safety section of this manual before attempting these procedures. To gain access to the interior of the blower housing please see the previous sections.

Installing the Liners (refer to 5.5a and 5.5b), continued;

3. Install the long liner the same way as the short liner except the long liner should slip under the overlap piece. Make sure the liner slips under the rear lip and the overlap piece.

4. Tack weld the long liner to the overlap piece and tack weld around the liner as you did on the short liner.

5. Install the two bolt-in liners just as they were removed.

ELECTRONIC AND COMPONENTS GROUP

PART NUMBER:

TCC2029

DESCRIPTION:

JOYSTICK HOLDER STRAP AROUND T

PART NUMBER:

118XZ

DESCRIPTION:

ARM REST COVER, FREIGHTLINER

PART NUMBER:

345XZ

DESCRIPTION:

JOYSTICK ARM MOUNT

PART NUMBER:

PMS526GW

DESCRIPTION:

ARM ASSEMBLY

PART NUMBER:

1190XZ

DESCRIPTION:

REARVIEW CAMERA

PART NUMBER:

12077411

DESCRIPTION:

PIN/CAMERA

PART NUMBER:

338XZ

DESCRIPTION:

PROX SWITCH

PART NUMBER:

1935XZ

DESCRIPTION:

WH,CAB

ELECTRONIC AND COMPONENTS GROUP

PART NUMBER:

1936XZ

DESCRIPTION:

WH,TRUCK FRAME

PART NUMBER:

1937XZ

DESCRIPTION:

WH,SKID

PART NUMBER:

1938XZ

DESCRIPTION:

WH,CONTROL VALVE

PART NUMBER:

1939XZ

DESCRIPTION:

WH,FAN MOTOR

PART NUMBER:

1940XZ

DESCRIPTION:

WH,COOLER

PART NUMBER:

1941XZ

DESCRIPTION:

WH,FILTER

PART NUMBER:

1942XZ

DESCRIPTION:

WH,TANK

PART NUMBER:

1943XZ

DESCRIPTION:

WH,BOX

ELECTRONIC AND COMPONENTS GROUP

PART NUMBER:

1961XZ

DESCRIPTION:

WH,HP CONTROLLER

PART NUMBER:

2126XZ

DESCRIPTION:

WH,RELAY PWR CABLE

PART NUMBER:

2146XZ

DESCRIPTION:

ASM,CONTROLLER, MC050

PART NUMBER:

2147XZ

DESCRIPTION:

ASM,CAB,DISPLAY, DP720

PART NUMBER:

2148XZ

DESCRIPTION:

ASM,CAB,JOYSTICK, JS1

PART NUMBER:

2151XZ

DESCRIPTION:

ASM,CONTROLLER, MC018

PART NUMBER:

2152XZ

DESCRIPTION:

ASM,FUSE

PART NUMBER:

LCT72B

DESCRIPTION:

BATTERY CABLE, 4G BLACK 72 IN

ELECTRONIC AND COMPONENTS GROUP

PART NUMBER:

2066XZ

DESCRIPTION:

BKT,CAB,RAM MOUNT,BASE

PART NUMBER:

2067XZ

DESCRIPTION:

BKT,CAB,RAM MOUNT,MED ARM

PART NUMBER:

2068XZ

DESCRIPTION:

BKT,CAB,RAM MOUNT,DISPLAY PLT

PART NUMBER:

2049XZ

DESCRIPTION:

DIRECTIONAL LIGHT

PART NUMBER:

1944XZ

DESCRIPTION:

ASM,SKID,POWER RELAY

PART NUMBER:

K000402

DESCRIPTION:

HYDRO LEDUC SPEED SENSOR

PART NUMBER:

PMS526GW

DESCRIPTION:

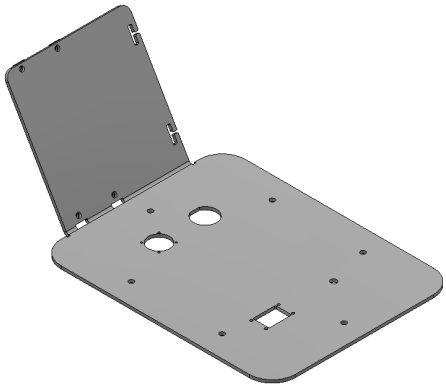
ARM ASSEMBLY

PART NUMBER:

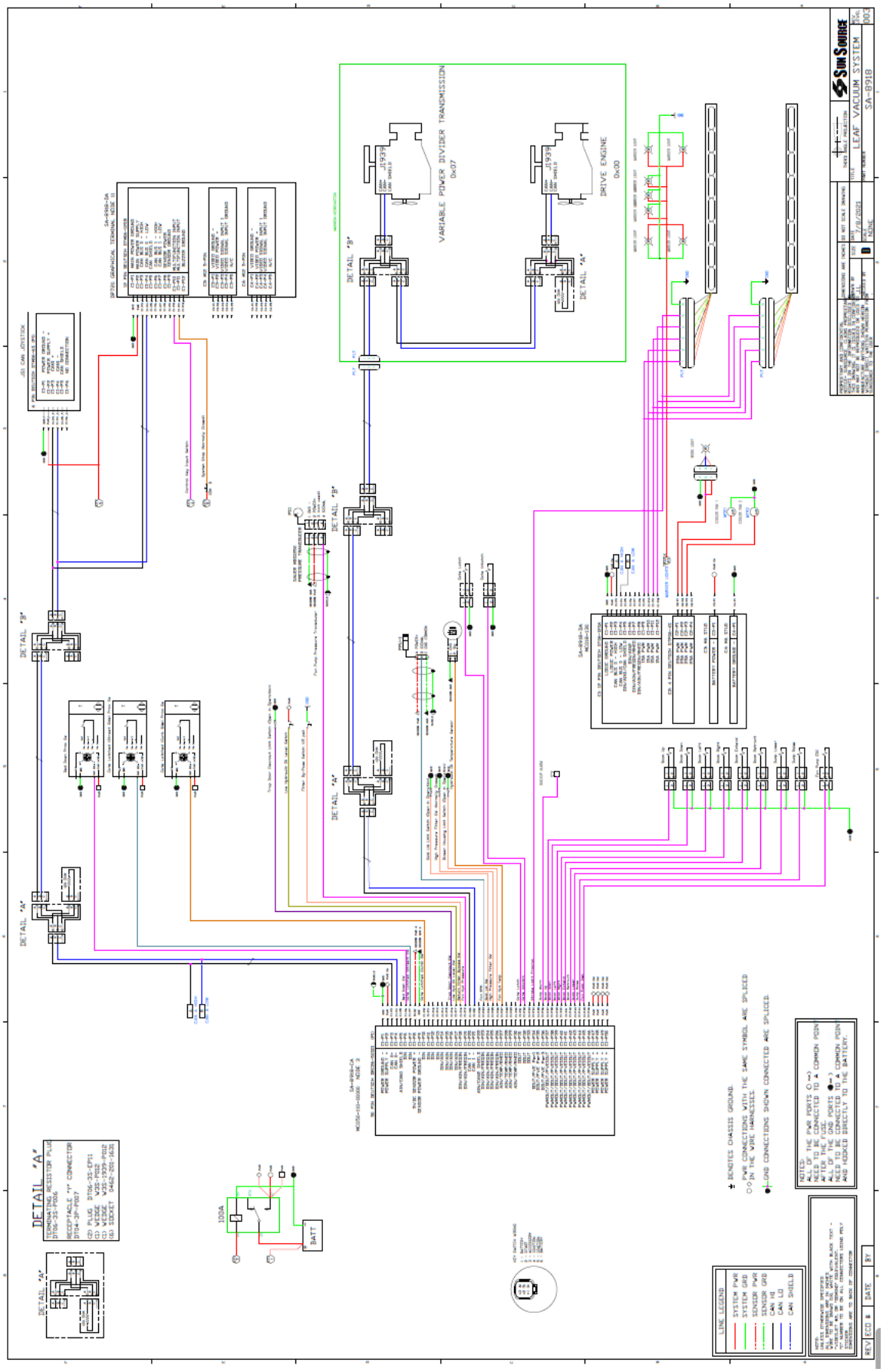
2689XZ

DESCRIPTION:

ASM,VPD,COVER PLATE



ELECTRICAL SCHEMATIC



CONTROLS PARTS LIST

Group	Part Number	Description	Qty
Controls	**1703XZ**	BKT,BOX,BED DOWN PROX MOUNT	1
	1935XZ	WH,CAB	1
	1936XZ	WH,TRUCK FRAME	1
	1937XZ	WH,SKID	1
	1938XZ	WH,CONTROL VALVE	1
	1939XZ	WH,FAN MOTOR	1
	1940XZ	WH,COOLER	1
	1941XZ	WH,FILTER	1
	1942XZ	WH,TANK	1
	1943XZ	WH,BOX	1
	1944XZ	ASM,SKID,POWER RELAY	1
	1945XZ	DEUTSCH PLUG CONNECTOR 3 PIN	1
	1946XZ	DEUTSCH PLUG WEDGELOCK 3 PIN	1
	1947XZ	DEUTSCH PLUG CONNECTOR 6 PIN	1
	1948XZ	DEUTSCH PLUG WEDGELOCK 6 PIN	2
	1961XZ	WH,HP CONTROLLER	1
	2126XZ	WH,RELAY PWR CABLE	1
	2146XZ	ASM,CONTROLLER,MC050	1
	2147XZ	ASM,CAB,DISPLAY,DP720	1
	2148XZ	ASM,CAB,JOYSTICK,JS1	1
	2151XZ	ASM,CONTROLLER,MC018	1
	2152XZ	ASM,FUSE	1
	338XZ	DCL IM5115 PROX SWITCH	3
	675XZ	CUTLER HAMMER ESTOP	1
	9506023	KEYED IGN SWITCH DUETSCH CONNE	1
	LCT72B	BATTERY CABLE, 4G BLACK 72 IN	1
	STD4000	LIMIT SWITCH BOX PLASTIC SINGL	1

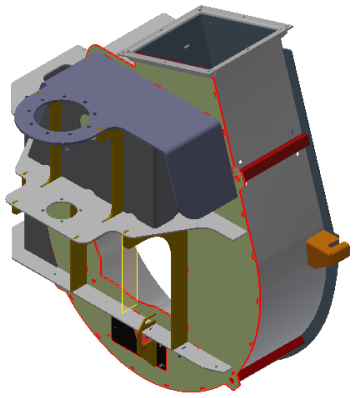
BLOWER HOUSING GROUP

PART NUMBER:

1285XZ

DESCRIPTION:

BLOWER/FACE, HINGE STYLE



PART NUMBER:

1354XZ

DESCRIPTION:

SKID/PEDESTAL LID HINGE

PART NUMBER:

1355XZ

DESCRIPTION:

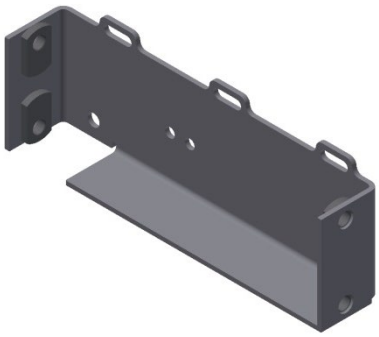
GAS STRUT, PEDESTAL LID

PART NUMBER:

STD4000

DESCRIPTION:

LIMIT SWITCH BOX



PART NUMBER:

STD4001

DESCRIPTION:

LIMIT SWITCH ACTUATOR

PART NUMBER:

651051

DESCRIPTION:

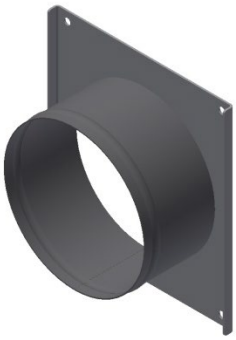
LIMIT SWITCH

PART NUMBER:

SCL875002

DESCRIPTION:

INTAKE FLANGE

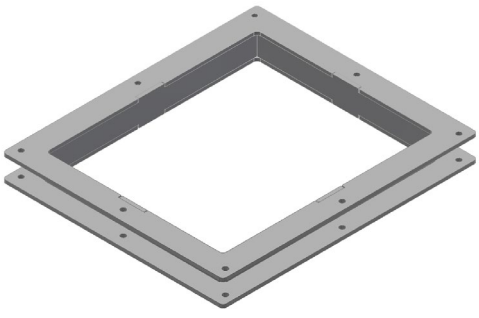


PART NUMBER:

2427XZ

DESCRIPTION:

ASM,DUCT EXTENSION



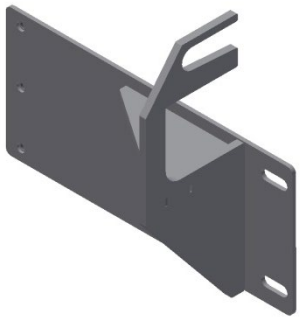
BLOWER HOUSING GROUP

PART NUMBER:

SCL621602

DESCRIPTION:

INSPECTION DOOR



PART NUMBER:

LCT621603

DESCRIPTION:

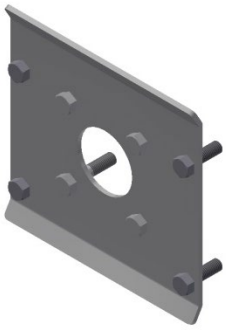
INSPECTION DOOR HINGE
(DETAILS ON PAGE 100)

PART NUMBER:

LCT600602

DESCRIPTION:

BEARING PLATE

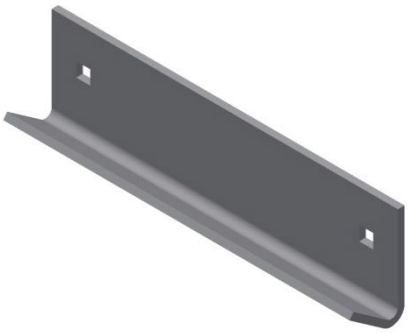


PART NUMBER:

LCT620602A

DESCRIPTION:

LINER BOLT-IN WRAP ARND

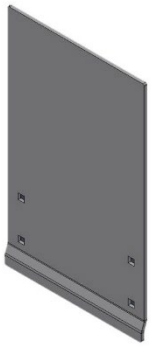


PART NUMBER:

2733XZ

DESCRIPTION:

BOLT-ON EXHAUST LINER



PART NUMBER:

LCT650601

DESCRIPTION:

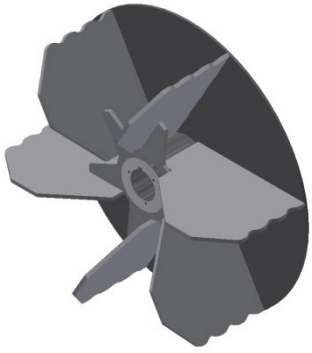
IMPELLER BUSHING

PART NUMBER:

1070XZ

DESCRIPTION:

IMPELLER 28IN



PART NUMBER:

LCT600615

DESCRIPTION:

SHAFT PROTECTOR

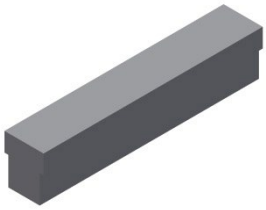
BLOWER HOUSING GROUP

PART NUMBER:

LCT650601K

DESCRIPTION:

IMPELLER KEY



PART NUMBER:

LCT621603

DESCRIPTION:

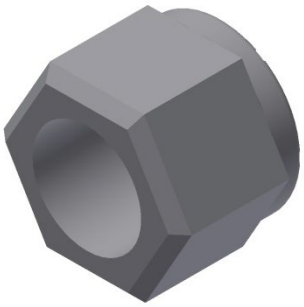
LINER BOLT
½-13X1.25IN FLAT HEAD

PART NUMBER:

LCT620603N

DESCRIPTION:

LINER NUT
½-13 ESN

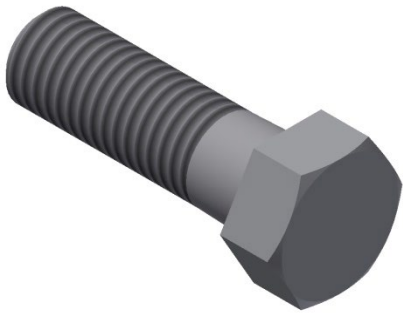


PART NUMBER:

5CZ500750

DESCRIPTION:

IMPELLER BOLT
5/8-11 UNC 2IN

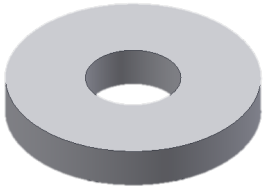


PART NUMBER:

90295A450

DESCRIPTION:

1/4 IN PLASTIC WASHER INSTRUME



PART NUMBER:

1575XZ

DESCRIPTION:

ASM,BLOWER,EXHAUST DUCT

PART NUMBER:

1579XZ

DESCRIPTION:

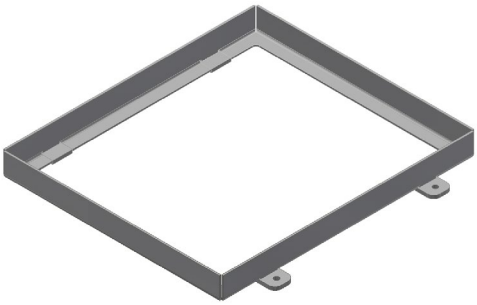
FAB,BLOWER,DUCT SEAL

PART NUMBER:

1576XZ

DESCRIPTION:

FAB,BLOWER,UPPER EXHAUST DUCT



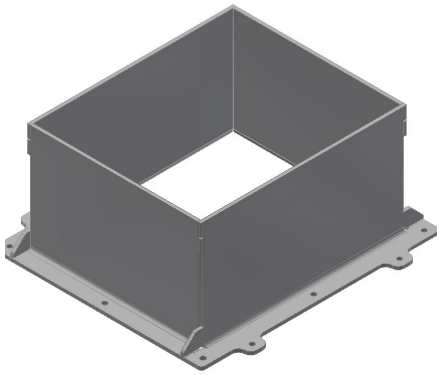
BLOWER HOUSING GROUP

PART NUMBER:

1577XZ

DESCRIPTION:

FAB,BLOWER,LOWER EXHAUST DUCT



PART NUMBER:

1581XZ

DESCRIPTION:

SPRING,BLOWER,DUCT PRELOAD

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

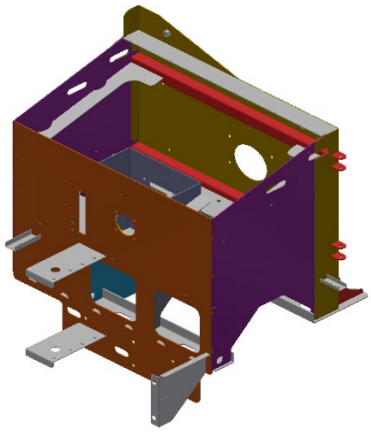
SKID BASE GROUP

PART NUMBER:

1278XZ

DESCRIPTION:

SKID/PEDESTAL,SINGLE ENGINE



PART NUMBER:

1354XZ

DESCRIPTION:

SKID/PEDESTAL LID HINGE

PART NUMBER:

1355XZ

DESCRIPTION:

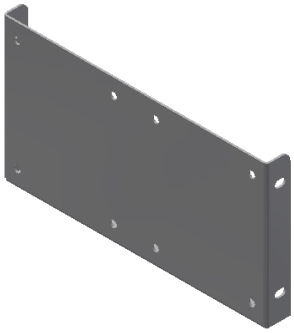
GAS STRUT, PEDESTAL LID

PART NUMBER:

1360XZ

DESCRIPTION:

HYD,TANK BRACKET

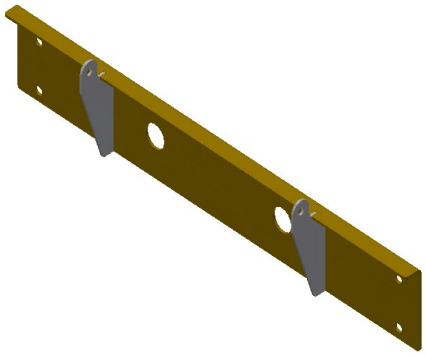


PART NUMBER:

1373XZ

DESCRIPTION:

HYD,COOLER SWINGOUT

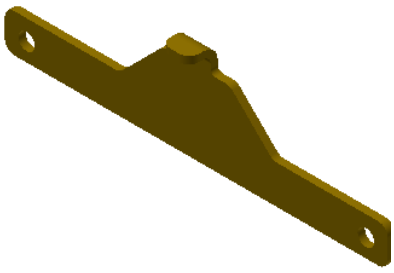


PART NUMBER:

1832XZ

DESCRIPTION:

HYD,COOLER,LATCH BRKT

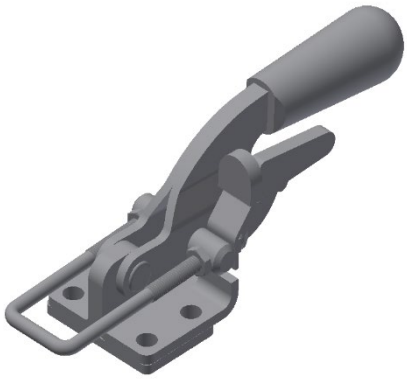


PART NUMBER:

1875XZ

DESCRIPTION:

OIL COOLER, DESTACO LATCH



PART NUMBER:

1894XZ

DESCRIPTION:

THRUST WASHER, COOLER

SKID BASE GROUP

PART NUMBER:

TBD

DESCRIPTION:

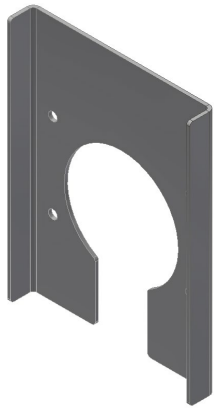
GREASE HOSE

PART NUMBER:

2413XZ

DESCRIPTION:

PLT,BLOWER,OUTER BEARING STIFFENER,BOLT IN



PART NUMBER:

272XZ

DESCRIPTION:

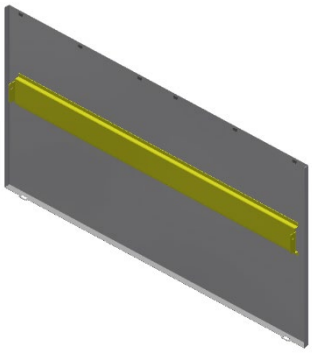
OUTER BEARING PLATE

PART NUMBER:

1353XZ

DESCRIPTION:

SKID/PEDESTAL LID



PART NUMBER:

LCT650602A

DESCRIPTION:

4 BOLT BEARING

PART NUMBER:

LCT650602D

DESCRIPTION:

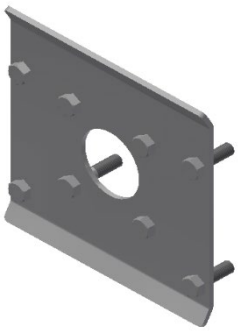
BEARING SPACER PLATE

PART NUMBER:

LCT600603

DESCRIPTION:

INNER BEARING PLATE



PART NUMBER:

1287XZ

DESCRIPTION:

IMPELLER SHAFT

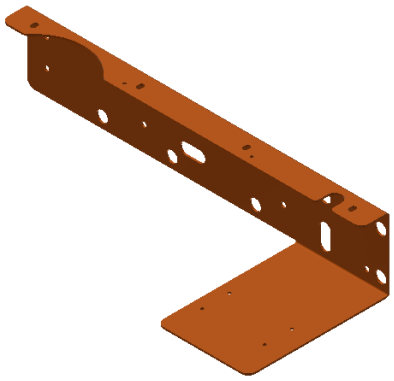
PEDESTAL GROUP

PART NUMBER:

1512XZ

DESCRIPTION:

CHA,SKID BRACKET, CURB SIDE



PART NUMBER:

1289XZ

DESCRIPTION:

SKID/PEDESTAL LINER

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

BELT GUARD INSPECTION

PART NUMBER:

DESCRIPTION:

SKID PARTS LIST

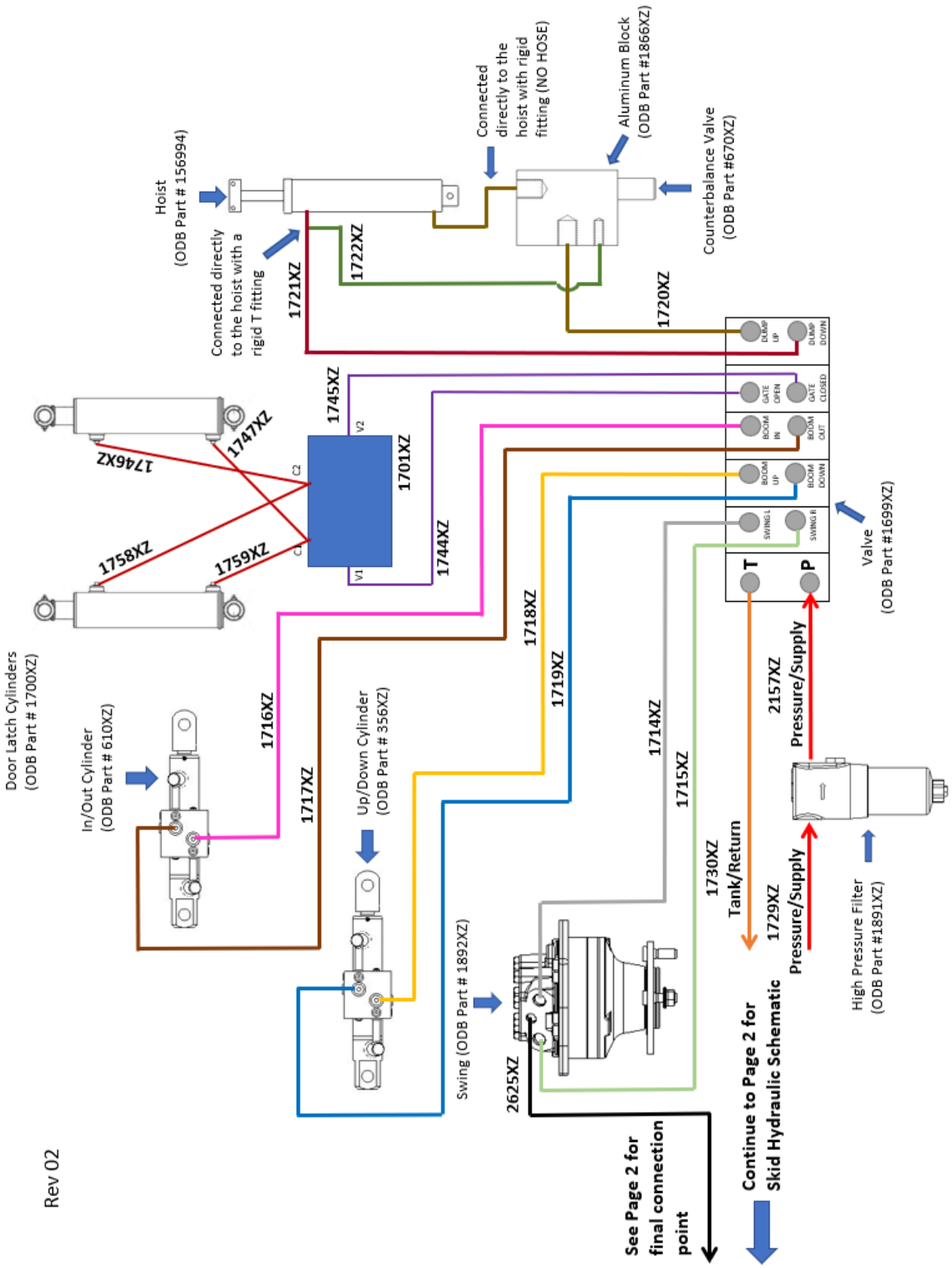
Group	Part Number	Description	Qty
Skid	**1143XZ**	32" CCW STAR IMPELLER	1
	1238XZ	HYDRO-LEDUC BENT AXIS MOTOR	1
	1278XZ	ASM,SKID/PEDESTAL,SINGLE ENG	1
	1285XZ	ASM,BLOWER/FACE,HINGE STYLE	1
	1287XZ	ASM,IMPELLER SHAFT,36.5''	1
	1289XZ	ASM,SKID/PEDESTAL LINER	1
	1290XZ	ASM,GRID COUPLING,MTR/IMP SHFT	1
	1353XZ	ASM,SKID/PEDESTAL LID	1
	1354XZ	ASM,HINGE,4 FT,PEDESTAL LID	1
	1355XZ	ASM,GAS STRUT,50LBS,PEDSTL LID	2
	1360XZ	ASM,HYD,TANK BRKT	2
	1373XZ	ASM,HYD,COOLER SWINGOUT	1
	1512XZ	ASM,CHA,SKID BKT CURB SIDE	1
	1668XZ	ASM,TRUCK,DRIVESHAFT	1
	1702XZ	ASM,HYD,FILTER ASSEMBLY KIT	1
	1832XZ	ASM,HYD,COOLER,LATCH BRKT	1
	1837XZ	ASM,BRKT,PDM/CONTROLLER	1
	1847XZ	ASM,BRKT,HYD VALVE CONNECTOR	1
	1848XZ	ASM,BRKT,CONTROL CONNECTORS	1
	1875XZ	ASM,DESTACO,OIL COOLER	1
	1885XZ	ASM,JACK SCREW BOLT	1
	1894XZ	ASM,THRUST WASHER,COOLER	2
	1904XZ	ASM,BLOWER BOLT,3/4-10	4
	264XZ	DCL 3X BOOM KNUCKLE	1
	272XZ	OUTER BEARING PLATE	1
	719XZ	STAUFF CLAMP PAIR #6	12
	754XZ	4 1/2 PILOT FLANGE BEARING	1
	LCT600603	INNER BEARING PLATE 04/02 - US	1
	LCT609602	LATCH OVERCENTER (JUST LATCH)	2
	LCT620602A	.LINER BOLT-IN WRAP ARND	1
	LCT620604	.LINER BOLT-ON UP TOP	1
	LCT621603	CLEAN OUT DOOR HINGE	1
	LCT650601	Q3 2 1/4 BUSHING	1
	LCT650602A	BEARING IMPELLER BLUE BRUTE	2
	LCT650602D	BEARING SPACER PLATE2/14" BEAR	1
	LINER BOLT PLATE	.LINER CENTER BOLT PLATE	1

8-0

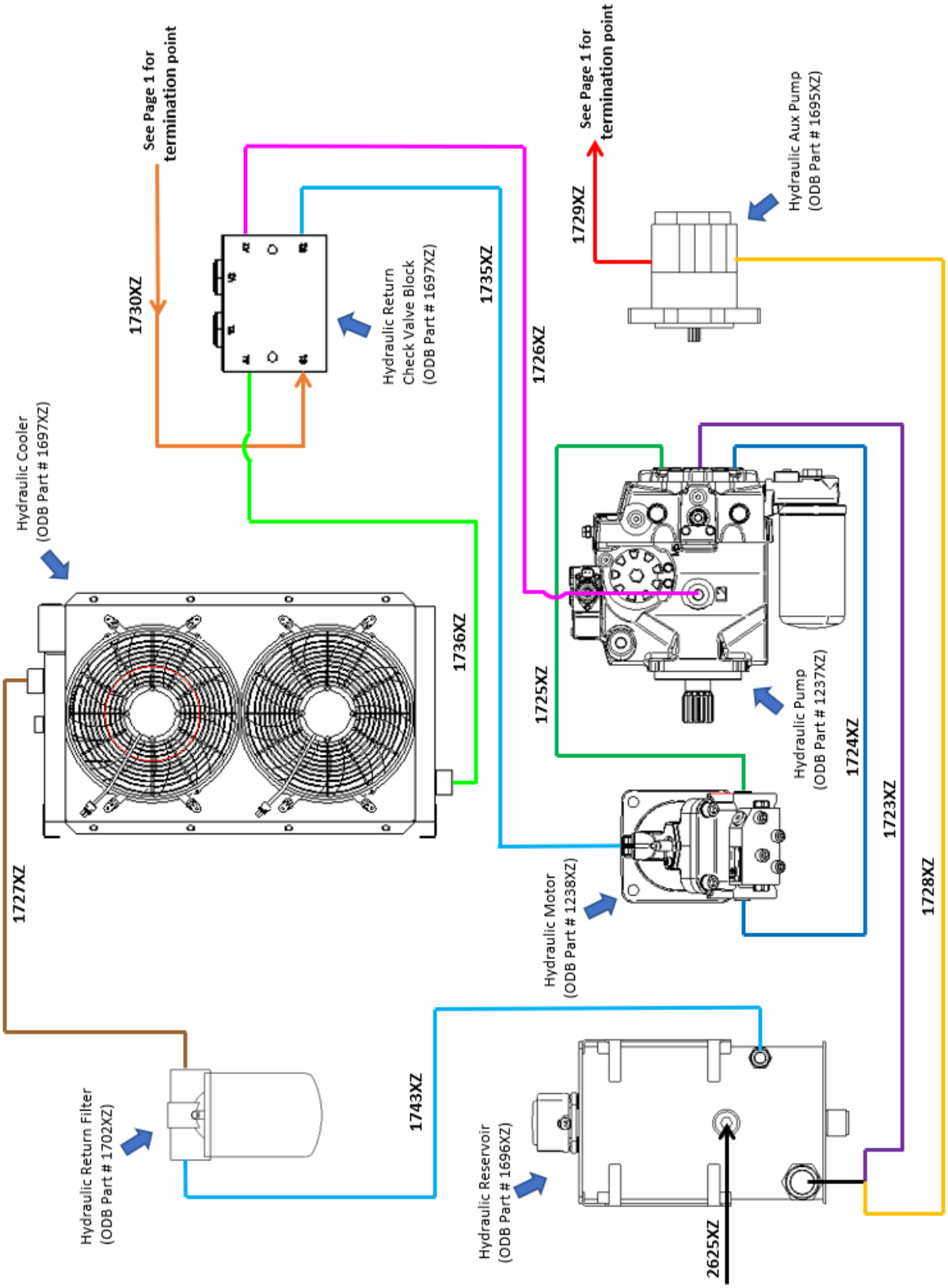
8.0 HYDRAULIC GROUP

8.0 HYDRAULIC GROUP

ODB COMPANY
5118 Glen Alden Drive
Richmond, VA 23231
800-446-9823


Hoist
(ODB Part # 156994)
Connected directly to the hoist with a rigid T fitting
Connected directly to the hoist with rigid fitting (NO HOSE)
Aluminum Block (ODB Part #1866XZ)
Counterbalance Valve (ODB Part #670XZ)
1721XZ
1722XZ
1720XZ
1745XZ
1701XZ
1744XZ
1747XZ
1746XZ
1758XZ
1759XZ
V1
V2
C1
C2
DUMP UP
DUMP DOWN
GATE OPEN
GATE CLOSED
BOOM IN
BOOM OUT
BOOM UP
BOOM DOWN
SWING L
SWING R
T
P
Valve
(ODB Part #1699XZ)
Door Latch Cylinders
(ODB Part # 1700XZ)
In/Out Cylinder
(ODB Part # 610XZ)
1716XZ
1717XZ
Up/Down Cylinder
(ODB Part # 356XZ)
1718XZ
1719XZ
1714XZ
1715XZ
2157XZ
Pressure/Supply
1730XZ
Tank/Return
1729XZ
Pressure/Supply
High Pressure Filter
(ODB Part #1891XZ)
Swing (ODB Part # 1892XZ)
2625XZ
See Page 2 for final connection point
Continue to Page 2 for Skid Hydraulic Schematic
Rev 02

HYDRAULIC GROUP



HYDRAULIC PARTS LIST

Group	Part Number	Description	Qty
Hydraulics	**1237XZ**	PUMP H1P FOR PROJECT 221	1
	1695XZ	ASM,HYD,AUX PUMP	1
	→2063XZ	ASM,PUMP,H1P,AUX MOUNT GASKET	1
	1696XZ	ASM,HYD,CYCLONE RESERVOIR	1
	1697XZ	ASM,HYD,COOLER	1
	1698XZ	ASM,HYD,RETURN CHECK VALVE MA	1
	1699XZ	ASM,HYD,CONTROL VALVE	1
	1700XZ	ASM,BOX,DOOR LATCH CYLINDERS	2
	1702XZ	ASM,HYD,FILTER ASSEMBLY KIT	1
	→1704XZ	→ASM,HYD,FILTER HEAD	1
	→1705XZ	→ASM,HYD,FILTER ELEMENT	1
	→1706XZ	→ASM,HYD,FILTER INDICATOR	1
	1714XZ	HOSE,HYD,SWG/LT,6-130	1
	1715XZ	HOSE,HYD,SWG/RT,6-133	1
	1716XZ	HOSE,HYD,IN/EXT,6-188	1
	1717XZ	HOSE,HYD,OUT/RETR,6-191	1
	1718XZ	HOSE,HYD,UP/EXT,6-157	1
	1719XZ	HOSE,HYD,DWN/RETR,6-160	1
	1720XZ	HOSE,HYD,HOIST_UP/EXT,8-122	1
	1721XZ	HOSE,HYD,HOIST_DWN/RETR,8-156	1
	1722XZ	HOSE,HYD,HOIST/CBV,4-34	1
	1723XZ	HOSE,HYD,PUMP/SPLY,20-84	1
	1724XZ	HOSE,HYD,MTR_A,16-54	1
	1725XZ	HOSE,HYD,MTR_B,16-60	1
	1726XZ	HOSE,HYD,CASE DRAIN,12-60	1
	1727XZ	HOSE,HYD,FILTER/SPLY,12-52	1
	1728XZ	HOSE,HYD,AUX PUMP/SPLY,16-80	1
	1729XZ	HOSE,HYD,VAVLE/SPLY,8-72	1
	1730XZ	HOSE,HYD,VALVE/RET,8-173	1
	1731XZ	HYD,FITTINGS KIT,PROJECT 221	1
	1735XZ	HOSE,HYD,MTR CASE DRAIN,12-30	1
	1736XZ	HOSE,HYD,COOLER/SPLY,12-72	1
	1743XZ	HOSE,HYD,TNK/RETRN,12-20	1
	1744XZ	HOSE,HYD,LATCH/CHECK V1,6-264	1
	1745XZ	HOSE,HYD,LATCH/CHECK V2,6-264	1
	1746XZ	HOSE,HYD,OPEN/RETR,LH,6-72	1
	1747XZ	HOSE,HYD,EXT/CLOSED,LH,6-72	1
	1758XZ	HOSE,HYD,OPEN/RETR,RH,6-72	1
	1759XZ	HOSE,HYD,EXT/CLOSED,RH,6-72	1

HYDRAULIC PARTS LIST

Group	Part Number	Description	Qty
Hydraulics	**1891XZ**	ASM,HYD,PRESSURE FILTER KIT	1
Cont…	**→1895XZ**	→ASM,HYD,PRESSURE FILTER	1
	→1896XZ	→ASM,HYD,PRESSURE FILTER INDICATOR	1
	2149XZ	ASM,HYD,PRESSURE TRANSDUCER	1
	2150XZ	ASM,HYD,TEMPERATURE THERMISTOR	1
	2157XZ	HOSE,HYD,VAL/PRESS FILTER,8-60	1
	2414XZ	FITTING,MOTOR,FILL PORT	1
	200007C	HYD OIL, CASTROL 5-20 2&3AXIS	24
	4501411	FITTING 1/8" X 1/8 " SWIVEL GR	2

BOX GROUP

PART NUMBER:

733XZ

DESCRIPTION:

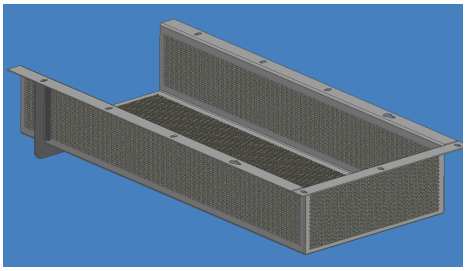
SINGLE CYLINDER HYD HOIST KIT

PART NUMBER:

843XZ

DESCRIPTION:

DCL COMPLETE BOTTOM EXH SCRN

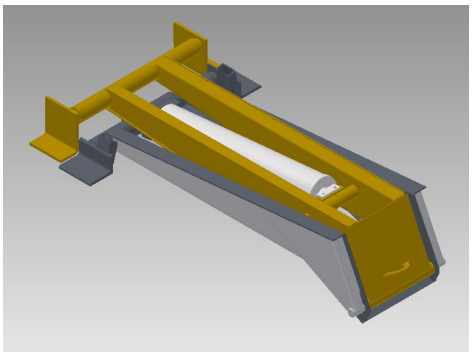


PART NUMBER:

155547

DESCRIPTION:

.655 HOIST/FLOYD 20YD

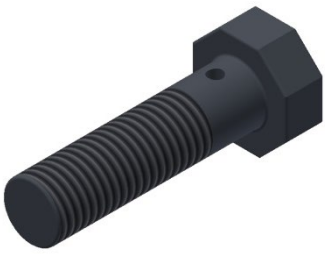


PART NUMBER:

80092BX

DESCRIPTION:

TOP HINGE BOLT 3/4-10 UNC X 2.75IN LONG



PART NUMBER:

1592XZ

DESCRIPTION:

TOP,HINGE,BOX, DOOR,PROP

PART NUMBER:

1594XZ

DESCRIPTION:

BELLEVILLE DISC SPRING

PART NUMBER:

1595XZ

DESCRIPTION:

OVERSIZED FLAT WASHER

PART NUMBER:

1596XZ

DESCRIPTION:

THICK LEAD BRONZE THRUST WASH

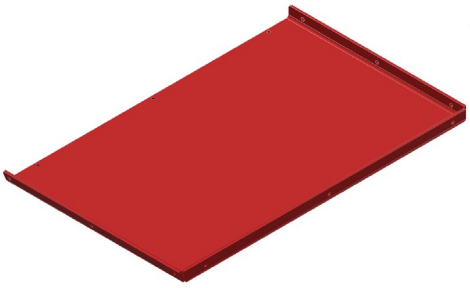
BOX GROUP

PART NUMBER:

1880XZ

DESCRIPTION:

ASM,NOSE CONE,TOP INLET PLATE



PART NUMBER:

1881XZ

DESCRIPTION:

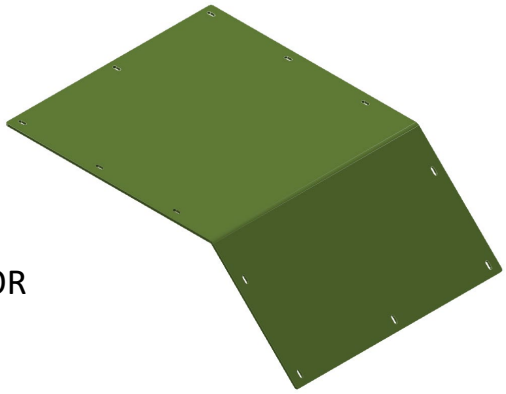
ASM,NOSE CONE,FRNT INLET PLATE

PART NUMBER:

2332XZ

DESCRIPTION:

SHT,NOSE CONE,DEFLECTOR



PART NUMBER:

2061XZ

DESCRIPTION:

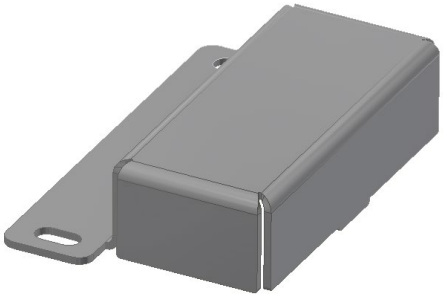
FAB,BOX,BOTTOM EXHAUST PANEL

PART NUMBER:

2301XZ

DESCRIPTION:

PLT,BOX,LATCH COVER

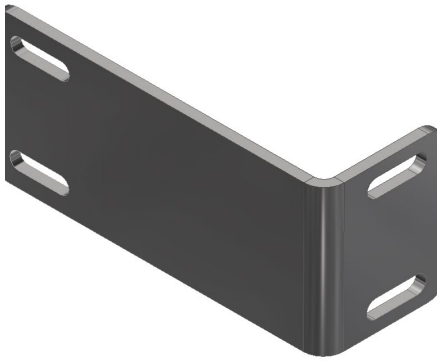


PART NUMBER:

2280XZ

DESCRIPTION:

SHT,BOX,LATCH,PROX,MOUNT



PART NUMBER:

1886XZ

DESCRIPTION:

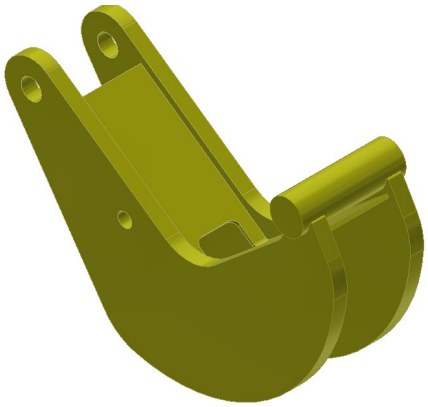
ASM,BOX,DOOR LATCH

PART NUMBER:

2333XZ

DESCRIPTION:

ASM,BOX,DOOR LATCH,NO FLAG



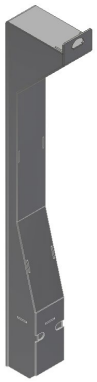
BOX GROUP

PART NUMBER:

1588XZ

DESCRIPTION:

FAB,BOOM,HOSE CRADLE

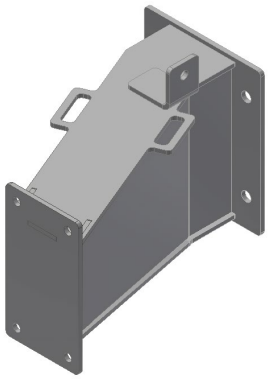


PART NUMBER:

1591XZ

DESCRIPTION:

FAB,BOOM,HOSE CRADLE MOUNT



PART NUMBER:

2395XZ

DESCRIPTION:

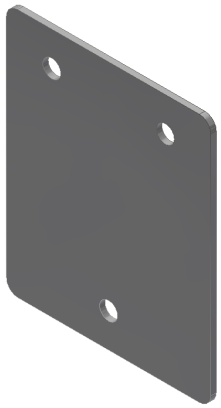
PLT,HOIST,BED GUIDE

PART NUMBER:

2396XZ

DESCRIPTION:

PLT,HOIST,BED GUIDE SPACER

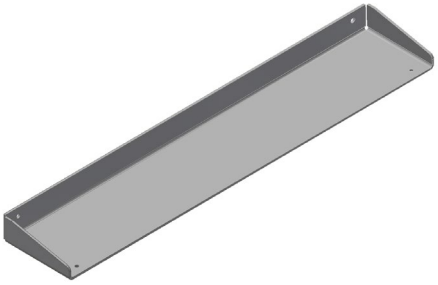


PART NUMBER:

2424XZ

DESCRIPTION:

PLT,BOX,REAR LIGHT BAR MOUNT



PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

LIGHT AND REFLECTOR GROUP

PART NUMBER:

STD2201

DESCRIPTION:

LED MARKER LIGHT, RED

PART NUMBER:

STD2202

DESCRIPTION:

LED MARKER LIGHT, YELLOW

PART NUMBER:

STD2213A

DESCRIPTION:

LED STROBE LIGHT WITH FLASHER

PART NUMBER:

98101ODX

DESCRIPTION:

REFLECTIVE TAPE RED/WHITE. 2"

PART NUMBER:

STD2414G

DESCRIPTION:

OVAL TAIL LIGHT GROMMET

PART NUMBER:

STD2414

DESCRIPTION:

LED TAIL LIGHT, RED

PART NUMBER:

DESCRIPTION:

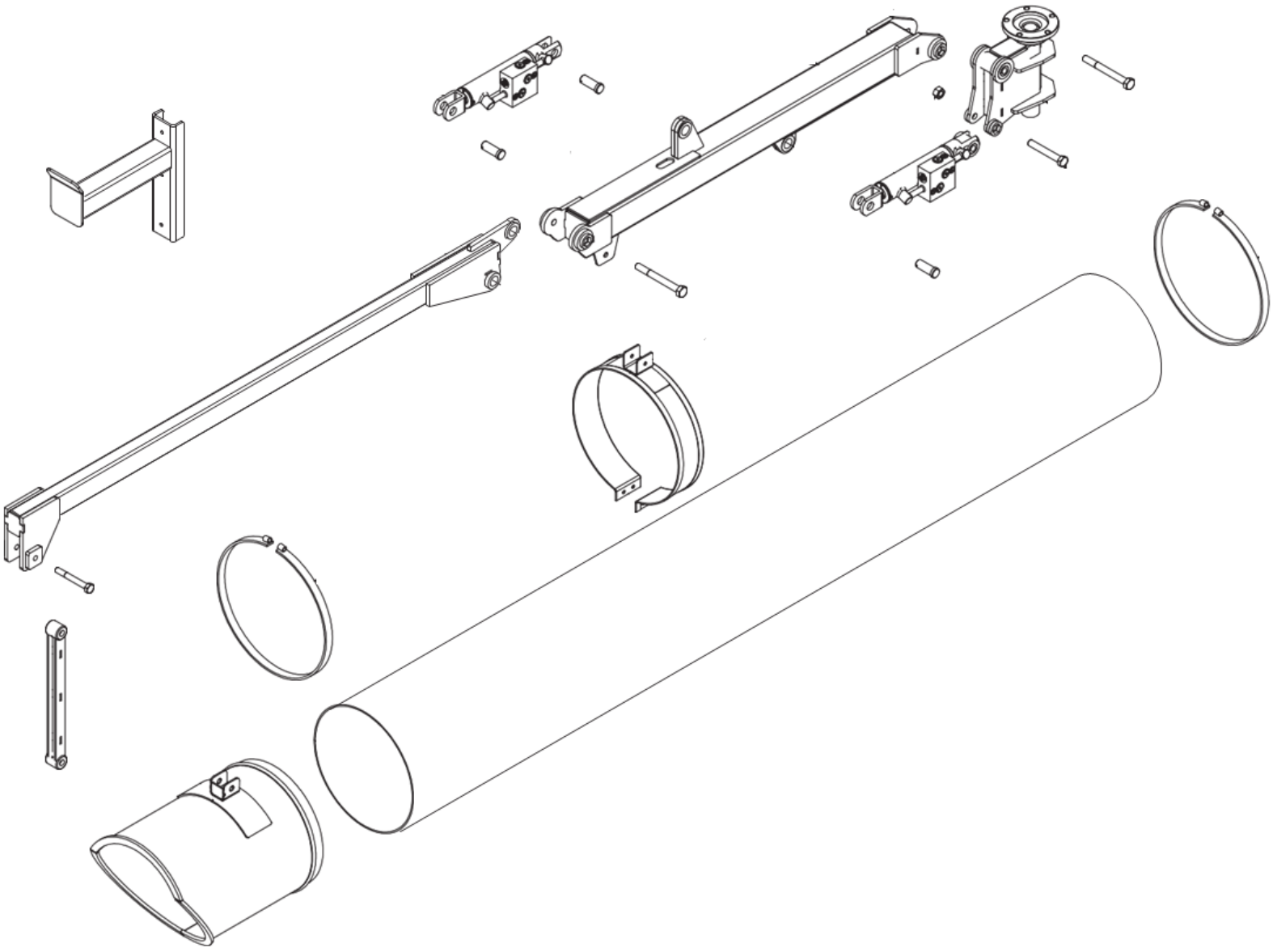
PART NUMBER:

DESCRIPTION:

HOPPER PARTS LIST

Group	Part Number	Description	Qty
Box	**155547**	.655 HOIST/FLOYD 20YD	1
	1588XZ	FAB,BOOM,HOSE CRADLE	1
	1591XZ	FAB,BOOM,HOSE CRADLE MOUNT	1
	1594XZ	BELLEVILLE DISC SPRING	1
	1595XZ	OVERSIZED FLAT WASHER	1
	1596XZ	THICK LEAD BRONZE THRUST WASH	1
	1788XZ	.FAB,BOX,DOOR	1
	1874XZ	FAB,BOX,25 YD BOX	1
	2333XZ	ASM,BOX,DOOR LATCH,NO FLAG	2
	1908XZ	TOP,HINGE,BOX,DOOR,PROP	1
	1918XZ	ASM,BODY PROP ARM,DRIVER	1
	1919XZ	ASM,BODY PROP ARM,PASSENGER	1
	2010XZ	LOWER RUBBER DOOR SEAL	2
	2011XZ	TOP RUBBER DOOR SEAL	3
	2301XZ	PLT,BOX,LATCH COVER	2
	2332XZ	SHT,NOSE CONE,DEFLECTOR	1
	2280XZ	SHT,BOX,LATCH ,PROX,MOUNT	2
	733XZ	.SINGLE CYLINDER HYD HOIST KIT	1
	843XZ	DCL COMPLETE BOTTOM EXH SCRN	3
	98101ODX	REFLECTIVE TAPE RED/WHITE. 2"	64

BOOM ASSEMBLY



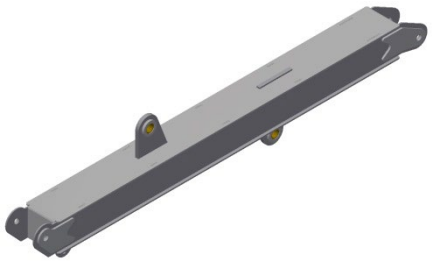
BOOM ASSEMBLY GROUP

PART NUMBER:

266XZ

DESCRIPTION:

UP/DOWN BOOM ARM



PART NUMBER:

265XZ

DESCRIPTION:

IN AND OUT BOOM ARM

PART NUMBER:

610XZ

DESCRIPTION:

IN/OUT HYDRAULIC CYLINDER

PART NUMBER:

356XZ

DESCRIPTION:

UP/DOWN HYDRAULIC CYLINDER

PART NUMBER:

LCT616603U

DESCRIPTION:

HOSE SUPPORT BAND

PART NUMBER:

LCT616601MAHD

DESCRIPTION:

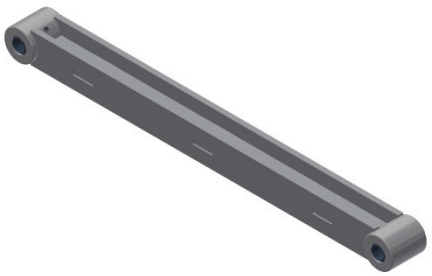
MULTI-AXIS NOZZLE

PART NUMBER:

SCL816813

DESCRIPTION:

HOSE SUPPORT BAR



PART NUMBER:

1999XZ

DESCRIPTION:

BOOM SWIVEL

BOOM ASSEMBLY GROUP

PART NUMBER:

754XZ

DESCRIPTION:

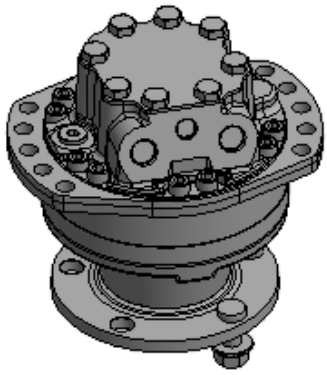
PILOT FLANGE BEARING

PART NUMBER:

1892XZ

DESCRIPTION:

Hydraulic Swing Motor



PART NUMBER:

LCSDH16144W/S

DESCRIPTION:

URETHANE HOSE WITH WEAR STRIP

PART NUMBER:

200048

DESCRIPTION:

3/8-16 THREADED ROD 7IN LONG

PART NUMBER:

800710

DESCRIPTION:

BOLT 3/4-16 X 7.5IN LONG

PART NUMBER:

759XZ

DESCRIPTION:

CLEVIS PIN 1IN X 2.5IN LONG

PART NUMBER:

760XZ

DESCRIPTION:

HAIRPIN COTTER PIN

PART NUMBER:

DESCRIPTION:

BOOM ASSEMBLY GROUP

PART NUMBER:

LCT616616

DESCRIPTION:

HOSE BAND

PART NUMBER:

585XZ

DESCRIPTION:

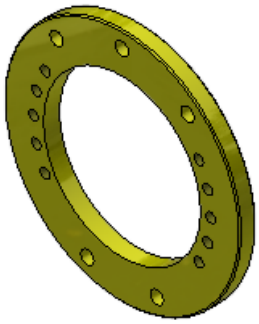
OIL EMBEDDED
THRUST WASHER

PART NUMBER:

1911XZ

DESCRIPTION:

Hydraulic Swing
Motor Spacer



PART NUMBER:

200010

DESCRIPTION:

QUICK LINK 5/16IN

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

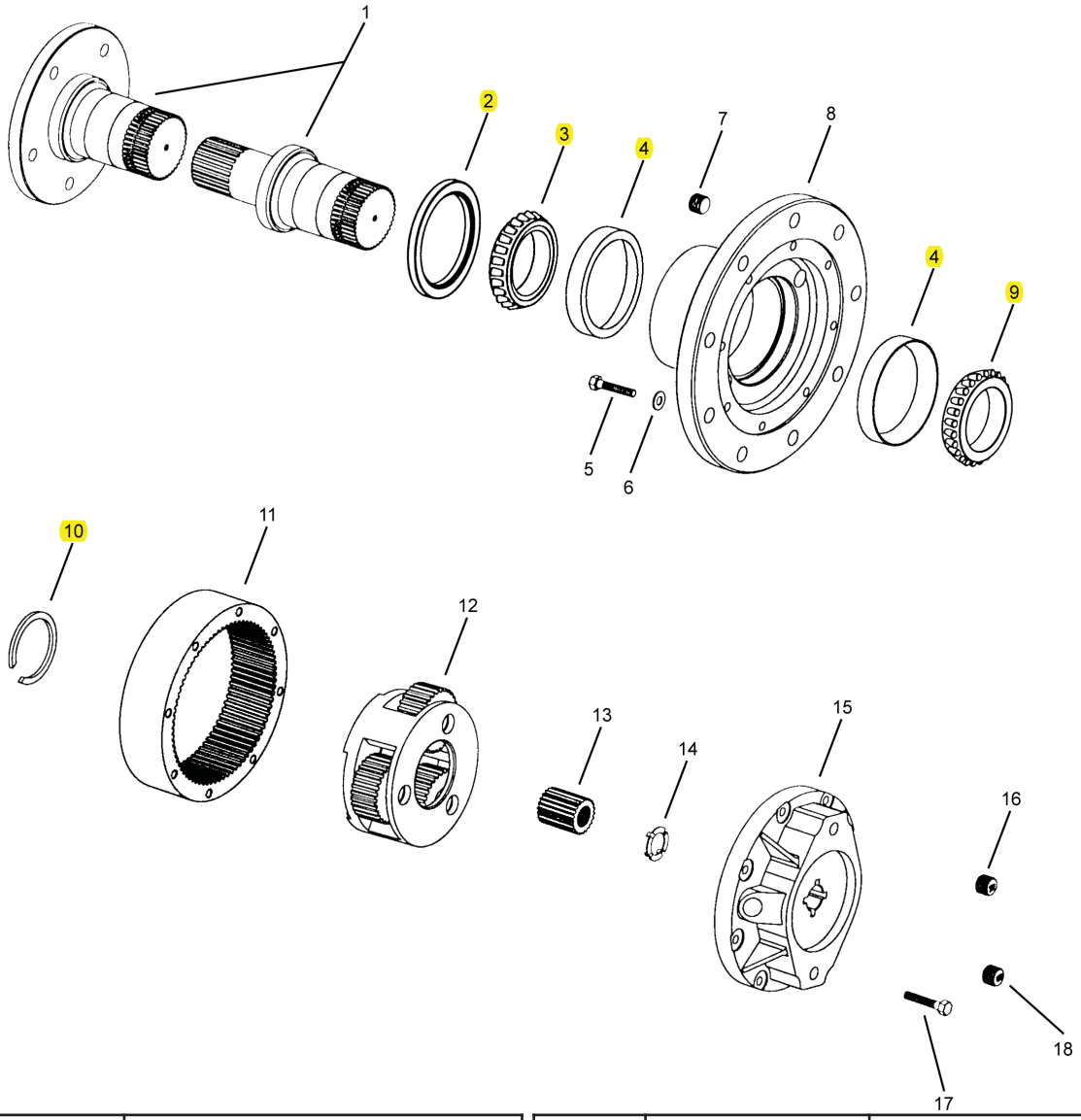
PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

AUBURN GEAR DRIVE ASSEMBLY



ITEM #	PART #	DESCRIPTION
1		Output Shaft or Spindle
2	14-00-044-010	Oil Seal
3	14-01-101-35	Bearing Cone
4	14-01-102-12	Bearing Cup
5		Hex Head Bolt (grade 8)
6		Flat Washer
7	03-04-101-09	Pipe Plug
8		Hub
9	04-01-101-17	Bearing Cone
10	14-02-410-003	Retaining Ring Kit
11		Ring Gear
12		Carrier Assembly

ITEM #	PART #	DESCRIPTION
13		Sun Gear
14		Thrust Washer
15		Cover
16	14-00-052-002	Magnetic Plug
17		Hex Head Bolt
18	03-04-101-01	Pipe Plug
*	641008	Bearing and Seal Kit, includes #2,3,4,8 and 10
*	641017	Seal Kit, includes #2 & #10
*	618318 618318.N	Gear Bolt Nut

BOOM PARTS LIST

Group	2nd Item Number	Description	Qty
Boom	**200008**	SNAP SPRING HOOK LCB500	1
	200010	QUICK LINK 5/16 INCH	1
	200048	THREADED ROD3/8-16X7"	2
	2008XZ	BUSHING,BRONZE,CYL	2
	265XZ	IN AND OUT BOOM ARM	1
	266XZ	UP AND DOWN BOOM ARM	1
	356XZ	DCL HYD CYL BOOM UP/DWN W BUSH	1
	585XZ	OIL EMBEDDED THRUST WASHER	4
	610XZ	DCL HYD CYLINDER BOOM IN/OUT	1
	759XZ	CLEVIN PIN 1X2 1/2	2
	760XZ	HAIRPIN COTTER PIN	2
	800701C	EATON HYD MOTOR 3 AXIS BOOM AU	1
	800701D	O RING SEAL HYD MOTOR	1
	800704B	PAINTED AUBURN GEAR DRIVE	1
	800710	BOLT 3X ARM -SPECIAL	2
	90295A450	1/4 IN PLASTIC WASHER INSTRUME	1
	LCSDH16144W/S	URETHANE HOSE WITH WEAR STRIP	1
	LCT600200	CHAIN 1/4" PROOF COIL	1
	LCT616601MAHD	NOZZLE3 AXIS BOOM HEAVY DUTY 4	1
	LCT616603U	HOSE SUPPORT BAND 'U'	1
	LCT616616	HOSE BAND	2
	PMS526GW	ARM ASSEMBLY	1
	SCL816813	HOSE SUPPORT BAR 3/AXIS BOOMS	1
	SCL875002	INTAKE HOSE FLANGE3AXIS BOOMS	2

MISC. PARTS

PART NUMBER:

C070078

DESCRIPTION:

GASKET, 30' ROLL--3/8''

PART NUMBER:

V710

DESCRIPTION:

75' ROLL 1/8" X 3/4"W BLACK FO

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

⚠WARNING **Read and understand this entire manual before operating, maintaining or repairing the leaf vacuum.**

⚠ DANGER

DO NOT RIDE, SIT OR STAND ON UNIT.

RIDING ON UNIT COULD RESULT IN BODILY HARM OR FATAL INJURY USE EXTREME CAUTION WHEN UNIT IS IN USE, OR IN MOTION.

If the decal above is missing or damaged call ODB immediately and we will send you a replacement free of charge. Never operate a unit with damaged or missing safety decals.

⚠ DANGER **DO NOT RIDE, SIT OR STAND ON UNIT**

⚠ DANGER **DO NOT MODIFY THE UNIT FOR RIDERS IN ANY WAY. SERIOUS INJURY OR DEATH MAY OCCUR**

ODB's leaf collectors are NEVER to be used to accommodate riders. If your unit has been modified to accommodate riders, remove these modifications immediately as this can result in serious injury or death.

⚠ CAUTION

DO NOT ATTEMPT TO OPERATE OR REPAIR THE LEAF COLLECTOR WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL

IF YOU HAVE ANY QUESTIONS CONCERNING THE INSTALLATION OR OPERATION OF THIS UNIT, PLEASE CALL ODB FOR ASSISTANCE BEFORE ATTEMPTING TO REPAIR OR OPERATE THE UNIT.

IMPROPER USE OF ANY MACHINE CAN RESULT IN SERIOUS INJURY!

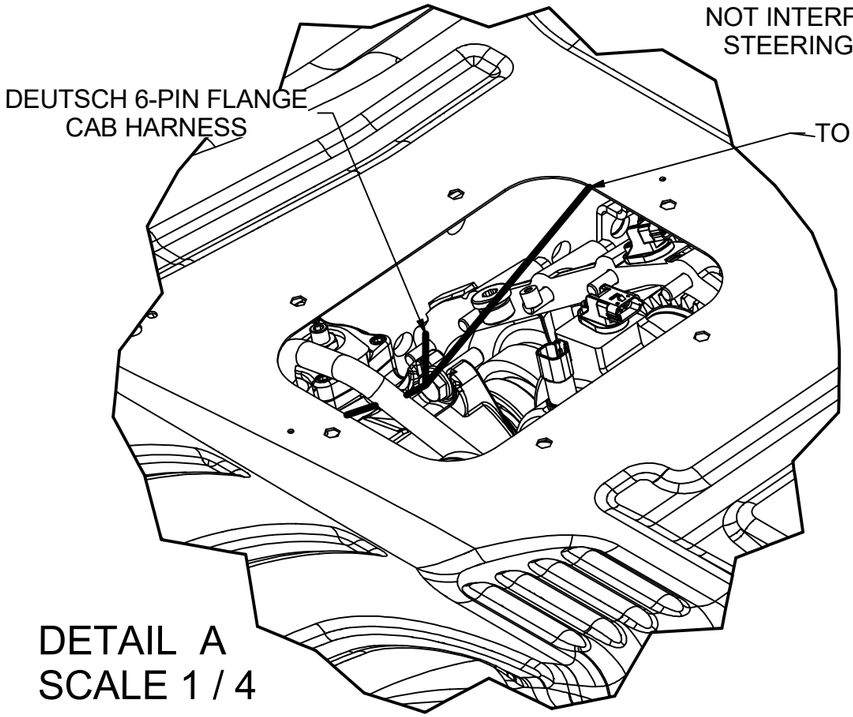
STUDY AND FOLLOW ALL SAFETY PRECAUTIONS BEFORE OPERATING OR REPAIRING UNIT

THIS MANUAL IS AN INTEGRAL PART OF THE LEAF COLLECTOR AND SHOULD BE KEPT WITH THE UNIT WHEN IT IS SOLD.

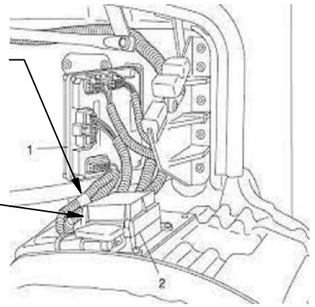
ODB COMPANY
5118 Glen Alden Drive
Richmond, VA 23231
800-446-9823

XTREME VAC by ODB

REVISION HISTORY				
REV	ECR	DESCRIPTION	DATE	ENGINEER
1	-	CREATED	8/15/2022	ARN
2	-	ADDED RELAY INFO, BATTERY CABLES	12/20/2022	ARN
3	-	ADDED 4-WIRE SPEED SENSOR WIRING	12/28/2022	ARN

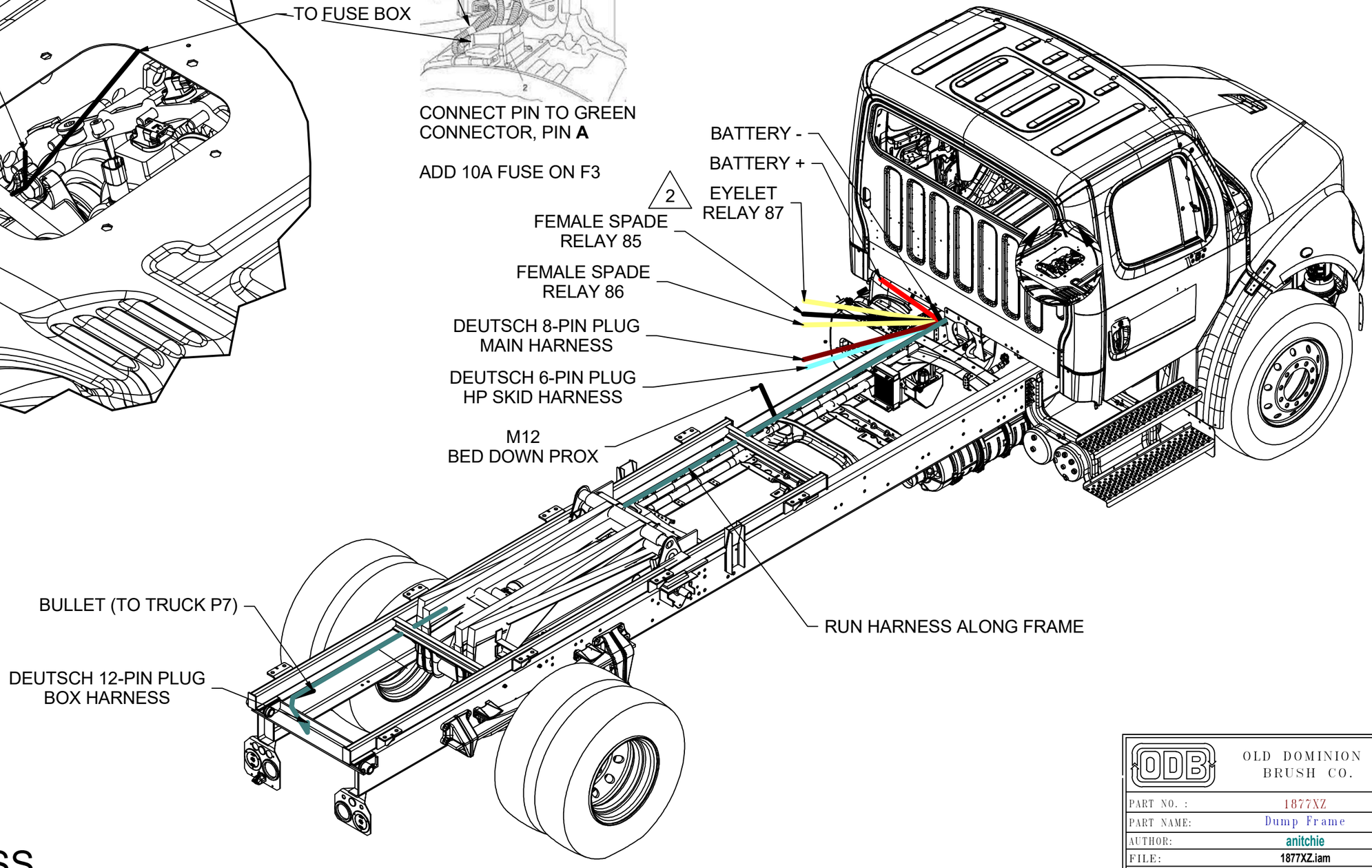


DETAIL A
SCALE 1 / 4



CONNECT PIN TO GREEN
CONNECTOR, PIN **A**

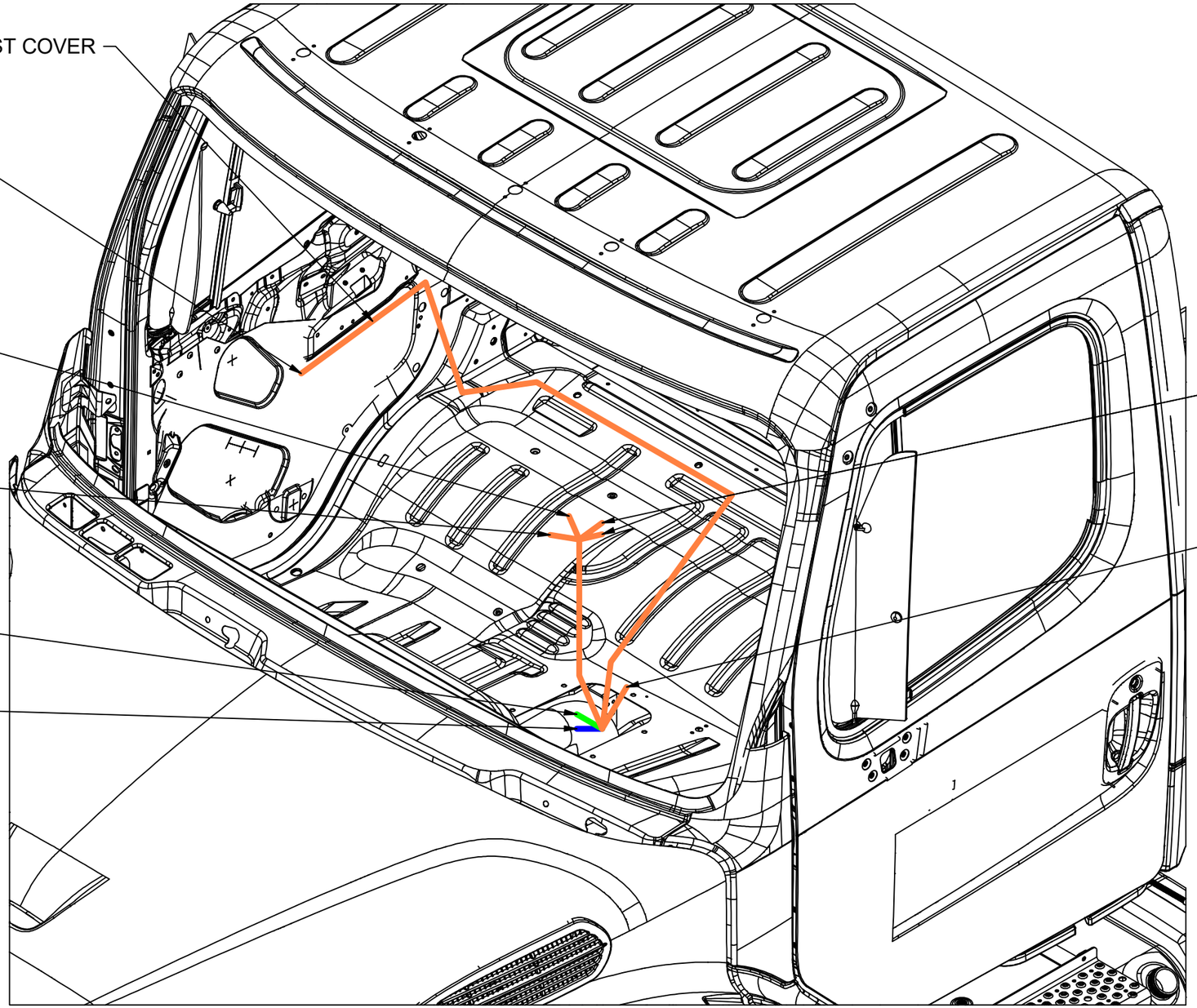
ADD 10A FUSE ON F3



1936XZ
TRUCK HARNESS

	OLD DOMINION BRUSH CO.
PART NO. :	1877XZ
PART NAME:	Dump Frame
AUTHOR:	anitchie
FILE:	1877XZ.iam
MATERIAL:	

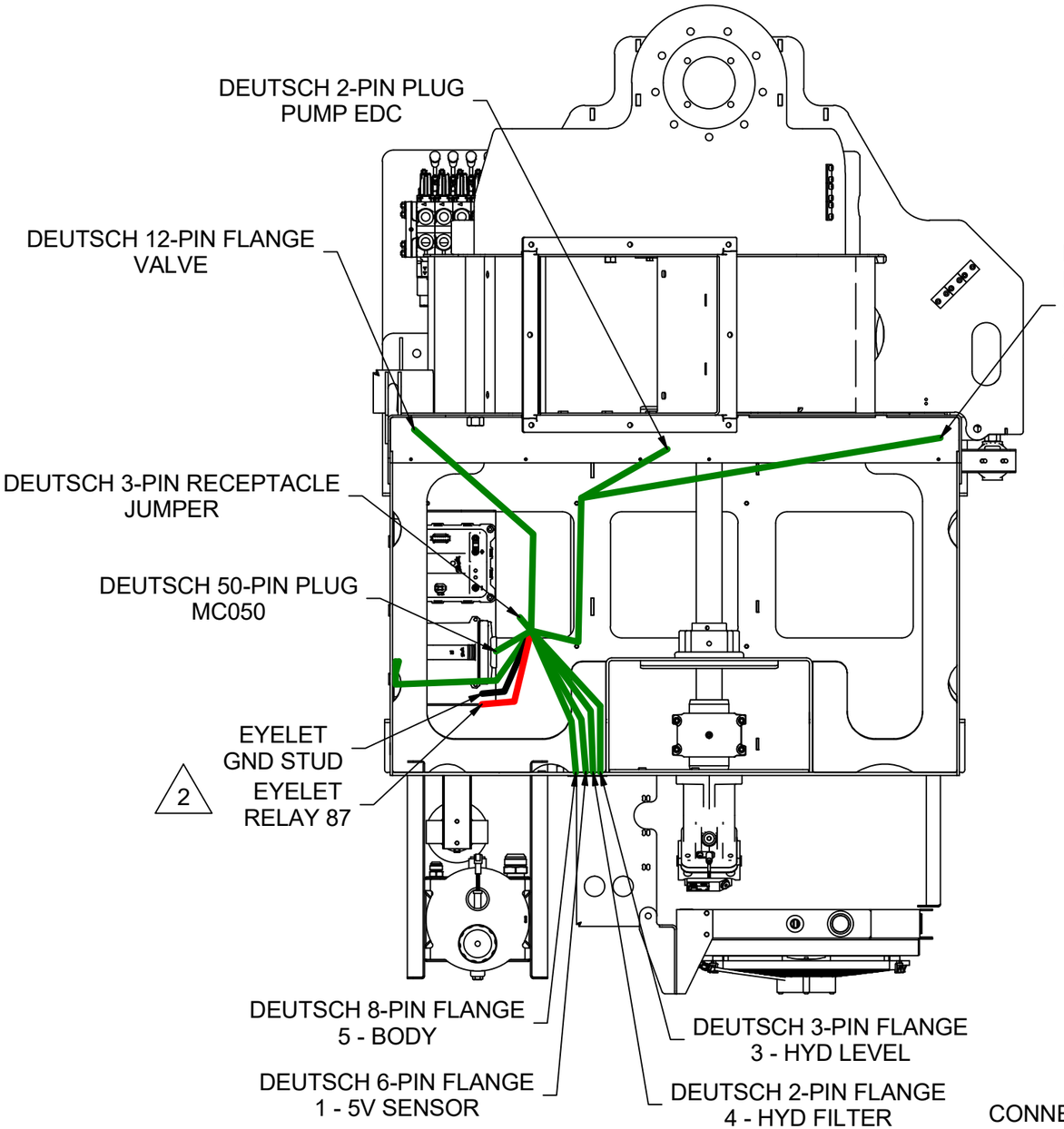
REVISION HISTORY				
REV	ECR	DESCRIPTION	DATE	ENGINEER
1	-	CREATED	8/15/2022	ARN
2	-	ADDED RELAY INFO, BATTERY CABLES	12/20/2022	ARN
3	-	ADDED 4-WIRE SPEED SENSOR WIRING	12/28/2022	ARN



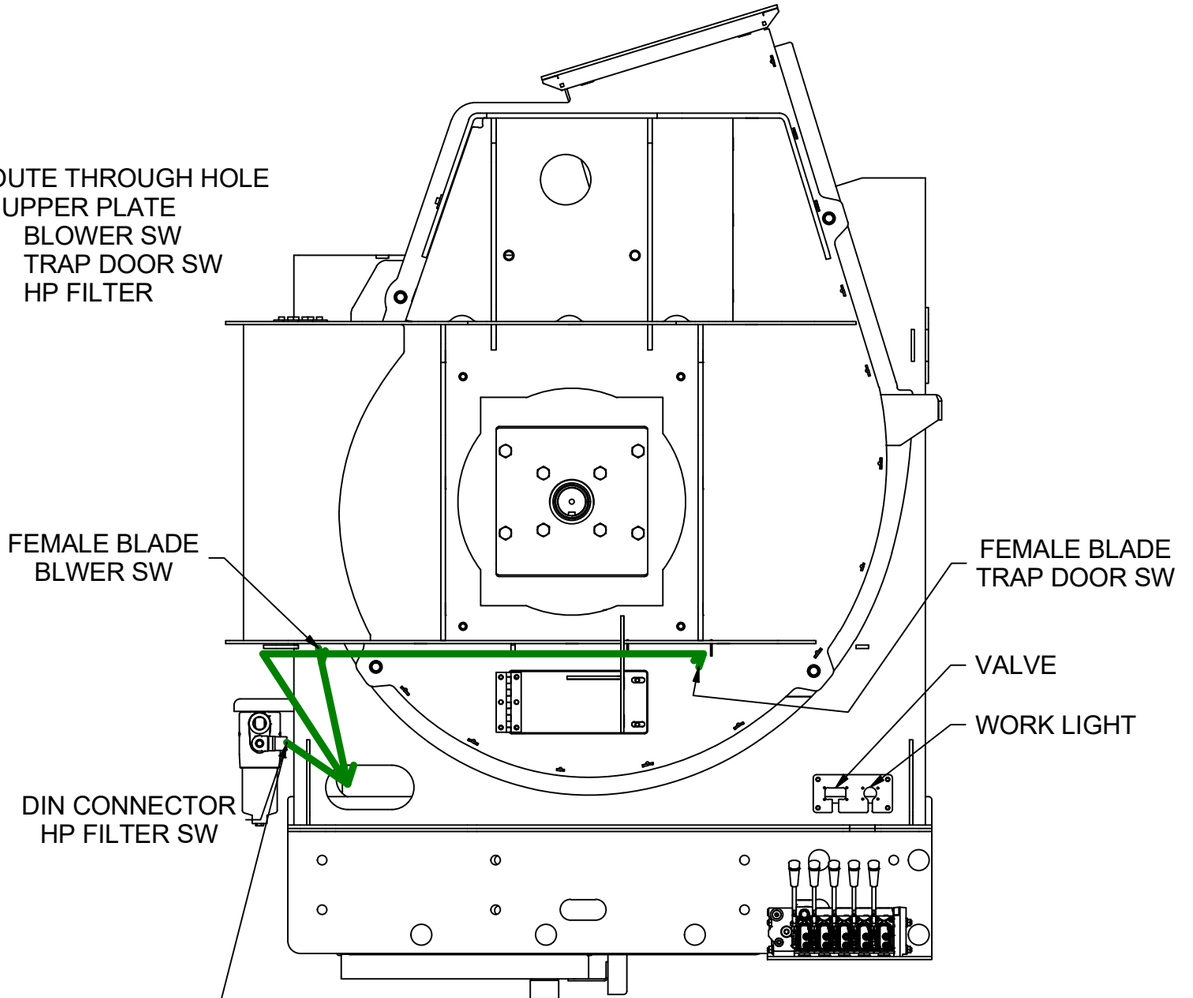
1935XZ
CAB HARNESS

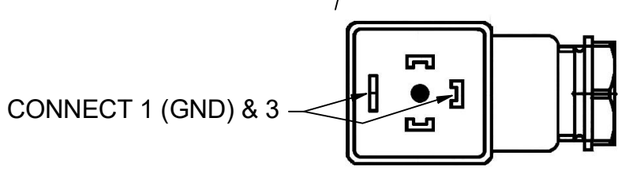
	OLD DOMINION BRUSH CO.
PART NO. :	1877XZ
PART NAME:	Dump Frame
AUTHOR:	anitchie
FILE:	1877XZ.iam
MATERIAL:	

REVISION HISTORY				
REV	ECR	DESCRIPTION	DATE	ENGINEER
1	-	CREATED	8/15/2022	ARN
2	-	ADDED RELAY INFO, BATTERY CABLES	12/20/2022	ARN
3	-	ADDED 4-WIRE SPEED SENSOR WIRING	12/28/2022	ARN



ROUTE THROUGH HOLE
IN UPPER PLATE
- BLOWER SW
- TRAP DOOR SW
- HP FILTER



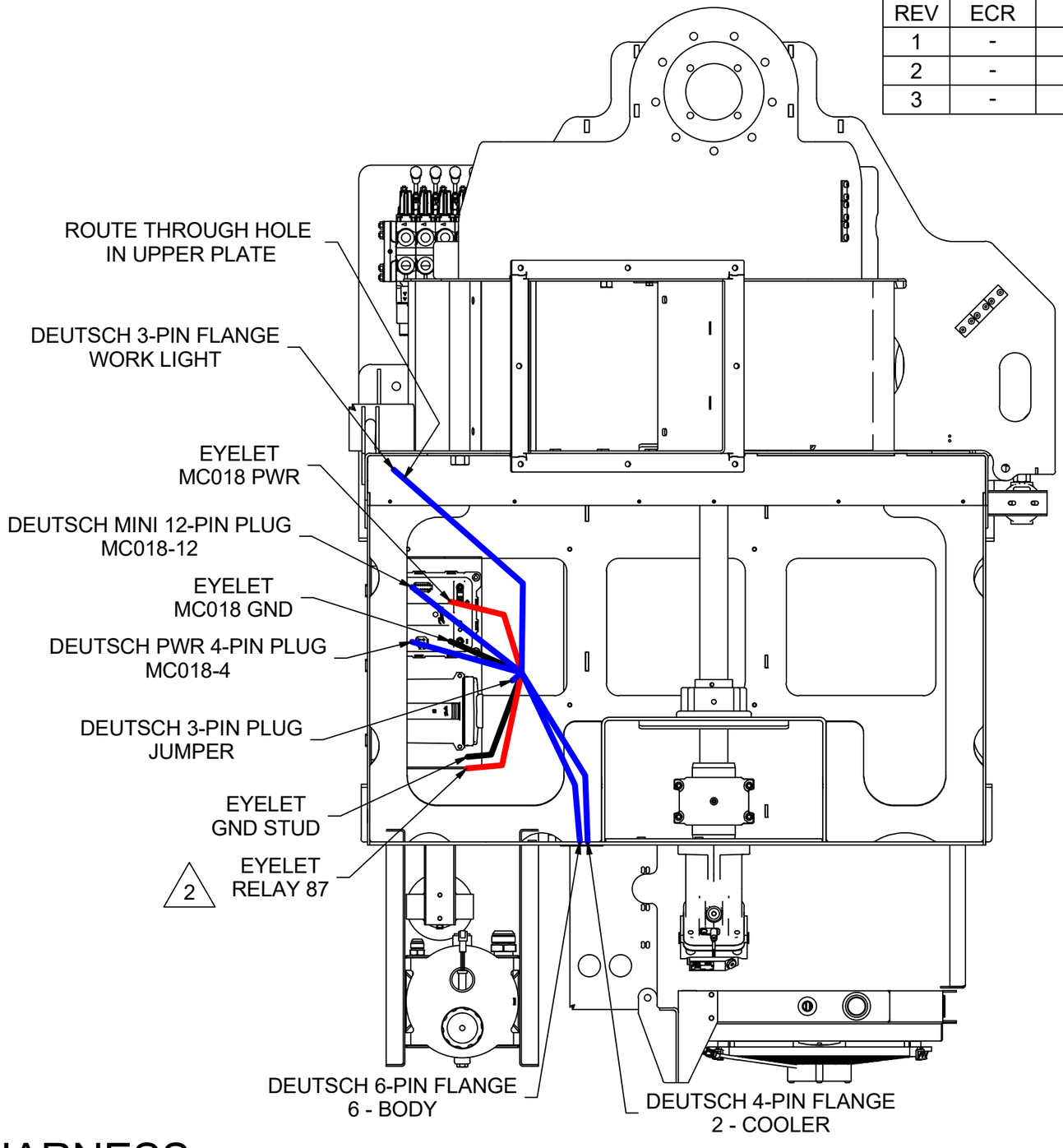


1937XZ
MAIN HARNESS

OLD DOMINION BRUSH CO.

PART NO. :	Project 221
PART NAME:	
AUTHOR:	ChrisT
FILE:	Project 221.iam
MATERIAL:	

REVISION HISTORY				
REV	ECR	DESCRIPTION	DATE	ENGINEER
1	-	CREATED	8/15/2022	ARN
2	-	ADDED RELAY INFO, BATTERY CABLES	12/20/2022	ARN
3	-	ADDED 4-WIRE SPEED SENSOR WIRING	12/28/2022	ARN

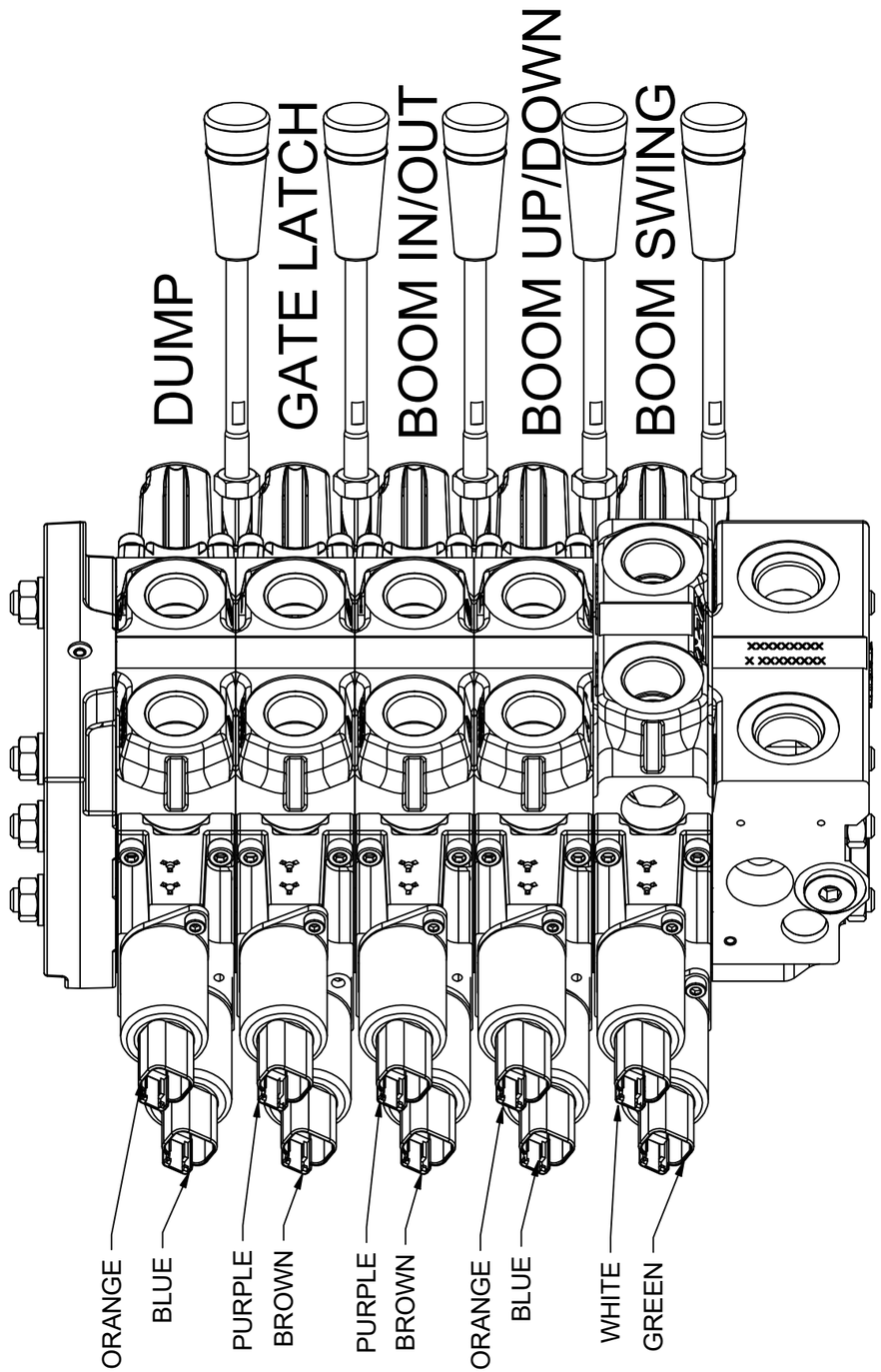


1961XZ
HP SKID HARNESS

OLD DOMINION BRUSH CO.

PART NO. :	Project 221
PART NAME:	
AUTHOR:	ChrisT
FILE:	Project 221.iam
MATERIAL:	

REVISION HISTORY				
REV	ECR	DESCRIPTION	DATE	ENGINEER
1	-	CREATED	8/15/2022	ARN
2	-	ADDED RELAY INFO, BATTERY CABLES	12/20/2022	ARN
3	-	ADDED 4-WIRE SPEED SENSOR WIRING	12/28/2022	ARN



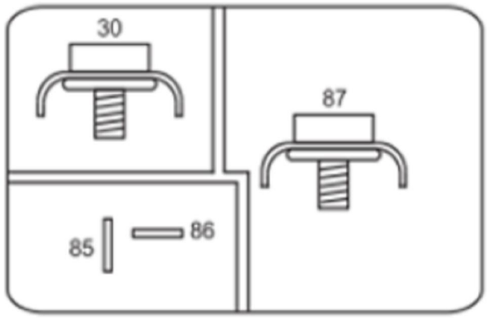
VIEW FROM REAR OF VALVE

1938XZ
VALVE HARNESS

OLD DOMINION BRUSH CO.	
PART NO. :	1699XZ
PART NAME:	
AUTHOR:	ChrisT
FILE:	1699XZ.ipt
MATERIAL:	Generic

RELAY CONNECTIONS:
30 - BATTERY PWR
87 - ALL OTHER PWR (YELLOW)
86 - RELAY CMD (YELLOW)
85 - RELAY CMD (BLACK)

2



FAN SPEED SENSOR WIRING:

5-WIRE SENSOR:
1. RED
2. GREEN
3. BLACK
4. [PLUGGED]

4-WIRE SENSOR:
1. RED
2. BLUE
3. BLACK
4. [PLUGGED]

3

TRIM OTHER WIRES ON SENSOR FLUSH TO SHEATHING

REVISION HISTORY				
REV	ECR	DESCRIPTION	DATE	ENGINEER
1	-	CREATED	8/15/2022	ARN
2	-	ADDED RELAY INFO, BATTERY CABLES	12/20/2022	ARN
3	-	ADDED 4-WIRE SPEED SENSOR WIRING	12/28/2022	ARN

1939XZ
5V SENSOR HARNESS

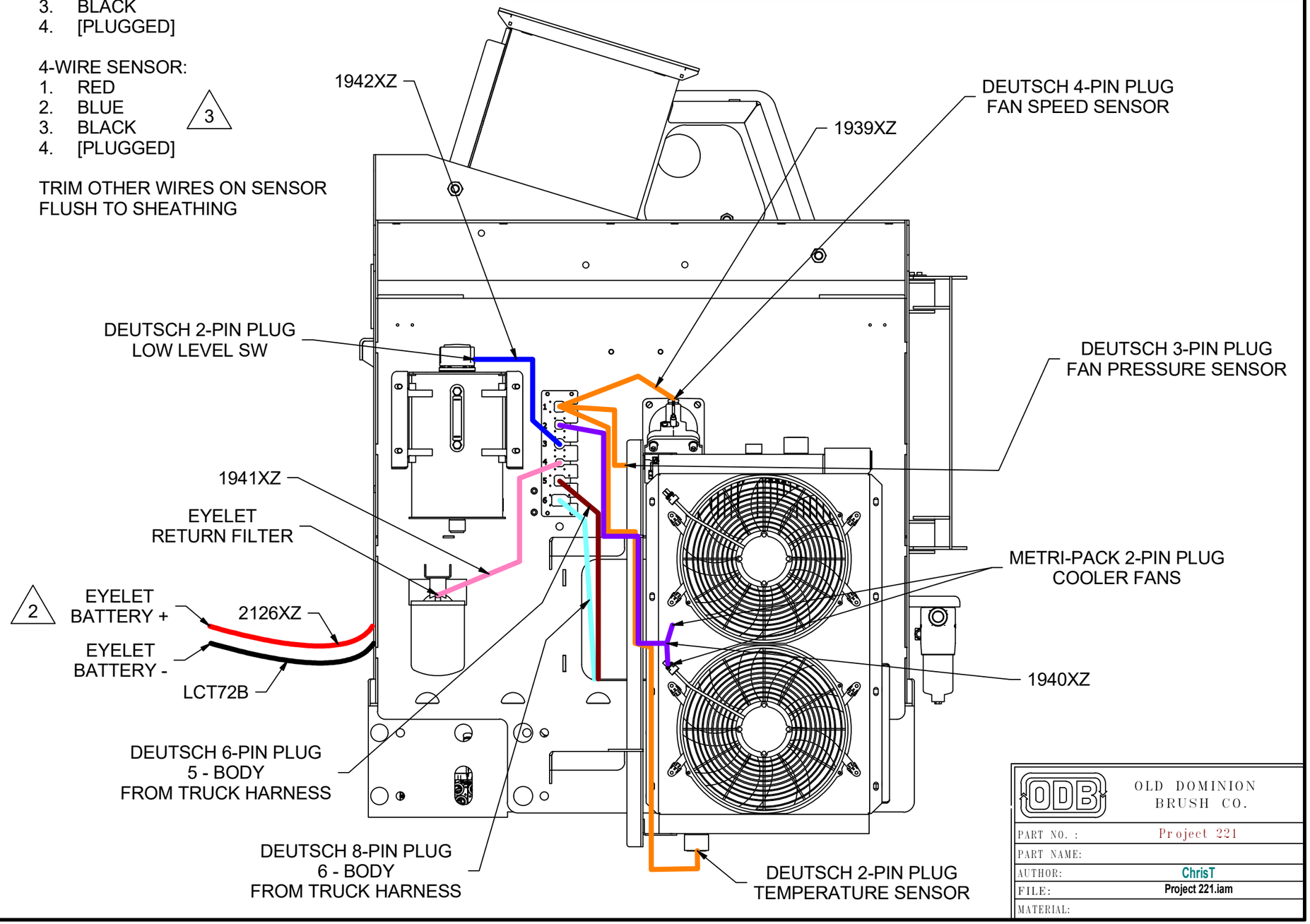
1940XZ
COOLER FAN HARNESS

1941XZ
RETURN FILTER HARNESS

1942XZ
TANK HARNESS

2126XZ
BATTERY PWR CABLE

LCT72B
BATTERY GND CABLE

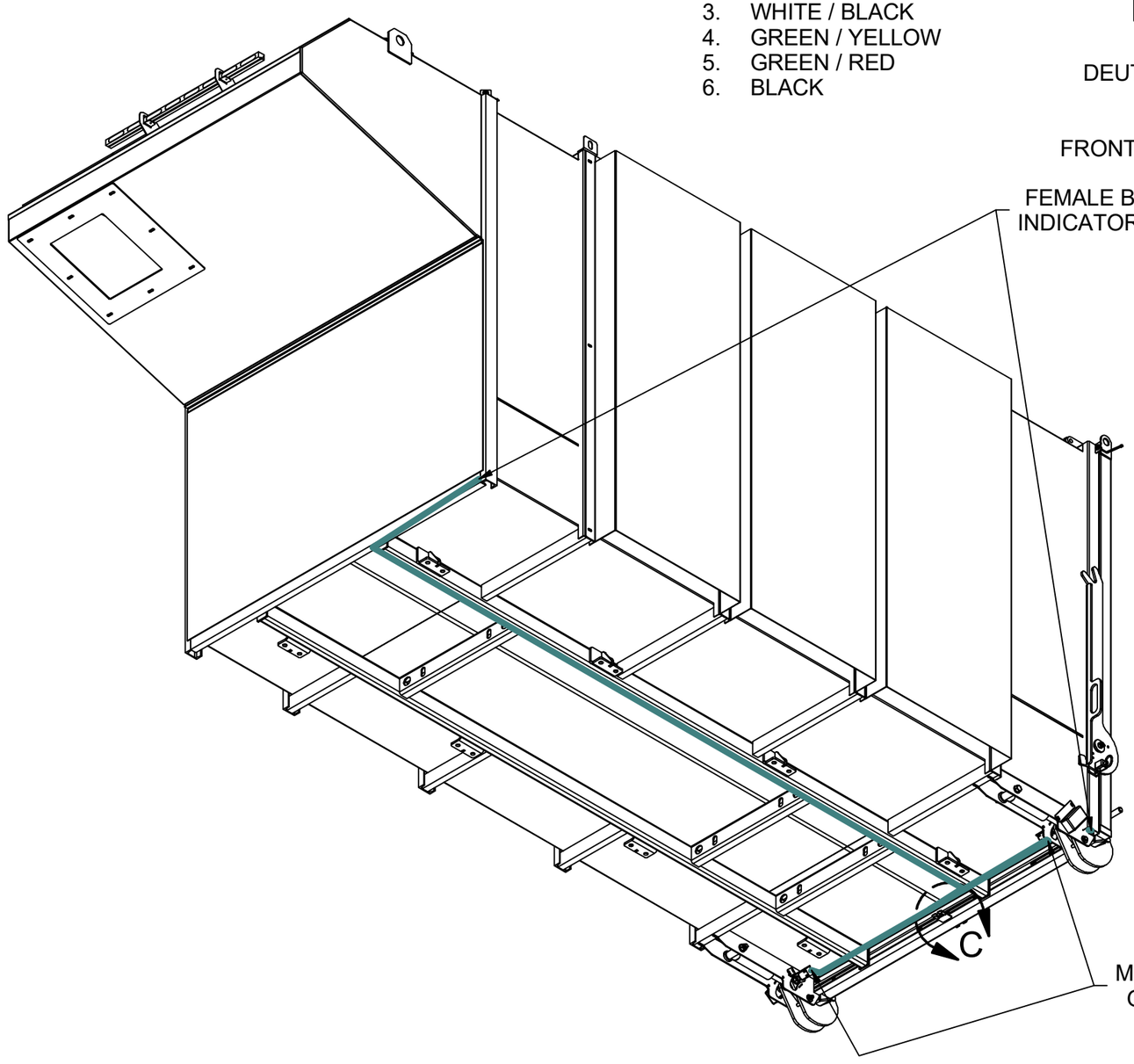


OLD DOMINION BRUSH CO.

PART NO. :	Project 221
PART NAME:	
AUTHOR:	ChrisT
FILE:	Project 221.iam
MATERIAL:	

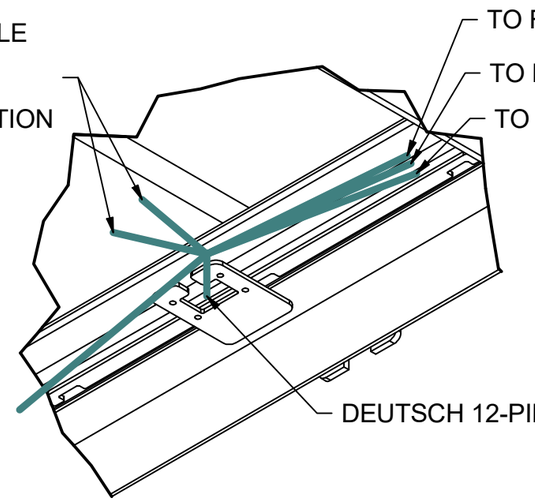
REVISION HISTORY				
REV	ECR	DESCRIPTION	DATE	ENGINEER
1	-	CREATED	8/15/2022	ARN
2	-	ADDED RELAY INFO, BATTERY CABLES	12/20/2022	ARN
3	-	ADDED 4-WIRE SPEED SENSOR WIRING	12/28/2022	ARN

WORK LIGHT WIRING:
1. RED
2. ORANGE
3. WHITE / BLACK
4. GREEN / YELLOW
5. GREEN / RED
6. BLACK



DEUTSCH 6-PIN RECEPTACLE
WORK LIGHT

FRONT STANDARD, REAR OPTION



DETAIL C
SCALE 1 / 4

1943XZ
BOX HARNESS

OLD DOMINION BRUSH CO.	
PART NO. :	1883XZ
PART NAME:	Box Assembly
AUTHOR:	anitchie
FILE:	1883XZ.iam
MATERIAL:	

OLD DOMINION BRUSH COMPANY

Can Trace on DCL1000SE

TSB 010623A
Rev0
January 06, 2023

Before performing any service, always follow applicable safety precautions. Consult company safety manual or supervisor for questions concerning safety.

Subject: Can Trace
Affected Products: DCL1000SE
Affected Product Range: N/A
Related Issue:

Parts Required:

Part Number	Qty	Description
DCL1000SE	1	DCL1000 TRUCK MOUNT VPD
Danfoss 11153051	1	**Danfoss Communicator**
Danfoss Update center	1	https://assets.danfoss.com/software/latest/220665/ID436034934223-0101.zip
PLUS 1 CAN KING	1	PLUS+ 1 CAN KING Software, download through the Danfoss update center

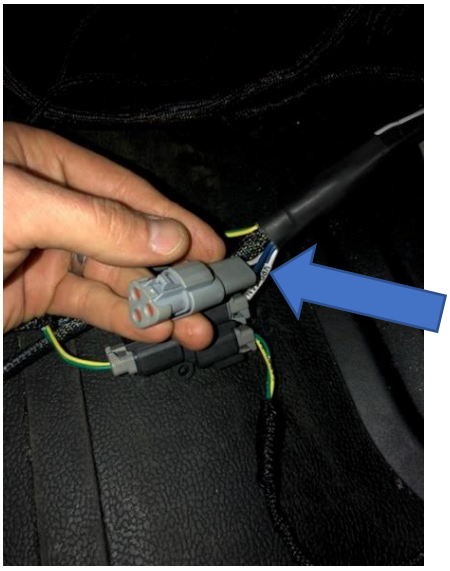
Actions Required:

1. **Make sure master disconnect switch on the freightliner is turned to the on position. Location of the switch is under the driver side seat close to the driver door.**

2. **Make sure rocker switch on the joystick (located on the passenger side) is rocked towards the rear of the truck in the disengage position (as shown in the picture).**

3. **There will be two 3 pin deutsch connectors in the center of the freightliner located in the floorboard near where the in-cab harness plugs into the floorboard. The deutsch connectors are a part of 1935XZ harness.**

4. **Unplug the deutsch connector resistor that has the blue and white wires going into it and plug in the 3 pin deutsch connector that is on your Danfoss Communicator scanner.**



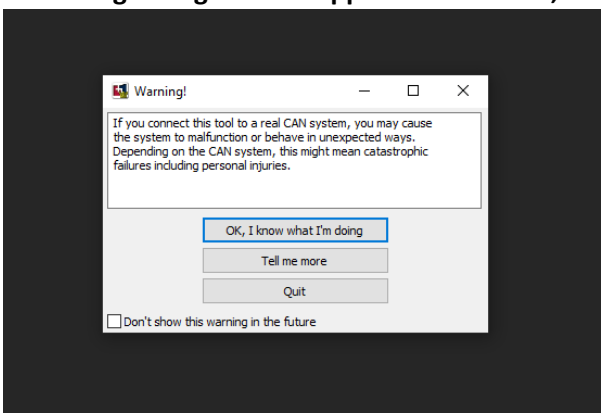
Notice the connector has blue and white wires.

5. **Plug the usb on the Danfoss Communicator to your laptop and you should see the green power light on the Danfoss Communicator as shown below.**

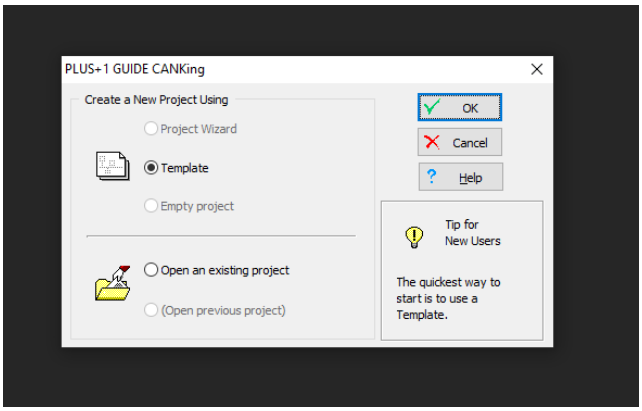
6. **Start the freightliner truck.**
7. **Once the truck has been started turn on the ODB display (ODB display is in the center of the truck) using the key switch on the display mount.**

8. **Engage the VPD using the rocker switch on the joystick if you need the VPD engaged for the trace. The VPD engages by rocking the switch forward on the joystick (refer to step 2 for location of the switch.**
9. **Open the PLUS+ 1 CAN KING software**

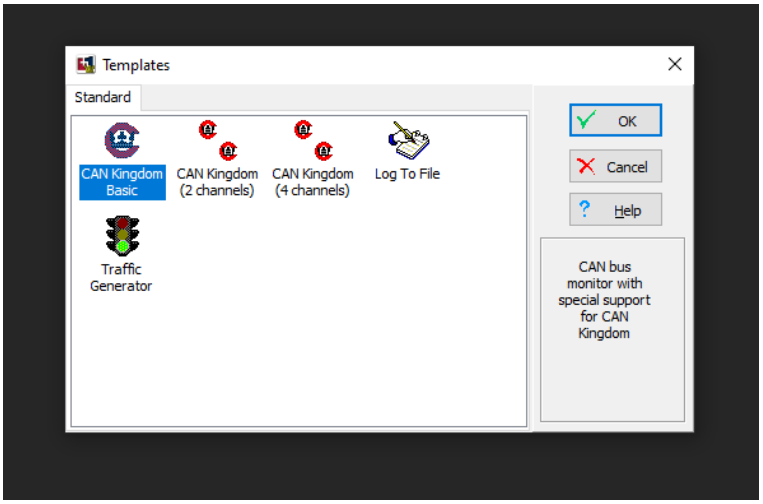
10. **A warning dialog box will appear click the OK, I know what I'm doing button**



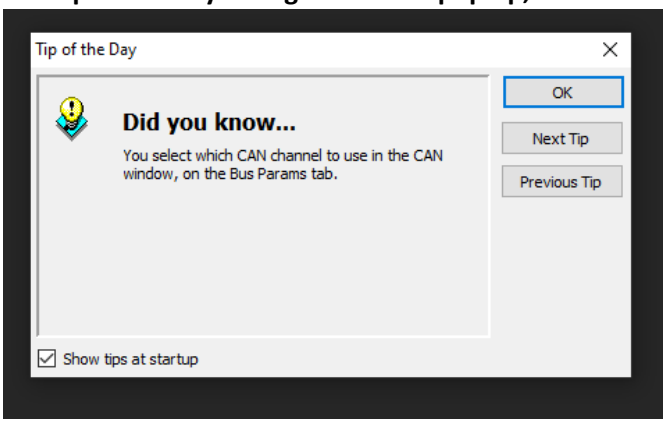
11. **Select template and click the OK button**



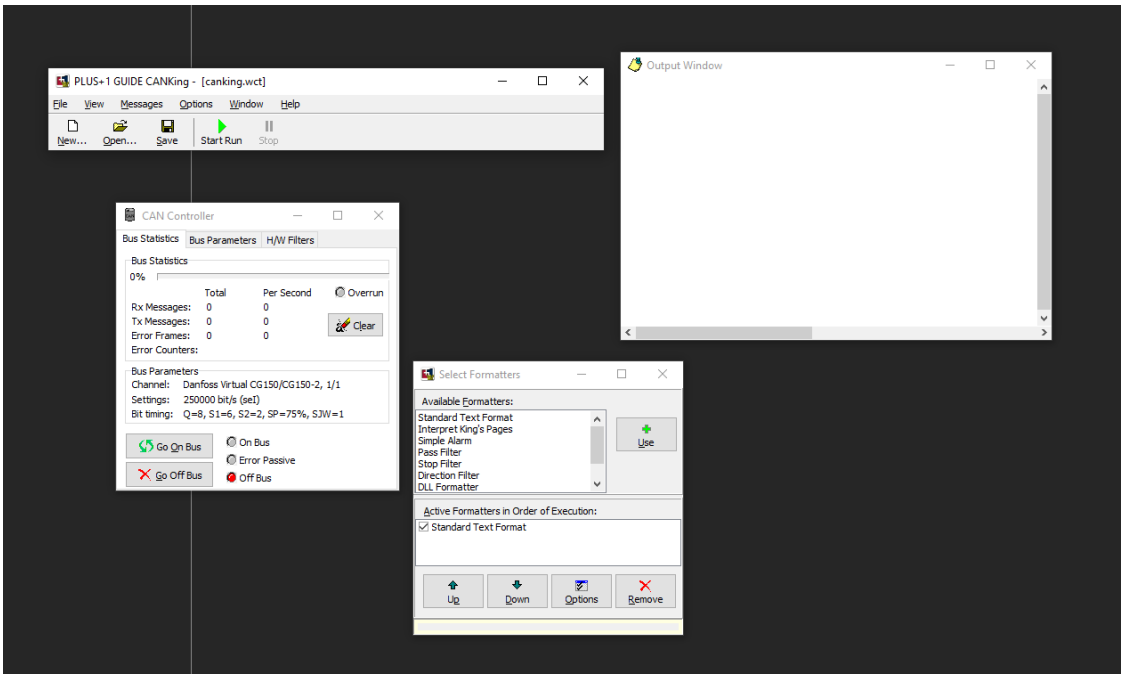
12. **Select CAN Kingdom Basic and click ok**

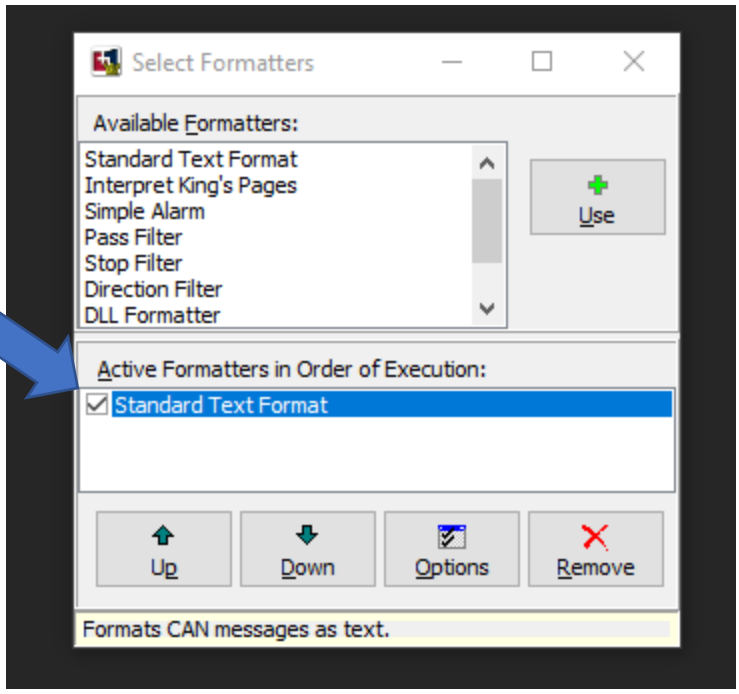


13. **The tip of the day dialogue box will pop up, click ok**

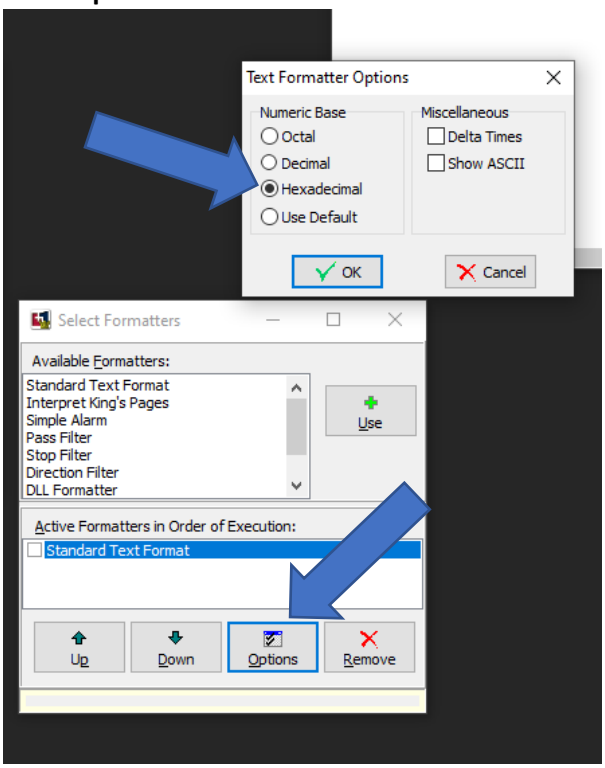


14. **Go to the Select Formatters box and uncheck Standard Text Format.**



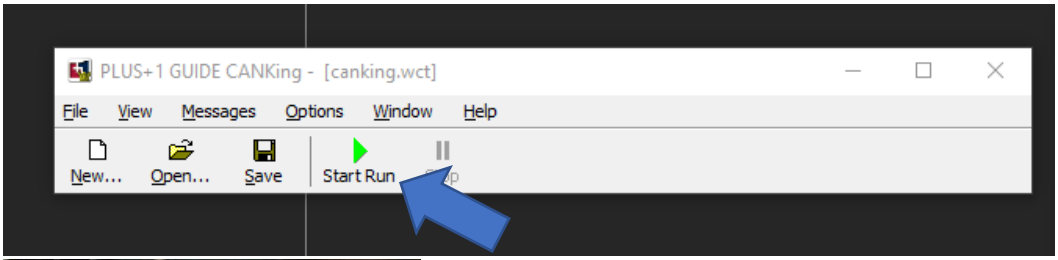


15. **Go to options and select Hexadecimal and click ok**

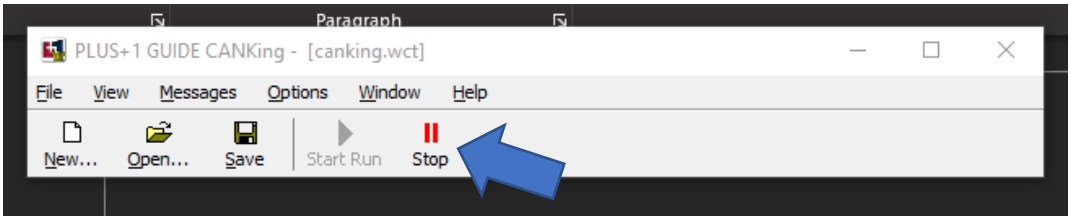


16. **Check the standard text format back before going to the next step**
17. **Right click in the center of the Output Window dialog box and select fixed positions.**

18. **Click the Start/Run Green Arrow on the PLUS+1 Guide CAN King window and you should see numbers appearing on the Output Window and the orange can light on the Danfoss Communicator.**



19. **The trace will run for as long as you want but if you're diagnosing a problem make sure you simulate the problem while the trace is running several times and then click the red Stop/Pause button when your done with the trace.**



20. **When the trace has been stopped right click on the Output Window and select Copy contents to Clipboard.**
21. **Paste data into word document and save.**
22. **Close PLUS+1 CAN KING Software**
23. **Disengage the VPD using the rocker switch.**
24. **Turn off the ODB display and cut the truck off.**
25. **Unplug the Danfoss Communicator 3 pin deutsch connector from 1935XZ harness and plug 3 pin deutsch connector resistor in its place.**
26. **Turn master disconnect on the truck to the off position.**

OLD DOMINION BRUSH COMPANY

Technical Service Bulletin

TSB 101322
Rev0
October 12th, 2022

Before performing any service, always follow applicable safety precautions. Consult company safety manual or supervisor for questions concerning safety.

Subject:	DCL1000SE Oil Fill & Bleed Procedure
Affected Products:	DCL1000SE

Issue Description:

Use the following instructions to properly fill and bleed the hydraulic system.

Tools Required:

- Open-end wrench set
- Hex-wrench set
- Rags
- Funnel
- Oil catch pan
- Oil fill pump
- ISO 46 oil
- Steel #12 male ORB plug
- Steel #6 male ORB plug

Actions Required:

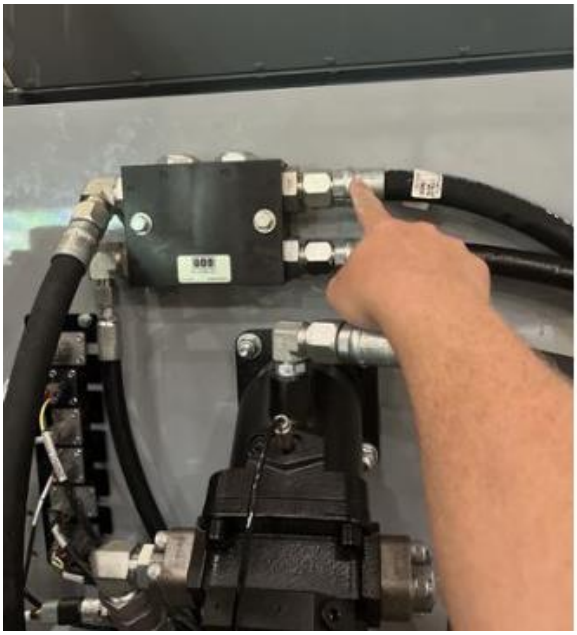
Replace plastic plugs:

1. The main pump and fan motor have 2 case drain ports, which are often shipped with plastic plugs. Check if the plugged port has a plastic plug. If a plastic plug is present, replace it with a steel plug.
    a. The pump has #12 ORB case drain ports.
    b. The motor has #6 ORB case drain ports.

Initial fill:

2. Turn the machine off and turn the disconnect switch to the off position.
3. Remove the cap on the top of the oil cooler.
4. Fill the cooler completely.
5. Tighten the cap on the top of the oil cooler.
6. Remove the fill cap from the Cyclone reservoir.

7. Fill the reservoir until oil reaches the max fill line.
8. The oil will settle in to the system, lowering the level in the reservoir.
9. Repeat steps 3 & 4 until the oil level does not drop significantly.



10. Remove the case drain line connected to the main pump from the return manifold.
11. Fill the pump case completely.
12. Reinstall the case drain line in the return manifold.

13. Remove the case drain line connected to the fan motor from the return manifold.
14. Fill the motor case completely.
15. Reinstall the case drain line on the fan motor.
16. Loosen charge pump suction line until oil drains from the fitting. This ensures the pump is not air locked.

The following steps require quickly turning the PTO on and off. It may not be possible to turn the PTO off quickly enough using the joystick switch. Monitor the oil level closely and turn the truck off using the ignition switch before the oil level goes below minimum.

17. Turn on the disconnect switch.
18. Turn the machine on.
19. Engage the VPD using the thumb switch on the joystick.
20. Oil will flow out of the tank. Turn off the VPD or truck before the oil level goes below the minimum level on the tank.
21. Refill the reservoir.
22. Repeat steps 19-21 until the reservoir level does not drop significantly when the VPD is engaged.

Bleeding the system:

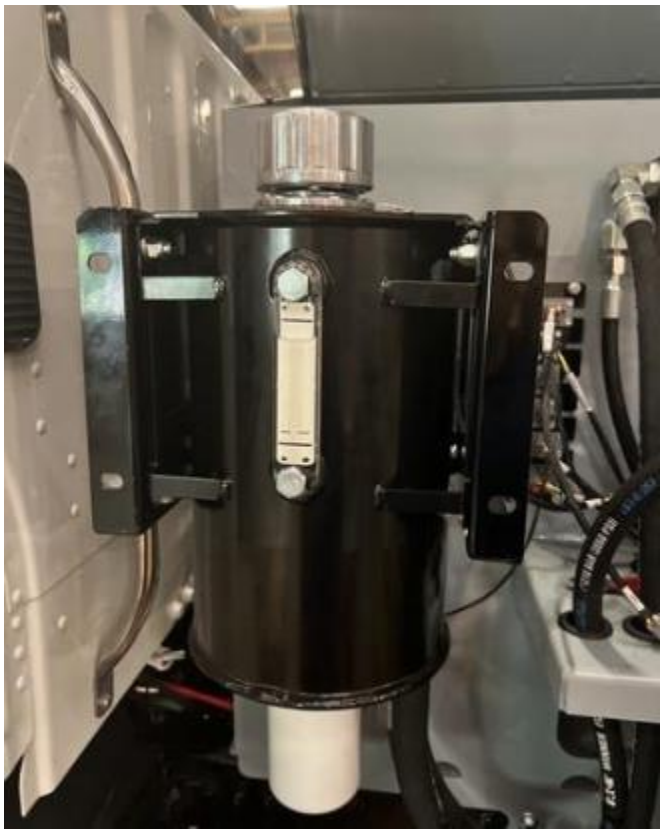
23. Turn the machine on and engage the VPD.
24. Place the boom in the boom rest or on the ground and lower the box completely to prevent unexpected movement.

It is imperative that cylinder and motor functions be operated as little as possible to move oil through the lines. The fittings should also be opened as little as possible to allow air to escape.

25. For each cylinder on the machine, carefully loosen the fittings on each end of the cylinder until oil drains from the fitting. For motors, loosen the fitting on the pressure side of the motor.
26. If oil does not drain from the fitting, lightly operate the function with the loose fitting until oil drains from the fitting.
27. Once oil is draining from the fitting and air is not escaping, tighten the fitting to recommended torque.

Function	Bleed Complete
Boom In	
Boom Out	
Boom Up	
Boom Down	
Swing Left	
Swing Right	
Dump Up	
Dump Down	
Fan Motor	

Bleed Checklist



28. Check the oil level on the reservoir and top off, if necessary.
29. Raise and lower the box completely 10 times. Check the oil level once more and top off, if necessary.

JIC torque chart (with flats from wrench resistance shown)

Thread Size	Assembly Torque (in-lb)	Assembly Torque (ft-lb)	Tube Connection FFWR	Swivel Nut or Hose FFWR
2	35 – 45	2 – 4	N/A	N/A
3	65 – 75	5 – 7	N/A	N/A
4	130 – 150	11 – 13	2	2
5	165 – 195	14 – 16	2	2
6	235 – 265	20 – 22	1.5	1.25
8	525 – 575	43 – 47	1.5	1
10	650 – 750	55 – 65	1.5	1
12	950 – 1050	80 – 90	1.25	1
14	1200 – 1300	100 – 110	1	1
16	1400 – 1500	115 – 125	1	1
20	1900 – 2100	160 – 180	1	1
24	2250 – 2550	185 – 215	1	1
32	3000 – 3400	250 – 290	1	1

Marmon-Herrington

HydroMechVPD™

Installation and Operation Manual

PREFACE

The present installation and operating instructions shall allow the user of Marmon-Herrington products to become familiarized about their design, operation and maintenance.

This manual has been prepared for owners and operators of vehicles equipped with Marmon-Herrington HydroMech systems and components. For additional technical assistance, contact Marmon-Herrington.

Proper use and maintenance are essential factors for trouble-free operation and optimum service life of HydroMech products. Therefore, we ask that users carefully follow the specified information and advice of this manual.

Marmon-Herrington shall not be liable for component failure or damages caused by operational abuse or neglect. Please review the Warranty Statement for a detailed explanation of coverage and claim reporting procedures.

In addition, the instructions of the vehicle manufacturer's operation and service manual must be followed.

For further information, please do not hesitate to contact Marmon-Herrington at 1(800) 227-0727 or email us at service@marmon-herington.com

All information and details below refer especially to Marmon-Herrington HydroMech VPD.

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1 - General Technical Description
- 1.1 - Technical Data and Main Dimensions
- 1.2 - Design Description

2 - General Information
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- 3.3 - Outputs
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  - 3.3.2 - Assembly to PTO Output
- 3.4 - Electrical Wiring
- 3.5 - Hydraulic Connections

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- 5.1 - Oil Specification
  - 5.1.1 - Oil Filling
  - 5.1.2 - Oil Level
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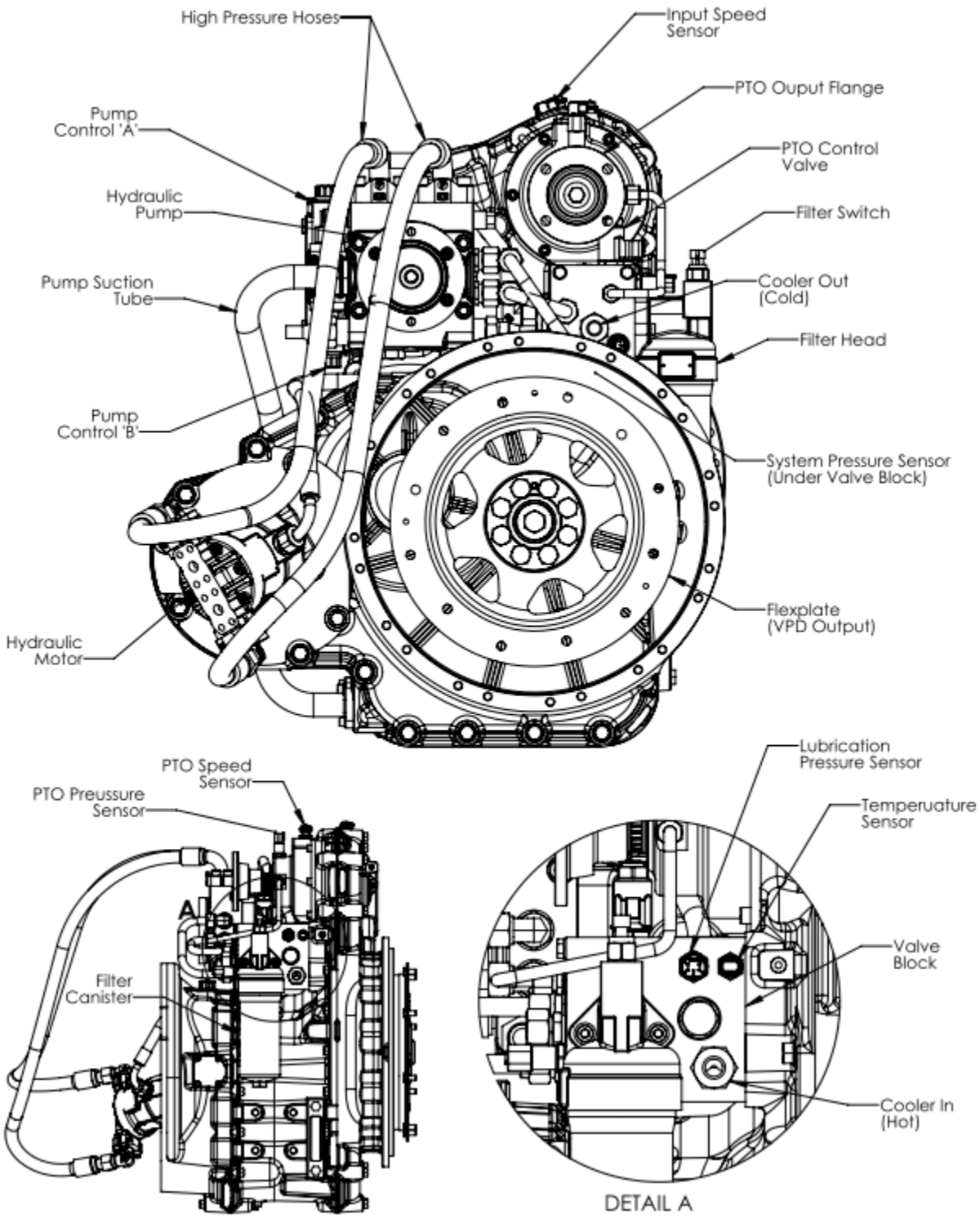
  - 5.3.2 - Oil Cooler Electrical
- 5.4 - Service Intervals

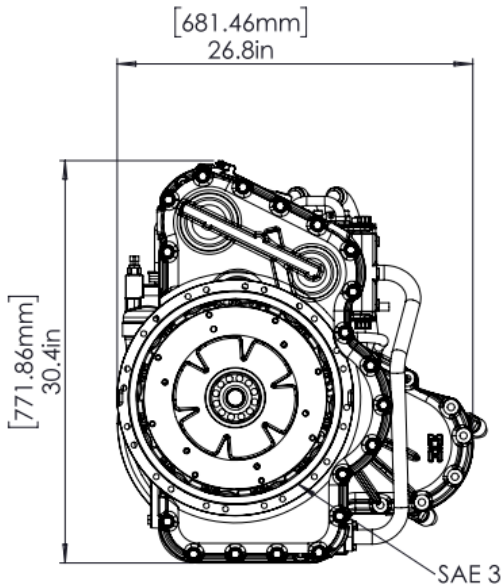
1 - General Technical Description

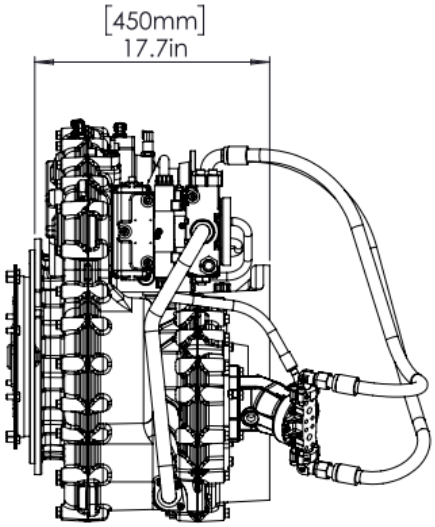
1.1 - Technical Data and Main Dimensions

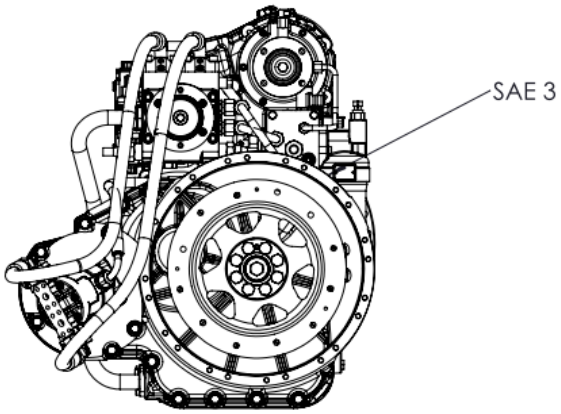


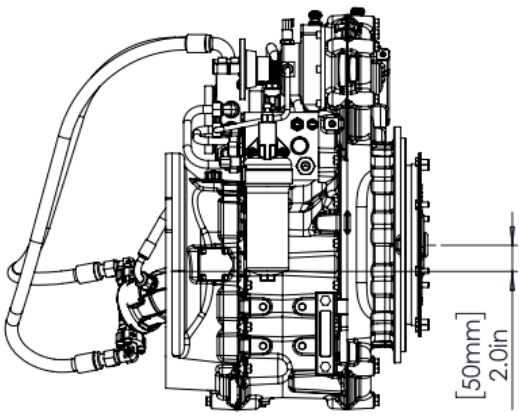
1 - General Technical Description

1.1 - Technical Data and Main Dimensions









VPD Weight: Approximately 450 lbs (205 kg)

1 - General Technical Description

1.2 - Design Description

The VPD2500 is a Variable Power Divider installed between a truck engine and main transmission. It is used to provide constant PTO speed while allowing for variable vehicle drive speeds. Output speeds are managed by a variable displacement hydraulic pump combined with a planetary gearset.

The VPD is designed for use with the Cummins ISB and B6.7 engines with SAE 3 flywheel housings. The VPD must be coupled to the engine with an approved flywheel damper.

The VPD is designed for use with the Allison 2500 series automatic transmission. Modifications to the Allison Transmission Control Module (TCM) may be needed.

The PTO is a hydraulically actuated clutch unit, capable of 'hot shifts' and accelerating considerable inertial loads. **All PTO applications must be approved by Marmon-Herrington engineering.**

2 - General Information

2.1 - General Inspection

The VPD 2500 should be inspected regularly to ensure optimum performance. Inspect hoses for leaks and abrasion. Use caution when inspecting hoses. Do not inspect hoses when the engine is running.

Inspect the electrical connections for damaged insulation or loose connections. The VPD ECU should be installed in a location where it remains clean and dry. The VPD cooler and cooler fan should be clean and free of obstructions.

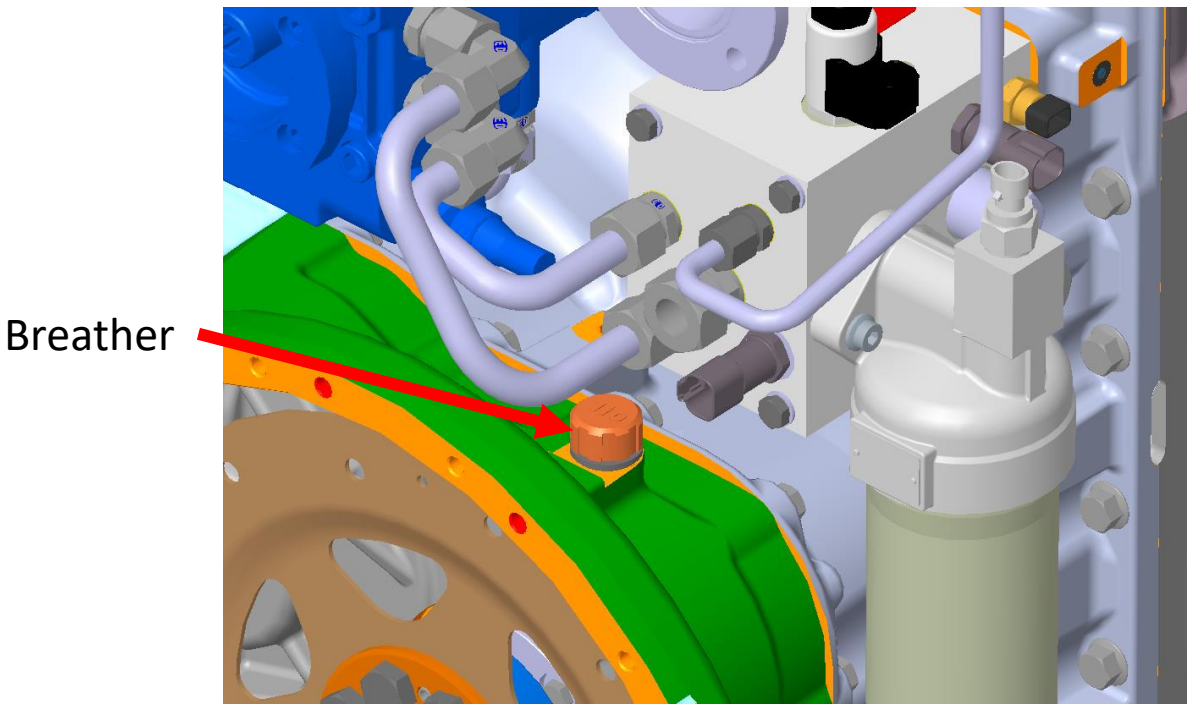
Reference the ‘Maintenance Chart’ in section 5.4 for additional details.

2 - General Information

2.2 - High Pressure Cleaning

The VPD 2500 should not be cleaned using high pressure water. This can force water past seals or into the breather, contaminating the oil. Oil contaminated with water will damage hydraulics, bearings, and gears, drastically shortening the life of the VPD.

Steam cleaning the VPD is possible, but the operator must be careful not to force steam past the breather.



2 - General Information

2.3 - Personnel Safety Instructions

While operating, the VPD 2500 contains high temperature pressurized hydraulic oil. Pressurized hydraulic oil is extremely dangerous and can cause severe injury. Only personnel with hydraulic safety training should perform maintenance work on the VPD. The engine must be off and the automatic transmission must be in neutral before performing any maintenance. Wear appropriate PPE when exposed to hydraulic oil.

Do not perform any work on the VPD while the engine is running. The VPD PTO is connected to a rotating driveshaft which can start to turn at any time. Contact with a rotating driveshaft or PTO flange can cause death or serious injury!

2 - General Information

2.4 - Environmental Safety Instructions

Waste oil and oil filters should be recycled properly in accordance with Federal, State, and EPA regulations. Take steps to prevent leaks and spills. Contain spilled oil. Label all containers as ‘Used Oil’.

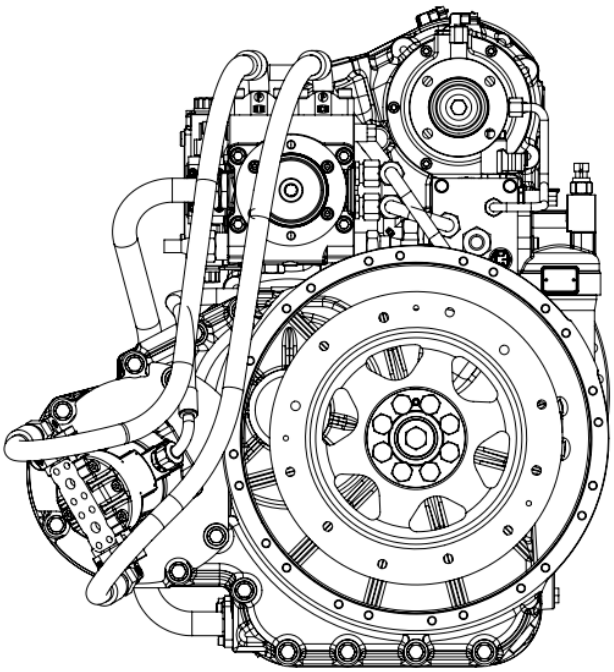
When disposing of used hydraulic hoses, allow the oil to drain overnight. If equipped, recycle used hoses at a district recycling center.

3 - Installation Specifications

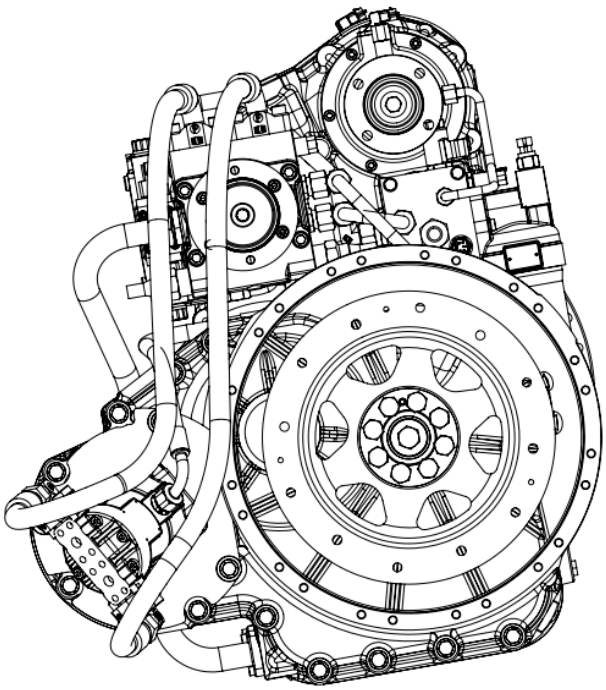
3.1 - Rotated and/or Inclined Installation

3.1.1 - Rotated Installation

The VPD 2500 can be installed in two orientations. 0 degrees or 10 degrees. The oil level and sight glass is different for the 0° and 10° installation. Do not change the orientation of a VPD installed in a truck without changing the sight glass.



0° Rotation



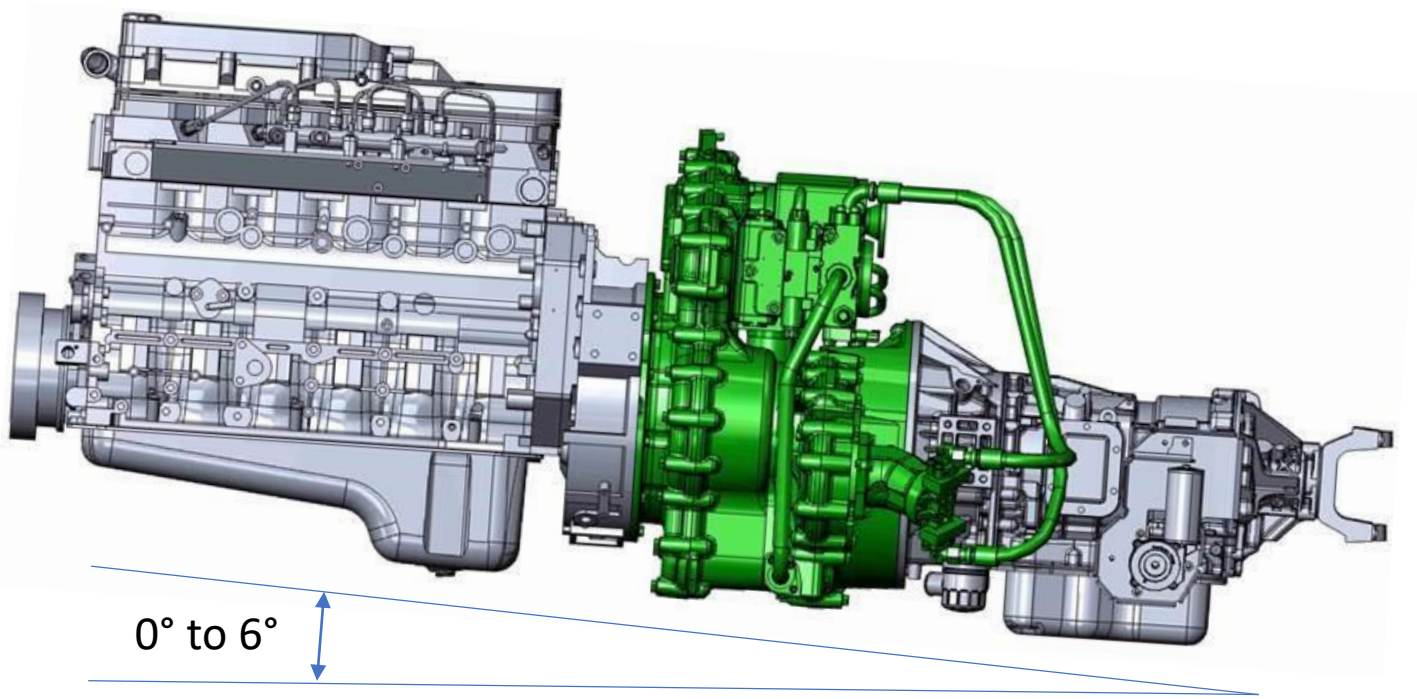
10° Rotation

3 - Installation Specifications

3.1 - Rotated and/or Inclined Installation

3.1.2 - Inclined Installation

The VPD 2500 can be installed at angles from 0° to 6°. For installation outside of this range, contact Marmon-Herrington.



3 - Installation Specifications

3.2 - Input

3.2.1 - Assembly to Engine

The VPD 2500 is designed to install on an SAE 3 flywheel housing. A Marmon-Herrington approved hydraulic damper must be used between the engine flywheel and VPD input.

Torque all flywheel and flywheel housing bolts according to engine manufacturers specification.

Installation should only be completed by a certified installer.

3 - Installation Specifications

3.3 - Outputs

3.3.1 - Assembly to Transmission

The VPD 2500 is designed to install on an SAE 3 housing Allison 2500 transmission. An Allison approved flexplate is installed on the output of the VPD.

Allison Transmission Control Unit software calibrations must be updated to meet Allison requirements based on EM92 documentation.

Follow all torque and installation procedures according to Allison Transmission specifications.

Installation should only be completed by a certified installer.

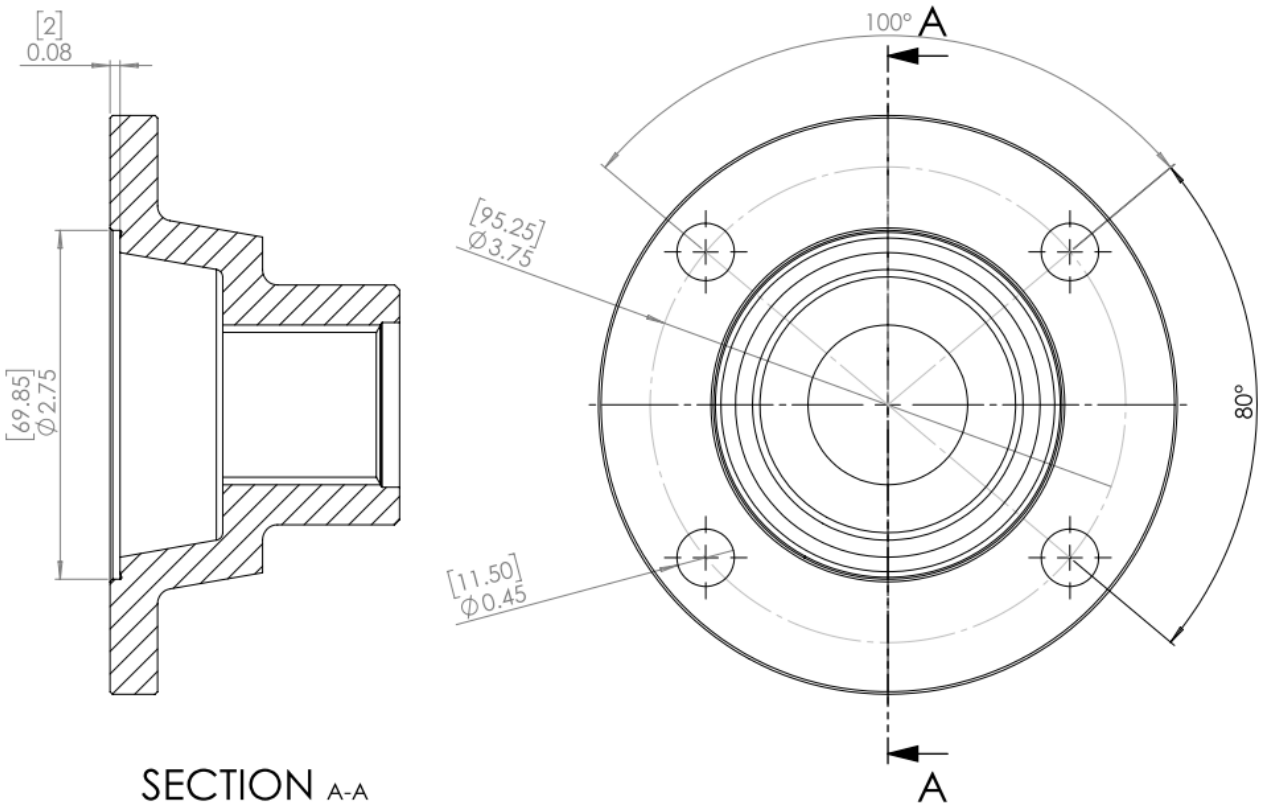
3.3 - Outputs

3.3.2 - Assembly to PTO Output

The VPD 2500 PTO is a 1410 series companion flange. A drawing of the PTO companion flange connection can be found below. Driveshafts must be balanced to 0.500 oz-in. Contact Marmon-Herrington for approval of any new cardan shaft configuration.

NOTE: Install U-joint bearings in yoke BEFORE installing on companion flange. Failure to do so may result in severe damage to VPD PTO shaft.

Torque flange yoke bolts according to manufacturer.



3 - Installation Specifications

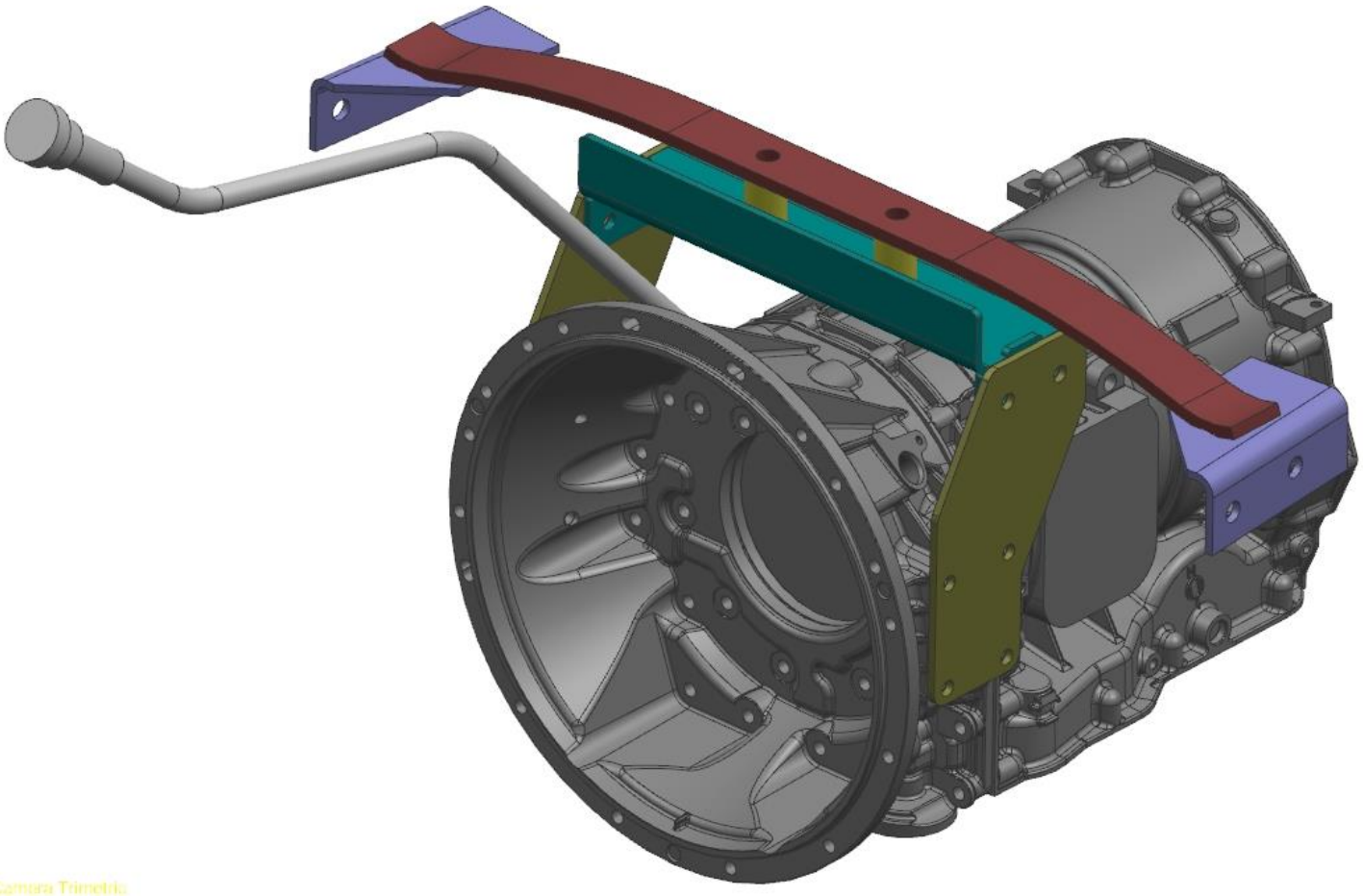
3.3 - Outputs

3.3.1 - Assembly to Transmission

3.3.1.1 - Suspension

The Allison 2500 automatic transmission (without PTO) must be supported by additional suspension to reduce load on the engine flywheel housing and engine mounts. An example is shown below. The suspension should offer approximately 100 lb of static support.

Contact Marmon-Herrington for additional details.

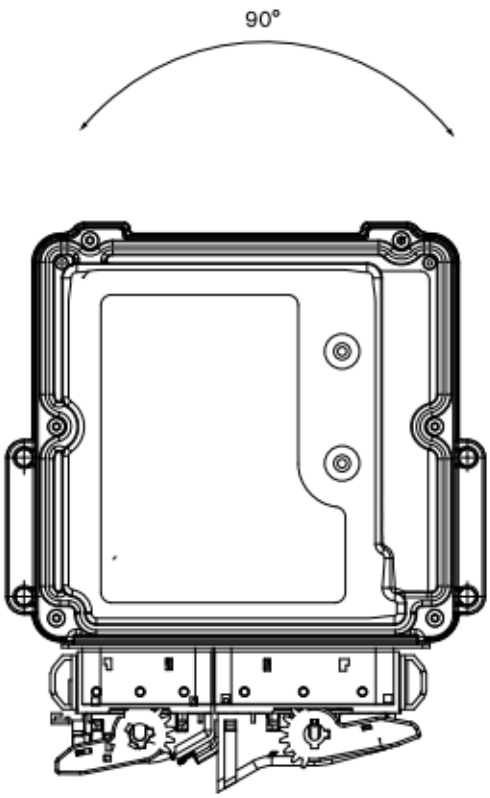


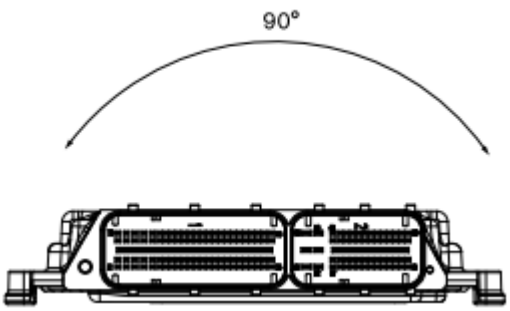
3 - Installation Specifications

3.4 - Electrical

The VPD 2500 is designed to be used with a 12V electrical system. Use of a 24V system will cause severe damage to the VPD controller, sensors, and control valves. Contact Marmon-Herrington for 24V applications.

The VPD Electronic Control Unit (ECU) must be protected from high pressure water spray. It is recommended to mount the ECU inside the cab of a truck or inside an electrical enclosure. Acceptable mounting positions are shown below. For complete installation details, refer to document RE95204.





3 - Installation Specifications

3.5 - Hydraulic Connections

Hydraulic connections on the VPD should be tightened according to manufacturer's recommendations. A general guideline is provided below.

- Pump Code 62 fittings should be torqued to 41 ft-lbs (55 Nm)
- Motor Code 62 fittings should be torqued to 23 ft-lbs (32 Nm)
- 24° Metric L series fittings should tightened until wrench resistance is felt, then an additional 1/6-1/4 turn

Additional information regarding assembly procedures can be found in the VPD Service Manual.

4 - Operation

Operation of the VPD is managed by the body equipment controls. The VPD has two normal operational modes, road mode and work mode.

Road mode is an operational mode which the VPD ratio is fixed at 1:1 and the PTO is disengaged. This mode is used for transportation of equipment to and from jobsites. Maximum vehicle speed and operation is the same as a vehicle which is not equipped with a VPD.

Work mode is an operational mode where the VPD ratio is variable and the PTO is engaged. In this mode, the engine speed is constant to provide consistent power the body equipment. Vehicle speed is controlled with the foot-pedal, as normal. Vehicle speed will be limited by selected engine speed, power consumption of the body equipment, and available transmission ratios.

Refer to the body equipment manufacturer’s operation instructions for additional details.

5 - Service and Maintenance

5.1 - Oil Specification

The VPD requires use of specialized lubricants designed for use with hydrostatic pumps, motors, and wet clutches. A list of acceptable lubricants can be found below.

- BP AGRI SUPER UNIVERSAL 10W-40
- CASTROL AGRI MP PLUS 10W-40
- KUWAIT PETROLEUM Q8 T 1000 D SAE 10W-30
- MOTUL SUPER AGRI 10W-30
- PETRONAS LUBRICANTS MULTI VT (SAE 10W-30)
- SHELL SPIRAX S4 TX
- SHELL SPIRAX S4 TXM
- SHELL SPIRAX S4 CX

5 - Service and Maintenance

5.1 - Oil Specification

5.1.1 - Oil Filling

The VPD is filled with oil through a M22x1.5 plug on the top of the central casting. Remove plug with 10mm Allen wrench. Oil capacity is approximately 5 gallons, including hoses and external oil coolers. Torque plug to 34 ft-lbs (46 Nm)

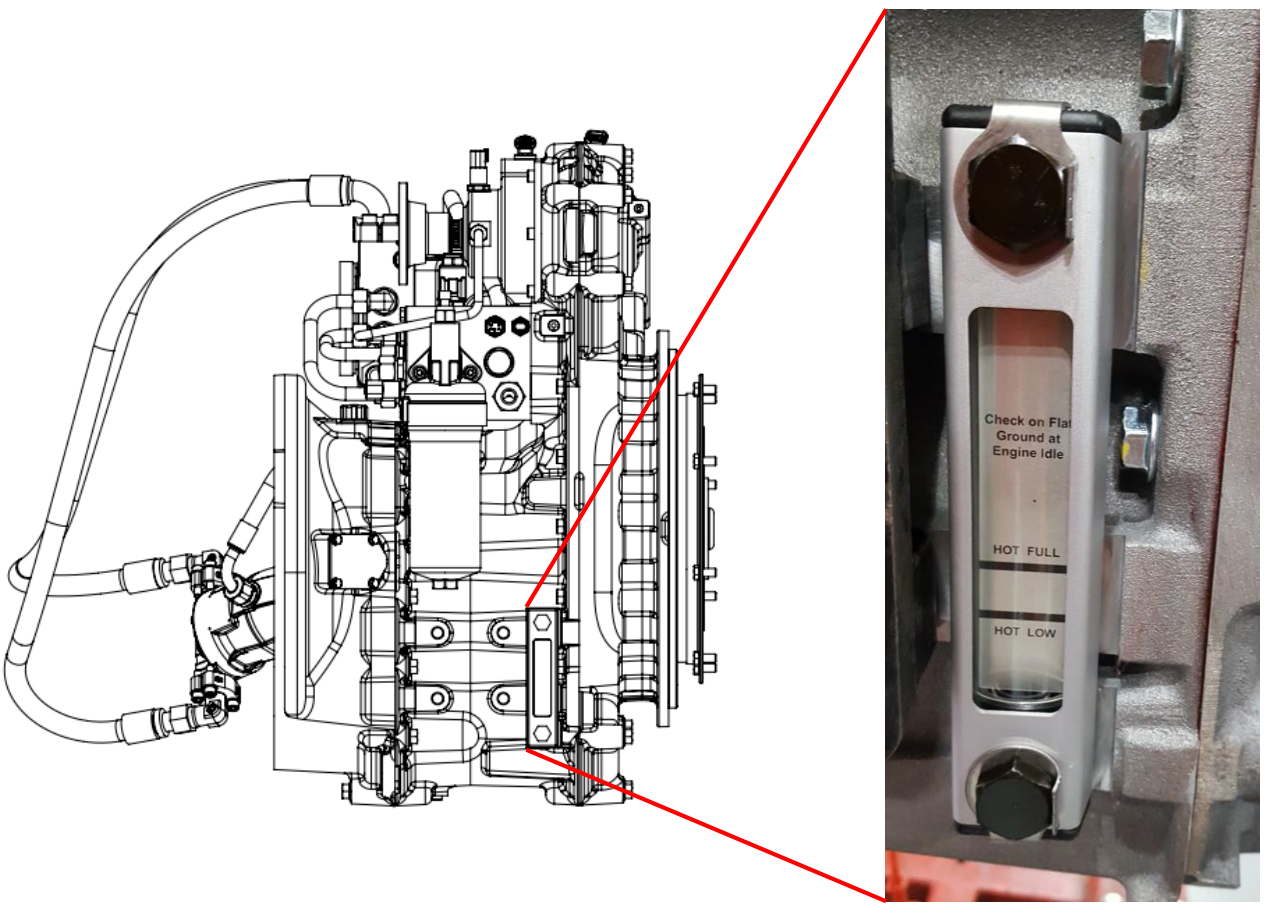
Fill Plug

5 - Service and Maintenance

5.1 - Oil Specification

5.1.2 - Oil Level

The VPD oil level is checked with the engine running at idle (<1000 rpm) in road mode. Oil temperature should be approximately 140°F (60°C). Oil level is checked by the sight glass on the passenger side of the VPD.



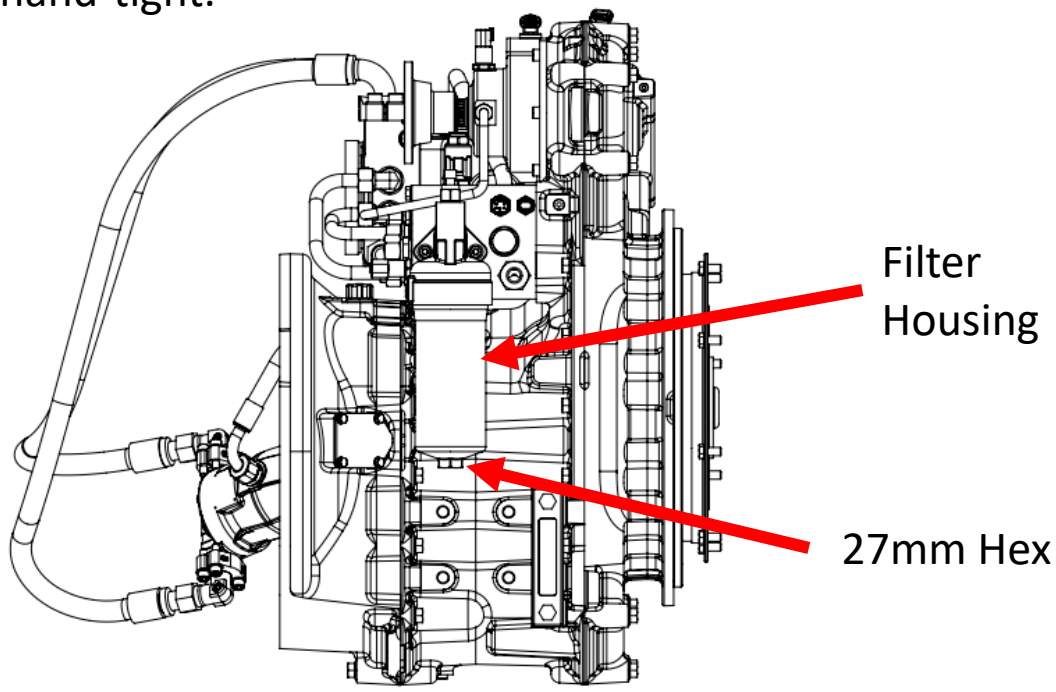
5 - Service and Maintenance

5.1 - Oil Specification

5.1.3 - Oil Filter Change

The oil filter should be changed every 1000 hours of use or annually (whichever comes first). Unscrew the filter canister with a 27mm wrench. Be careful of hot oil which can burn skin. Discard of oil in filter housing appropriately according to local waste oil requirements and clean the housing thoroughly.

Remove filter element and dispose of properly. Replace only with a genuine filter from Marmon-Herrington. Lubricate O-ring on new filter and re-install. Check O-ring on filter housing for damage and replace if necessary. Lubricate O-ring and reinstall hand-tight.



5 - Service and Maintenance

5.2 - Hydraulic Hoses

5.2.1 - Hose Inspection

The VPD uses high pressure hoses to transmit power. These hoses need to be inspected frequently in order to prevent personal or property damage.

- Inspect hoses only when the engine is off
- Follow appropriate lockout tag procedures on the truck
- Remove access panels and inspect hose and fittings for damage or leaks

Inspect the hose cover for:

- Abrasion
- Blisters
- Cracks or cuts
- Hardness
- Color changes

Replace damaged hoses and take appropriate measures to prevent damage to new hoses.

The service life of a hose should not exceed 6 years. Replace hoses only with genuine Marmon-Herrington replacement parts.

5 - Service and Maintenance

5.2 - Hydraulic Hoses

5.2.2 - Hose Specification

Replace hoses only with genuine Marmon-Herrington replacement parts.

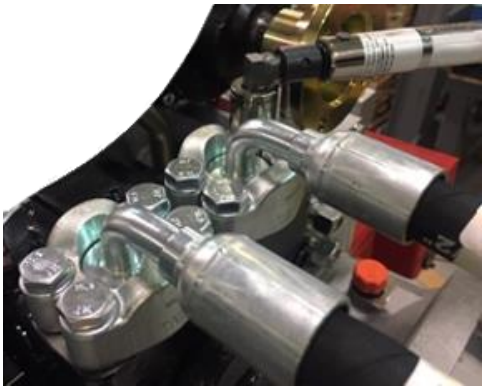
The service life of a hose, including storage time, should not exceed 6 years.

5 - Service and Maintenance

5.2 - Hydraulic Hoses

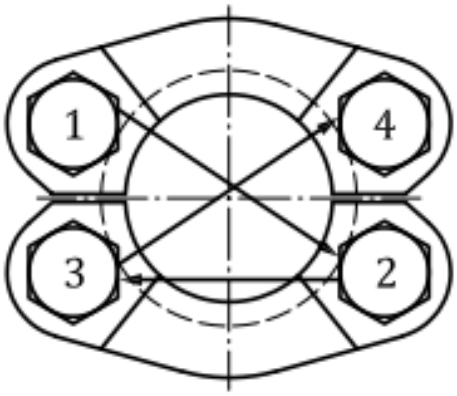
5.2.3 - Hose Change

High pressure hoses on the VPD utilize ISO Code 62 fittings. Use a new seal every time the hose is removed.



Bolts on the pump use a 17mm wrench and should be torqued to 41 ft-lbs (55 Nm).
Bolts on the motor use a 13mm wrench and should be torqued to 23 ft-lbs (32 Nm).

Torque bolts in a crisscross pattern as shown below.



5 - Service and Maintenance

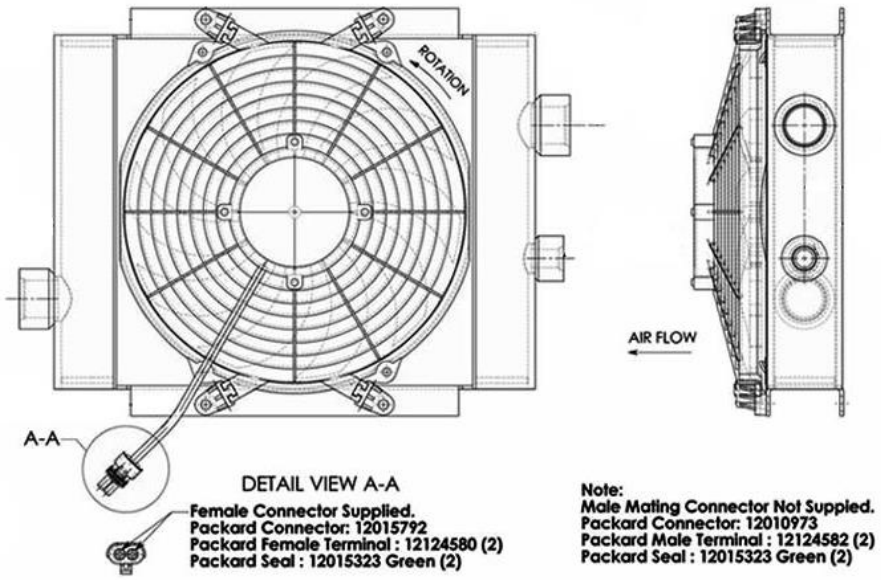
5.3 - Oil Cooler

5.3.1 - Inspection and Maintenance

The VPD utilizes an external oil to air radiator for heat rejection. This oil cooler is critical for proper function and longevity of the VPD.

The VPD oil cooler should be inspected on a daily basis for dirt, damage or debris blocking the cooling fins and fan. It is recommended to include the VPD oil cooler in the truck preventative maintenance program.

Cleaning the cooler every 250 hours of operation will help to ensure best performance. More frequent cleaning may be needed if used in a particularly dirty environment



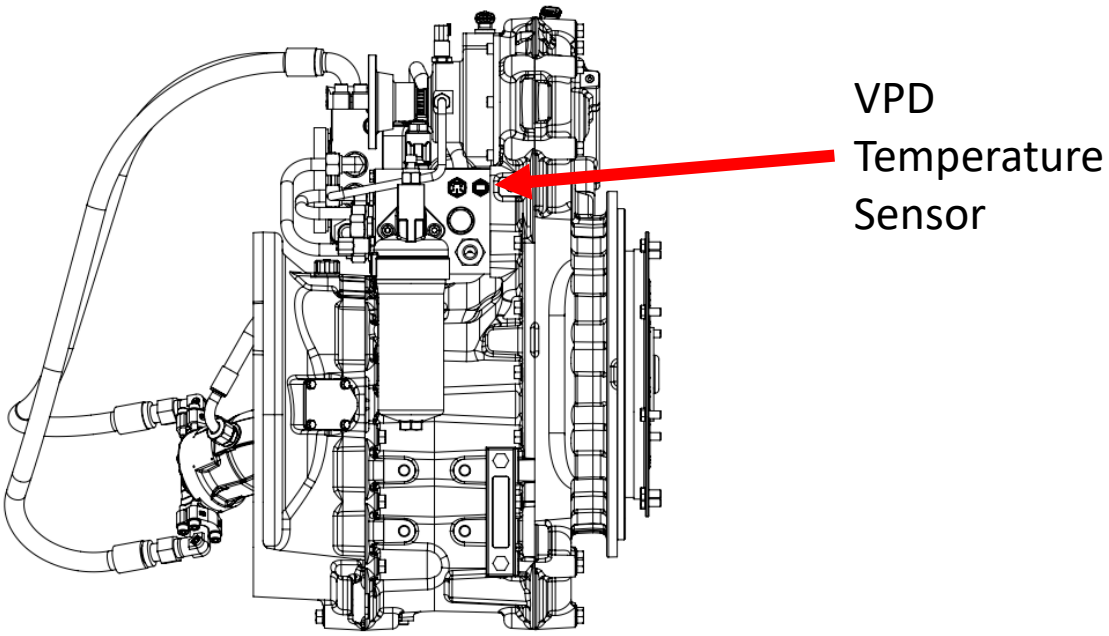
5 - Service and Maintenance

5.3 - Oil Cooler

5.3.2 - Oil Cooler Electrical

The oil cooler uses a fan to provide sufficient airflow at low speeds. The fan is critical for correct operation of the VPD.

Fan function can be checked manually. With the vehicle key in the 'Run' position, unplug the temperature sensor from the VPD valve block. The fan should turn on immediately. If the fan does not turn on, check fuses and wiring for faults. Reconnect the sensor when finished.



5 - Service and Maintenance

5.4 - Service Intervals

Maintenance Chart					
Product: Variable Power Divider					
Item	**Daily**	**250 Hrs**	**1000 Hrs**	**15000 Hrs**	**6 yrs**
Inspect Hydraulic Hoses	X				
Inspect Hydraulic Hard Lines	X				
Inspect Housing for Leaks	X				
Inspect PTO Seals for Leaks	X				
Inspect VPD Oil Cooler for Damage	X				
Check Oil Level	X				
Inspect and Clean VPD Oil Cooler Fins		X			
Inspect and Clean VPD Breather		X			
Inspect and Test Cooler Fan Function		X			
Change VPD Oil and Filter*			X		
Replace Bearings**				X	
Replace Hydraulic Hoses					X

*Or annualy, whichever comes first

** in case of transmission repair