DCL800TM

Self Contained Leaf Collector

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

2021 Edition

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

DCL800TM

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

SAFETY PRECAUTIONS

⚠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 accomodate riders. If your unit has been modified to accomdate riders, remove these modifications immediately as this can result in serious injury or death.

Municipal Products
Since 1910

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Since 1910

ODB COMPANY
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 puchase of your ODB Leaf Collector. Your ODB leaf collector has been carefully designed and manufactured to give you a maximum amount of dependability 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: _____

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1.0 GENERAL SAFETY

Contents

SAFETY PRECAUTIONS

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SAFETY PRECAUTIONS

⚠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 substitutues 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 conjuction with other symbols or pictographs.
⚠DANGER	**Disregarding this safety warning <u>WILL</u> result in serious equipment damage, injury or possible death.**
⚠WARNING	**Disregarding this safety warning <u>CAN</u> result in serious equipment damage, injury or possible death.**
⚠CAUTION	**Disregarding this safety warning <u>MAY</u> result in minor or moderate injury or property damage.**

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

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.

SAFETY PRECAUTIONS

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.

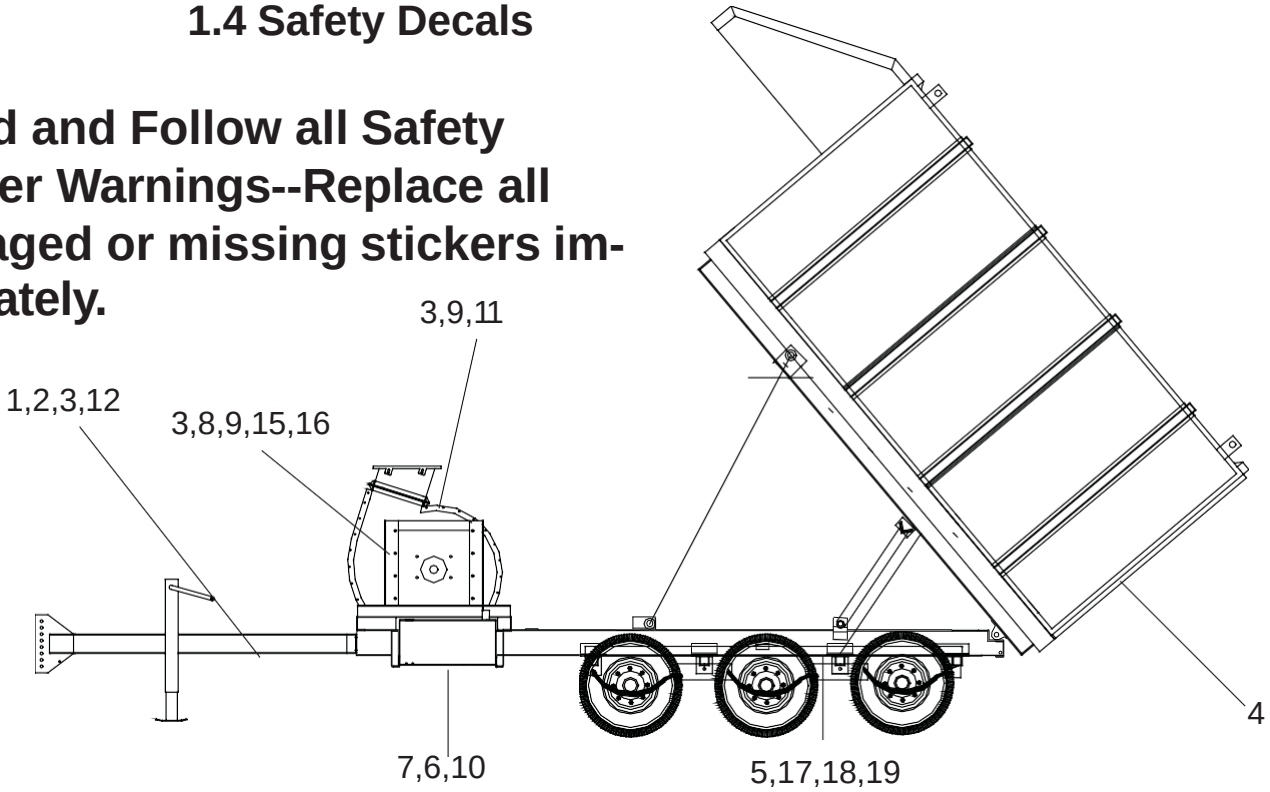
This training program must include the entire scope of hazards, precautions and government regulations encountered in the vacuuming process. The program should stress the need for regularly scheduled preventive maintenance and detailed equipment safety checks.

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 PRECAUTIONS

1.4 Safety Decals

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



*Not in SCL800DK Kit

ITEM#	PART #	DESCRIPTION
*	SCL800DK	Decal Kit - (all except *)
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 ...
10.	200109	Do Not Over-Lubricate
11.	200179	Danger - Do Not Ride, ...
12.	Call	ODB Big Sticker
13.	Call	ODB wide sticker
14.	200177	Warning - Flammable
15.	200182	Warning - Do not open cover while in operation

ITEM#	PART #	DESCRIPTION
16.	*200190	Caution - Unload Body Prop
17.	*200187	Caution - Body must be braced
18.	*Call	Caution - Operation of body prop
19.	200175	Warning - Do Not Raise ...
20.	200189	Warning - Check Impeller
21.		Warning - Running Engine with the PTO ...
22.	200104	Warning - Driver Check Wheel Lugs ...
23.		Warning - Do Not Operate Unit Without Reading ...
24.	200055	Use Diesel Only
25.		Do Not Ride ... (Wide Version)
26.	200188	Do Not Go Under Raised Body ...
27.		Caution - Proper Wheel Nut Tightness ...
28.	200193	Caution - Allow Engine to Idle ...

SAFETY PRECAUTIONS

1.4 Safety Decals - Decal Layout for SCL800TM

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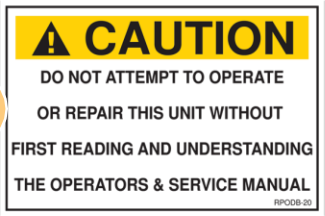

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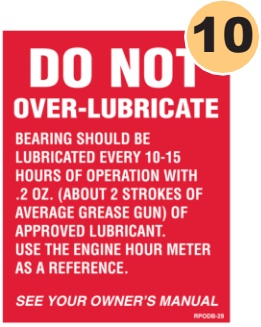

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1.4 Safety Decals - Decal Layout for SCL800TM

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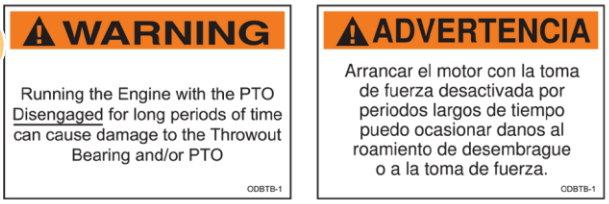

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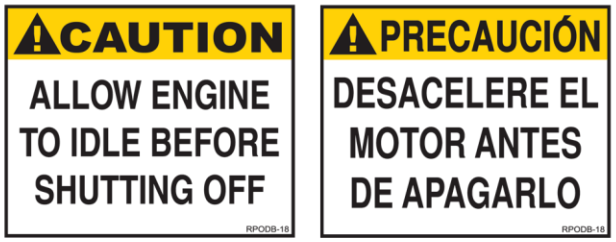


1.5 VIN And Serial Number Locations

⚠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.

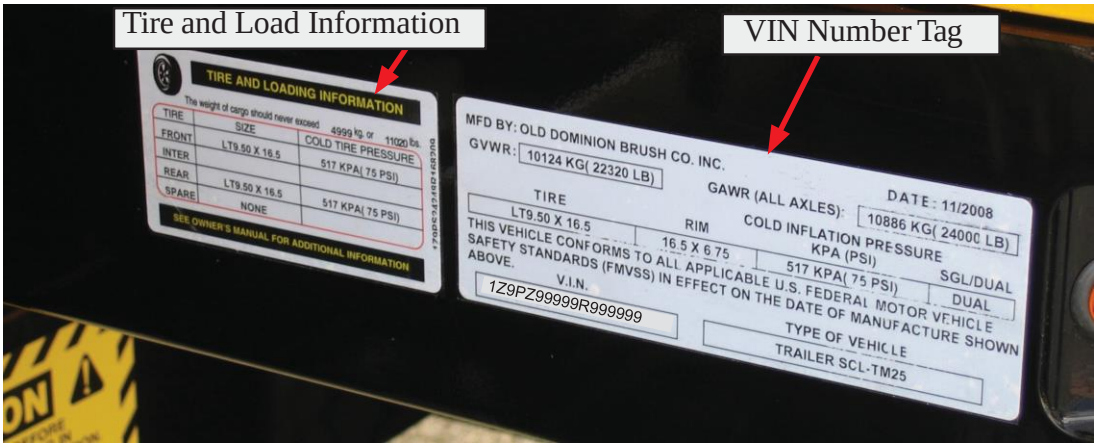
figure 1.5a

The serial number tag is located in front of the unit by the tongue. (See figure 1.5a).

figure 1.5b

The Vehicle Identification Number (VIN) sticker is located on the drivers side front of the box frame. It is directly behind the engine. (See figure 1.5b).

The VIN sticker gives the user critical information regarding the trailer specfications such as Gross Vehicle Weight Rating (GVWR) which is the maximum allowable total weight of the fully loaded trailer, including liquids, cargo and the tongue weight of any towed vehicle, the GAWR or Gross Axle Weight Rating which is the maximum allowable weight the axles are designed to carry. The tire inflation pressure is also on the sticker.



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

2.0 PRE-OPERATING SECTION

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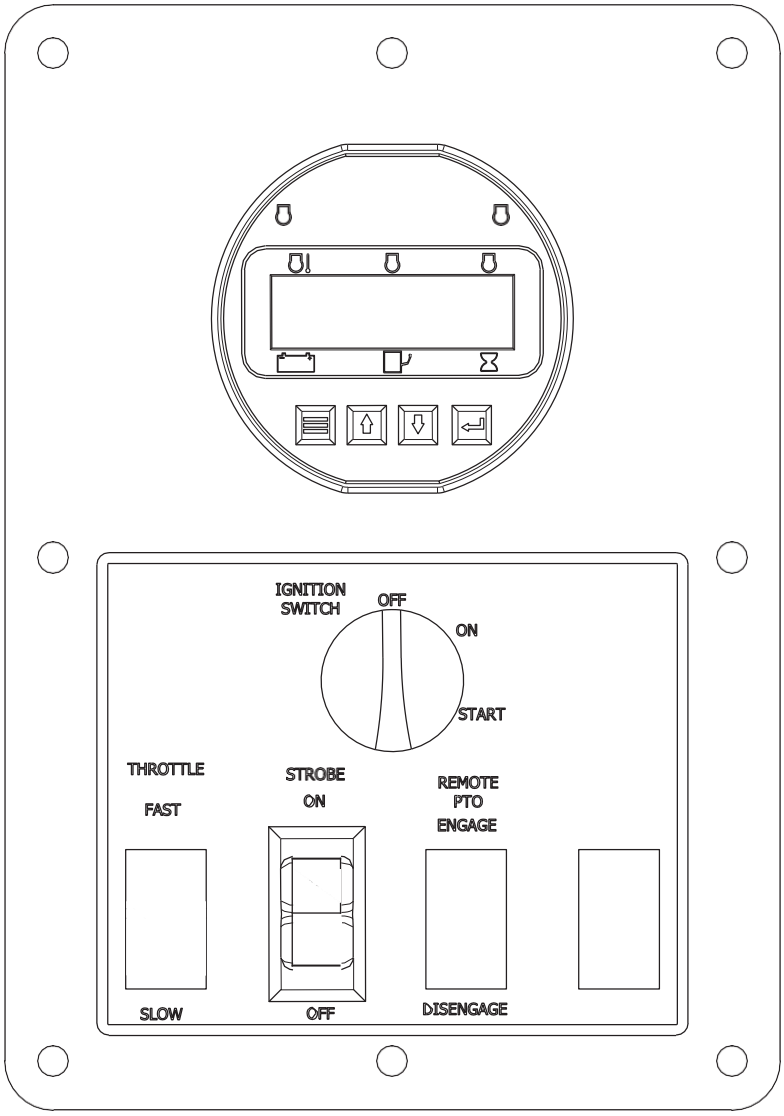
2.0 PRE-OPERATING SECTION

2.1 Instruments and Controls:



Ignition Switch:
Used to power the accessories and start the unit.
ACCESSORIES - first position
STARTER ENGAGE - second position (springs return to first position)

Strobe Toggle
This switch toggles the strobe light on the Blower Housing (6.3 & 8.2)

CONTROL MODULE

To enter Menu system
Hold Menu button and press Enter◄ button

Menu Navigation
Press Menu to scroll menu options
Press Up▲ arrow to enter Menu option
Press Down▼ arrow to retun

~~Exit Menu System~~
Hold Menu button and press Enter◄ button

To Change A Setting
Press Enter◄ button to bring up brackets [ ]
Press Up▲ arrow button and Down▼ arrow button to change setting
Press Enter◄ button to make selection, brackets dissapear

Recycle Key to the OFF position after changing a setting

⚠ CAUTION

Always make sure the PTO is disengaged before starting unit.

2.1 Instrument and Controls, cont.:

Main Menus

>Active Engine Fault Codes
View/Scroll Active Codes

>Stored Engine Fault Codes
View/Scroll Stored Fault Codes

>Engine Parameters
View ECU Engine Information
(%Load, Torque, Oil Temp, ect)

>Engine Identification
Engine Model # View
Engine Seriel # View

>Module Information
Control Unit Part# View
Control Unit Software Version View

>Controller Set
Input Configuration
Throttle Configuration
Module Configuration
CAN Configuration
MOD bus Configuration

Configuration Menus (Controller Set)

>Input Configuration
Analog 1 Funtion
Digital 1 Function

>CAN Configuration (Throttle)
Throttle type Selection
TSC Minimim Speed
TSC Maximum Speed
TSC Ramp Rate
Throttle Curve Selection

>Module Configuration
Display Units (English, Metric)
Hourmeter Source (Engine ECU, Internal)
Battery Source (J1939, Internal)
Battery Volt Trim

>CAN bus Configuration
Source Adsress (Default=44) Others Available
TSC1 Address (Default=3) Others Available
Engine Address (Default=0) Others Available
Oil / Fuel Transmit

>MOD bus Configuration
Baud Rate
Parity
Stop Bits
Slave Address
Enable Gauges
Tachometer Range
Engine Oil Tempertature Range
Transmission Oil Temperature Range

To access the controller setup menus (Configuration Menus), a password is required

2.2 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.**

2.2 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.

2.3 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.

2.4 Pre-Transport Checks

⚠WARNING

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

TOW VEHICLE MUST have proper towing capacity for the leaf vacuum being towed. Check the tow vehicles operating manual for rated capacity.

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

IMPORTANT CHECKS

1. Hitch is properly secured to tow vehicle and hose boom secured. Frame must be level or the tongue slightly lower than the rear of the leaf vacuum while towing to ensure proper weight distribution. The hitch may have to be adjusted when towing with vehicles of varying tow hitch height.

2. Safety chains installed correctly.

3. Chains routed under trailer tongue in an “X” pattern between tow vehicle and trailer.

4. Slack in chain should be adjusted to permit turning but should not be dragging on the ground.

5. Connect trailer wiring to the tow vehicle and ensure that all trailer lighting is operating properly.

6. Ensure that the safety breakaway switch is functioning properly and attached securely to the tow vehicle. Allow enough slack to ensure that vehicle turns will not activate the safety breakaway switch. **NOTE:** Follow manufacturers procedure to ensure tow vehicles brake control box is properly adjusted.

2.4 Pre-Transport Checks (continued):

7. Check the general condition of the tires, tire pressure and ensure that all lugnuts are securely fastened.

8. Visual examination of the leaf vacuum frame, suspension and structure to determine if all components are correctly positioned and secured for travel.

9. Check the intake hose boom to verify that it is securely fastened to the leaf vacuum and can not swing free. (if equipped).

10. Verify there are no loose tools or materials on the trailer, inside the intake and exhaust hoses, or inside the engine sheet metal.

11. Check all cones, wheel-chocks, signs or other support tools and materials to ensure proper stowage.

2.5 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.

2.6 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.

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

3.0 OPERATING SECTION

3.0 OPERATING SECTION

WARNING

3.1 Engine Controller-Installation

Engine must undergo a **60 deg warmup** before clutch switch is live (active/useable)

Must Engage AND Disengage **UNDER 1300rpms**, anything over 1300 will not engage or disengage

ECU Throttle Settings

Controls, Inc. panels use J1939 throttle, also called TSC throttle (torque/speed control). This is different from the older analog and digital throttle options provided in engine ECU's. Two throttle settings need to be implemented in the engine ECU.

1) TSC throttle needs to be enabled in the engine ECU settings
2) TSC address needs to be matched to control panel throttle setting

Most engine ECU today have TSC enabled as a default setting but for situation where it is not, the engine ECU needs to be updated with this setting enabled. The control panel has a number of TSC addresses that can be selected to match the engine ECU setting.

CAN bus Wires

With J1939 engines, all of the communications between the engine ECU and the control panel occurs over the two CAN bus wires. This includes the engine information (like oil pressure, engine speed, alarm codes and alarm lamps) going from the engine ECU to the control panel and throttle commands going from the control panel to the engine ECU. If there is a break in the CAN bus wires, communications stop and the control panel displays a CAN bus error message. Also, in spark ignition engines, CAN bus wires should located away from the spark plug wires, distributor cap and ignition coil to avoid EMI from these high voltage components.

Proper Diode Installation

The proper installation of diodes protects the control panel and other electrical components (such as the engine ECU) from transient voltage spikes generated whenever any relay (coil) in the system is de-energized. See diode protection for more details. 1939 engine harnesses provided by the engine manufacturer or Controls, Inc. follow proper diode protection specifications.

Relay Outputs

Many of our products provide for relay outputs that can be used to drive other components and devices. These outputs are rated for a maximum current draw of 5 to 10 amps. For components or devices that draw more that this (such as a starter or glow plug circuit), it is necessary to install a slave relay that is diode protected into the circuit. Controls, Inc. can provide any necessary slave relays.

3.1 Engine Controller-Installation Cont.

Panel Throttle Settings

A number of panel settings are available in different Controls, Inc. panels. It is important to check the throttle settings during installation. Basic settings for minimum speed, maximum speed and ramp rate should be reviewed for a manual start situation. For an auto start situation, other settings for warm up speed, operating speed and cool down speed should be reviewed.

Interlock Settings

Interlock settings provide the ability to turn relay outputs on and off based on conditions like engine speed or engine run. They are typically used for clutch engage/disengage or to turn on/off other devices when required during equipment operation. These settings need to be reviewed during installation

Stored engine ECU codes can be viewed in the Stored Codes menu. The panel displays are codes currently stored on the engine ECU.

Alarm Log

All alarms and shutdowns are added to the control panel alarm log. The alarm log maintains the last 32 alarms and faults. Each event is logged with the engine hour reading at the time of occurrence. This provides a history of alarms and shutdowns for mechanical engines that is valuable for service and troubleshooting.

3.2 Engine Controller-Operating

The engine communicate with panels over the CAN bus, two wires that run between the engine ECU and the control panel. All sensors are monitored by the engine ECU. The control panel gets all engine information from the engine ECU. Typically, the engine ECU handles all engine alarms, derates and shutdowns. Alarm lamps and codes are communicated to the control panel from the engine ECU from which the panel illuminates the appropriate lamp and displays the corresponding code.

Display

Six full time parameters are displayed:

1) Engine Temperature
2) Engine Speed
3) Oil Pressure
4) Battery Voltage
5) Fuel Rate or Fuel Level (requires fuel level sender)
6) Engine Hours

For alarms, the display provides the appropriate lamp, the corresponding code and a descriptive message for the operator. See alarms for additional information.

Menu Access

A number of product settings are accessed via the menu system. To access the menu system, hold down the MENU button and simultaneously press the ENTER button.

To exit the menu system, it is the same process. Hold down the MENU button and simultaneously press the ENTER button.

Available Menus:

Emissions Parameters (iT4)	View emissions information & Regen Options (Auto, Inhibit, Request)
Active Fault Codes	View active fault codes
Stored Fault Codes	View stored fault codes
Operation Event Log	View last 32 start and stop events (hour stamped)
Alarm Event Log	View last 32 alarm events (hour stamped)
Engine Parameters	View other engine ECU parameters (i.e. % load, % torque, boost pressure)
Engine Identification	View engine model and serial number
Module Information	Control panel part number and software version
Controller Setup	Configure settings for throttle, inputs, outputs and other available options

Panel settings are made in the controller setup menu. A password is required to change settings. Contact your OEM, engine dealer, distributor or Controls, Inc. for this information.

3.2 Engine Controller-Operating Cont.

Menu Navigation

1) Press MENU button to scroll available menus
2) Press UP button to enter into a menu
3) Press DOWN button to exit a menu

Change a Menu Setting (Controller Setup menu)

1) A password is required to change a setting
2) Press ENTER button (A bracket appears around the setting)
3) Press the UP and DOWN buttons to view available selections
4) Press ENTER button to make selection, (brackets disappear)
5) Exit menus (hold down MENU button and simultaneously press the ENTER button)
6) RECYCLE POWER TO THE PANEL (Turn panel power off and then back on)

⚠WARNING

Engine must undergo a **60 deg warmup** before clutch switch is live (active/useable)

Must Engage AND Disengage **UNDER 1300rpms**, anything over 1300 will not engage or disengage

3.3 Engine Controller-Alarms & Codes

With J1939 engines, the engine ECU manages all alarms, derates and shutdowns. The control panel serves as a fault code reader providing lamp illuminations, alarm codes and alarm messages. Below is an example of an engine ECU shutdown for low oil pressure.

Alarm Indications

1) No engine shutdown with alarms
2) Yellow lamp illumination
3) Parameter blinks on display

J1939 Codes

The list of J1939 codes is extensive. A list of common codes is available on the following pages or by visting http://www.controlsinc.com/support/J1939SPNFMICODES.pdf

Control Panel Alarms & Shutdowns

Alarms and shutdowns can also be provided by the control panel. These are in addition to engine ECU shutdowns. Panel controlled alarms and shutdowns are available for the following:

1) Low Oil Pressure (Alarm & Shutdown)
2) High Engine Temperature (Alarm & Shutdown)
3) Overspeed (Shutdown Only)
4) Fuel Level (Alarm & Shutdown)
5) Battery Voltage (Alarm Only)

3.3 Engine Controller-Alarms & Codes Cont.

Active Engine ECU Codes

Active engine ECU codes can be viewed in the Active Codes menu. Frequently, the engine ECU broadcast several codes when there is an engine issue. The active engine menu provides a list of all currently active codes.

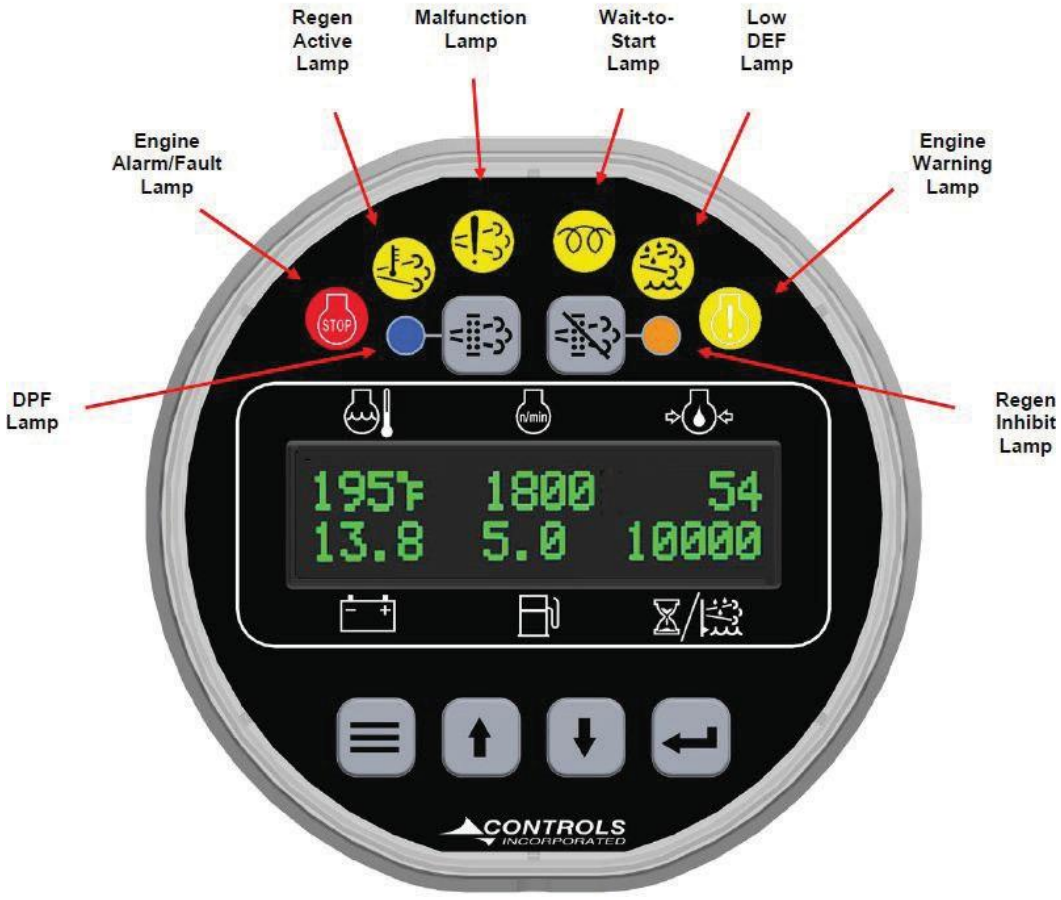
Stored Engine ECU Codes

Stored engine ECU codes can be viewed in the Stored Codes menu. The panel displays are codes currently stored on the engine ECU.

Alarm Log

All alarms and shutdowns are added to the control panel alarm log. The alarm log maintains the last 32 alarms and faults. Each event is logged with the engine hour reading at the time of occurrence. This provides a history of alarms and shutdowns for mechanical engines that is valuable for service and troubleshooting.

Indicator Lamps



SPN	FMI	TEXT TRANSLATION
28	3	% Accelerator Position #3 (Throttle 2) Voltage Above Normal or Shorted to High Source H
28	4	Percent Accelerator Position #3 (Throttle 2) Voltage Below Normal or Shorted to Low Source
29	3	Percent Accelerator Position #2 (Throttle 1) Voltage Above Normal or Shorted to High Source
29	4	Percent Accelerator Position #2 (Throttle 1) Voltage Below Normal or Shorted to Low Source
91	3	Accelerator Pedal Position (Multi-State Throttle) Voltage Above Normal, or Shorted to High Source
91	4	Accelerator Pedal Position (Multi-State Throttle) Voltage Below Normal or Shorted to Low Source
91	9	Accelerator Pedal Position A valid throttle message is not being received or is late
91	14	Accelerator Pedal Position Throttle signal voltage is or has been out of range
94	1	Fuel Delivery Pressure Pressure Very low
94	3	Fuel Delivery Pressure Fuel Rail Pressure Voltage out of range high
94	4	Fuel Delivery Pressure Fuel Rail Pressure Voltage out of range low
94	10	Fuel Delivery Pressure Pressure dropping too fast
94	13	Fuel Delivery Pressure Out of calibration
94	16	Fuel Delivery Pressure High fuel pressure
94	17	Fuel Delivery Pressure No rail fuel pressure
94	18	Fuel Delivery Pressure Low fuel pressure
97	0	Water In Fuel Indicator Water In Fuel Detected
97	3	Water In Fuel Indicator Water In Fuel Voltage out of range high
97	4	Water In Fuel Indicator Water In Fuel Voltage out of range low
97	16	Water In Fuel Indicator Water In Fuel Detected
97	31	Water In Fuel Indicator Water In Fuel Detected
100	1	Engine Oil Pressure Low oil pressure
100	3	Engine Oil Pressure Voltage Above Normal or Shorted to High Source
100	4	Engine Oil Pressure Voltage Below Normal or Shorted to Low Source
100	16	Engine Oil Pressure Oil pressure reading incorrect
100	18	Engine Oil Pressure Low oil pressure
105	0	Intake Manifold 1 Temperature High manifold air temperature
105	3	Intake Manifold 1 Temperature Voltage Above Normal or Shorted to High Source
105	4	Intake Manifold 1 Temperature Voltage Below Normal or Shorted to Low Source
105	16	Intake Manifold 1 Temperature High manifold air temperature
107	0	Air Filter Differential Pressure Plugged air filter condition detected
107	31	Air Filter Differential Pressure Plugged air filter condition detected
110	0	Engine Coolant Temperature High coolant temperature
110	3	Engine Coolant Temperature Voltage Above Normal or Shorted to High Source
110	4	Engine Coolant Temperature Voltage Below Normal or Shorted to Low Source
110	15	Engine Coolant Temperature High coolant temperature
110	16	Engine Coolant Temperature High coolant temperature
111	1	Coolant Level Low coolant level
158	2	Keyswitch Intermittent
158	17	Keyswitch Circuit problem
174	0	Fuel Temperature High fuel temperature
174	3	Fuel Temperature Voltage Above Normal or Shorted to High Source
174	4	Fuel Temperature Voltage Below Normal or Shorted to Low Source
174	15	Fuel Temperature High fuel temperature
174	16	Fuel Temperature High fuel temperature
174	31	Fuel Temperature Voltage out of range
189	31	Rated Engine Speed Speed Derate Condition Exists due to fault
190	0	Engine Speed Engine overspeed
190	2	Engine Speed Data Erratic, Intermittent or Incorrect
190	3	Engine Speed Voltage Above Normal or Shorted to High Source
190	4	Engine Speed Voltage Below Normal or Shorted to Low Source
190	5	Engine Speed Circuit is open
190	16	Engine Speed Engine overspeed

611	3	Injector Wiring Shorted to battery
611	4	Injector Wiring Shorted to ground
620	3	Sensor Supply Voltage 1 (+5V DC) Voltage Above Normal or Shorted to High Source
620	4	Sensor Supply Voltage 1 (+5V DC) Voltage Below Normal or Shorted to Low Source
627	1	Power Supply Low voltage to injectors
627	4	Power Supply Power interruption
629	13	Reprogram Controller ECU problem
629	19	ECU to Pump Communications Error ECU not receiving messages from Pump
632	2	Fuel Shutoff Valve Fuel Shutoff Error Detected
632	5	Fuel Shutoff Valve Fuel Shutoff Non-Functional
632	11	Fuel Shutoff Valve Fuel Shutoff Solenoid circuit is open or shorted
636	2	Engine Position Sensor Timing signal error
636	8	Engine Position Sensor Timing signal error
636	10	Engine Position Sensor Timing signal error
637	2	Timing (Crank) Sensor Timing signal error
637	7	Timing (Crank) Sensor Timing signal error
637	8	Timing (Crank) Sensor Timing signal error
637	10	Timing (Crank) Sensor Timing signal error
639	13	CAN Bus The CAN bus failure
651	5	Injector Cylinder #1 The current to the injector is less than expected
651	6	Injector Cylinder #1 The current to the injector increases too rapidly
651	7	Injector Cylinder #1 The injector fuel flow is lower than expected
652	5	Injector Cylinder #2 The current to the injector is less than expected
652	6	Injector Cylinder #2 The current to the injector increases too rapidly
652	7	Injector Cylinder #2 The injector fuel flow is lower than expected
653	5	Injector Cylinder #3 The current to the injector is less than expected
653	6	Injector Cylinder #3 The current to the injector increases too rapidly
653	7	Injector Cylinder #3 The injector fuel flow is lower than expected
654	5	Injector Cylinder #4 The current to the injector is less than expected
654	6	Injector Cylinder #4 The current to the injector increases too rapidly
654	7	Injector Cylinder #4 The injector fuel flow is lower than expected
655	5	Injector Cylinder #5 The current to the injector is less than expected
655	6	Injector Cylinder #5 The current to the injector increases too rapidly
655	7	Injector Cylinder #5 The injector fuel flow is lower than expected
656	5	Injector Cylinder #6 The current to the injector is less than expected
656	6	Injector Cylinder #6 The current to the injector increases too rapidly
656	7	Injector Cylinder #6 The injector fuel flow is lower than expected
729	3	Inlet Air Heater Driver #1 Inlet air heater stuck on
729	5	Inlet Air Heater Driver #1 Inlet air heater will not turn on
833	2	Rack Position Sensor Error
833	3	Rack Position Sensor Rack Position Voltage above normal
833	4	Rack Position Sensor Rack Position Voltage below normal
834	2	Rack Actuator Rack Error
834	3	Rack Actuator Rack Actuator Circuit voltage above normal
834	5	Rack Actuator Rack Actuator Circuit open
834	6	Rack Actuator Rack Actuator Circuit grounded
834	7	Rack Actuator Rack Position Error
970	2	Auxiliary Engine Shutdown Switch External Engine Shutdown Switch intermittent
970	11	External Engine Protection Shutdown External Engine Protection Shutdown active
970	31	Auxiliary Engine Shutdown Switch External Engine Protection Shutdown active
971	31	Engine Derate Switch External Derate input has been activated
1041	2	Start Signal Indicator Start Signal Missing
1041	3	Start Signal Indicator Start Signal Always Active

1076	0	Fuel Injection Pump Fuel Control Value Error
1076	1	Fuel Injection Pump Fuel Control Value Error
1076	2	Fuel Injection Pump Fuel Control Valve Error
1076	3	Fuel Injection Pump Fuel Control Valve Error
1076	5	Fuel Injection Pump Fuel Control Valve Error
1076	6	Fuel Injection Pump Fuel Control Valve Error
1076	7	Fuel Injection Pump Fuel Control Valve Error
1076	10	Fuel Injection Pump Fuel Control Valve Error
1076	13	Fuel Injection Pump Fuel Control Valve Error
1077	7	Fuel Injection Pump Controller
1077	11	Fuel Injection Pump Controller
1077	12	Fuel Injection Pump Controller
1077	19	Fuel Injection Pump Controller
1077	31	Fuel Injection Pump Controller Power derated
1078	7	Fuel Injection Pump Speed/Position Sensor Error
1078	11	Fuel Injection Pump Speed/Position Sensor Error
1078	31	Fuel Injection Pump Speed/Position Sensor VP44 Unable to Achieve Desired Timing
1079	3	Sensor Supply Voltage 1 (+5V DC) Voltage Above Normal or Shorted to High Source
1079	4	Sensor Supply Voltage 1 (+5V DC) Voltage Below Normal or Shorted to Low Source
1080	3	Sensor Supply Voltage 2 (+5V DC) Voltage Above Normal or Shorted to High Source
1080	4	Sensor Supply Voltage 2 (+5V DC) Voltage Below Normal or Shorted to Low Source
1109	31	Engine Protection System Approaching Shutdown Approaching Shutdown
1110	31	Engine Protection System Engine has been shutdown
1347	5	Fuel Pump Assembly #1 The circuit is open, shorted to ground, or overloaded
1347	7	Fuel Pump Assembly #1 Rail pressure control mismatch
1347	10	Fuel Pump Assembly #1 Low fuel flow
1348	5	Fuel Pump Assembly #2 The circuit is open, shorted to ground, or overloaded
1348	10	Fuel Pump Assembly #2 Low fuel flow
1485	2	ECU Main Relay Pump power relay fault
1569	31	Engine Protection Torque Derate Fuel derate limit condition exists
2000	6	Fuel Injection Pump Fuel Control Valve Error
2000	13	Security Violation The proper controller has not been installed

3.4 Engine Controller- Digital Inputs

Digital Inputs

Digital inputs can be used for engine shutdowns using normally open or normally closed (to ground) switches. Switches for parameters such as low coolant level can be incorporated into the control panel. Shutdown indications include red lamp illumination and a display message (i.e. Low Coolant Level Shutdown).

Control Panel Digital Inputs

The panel has two digital inputs available to monitor other components, senders or signals. The analog input is preset to fuel level and cannot be configured. The digital inputs can be used for a number of purposes including alarms and shutdowns.

Input	Heading	Default	Options	Connector	Pin
Digital 1	Normally	Open	Open / Closed	A	4
	Function	None			
	Message	None			
	Check	Off	Off / Always / Run		
Digital 3	Normally	Open	Open / Closed	B	6
	Function	None			
	Message	None			
	Check	Off	Off / Always / Run		
Digital 4	Normally	Open	Open / Closed	B	3
	Function	None			
	Message	None			
	Check	Off	Off / Always / Run		
Digital 5	Normally	Open	Open / Closed	B	4
	Function	None			
	Message	None			
	Check	Off	Off / Always / Run		
Digital 6	**Normally**	**Open**	**Open / Closed**	**B**	**5**
	Function	**Throttle Down**			
	Message	**None**			
	Check	**Always**	**Off / Always / Run**		
Digital 7	**Normally**	**Open**	**Open / Closed**	**B**	**2**
	Function	**Throttle Up**			
	Message	**None**			
	Check	**Always**	**Off / Always / Run**		

3.5 Engine Controller- Pin Out

PIN #	COLOR	FUNCTION
1A	Yellow	Battery +
2A	Yellow	CAN High
3A	Green	CAN Low
4A	-	Digital Input 1
5A	Pink	Fuel Level
6A	Black	Battery -

PIN #	COLOR	FUNCTION
1B	-	Clutch Output
2B	Yellow w/Blue Stripe	Throttle Up
3B	-	Digital Input 4
4B	-	Digital Input 5
5B	Blue w/Yellow Stripe	Throttle Down
6B	Black	Digital Input 6

figure 3b

PTO shown disengaged

figure 3c

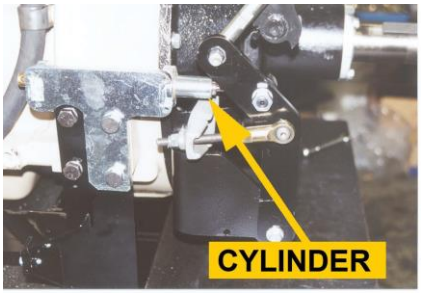


figure 3d

PTO shown fully engaged

3.6 Engaging the PTO

⚠WARNING

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

⚠WARNING

Make sure the intake hose is properly attached and make sure the front of the hose is clear of any objects which could be inadvertently vacuumed during the PTO engagement process.

Review the Engine Operating Manual supplied with your leaf vacuum for specific start-up, maintenance and operating instructions. It is especially important to review break-in service procedures for brand new units.

Engaging the PTO (refer to figures 3b, 3c and 3d):

1. Perform all the pre-starting, pre-operating checks outlined in the EOM and in this manual.

2. Start the engine as previously discussed in this manual and in the EOM.

3. Once the engine has been allowed to thoroughly warm up (engine temperature gauge should read at least 180 degrees) pull the throttle control until the engine reaches 1000 rpm.

4. Grasp the PTO handle (fig. 3b) and slowly raise the handle. **NOTE:** Some units have a PTO assist cylinder which engages the PTO at a specific speed in order to properly engage the PTO. Because of this the PTO handle only needs to be raised slightly, then the assist cylinder will take over and engage the PTO automatically. (fig. 3c)

figure 3d

PTO shown fully engaged

3.6 Engaging the PTO, continued;

5. **<u>MPORTANT:</u> If the unit experiences any heavy vibrations or makes any unusual noises, shut the engine down and after following the necessary safety guidelines, have a qualified technician investigage the cause. DO NOT operate a unit that is in a state of disrepair.**

6. If the unit is running smoothly and does not dispaly any excessive vibration, the unit is ready to vacuum leaves. **<u>NOTE:</u>** Please see the next section before vacuuimg leaves.

<u>Disengaging the PTO (refer to figures 3b and 3d):</u>

1. Decrease the rpm to 1000 rpm.

2. Grasp the PTO handle and slowly disengage the PTO.

3. When the PTO is fully disengaged, the engine can be shut down.

figure 3b

PTO shown disengaged

3.7 Fluid Drive Coupler (if equipped)

Figure 3.3A

⚠ WARNING

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

⚠ WARNING

Make sure the intake hose is properly attached and make sure the front of the hose is clear of any objects which could be inadvertently vacu-umed at any time.

There is no PTO engagement when the unit is equipped with a Fluid Drive Coupler. The impeller is ALWAYS en-gaged and rotating.

⚠ WARNING

The suction impeller is ALWAYS rotating when the engine is running and for a few minutes after the engine is shut off. Exercise caution whenever the unit is running.

⚠ CAUTION

IMPORTANT: If the unit experiences any heavy vibrations or makes any unusual noises, shut the engine down and after following the necessary safety guidelines, have a qualified technician investigate the cause. DO NOT operate a unit that is in a state of disrepair.

3.8 Dumping the Body

DANGER

Make sure all people and animals are completely clear of the unit during the dumping process.

WARNING

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

DANGER

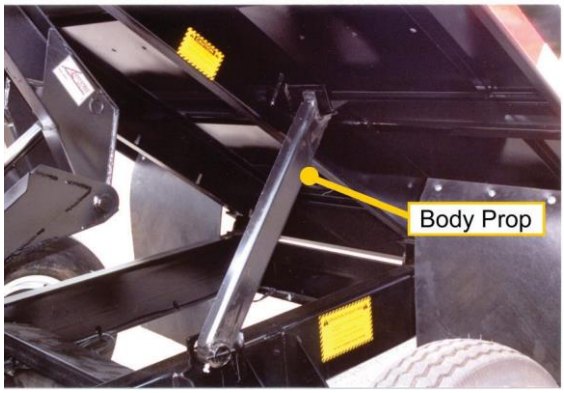
Always operate the dump body controls from the front of the unit, standing beside the tongue.

WARNING

Make sure the unit is properly attached to the tow vehicle and the surface is level and solid before raising the body .

figure 3.3a

figure 3.3bc



WARNING

Watch for any overhead obstacles such as power lines and tree limbs before dumping.

Review the Engine Operating Manual supplied with your leaf vacuum for specific start-up, maintenance and operating instructions. It is especially important to review break-in service procedures for brand new units.

Dumping the body (refer to figures 3.3a and 3.3b):

1. Perform all the pre-starting, pre-operating checks outlined in the EOM and in this manual.

2. Start the engine as previously discussed in this manual and in the EOM. Make sure the PTO is disengaged.

3. Do a thorough inspection of the entire area around and above the unit, looking for any object that could get in the way of the body dumping.

4. Make sure the surface is level and the ground is solid before dumping.

5. Open the rear doors and secure to the side of the box container.

3.8 Dumping the Body, continued

figure 3.3a

figure 3.3b

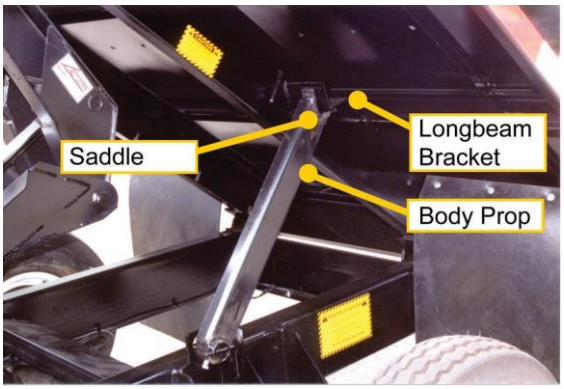
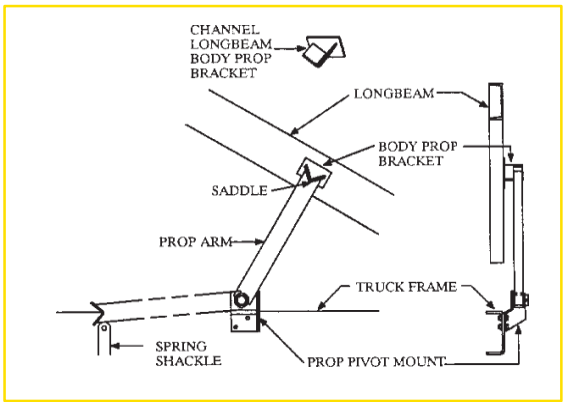


figure 3.3c



6. Increase the throttle to 1,200 rpm. **Do not** race the engine while using the hoist.

7. Grasp the hand valve handle (fig. 3.3a) pull the handle to the right (toward the radiator) to raise the body.

8. Raise the body only as high as it is needed to dump the load.

9. Shut off all power, raise the body prop(s) (fig. 3.3b) to a free standing position. Lower the body slowly until the the long beam bracket contacts the prop arm saddle (fig. 3.3c). DO NOT POWER HOIST DOWN.

Lowering the body:

1. Before lowering the body, walk completely around the unit and thoroughly inspect the area between the body and the unit's frame. Look for any object, person or animal that could potentially get between the dump body and the frame. **DO NOT** go under the body while inspecting.

2. Once the load has been dumped, start the engine as described in section 3.1. **DO NOT** race the engine.

3. Slowly raise the body just enough to clear the body prop saddle, lower the body prop to the storage position (fig 3.3c) and slowly lower the body.

4. The dump body may stop approximately 12" from the bottom due to the safety check valve. If it does, slowly raise the body a few inches and SLOWLY lower the body down. The body needs to be lowered extremely slow the last 12 inches or the check valve will stop the body.

5. Once the body is completely down, close the rear doors and prepare the unit for travel as detailed in this manual.

3.9 Vacuuming Leaves

⚠WARNING

Thoroughly read and understand the safety, pre-operating and operating sections of this manual before vacuuming. Wear the proper safety equipment as outlined in this manual.

⚠WARNING

Make sure the exhaust hose is connected to the box container properly before vacuuming leaves. Visually inspect the leaves before vacuuming for any material that could be harmful to the leaf vacuum or people. This includes bottles, wood, steel, glass, stone or other hard or breakable objects.

Vacuuming Leaves:

1. Start the engine and engage the PTO using the procedures stated earlier in this manual.

2. Set the engine throttle to around 1400 rpm.

3. NOTE: Always vacuum leaves using the lowest rpm as possible. This saves fuel and decreases the amount of dust escaping the box container.

4. Lower the intake hose to a few inches above the leaf pile. Hold the intake nozzle at a 45 degree angle to allow proper air flow. This should allow the leaves to be vacuumed. DO NOT bury the intake nozzle into the leaf pile, this will cut off the air flow and will make vacuuming much more difficult and increase the chance of clogging.

5. If the leaves are not vacuuming, increase the rpm to 1400 and try vacuuming at this setting.

6. NOTE: Wet leaves will need higher rpm's to vacuum whereas dry leaves will only need minimal rpm's.

7. Continue moving the nozzle in a sweeping motion above the leaves while vacuuming.

WARNING

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

4.0 MAINTENANCE SECTION

Maintenance Section

4.1 Maintence Overview:

⚠ CAUTION

Only properly trained personnel should perform maintenance or repair on this equipment. Consult ODB before performing any maintenance procedures that is not specificially 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 prodcedures 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 ot these procedures please call the factory or your dealer.

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*					●	
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

4.3 Lubrication:

⚠ CAUTION

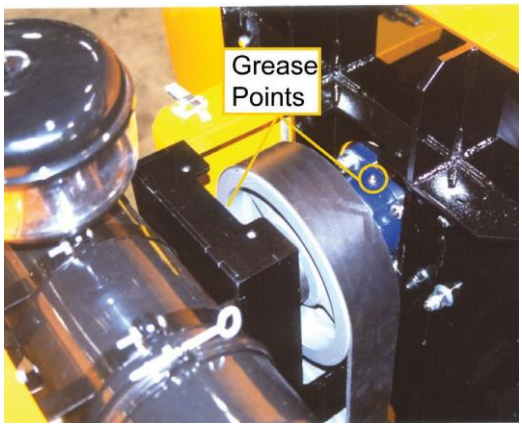
Remove the negative battery terminal before attempting any lubrication procedures.

⚠ WARNING

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

Figure 4.3A

Belt drive units only



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 thorougly before extended shutdown or storage.

Lubrication Points:

1. **Drive Bearings (if equipped) (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 average 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.

4.3 Lubrcation, continued;

Lubrication Points, continued;

2. **Trailer Wheel Bearings (figure 4.3b):** All of ODB's units are equipped with oil lubricated hubs. Periodically fill the hub with a high quality hypoid gear oil to the level indicated on the clear plastic oil cap. The oil can be filled from either the oil fill hole in the hub or through the rubber plug hole in the cap itself.

Figure 4.3b

Oil specifications:

SAE 90 Hypoid Gear (Hypoid Rear Axle Gear Oil)

Approved Sources:

Union Oil Co.....Union MP, Gearlube - LS
Exxon Co.....Gear OIl GX80W-90
Mobil Oil Corp.....Mobilube SHC 75W-90
Penzoil Prod. Co.....Multipurpose Gear Lubr. 4092
.....or Mulitpurpose Gear Lubr. 4096

For any questions concerning wheel lubrication please consult the axle owner's manual supplied with your leaf collector or contact ODB.

Figure 4.3c

3. **Hitch and Tongue (figure 4.3c):** The hitch and hitch ring should be checked and lubricated daily to minimize wear. Apply grease and/or SAE30 weight oil wherever applicable. While lubricating, make sure all components are in good working order and not worn in any way.

Figure 4.3d

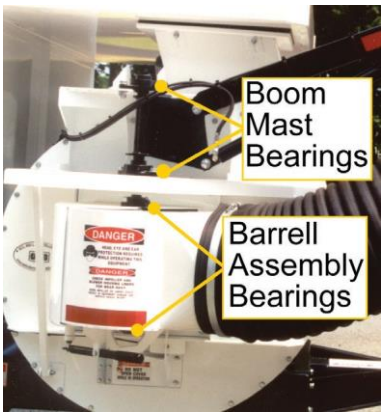


Figure 4.3e

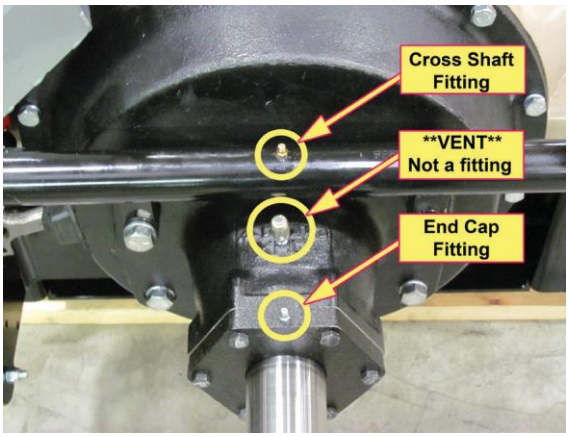


Figure 4.3f

4.3 Lubrication, continued;

Lubrication Points, continued;

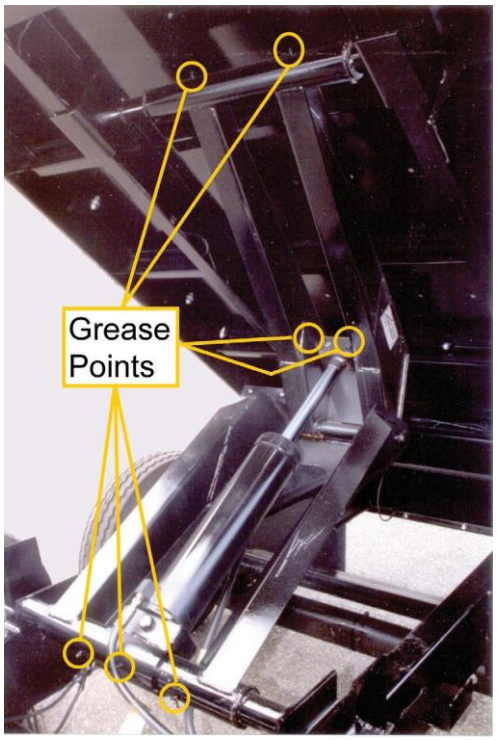
4. **Boom Swivel and Barrell Assembly Bearings (figure 4.3d):** These bearings are on most of ODB's model leaf machines after 1996. Grease the boom bearings once every week with a multi-purpose moisture resistant #2 grease.

5. **PTO Bearing & PTO Shaft Fitting (figure 4.3e):** The PTO crossover shaft and linkage should be lubricated with high temperature lithium base #2 lubricant after 200 hours of operation.
6. **Hinge and Friction Points:** Leaf vacuum operation and longevity can be improved by keeping hinges and friction points lubricated. ODB recommends that lubricaton be performed weekly. Use SAE30 weight oil on hinges and a premium grade, high temperature lithium based EP#2 grease on friction points.
7. **Parking Jack (figure 4.3f):** Remove the top cover and lubricate the gears inside with a standard gear grease. This should be done at the beginning of each season. Proper lubrication will make hitching the leaf collector much easier.

4.3 Lubrication, continued;

Lubrication Points, continued;

Figure 4.3g



⚠WARNING

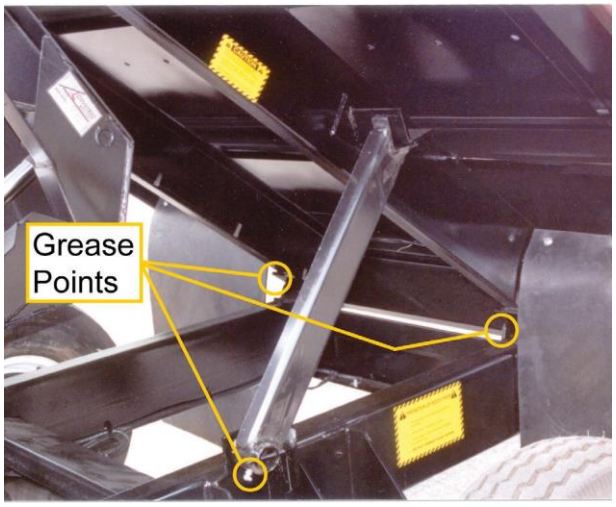
Never go under the dump body unless the body is empty and the body prop(s) is in the proper position.

⚠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).

8. **Hydrauilc Hoist Fittings (figure 4.3g):** 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 sufaces within the hoist frame. It pays to be generous with the grease gun, to insure proper operation and long life.
9. **Hoist Hinge and Body Prop(s) Fittings (figure 4.3h):** Each hinge pivot has a grease fitting that needs lubrciating every 200 hours. The body prop(s) has a fitting at the pivot area as shown in figure 4.3h.

Figure 4.3h



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

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

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 nonconductive 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

800-446-9823

5.0 SERVICE SECTION

5.0 Service and Troubleshooting
5.10 Wiring Diagrams
5.20 Hoist Hydraulic System

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SERVICE AND TROUBLESHOOTING

5.0 SERVICE SECTION

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5.1 Engine Electrical Troubleshooting Guide

ENGINE RUNS ONLY WHEN OVERRIDE BUTTON IS DEPRESSED

Make sure the PTO is disengaged.

1. Take a look at the limit switch located at the inspection door of the blower housing. Check to be sure that the inspection door closes completely and that the door presses in the limit switch. The limit switch is extremely sensitive and only needs to open 1/64" to shut the engine off.
2. If the inspection door closes properly and presses in the limit switch properly, then disconnect the two wires from the back of the limit switch.
3. Start the engine using the normal procedure then release the shut off button. If the engines continues to run then the problem lies in the limit switch or the limit switch wiring. If the engine still cuts off then the limit switch is not the cause, go to Testing the shut off switch.

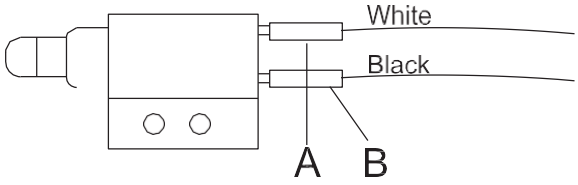
TO TEST THE LIMIT SWITCH:

4. With an ohm meter check the resistance of the terminals A & B (Fig. 1) while the button is not depressed. There should be no resistance or continuity. With the button depressed there should be full continuity or infinite resistance, if not the switch is bad and should be replaced.

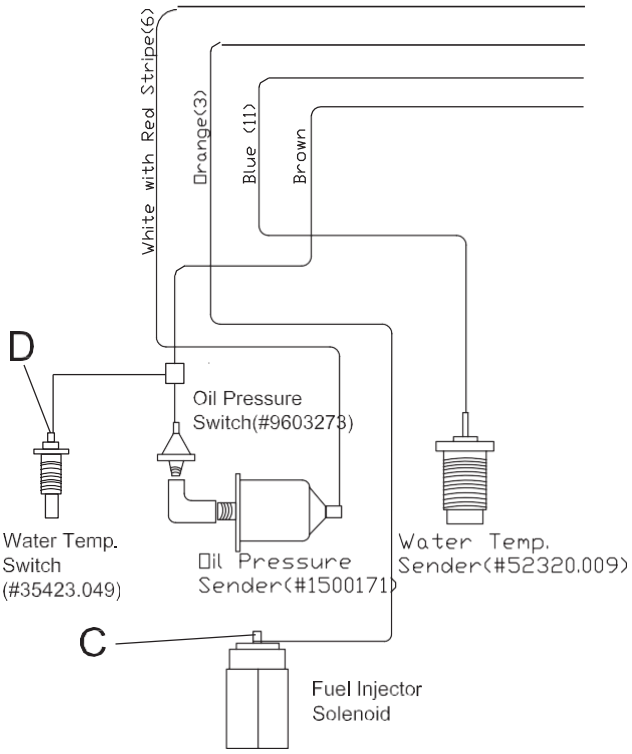
TESTING THE SHUT OFF (MURPHY) SWITCH:

5. Turn the ignition switch to the first position.
6. Put a test light to terminal B (Fig. 3) to test for current. If there is no current at B, power is not getting to the shut off switch. Then the problem is not the shut off switch.
7. If there is current at terminal B, put a test light on the fuse at location Z (Fig. 3). If there is no current there the fuse is blown. Replace fuse.
8. If there is current at B and Z, push the override button (letter X, Fig. 3) in on the shut off switch. While the button is depressed place the test light on terminal C (Fig. 3). If there is current at terminal C then the shut off switch is functioning properly and the problem lies elsewhere. If there is no current at terminal C then the shut off switch is defective and needs to be replaced.

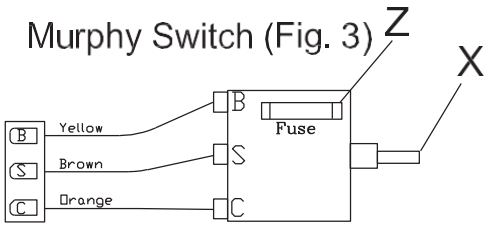
Limit Switch (Fig. 1)



Typical Wiring (Fig. 2)



Murphy Switch (Fig. 3)



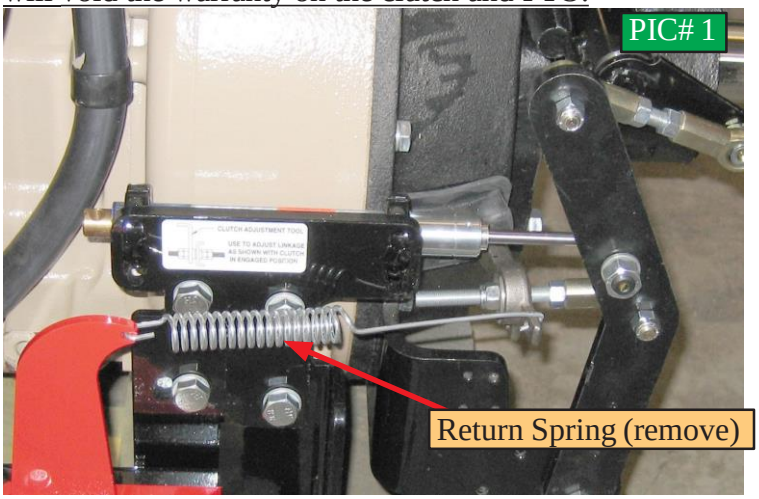
9. Next locate the fuel solenoid valve located on the fuel injector pump (Letter C, Fig. 2). It has an orange wire running to it. Pull the ignition switch to the first position. Put a test light on the terminal of the fuel solenoid where the wire is attached. Test light should light up showing current, if not shut off switch is bad. Replace.
10. If engine still cuts off after shut off button is released then test the water temperature switch (located on the engine block, Letter D, fig. 2) by removing the brown wire attached to the temperature switch. Start the engine using the normal procedure then release the shut off button. If the engine continues to run then the water temperature switch is defective. Replace the switch. If the engine shuts off, do the same test on the oil pressure switch. If the engine continues to shut off after this test call ODB for additional service procedures.

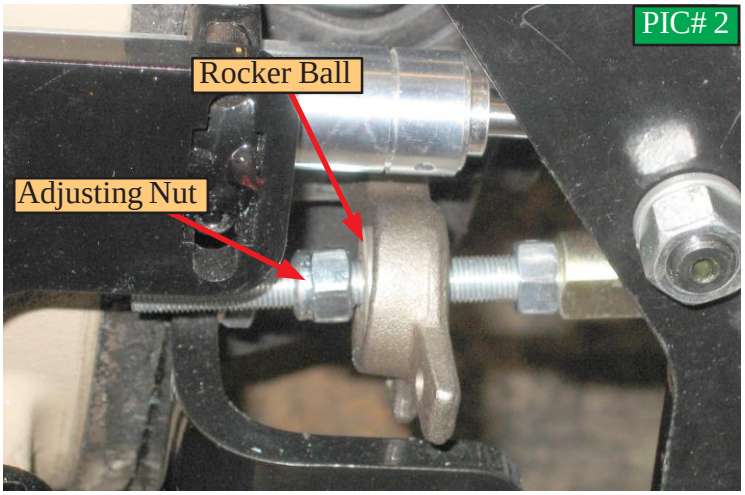
5.2 Auto Mfg. Clutch Adjustment - 2008 and after

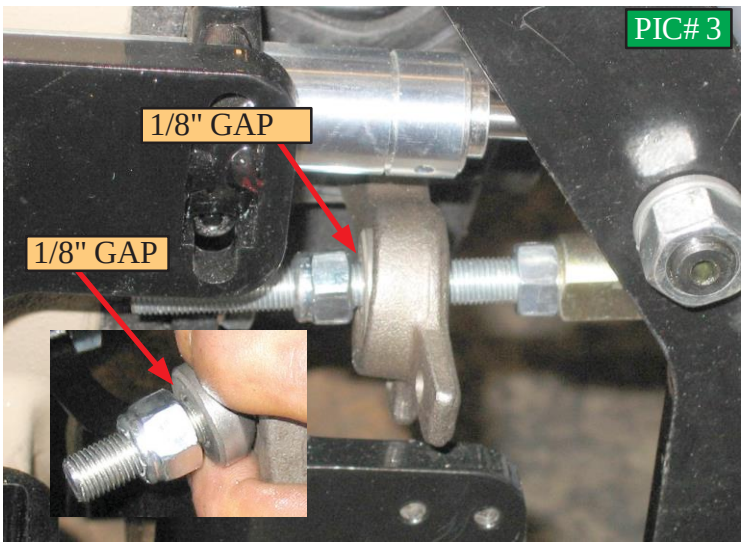
⚠ CAUTION

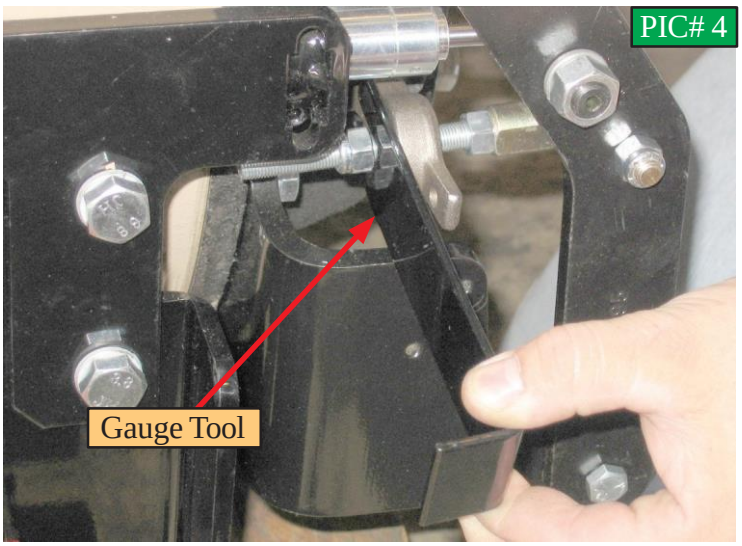
Rotating Shafts, pulleys, and moving belts can cause severe injury or can be fatal. The engine and driven unit MUST be completely stopped before any adjustments or work is attemped to the engine, driven unit, or the PTO clutch itself.

The clutch linkage should be checked after the first 15 hours of operation and every 40 hours there after. An improperly adjusted clutch can result in premature wear to the clutch disc, flywheel and the throwout bearing and will void the warranty on the clutch and PTO.





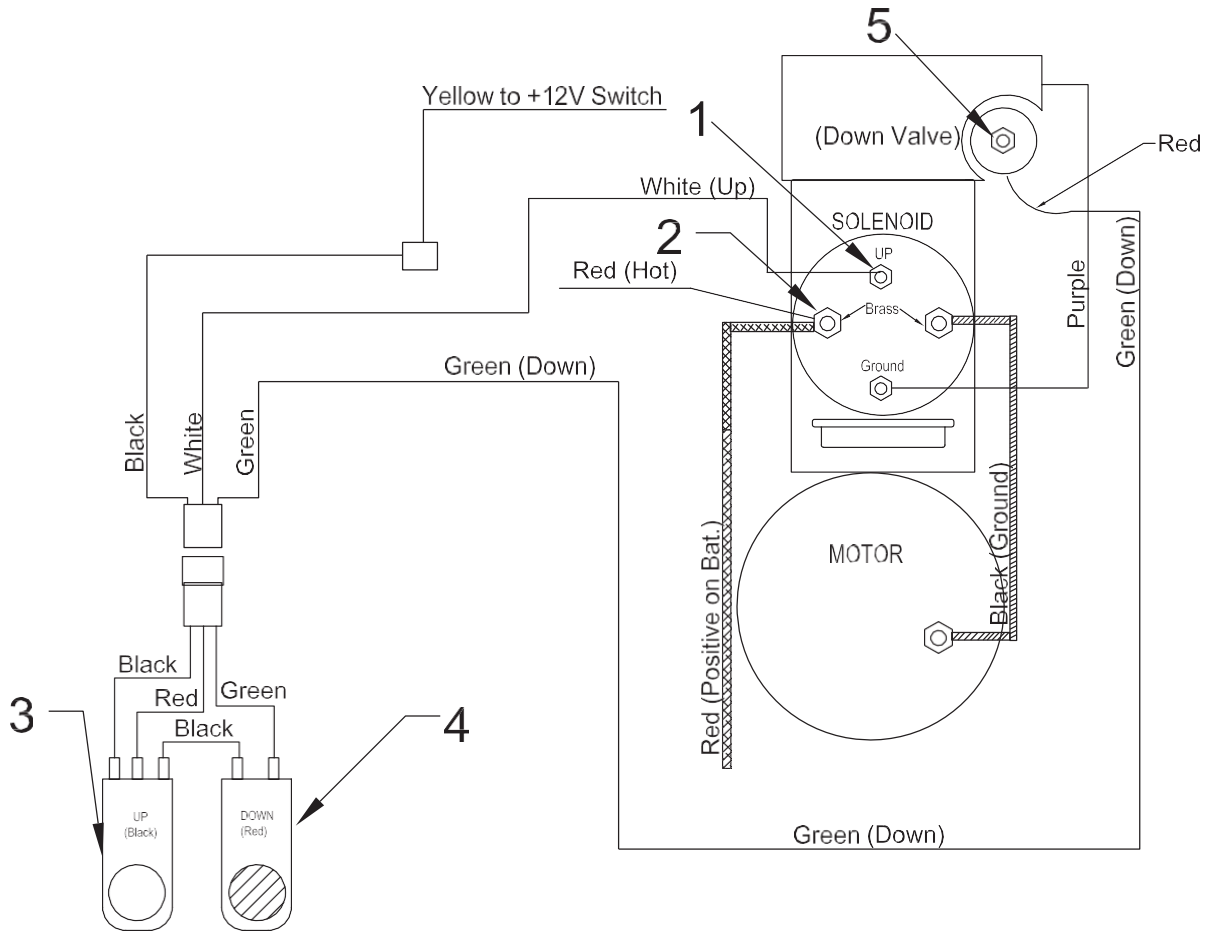




ADJUSTMENT OF THE CLUTCH LINKAGE

1. Make sure the engine is OFF and remove the negative battery cable to ensure the unit can not accidently be started.
2. Remove the spring from the throwout arm. (See PIC# 1) An accurate measure of the arm tension CAN NOT be made with the spring attached.
3. With the clutch in the engaged position adjust the nut (See PIC# 2) against the "rocker ball" until a 1/8" gap between the nut and rocker ball is visible (See PIC# 3).
4. If available, use the special 1/8" gauge tool to slip between the nut and rocker ball. With the proper adjustment the gauge should slide between the nut and rocker ball with a slight amount of pressure. (See PIC# 4)
5. Move the adjustment nut to create the 1/8" gap.
6. Re-install the return spring.
7. Place the handle in the disengaged position. Check to make sure that the PTO output shaft turns freely.

5.3 Hydraulic Boom Troubleshooting Guide



BOOM WILL NOT GO UP

1. Check the fluid level in the reservoir.
2. Using a test light make sure there is current at the outside solenoid post (item#2), this has a 4 gauge Red battery cable attached. If no current is found check the battery condition and battery connections.
3. If there is current at this post, depress the "up" button (item# 3), while pressing the "up" button check for current at the middle post (item# 1), it has a White wire attached. If there is current at the post (item# 1) the solenoid may be defective. Run a jumper wire connecting #1 and #2. This will test the motor, bypassing the solenoid. If the boom raises, the motor is okay (motor part# MP-08004) but the solenoid is bad and needs to be replaced. Solenoid part number is MP-17744.
4. If there is NO current at the post (item# 1) check the wiring between the switch and the solenoid. If the wiring checks out okay, the switch is bad and needs to be replaced.

BOOM WILL NOT GO DOWN

1. Using a test light make sure there is current at the outside solenoid post (item#2), this has a 4 gauge Red battery cable attached. If no current is found check the battery condition and battery connections.
2. Press and hold the "down" button (item# 4), take a test light and probe through the insulation and test for current on the red wire at the valve (item #5).
3. If there is current, the valve is bad and need to be replaced. Valve part number is MP-19283.D. If there is NO current, check the wiring between the switch and valve, especially any connections. If the wiring checks out okay, the switch is bad and needs to be replaced.

5.4 Impeller Installation and Removal

⚠ CAUTION

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

REMOVAL

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 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

Direct Drive

Fig. 2

Belt Drive

Fig. 3

Fig. 4

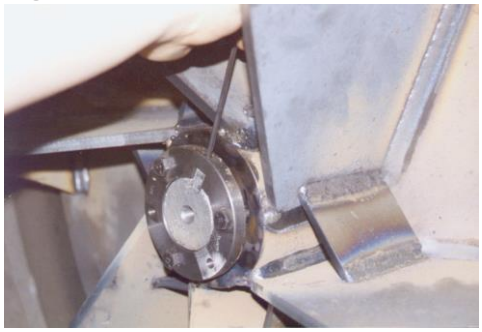


Fig. 5

5.4 Impeller Installation and Removal, continued

⚠ CAUTION

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

INSTALLATION

1. Clean the shaft of any debris and remove any rust using a 120 grit emory cloth.
2. 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.
3. 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.
4. Tap the bushing onto the shaft aligning the keyways.
5. BELT DRIVE UNITS: Align the bushing and key to be flush with the end of the shaft (Fig 1).
6. 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

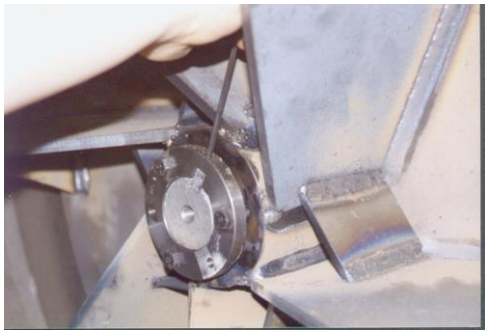


Fig. 4

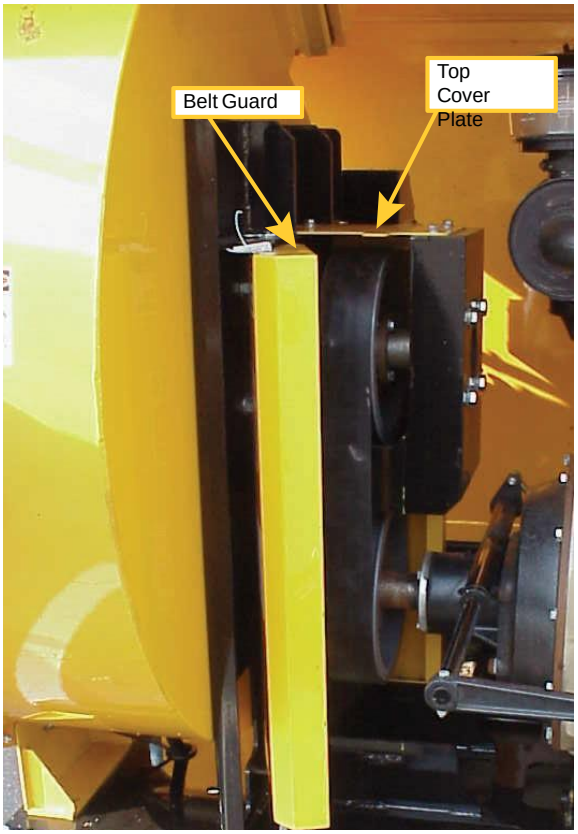
Direct Drive

Fig. 5

Belt Drive

5.5 Replacing the Drive Belt (if equipped)

figure 5.2a



⚠ WARNING

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

⚠ WARNING

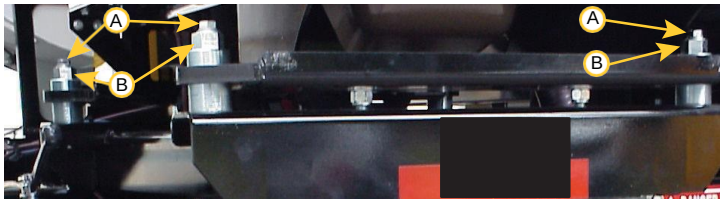
Make sure the negative battery cable is disconnected before opening the blower housing.

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

Removing Drive Belt (refer to 5.1a thru 5.1d):

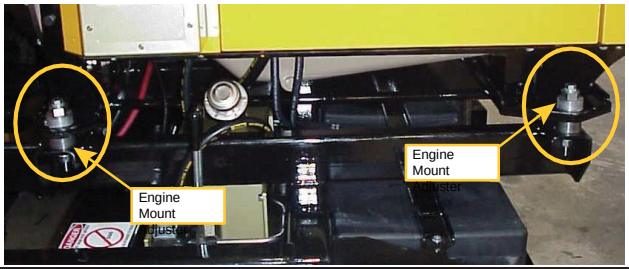
1. Open the belt guard (figure 5.2a) to gain access to the power band.
2. Remove the top cover plate (figure 5.2b).
3. Loosen the 1/2" nut on the engine mount adjuster bolts (item A on figure 5.2b & 5.2c). There are 4, one in each corner.

figure 5.2b



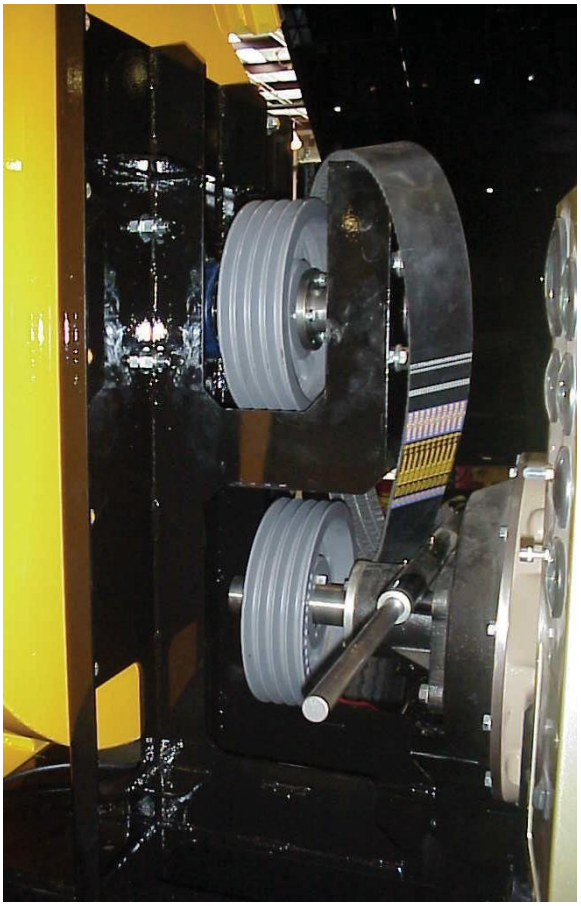
4. This should allow the belt to have enough slack to slip out (figure 5.2d on next page).

figure 5.2c



5.5 Replacing the Drive Belt (if equipped)

figure 5.2d



⚠ 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.

Installing the Drive Belt (refer to 5.1a thru 5.1d):

1. Install the belt by reversing the previous procedure.

2. If the belt needs to be adjusted more, loosen the 1/2" nut on the engine adjuster bolt (item A figure 5.2a) and "fine tune" the adjustment using the large nut (item B Figure 5.2b). Be careful to keep the engine level.

3. After adjusting the engine height using the large nut, tighten down the 1/2" nut (Item A, figure 5.2b).

figure 5.2b

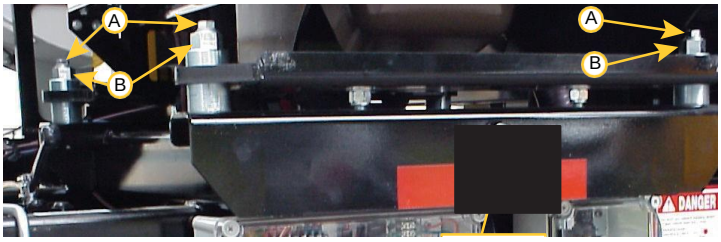
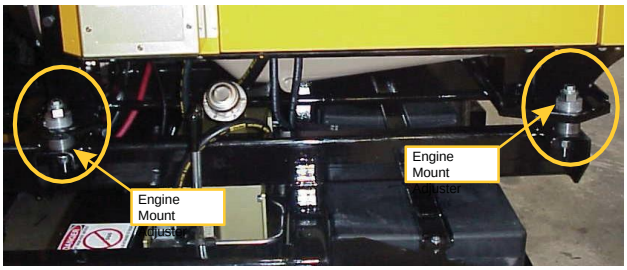
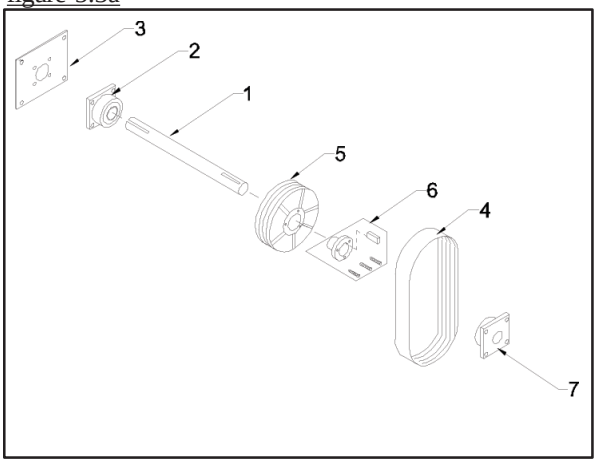


figure 5.2c



5.6 Flange Bearing Installation and Removal (if equipped)

figure 5.3a



⚠ 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

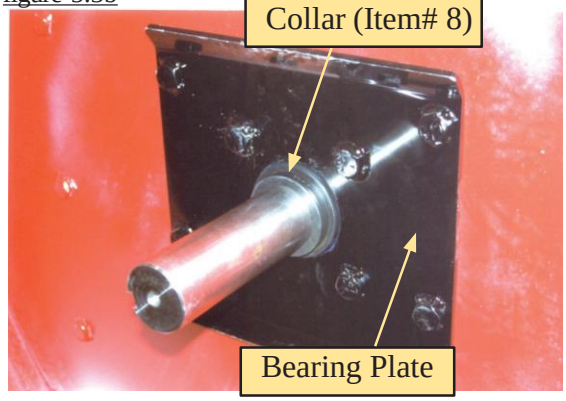


figure 5.3c

figure 5.3d

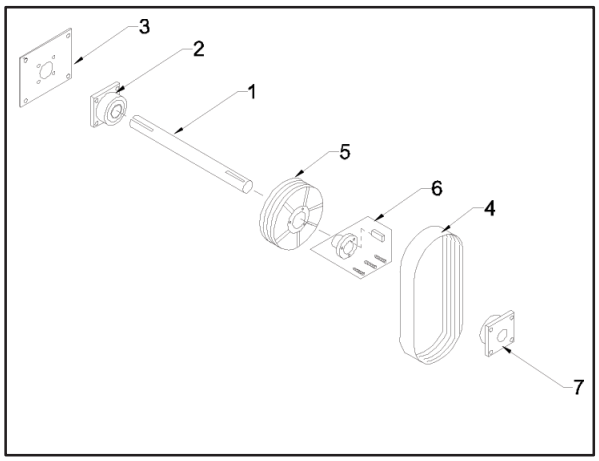
<u>Removing Drive Bearings (refer to 5.3a thur 5.3d):</u>

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. Loosen the pulley (item# 5, fig. 5.3a) by removing the bushing bolts (item# 6, fig. 5.3a).
4. 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).
5. On the rear bearing (closest to the engine) loosen the set screw on the bearing lock collar (fig. 5.3c)
6. Using a punch, loosen the lock collar. (fig. 5.3d)
7. Pull the shaft out toward the blower housing. The bearing plate, front bearing and pulley should come out in one unit.

5.6 Flange Bearing Installation and Removal, cont.

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

figure 5.3a



Removing the Drive Bearings, continued:

8. If the shaft doesn't pull out easily, lubricate the shaft generously where the shaft goes through the bearings. If the shaft still doesn't come out, the final solution is to cut the shaft in half.

9. Once the shaft is out, remove the front bearing from the shaft by using steps 5 and 6.

Installing the Drive Bearings:

1. Make sure the shaft is clean and remove any burrs.

2. Bolt up the rear bearing (closest to the engine) to the frame.

3. Bolt the front bearing to the bearing plate

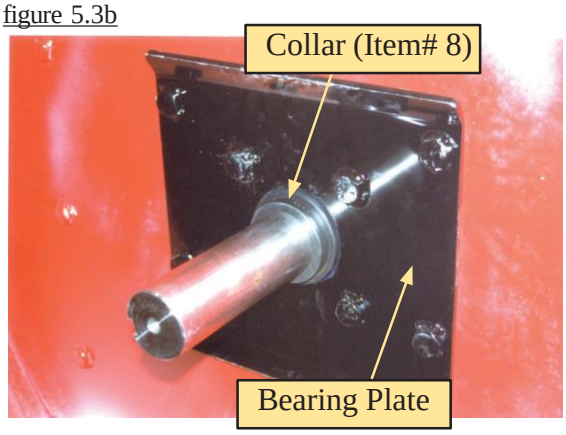
4. Bolt the bearing plate (fig. 5.3b) up to the blower housing and bearing frame.

5. Slide the shaft through the front bearing, making sure the front locking collar is slid on to the shaft.

6. Once the shaft is through the front bearing, install the pulley onto the shaft, but don't tighten it until the bearings have been installed and your sure the two pulleys are lined up correctly.

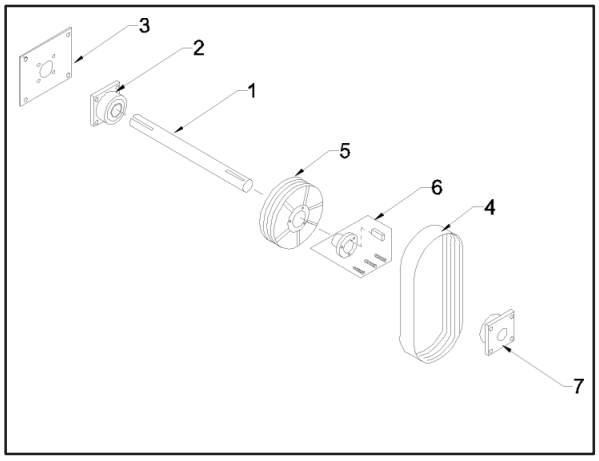
7. Slide the shaft through the rear bearing (closest to the engine). Make sure the front locking collar is put on before the bearing.

figure 5.3b



5.6 Flange Bearing Installation and Removal, cont.

figure 5.3a



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

Installing the Drive Bearings, continued:

8. Once the shaft is in place, lock down the bearings:

9. Starting with the rear bearing (closest to the blower housing) install the rear collar on the blower housing side (figure 5.3b). The rubber seal should be facing the bearing.

10. Push the steel collar up to the bearing and make sure the groove in the collar goes inside the groove in the bearing.

11. Tighten the set screw (figure 5.3e).

12. Install the front locking collar sliding the locking collar up to the bearing and the turn the collar clockwise until is slips over the inner ring extension and engages the eccentric. Turn by hand until the parts are locked together.

13. Place a punch or drift in the blind hole in the collar and strike it sharply to the lock the collar and ring tightly together (figure 5.3f)

14. Tighten the set screws with an Allen wrench until the set screw stops. (figure 5.3g)

15. Do steps 11-14 for the other bearing also.

16. Line up the pulleys and tighten the busing.

17. Re-install the belt guards and impeller as described earlier.

figure 5.3b

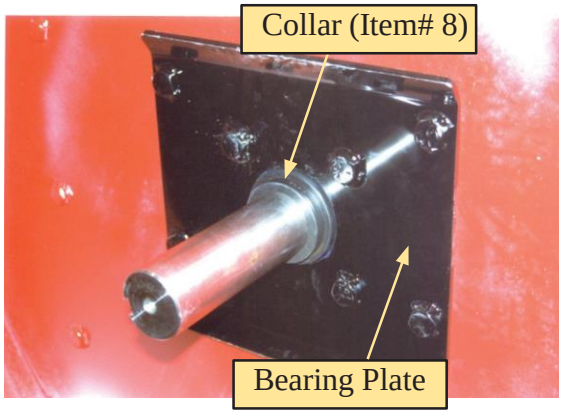


figure 5.3e

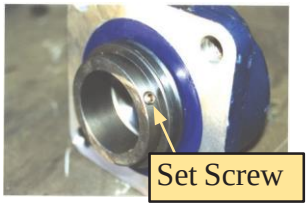
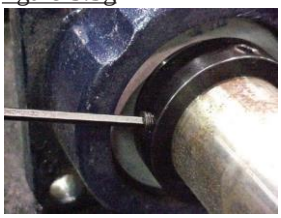


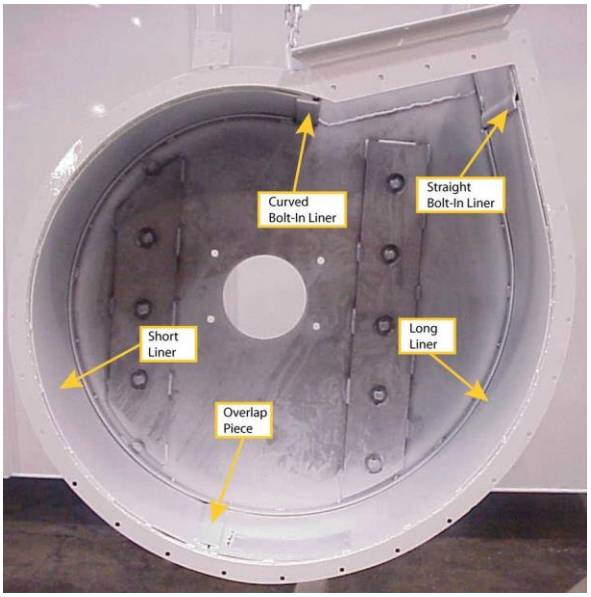
figure 5.3f

figure 5.3g



5.7 Replacing the Blower Housing Liners

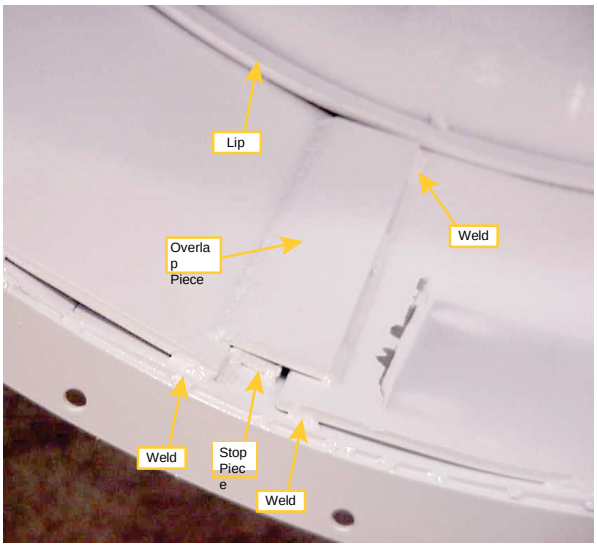
figure 5.5a



WARNING

Keep all fuel and fuel fumes away from the unit when grinding or welding. Work only in a well ventialted 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):

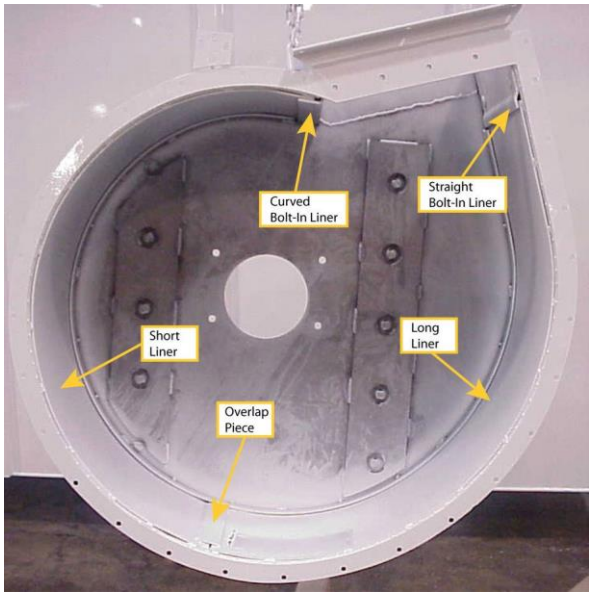
1. Unbolt the the blower housing face as described previously in this manual.
2. Remove the curved and straight bolt-in liners by removing the appropriate bolts.
3. With a grinder cut out the remaining welds to free the liners. DO NOT remove the "stop piece" at the bottom of the housing.

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.

5.7 Replacing the Blower Housing Liners; continued,

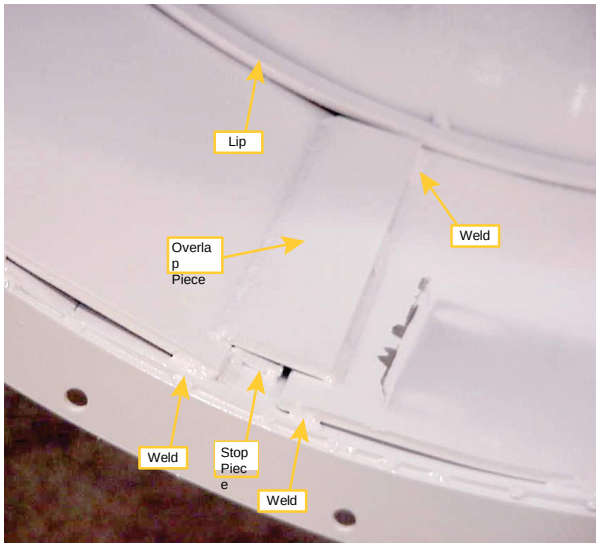
figure 5.5a



⚠WARNING

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

5.10 WIRING DIAGRAMS

ENGINE WIRING DIAGRAMS

5.10 WIRING DIAGRAMS

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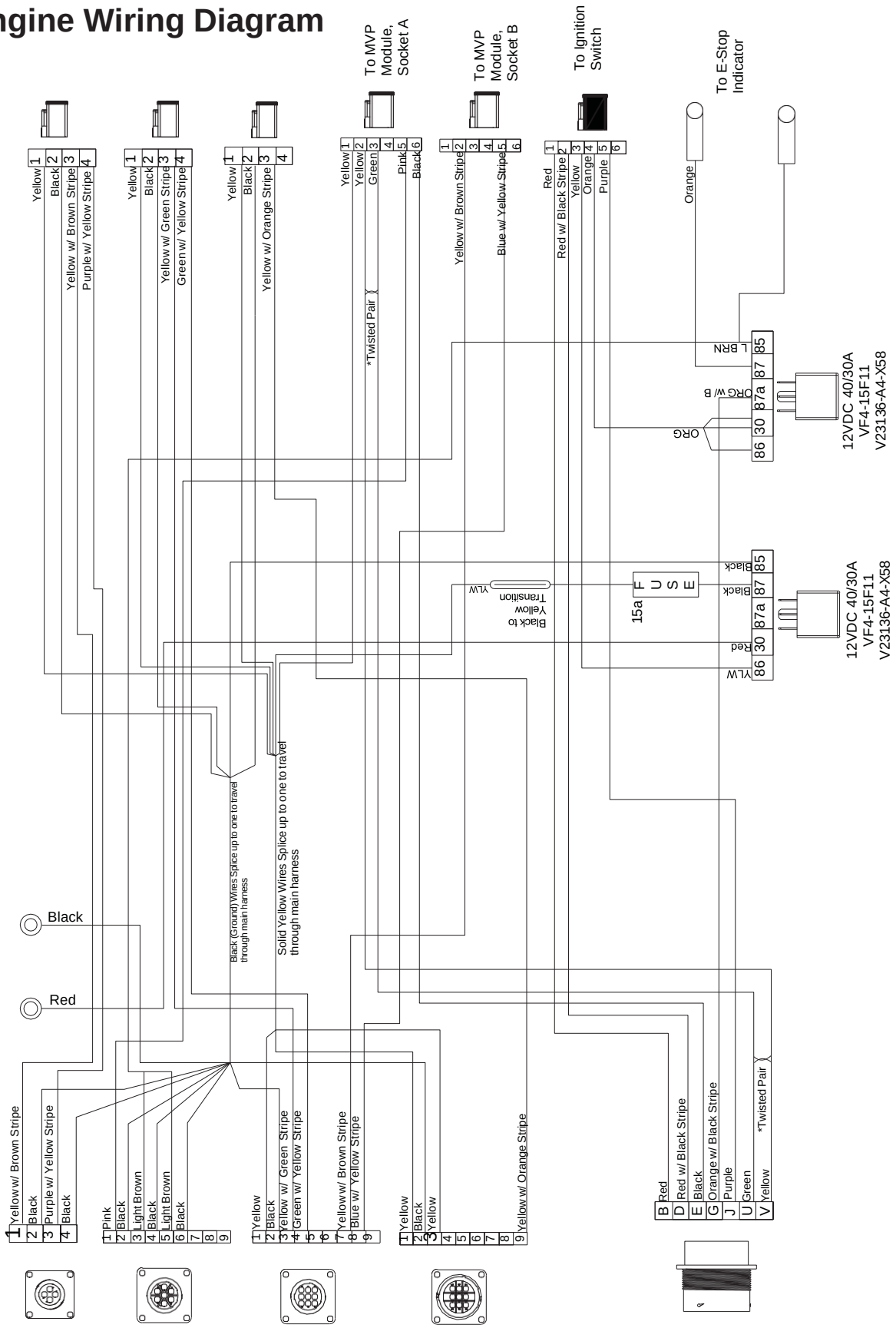
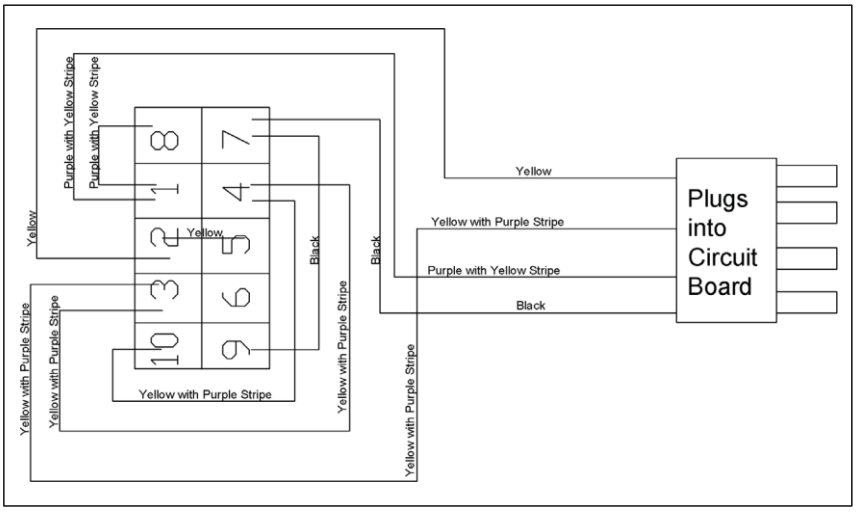
5.10.1 Engine Wiring Diagram



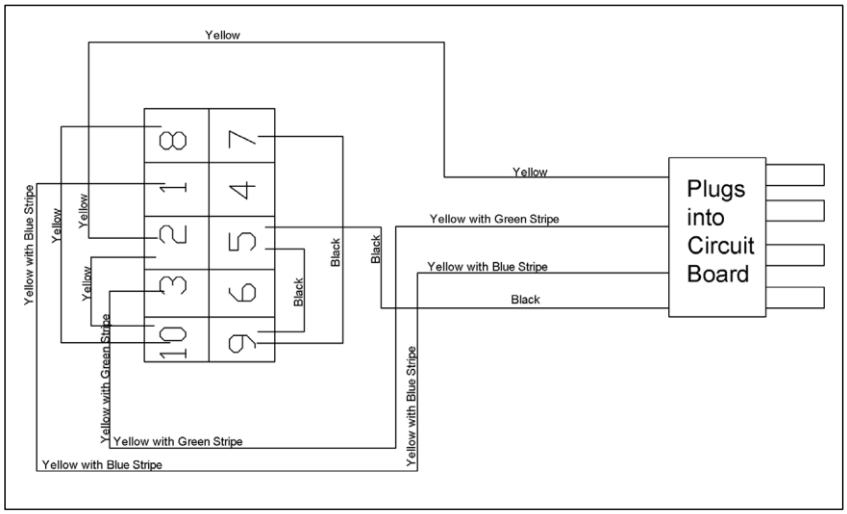
5.10.2 Engine Rocker Switch Wiring Diagrams

Strobe Light Rocker Switch



Pin#	Color	Description
1	Purple w/ Yellow Stripe	"+" Aux from Switch
2	Yellow	"+" from Circuit Board
3	Yellow w/Purple Stripe	"+" from Strobe Light
4	Yellow w/Purple Stripe	Looped from #3
5	Yellow	Looped from #2
6		
7	Black	"-" from Circuit Board
8	Purple w/Yellow Stripe	Looped from #1
9	Black	Looped from #7
10	Yellow w/ Purple Stripe	Looped from #4

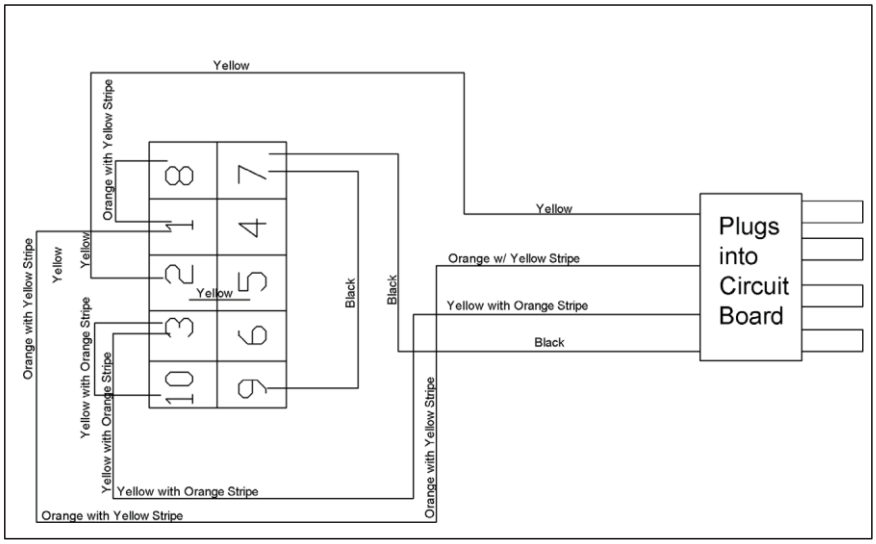
Remote Throttle and Remote Clutch Rocker Switch



Pin#	Color	Description
1	Yellow w/ Blue Stripe	Throttle Fast / Clutch Engage
2	Yellow	"+" from Circuit Board
3	Yellow w/ Green Stripe	Throttle Slow / Clutch Disengage
4		
5	Black	"-" from Circuit Board
6		
7	Black	Looped from #9
8	Yellow	Looped from #10
9	Black	Looped from #5
10	Yellow	Looped from $2

This plug is used for the Remote Throttle and the Remote Clutch Rocker Switches.

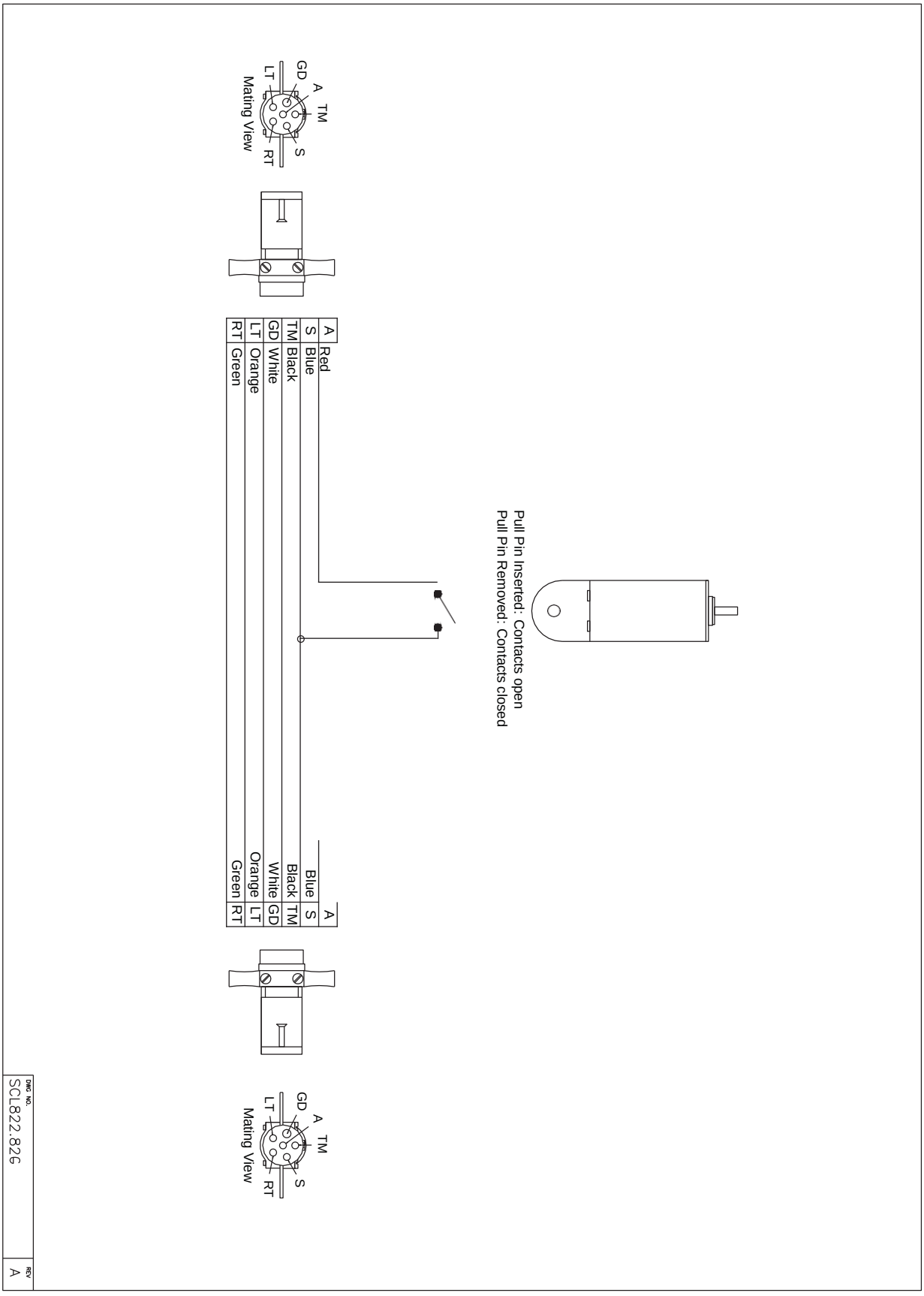
Caterpillar Engine Heater Rocker Switch



Pin#	Color	Description
1	Orange w/ Yellow	"+" Aux from Switch
2	Stripe	"+" from Circuit Board
3	Yellow	"+" to Engine Heater
4	Yellow w/Orange Stripe	
5		Looped from #2
6	Yellow	
7		"-" from Circuit Board
8	Black	Looped from #1
9	Orange w/Yellow Stripe	Looped from #7
10	Black	Looped from #3

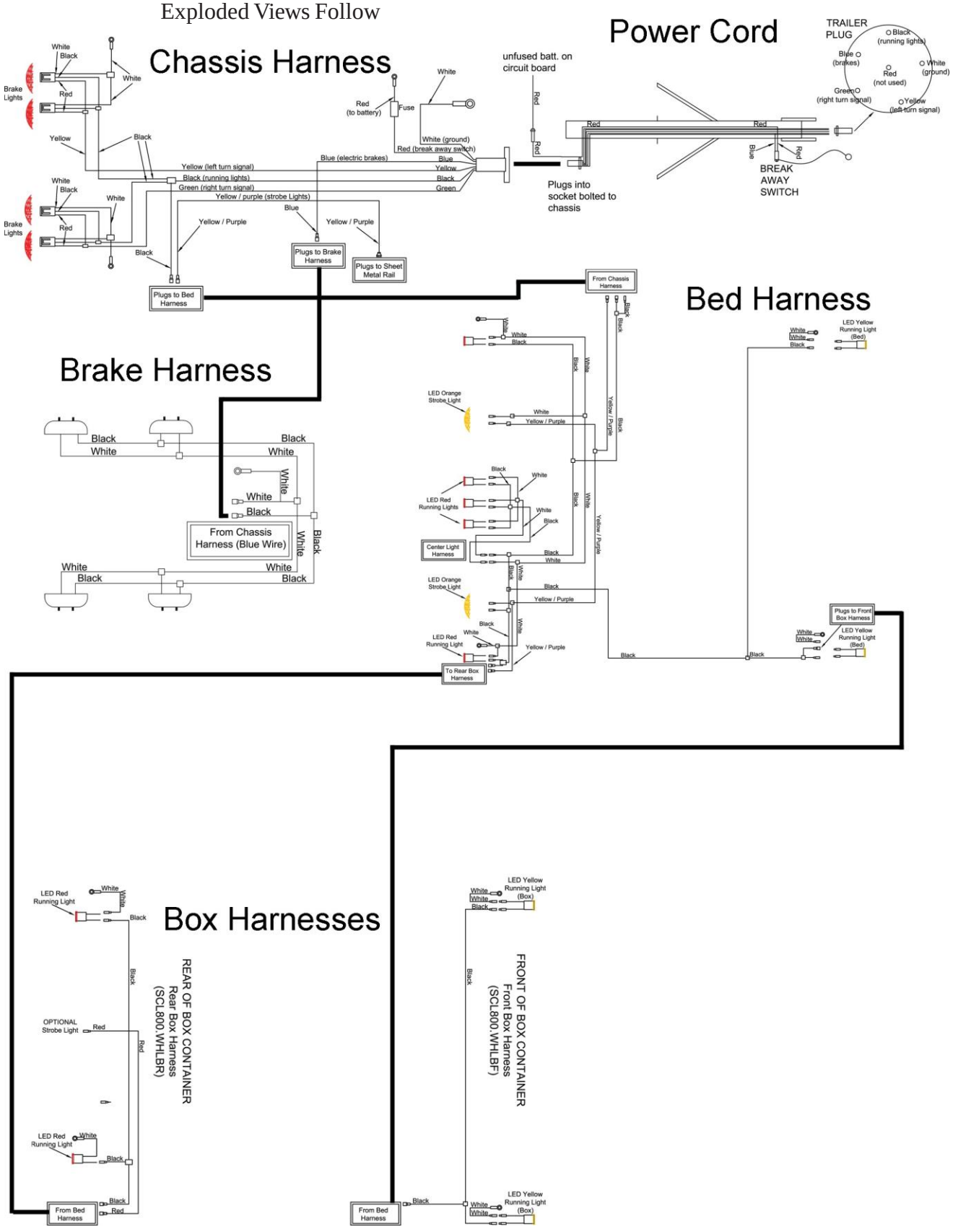
Yellow w/Orange Stripe

5.10.3 Trailer Plug Wiring Diagram

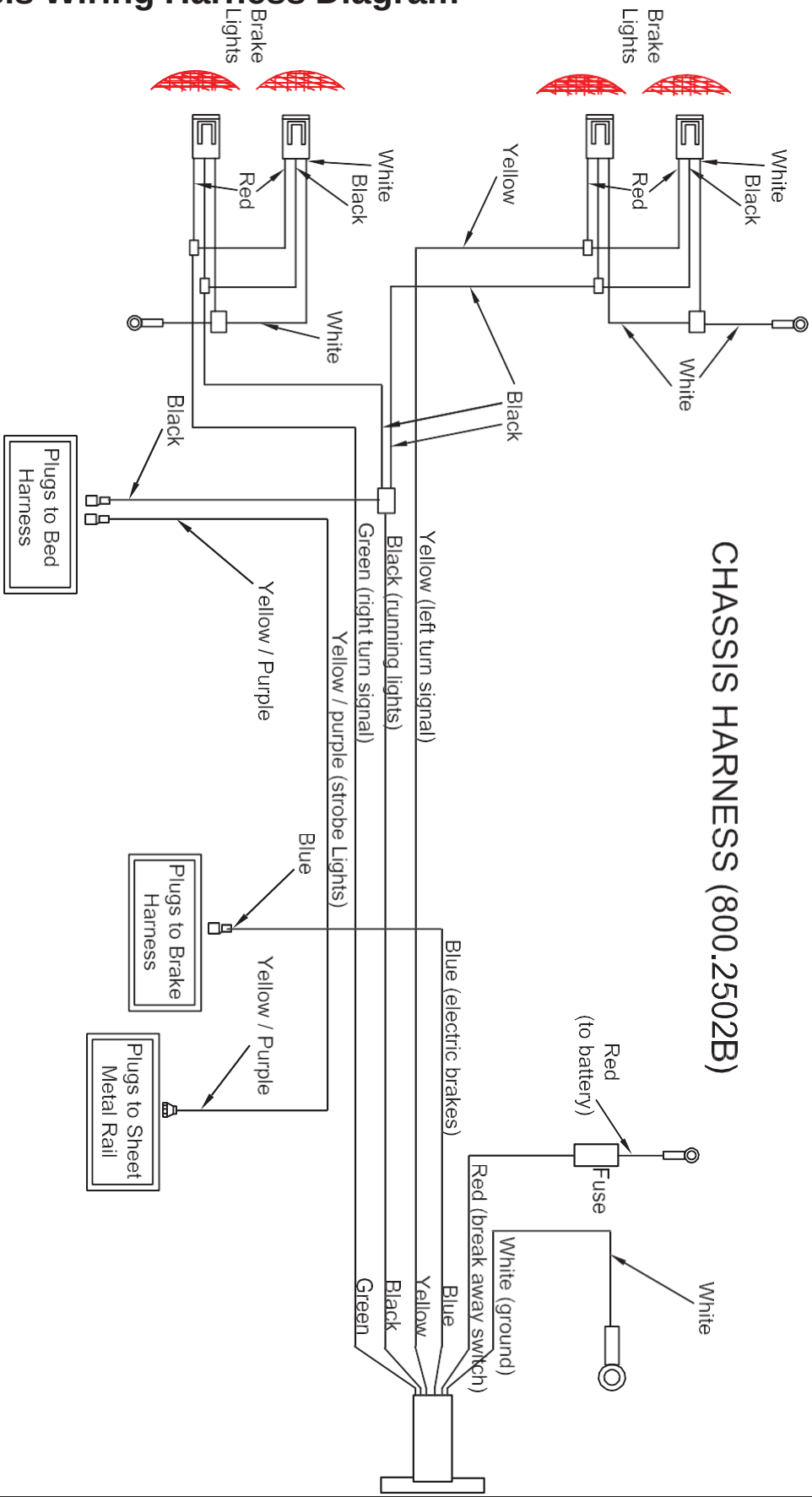


5.10.4 Trailer Bed Wiring Harnesses Diagram

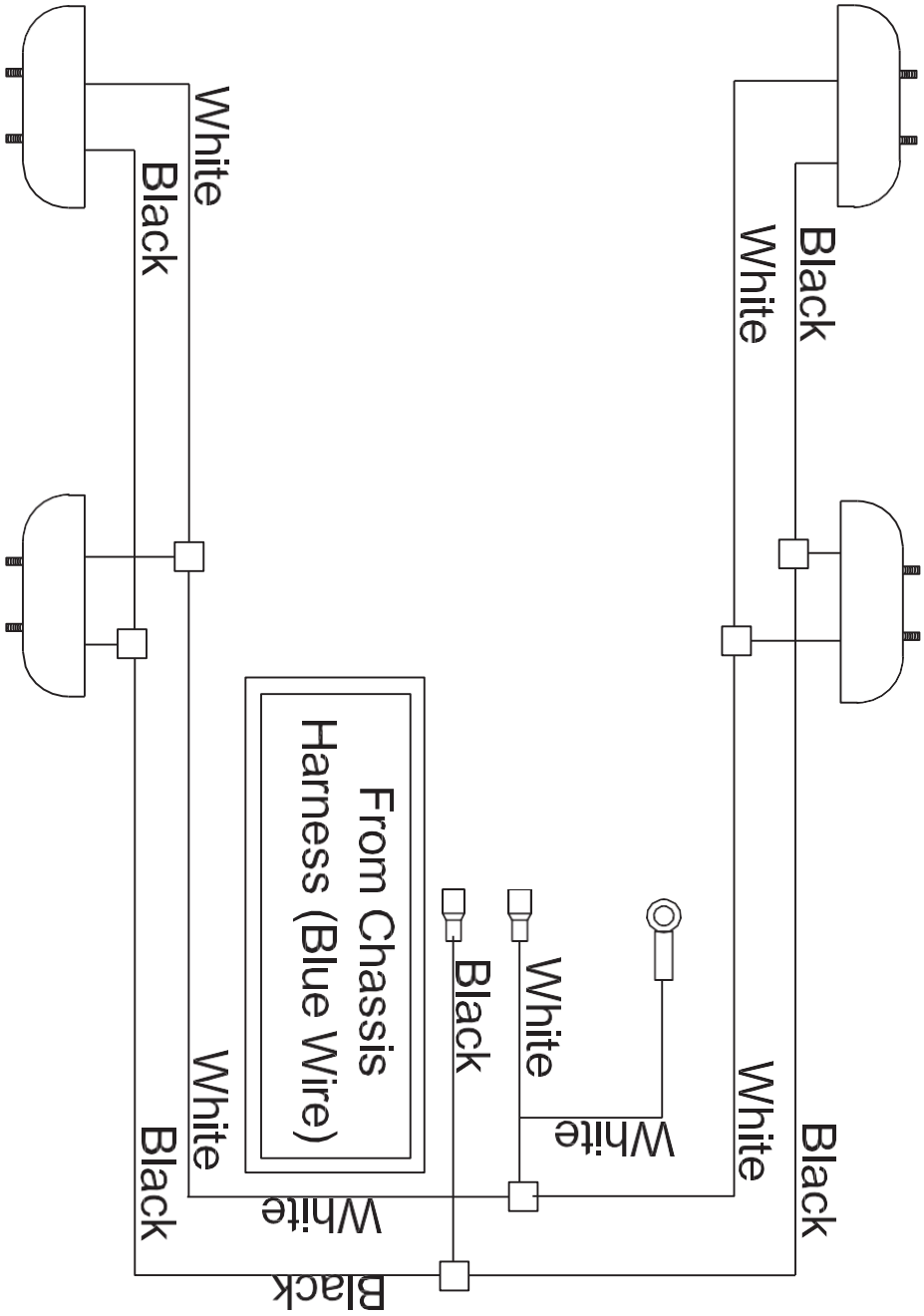
Exploded Views Follow



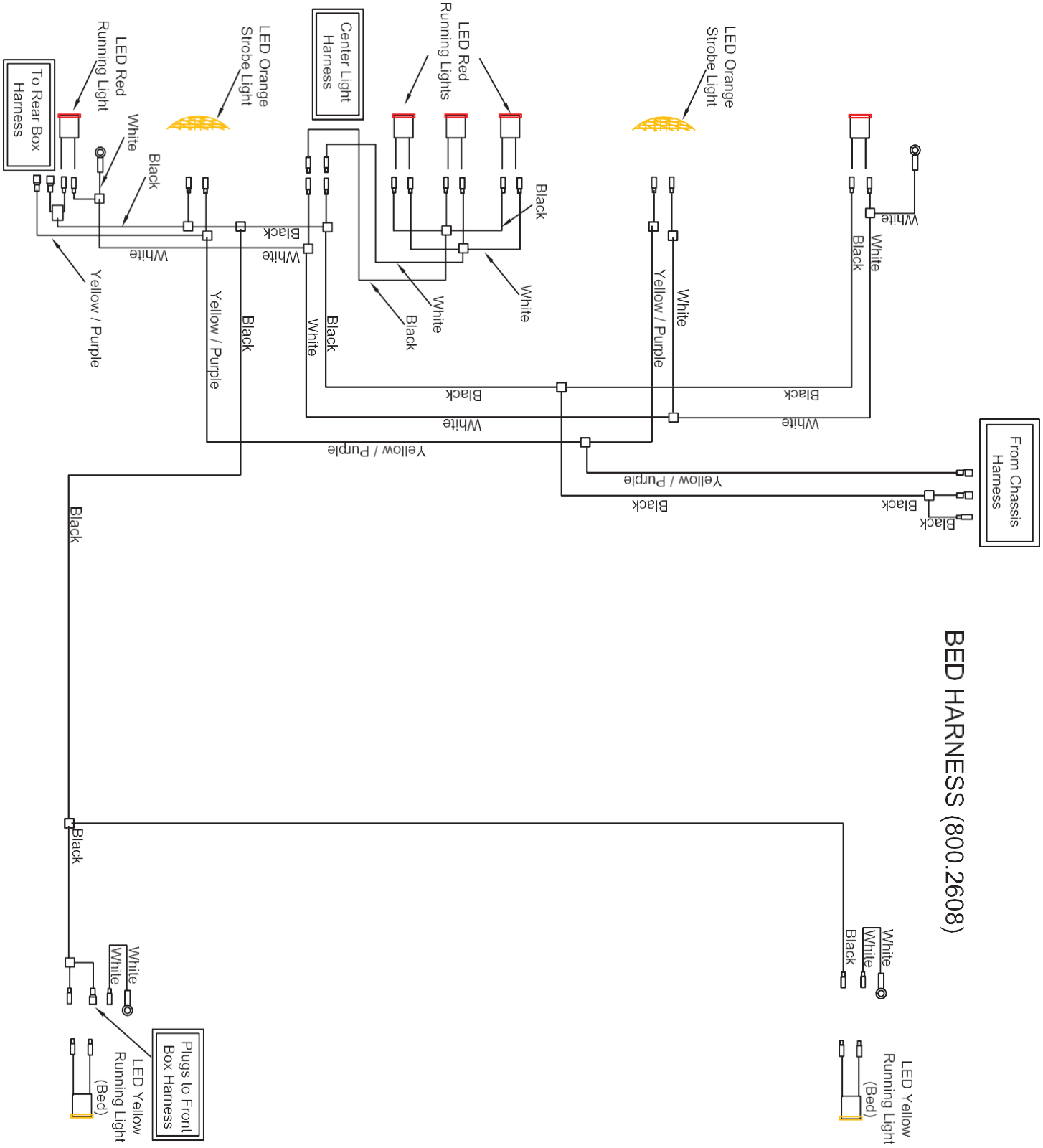
5.10.5 Chassis Wiring Harness Diagram



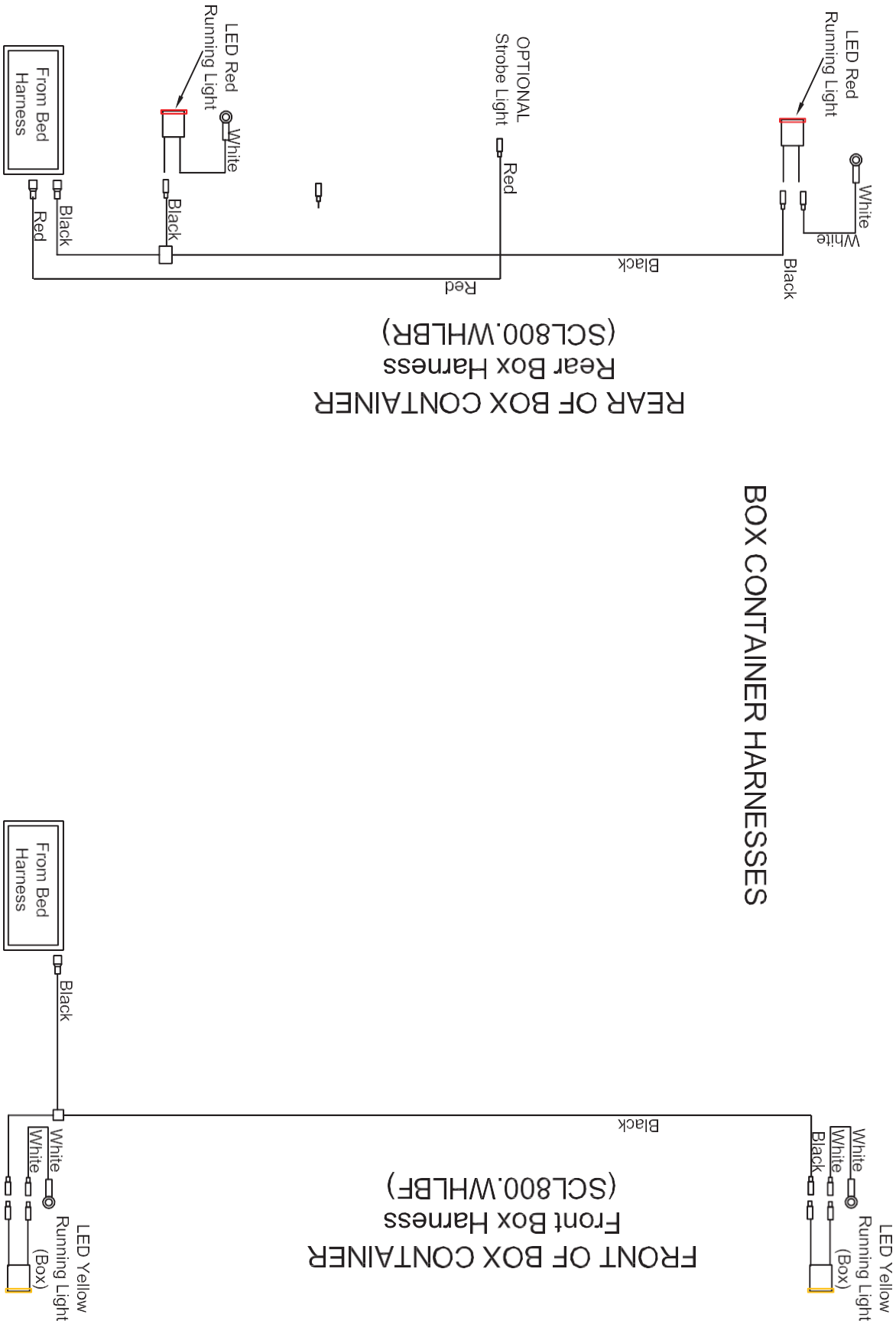
5.10.6 Brake Wiring Harness Diagram



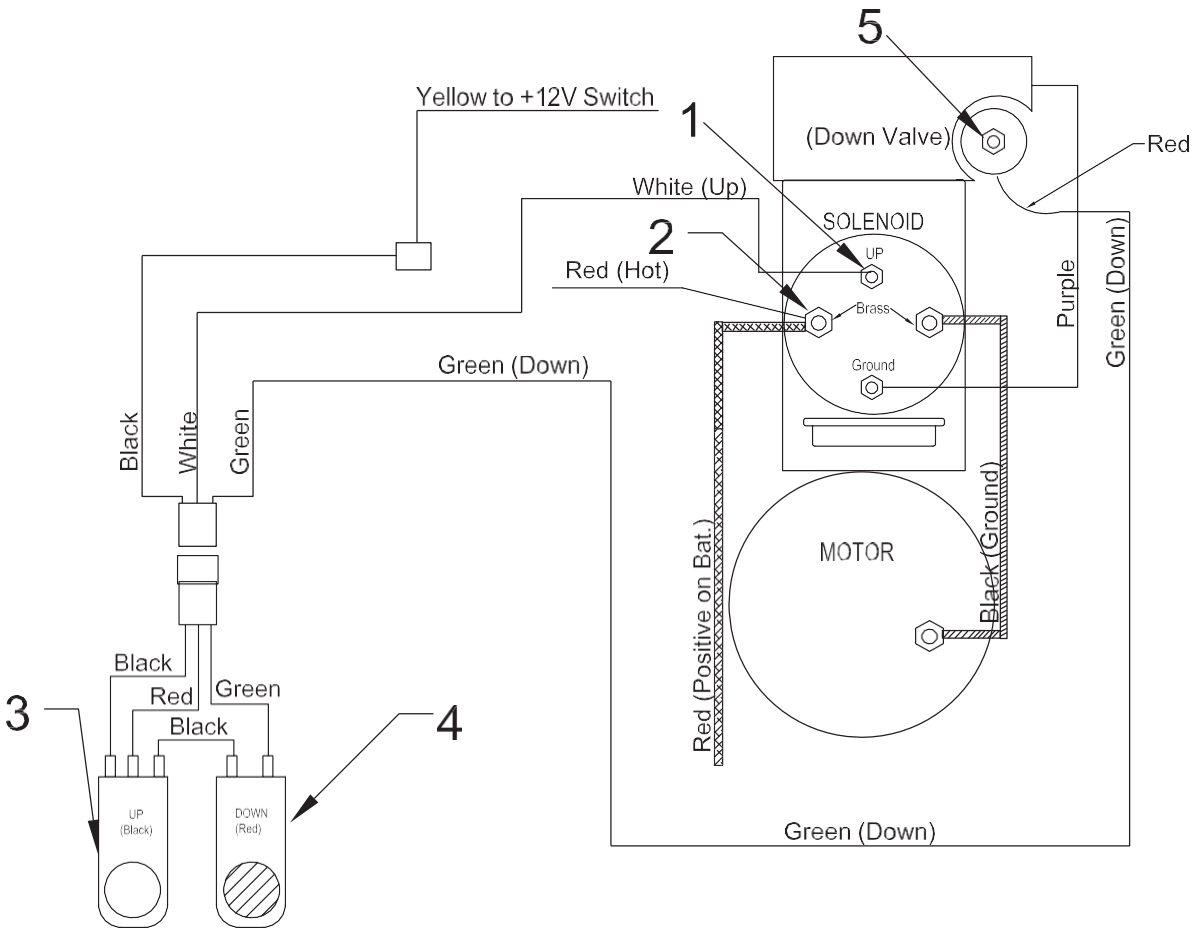
5.10.7 Bed Wiring Harness Diagram



5.10.8 Box Wiring Harness Diagram

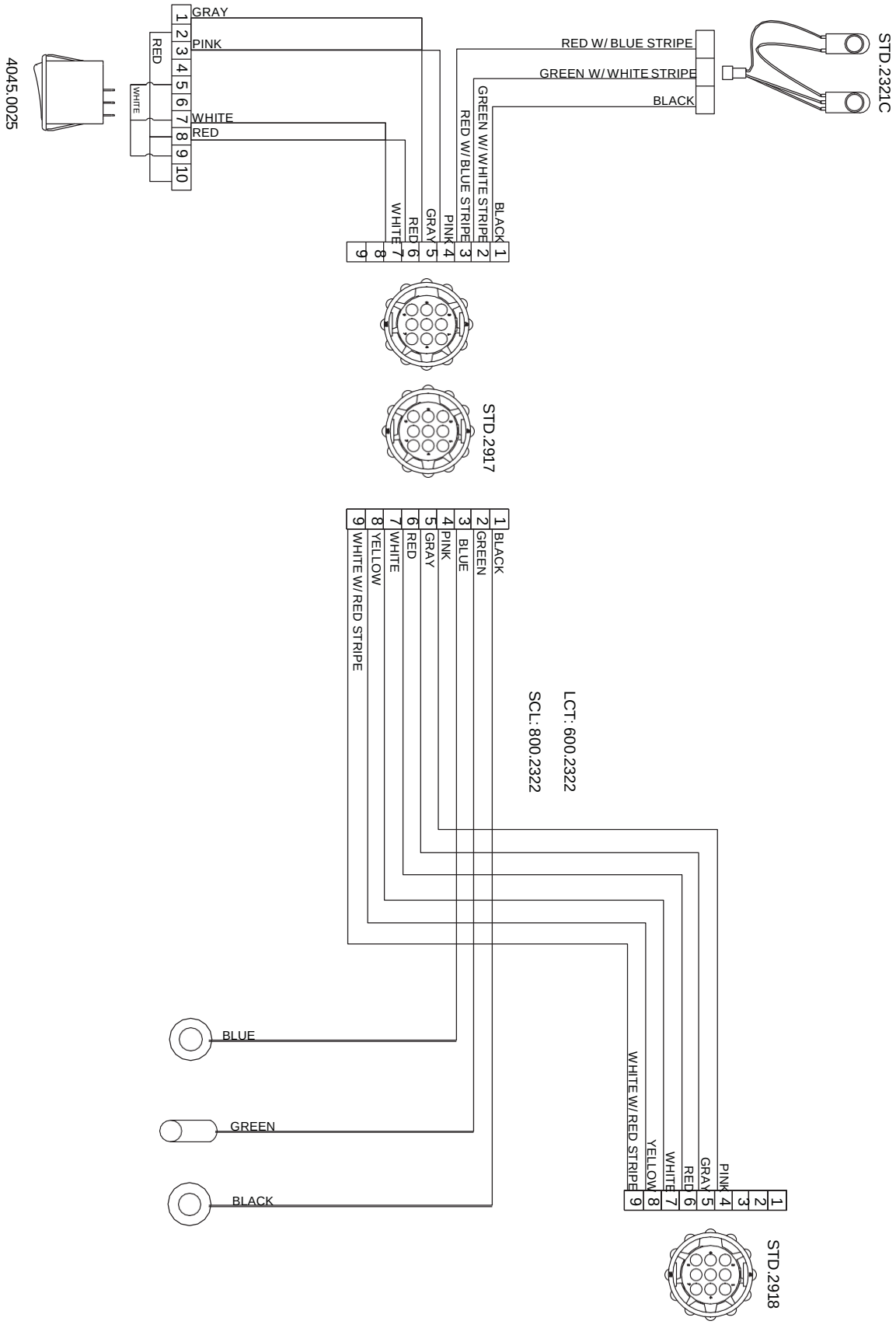


5.10.9 Boom Wiring Diagram

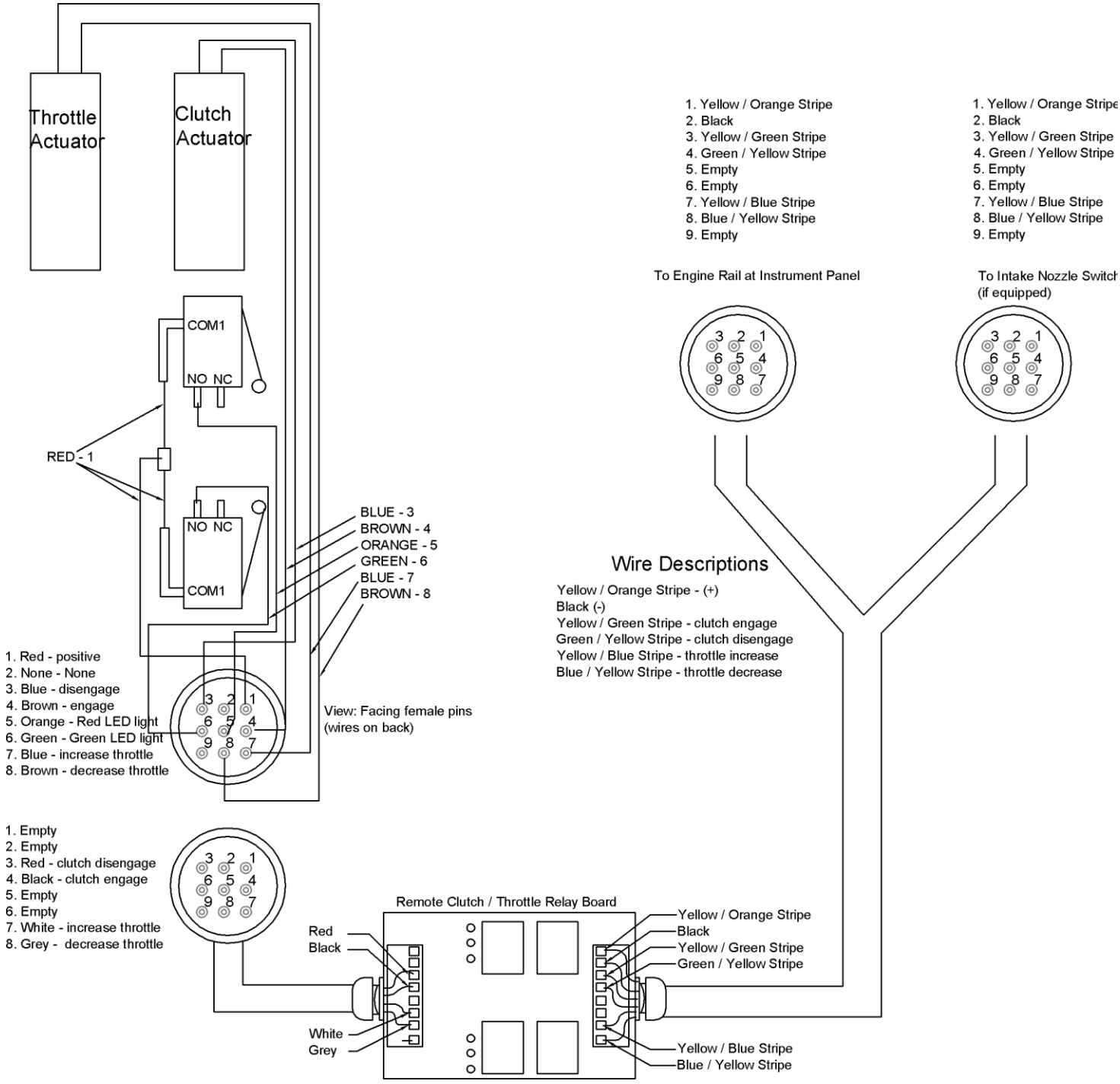


COLOR	FUNCTION
Green	Down
White	Up
Purple	Ground on Solenoid
Red (4 gauge cable)	Positive to Battery
Black (4 gauge cable)	Ground from Solenoid to Hydraulic Motor
Black (from up down switch)	changes to Yellow - Positive for Boom Rocker Switch on instrument panel (if equipped)

5.10.10 Boom Wiring Diagram With Remote Throttle Switch



5.10.11 Remote Throttle / Clutch Wiring Harness



5.20 HYDRAULIC DIAGRAM

5.20 HYDRAULIC DIAGRAM

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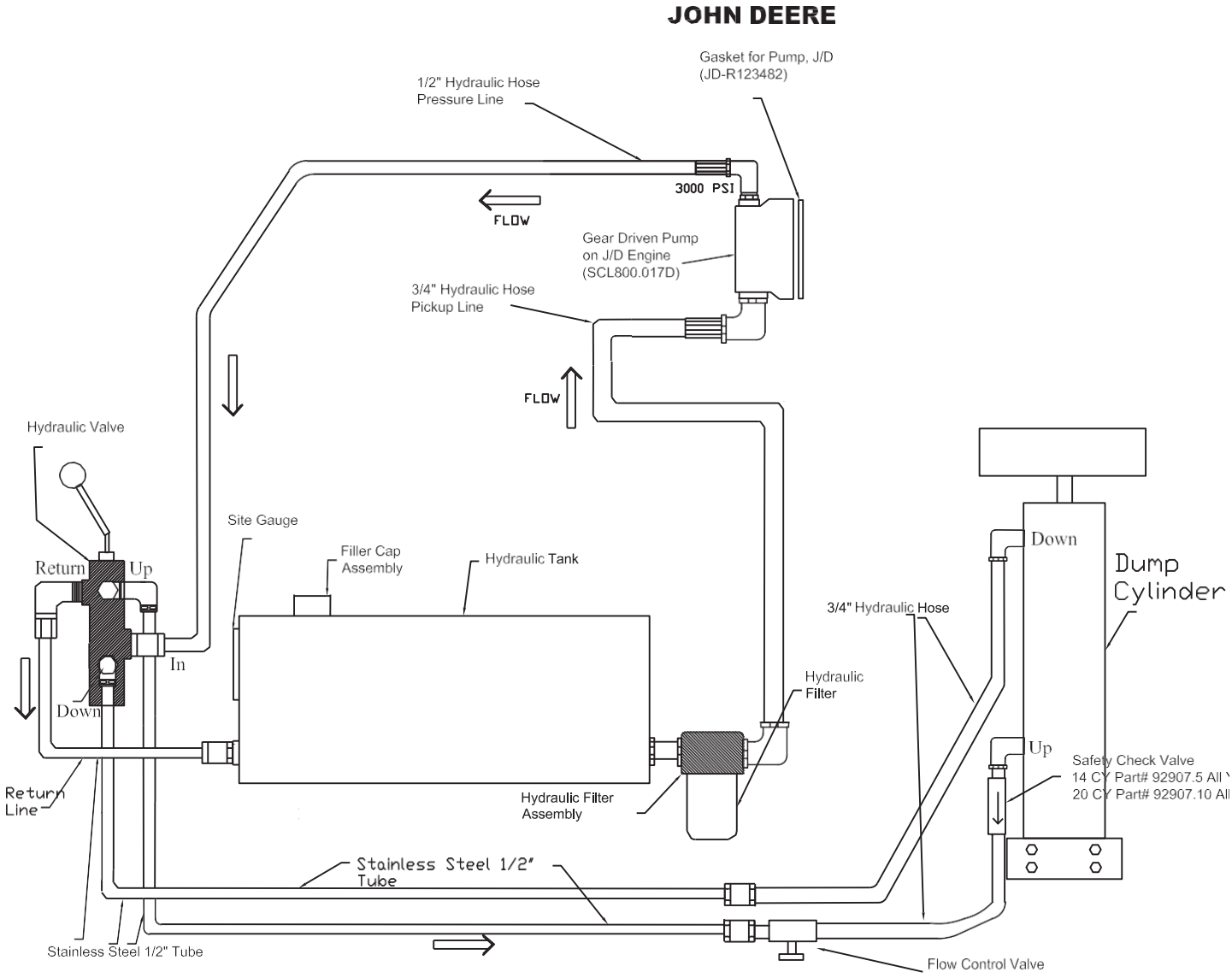
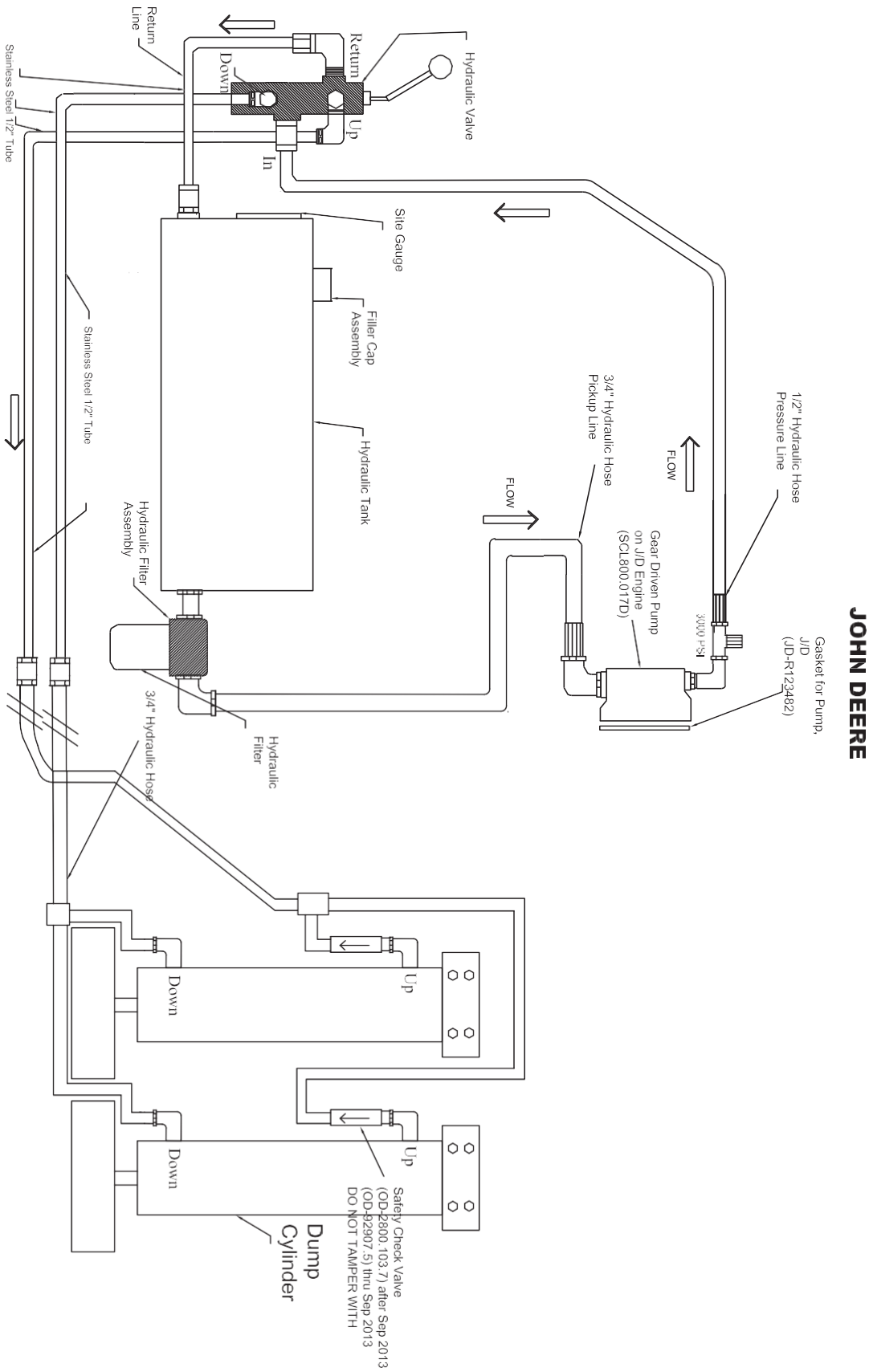
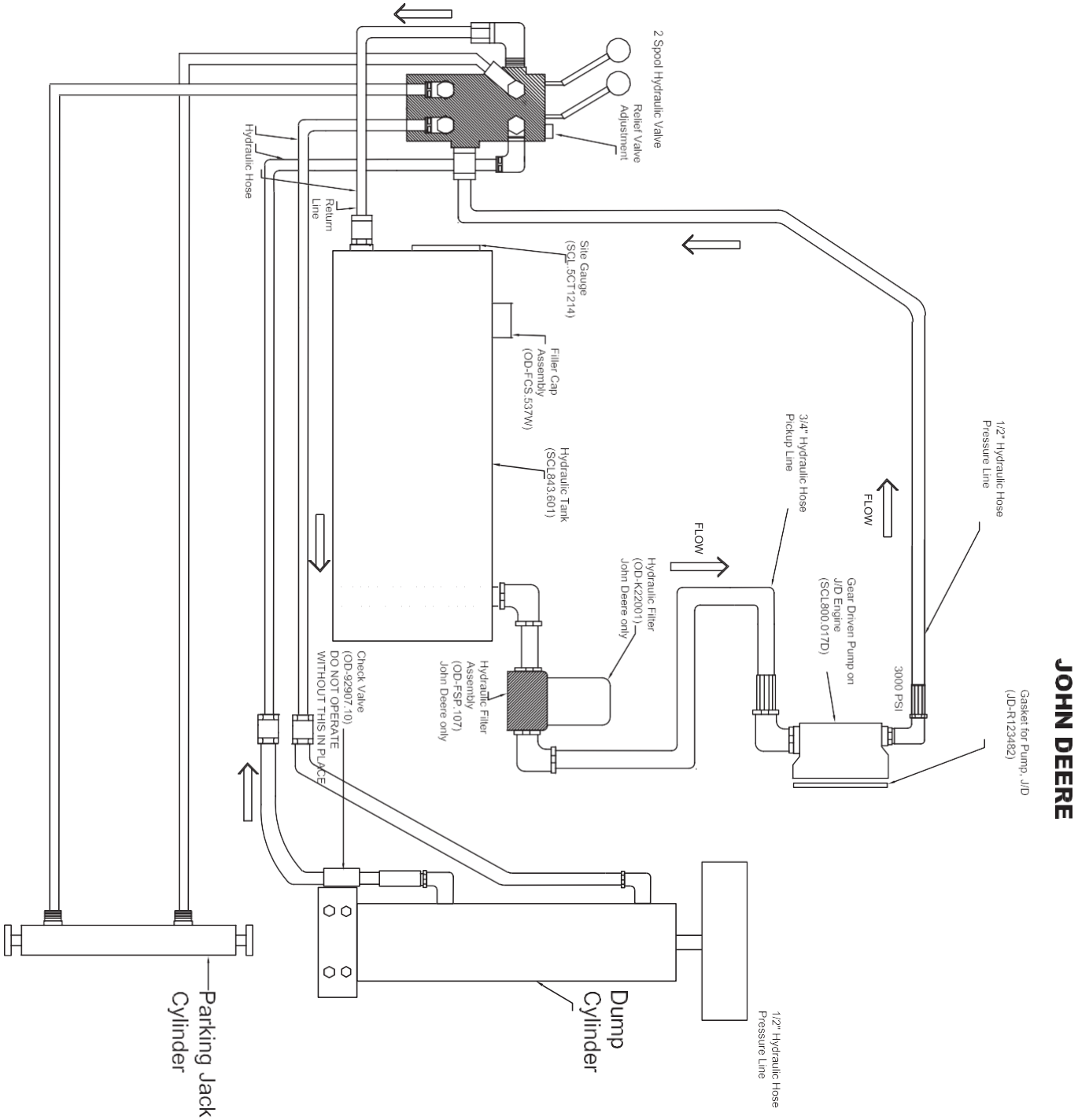
5.20.1 Hoist Hydraulic System 14 and 20CY



5.20.2 Hoist Hydraulic System 25 and 30CY



5.20.3 Hoist Hydraulic System with Parking Jack



PARTS BREAKDOWNS SECTIONS

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6-0

6.0 ENGINE GROUP

6.0 ENGINE GROUP

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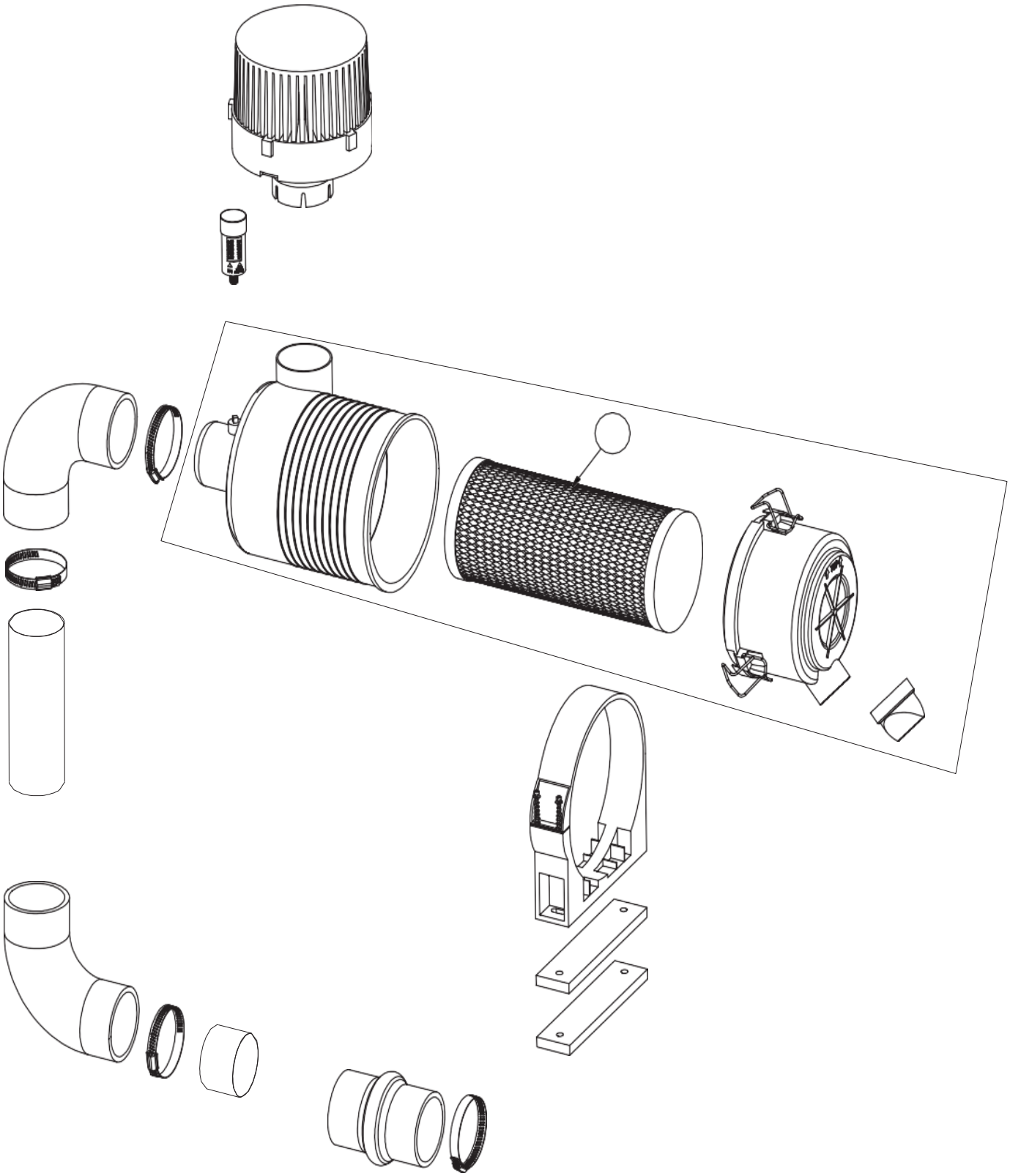
AIR CLEANER GROUP

JOHN DEERE ENGINE



AIR CLEANER GROUP

PART NUMBER:

UU211330001

DESCRIPTION:

TURBO 3 PRECLEANER 4IN

PART NUMBER:

X002102

DESCRIPTION:

AIR RESTRICTION INDICATOR

PART NUMBER:

P123462ODX

DESCRIPTION:

ELBOW 3.5IN TO 3IN

PART NUMBER:

P105608ODX

DESCRIPTION:

CONNECTOR 3IN

PART NUMBER:

P105532ODX

DESCRIPTION:

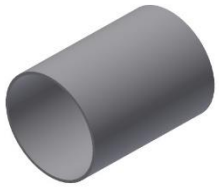
90DEG ELBOW 3IN

PART NUMBER:

696XZ

DESCRIPTION:

3IN ALUMINUM TUBE 4IN LONG



PART NUMBER:

40454010

DESCRIPTION:

3IN ALUMINUM TUBE 18IN LONG

PART NUMBER:

HS52

DESCRIPTION:

HOSE CLAMP

AIR CLEANER GROUP

PART NUMBER:

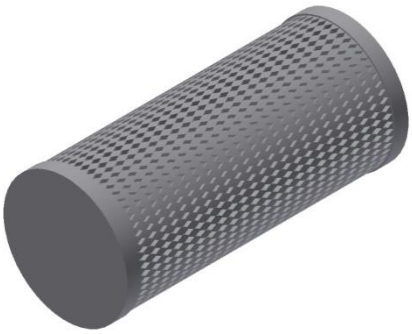
G082527ODX

DESCRIPTION:

AIR BREATHER 8IN (INCLUDES UUP82889, UUP534048, & UUP158914)

PART NUMBER:

UUP828889



DESCRIPTION:

FILTER

PART NUMBER:

UUP534048

DESCRIPTION:

COVER (DOES NOT INCLUDE VACUATOR VALVE)

PART NUMBER:

UUP158914

DESCRIPTION:

VACUATOR VAULVE

PART NUMBER:

P777732ODX

DESCRIPTION:

8IN AIR BREATHER CLAMP

PART NUMBER:

KUB4028M

DESCRIPTION:

AIR CLEANER SPACER

PART NUMBER:

664XZ

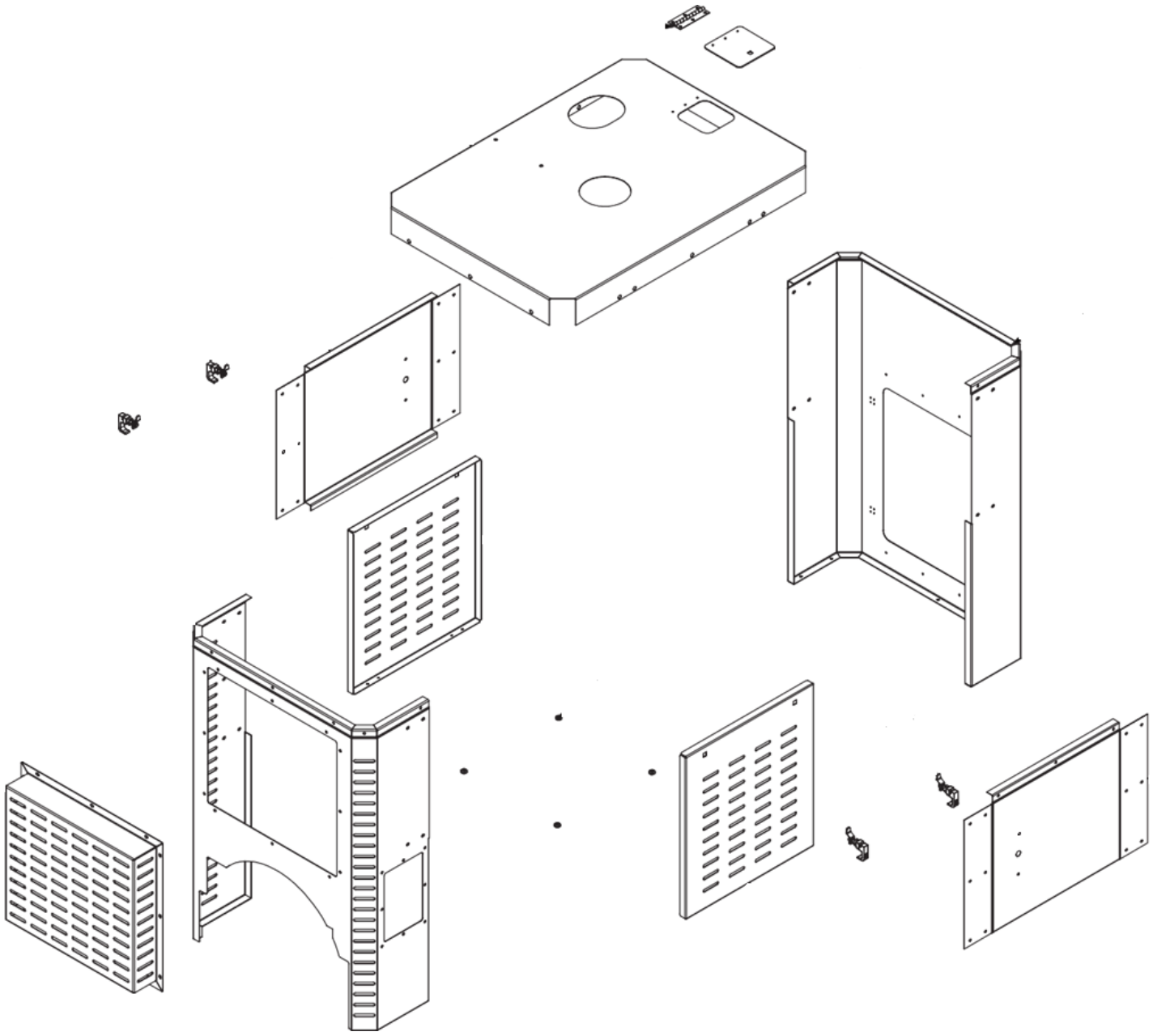
DESCRIPTION:

RUBBER PRE-CLEANER ADAPTER

PART NUMBER:

DESCRIPTION:

SHEET METAL GROUP



SHEET METAL GROUP

PART NUMBER:

40454001

DESCRIPTION:

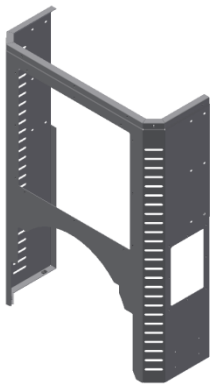
SHEET METAL FRONT

PART NUMBER:

40454002

DESCRIPTION:

SHEET METAL REAR

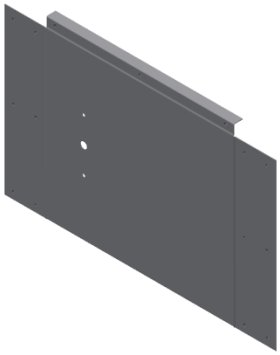


PART NUMBER:

40454003

DESCRIPTION:

SHEET METAL UPPER DOORS

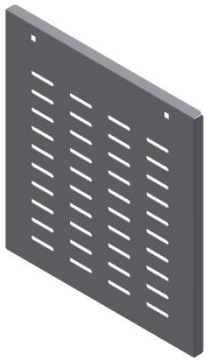


PART NUMBER:

40454004

DESCRIPTION:

SHEET METAL DOORS



PART NUMBER:

40454005

DESCRIPTION:

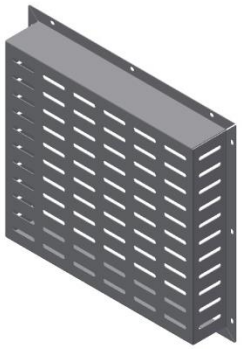
SHEET METAL HOOD

PART NUMBER:

30292108

DESCRIPTION:

REAR ACCESS PANEL



PART NUMBER:

40452102B

DESCRIPTION:

OIL FILL DOOR

PART NUMBER:

LCT60624A

DESCRIPTION:

LIFT AND TURN LATCH

SHEET METAL GROUP

PART NUMBER:

40452102C

DESCRIPTION:

DOOR HINGE (DETAIL ON PAGE 70)

PART NUMBER:

40450018C

DESCRIPTION:

CABLE STRAP

PART NUMBER:

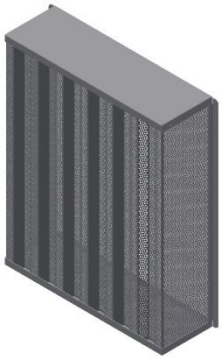
460XZ

DESCRIPTION:

MANUAL CANISTER

PART NUMBER:

40450018SP

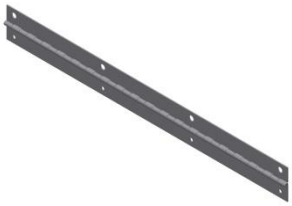


DESCRIPTION:

RADIATOR BOX SCREEN

PART NUMBER:

40450018B

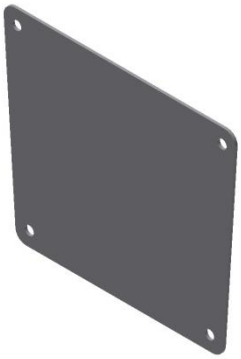


DESCRIPTION:

RADIATOR SCREEN HINGE (DETAILS ON PAGE 71)

PART NUMBER:

40454104



DESCRIPTION:

ECU MOUNTING PLATE

PART NUMBER:

LCT650114

DESCRIPTION:

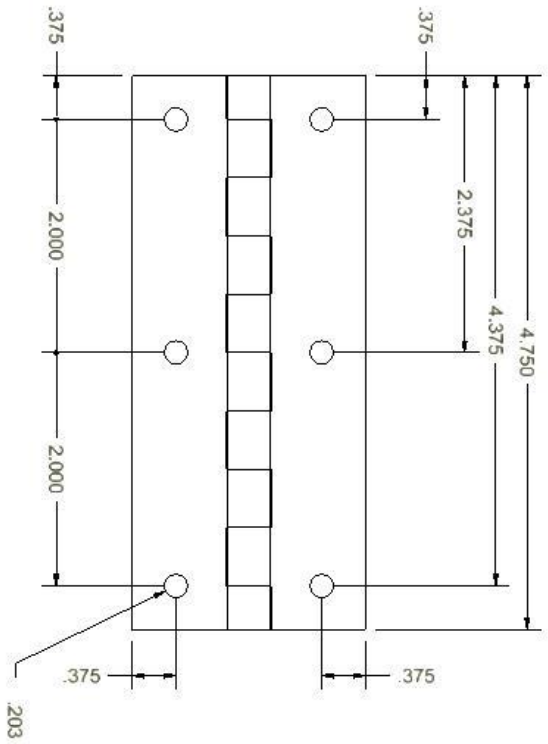
PANEL COVER CLAMP

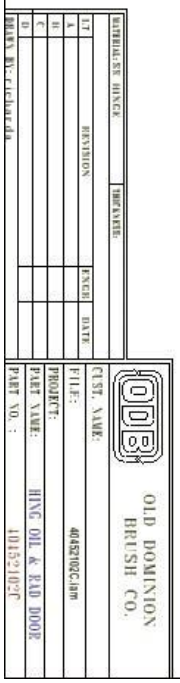
PART NUMBER:

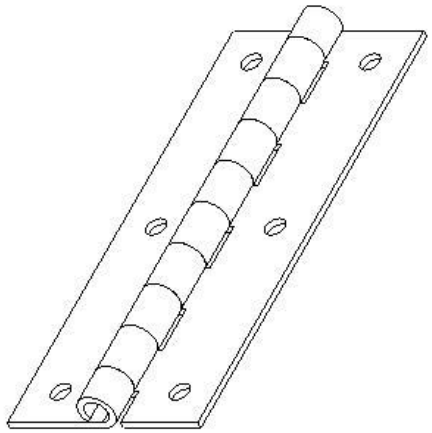
40450018C

DESCRIPTION:

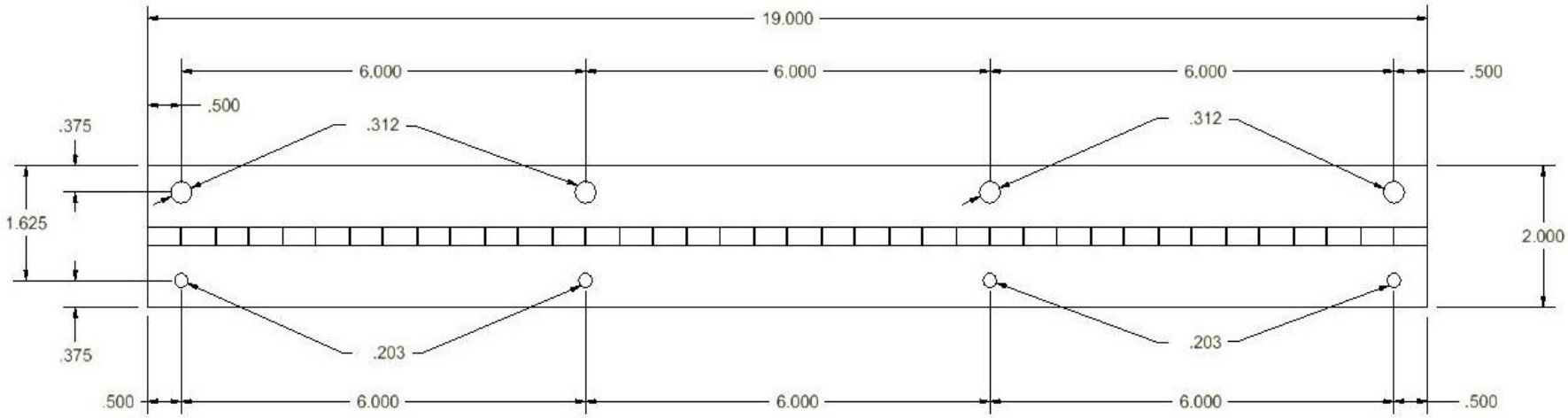
CABLE STRAP


.375
.375
2.375
4.375
4.750
2.000
2.000
.375
.375
.203


DISTRIBUTOR HINGE
REVISION
ENGR
DATE
CUST. NAME:
FILE:
4045102C.idw
PROJECT:
PART NAME:
HVY. OIL & RAD DOOR
PART NO. :
1015210?C
OLD DOMINION
BRUSH CO.



RADIATOR SCREEN 4045.0018B HINGE



304 STAINLESS STEEL HINGE 2" OPEN, 16 GAUGE (19" LONG)

MATERIAL:	THICKNESS:		
LT	REVISION	ENGR	DATE
A			
B			
C			
D			
DRAWN BY: joshc			

OLD DOMINION BRUSH CO.	
CUST. NAME:	
FILE:	HINGEJam
PROJECT:	
PART NAME:	
PART NO. :	1045.0018B

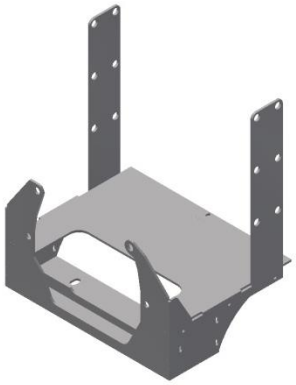
ENGINE MOUNT AND ATTACHMENT GROUP

PART NUMBER:

40452151A

DESCRIPTION:

FRONT ENGINE MOUNT

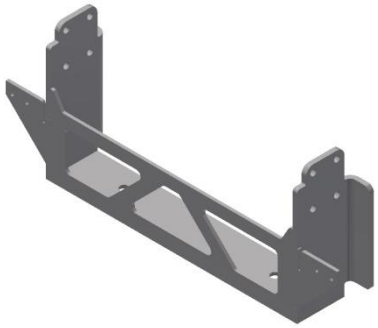


PART NUMBER:

40452152

DESCRIPTION:

REAR ENGINE MOUNT



PART NUMBER:

40454006

DESCRIPTION:

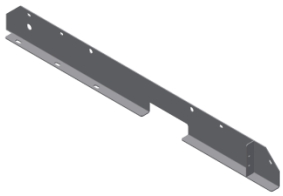
RIGHT HAND SIDE RAIL

PART NUMBER:

40454007

DESCRIPTION:

LEFT HAND SIDE RAIL



PART NUMBER:

202XZ

DESCRIPTION:

ADJUSTABLE MOTOR MOUNT

PART NUMBER:

255XZ

DESCRIPTION:

ADJUSTABLE MOTOR MOUNT CHANNEL

PART NUMBER:

400050A

DESCRIPTION:

CLUTCH ASSIST CYLINDER

PART NUMBER:

400053C

DESCRIPTION:

CLUTCH ASSIST BRACKET

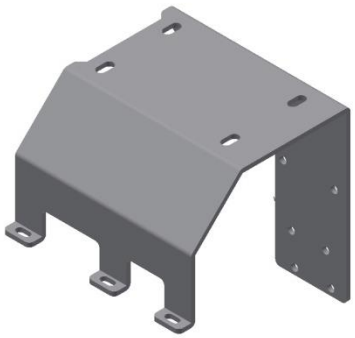
ENGINE MOUNT AND ATTACHMENT GROUP

PART NUMBER:

40454100

DESCRIPTION:

EXHAUST FILTER MOUNTING BRACKET



PART NUMBER:

40454101

DESCRIPTION:

EXHAUST FILTER SADDLE BRACKET

PART NUMBER:

40454103

DESCRIPTION:

EXHAUST SENSOR BRACKET

PART NUMBER:

40454504

DESCRIPTION:

FUEL COOLER BRACKET

PART NUMBER:

1303XZ

DESCRIPTION:

CANISTER MOUNTING BRACKET

PART NUMBER:

RE241176

DESCRIPTION:

FUEL COOLER

PART NUMBER:

HYF1046

DESCRIPTION:

HOSE BARB STRAIGHT

PART NUMBER:

392XZ

DESCRIPTION:

AUX DRIVE KIT

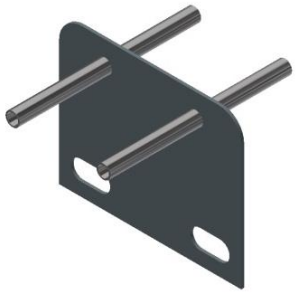
ENGINE MOUNT AND ATTACHMENT GROUP

PART NUMBER:

400016ODX

DESCRIPTION:

FUEL LINE BRACKET



PART NUMBER:

1490XZ

DESCRIPTION:

5/8 HEATER HOSE, 18IN LONG

PART NUMBER:

JDRE539472

DESCRIPTION:

FITTING

PART NUMBER:

JDX3J98266

DESCRIPTION:

ELBOW

PART NUMBER:

400050C1

DESCRIPTION:

BEARING CLUTCH ASSIST

PART NUMBER:

DESCRIPTION:

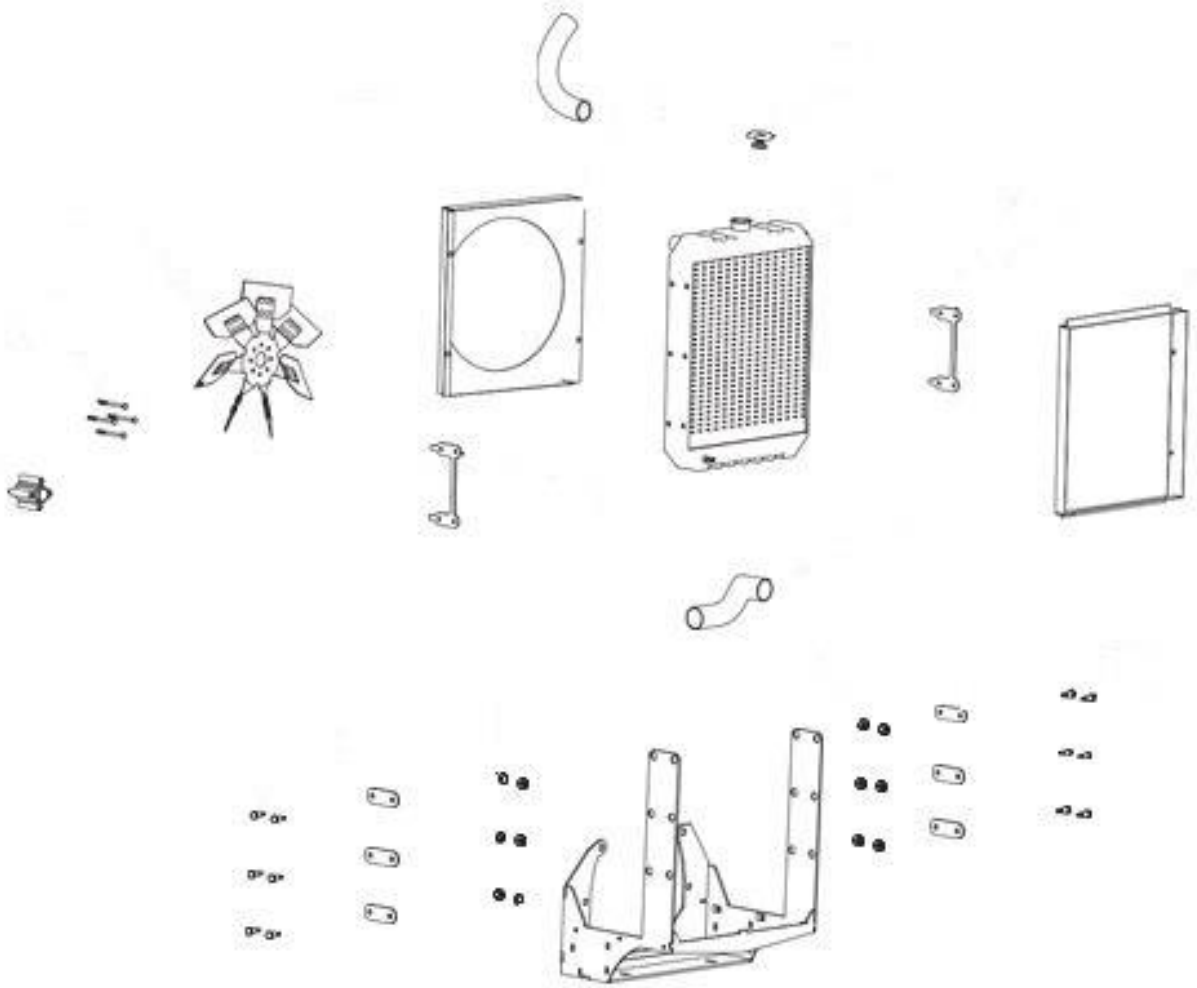
PART NUMBER:

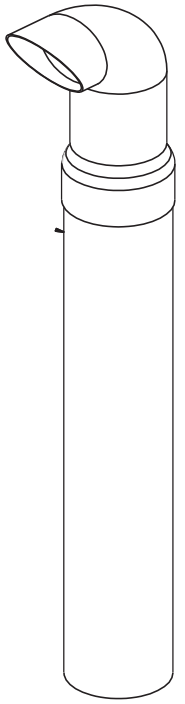
DESCRIPTION:

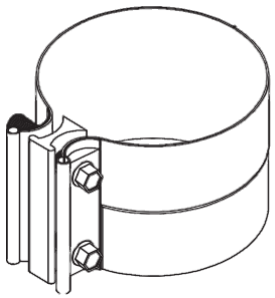
PART NUMBER:

DESCRIPTION:

RADIATOR ASSEMBLY AND MUFFER GROUP







RADIATOR ASSEMBLY AND MUFFER GROUP

PART NUMBER:

40454105

DESCRIPTION:

TAIL PIPE, 3IN X 26IN

PART NUMBER:

J0002000ODX

DESCRIPTION:

3IN MUFFLER CLAMP

PART NUMBER:

40459501A2

DESCRIPTION:

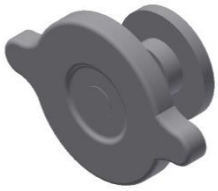
RADIATOR

PART NUMBER:

10300

DESCRIPTION:

RADIATOR CAP



PART NUMBER:

40452190A

DESCRIPTION:

REAR RADIATOR SHROUD

PART NUMBER:

40452190B

DESCRIPTION:

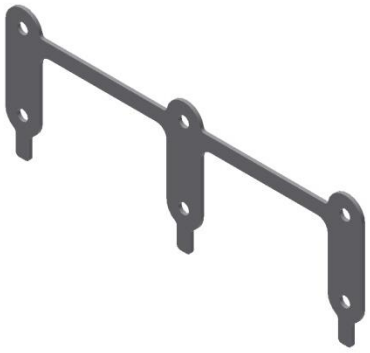
FRONT RADIATOR SHROUD

PART NUMBER:

40452151G

DESCRIPTION:

RADIATOR SHIM



PART NUMBER:

AT35158

DESCRIPTION:

RADIATOR FAN

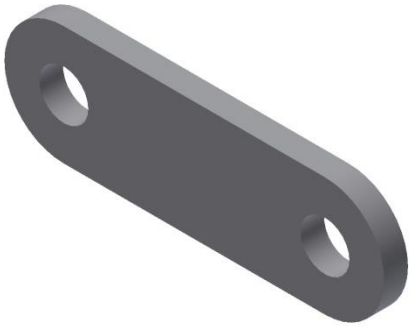
RADIATOR ASSEMBLY AND MUFFER GROUP

PART NUMBER:

40452151F

DESCRIPTION:

RADIATOR BOLT BRACKET



PART NUMBER:

256126012

DESCRIPTION:

RADIATOR GROMMET

PART NUMBER:

R128443

DESCRIPTION:

FAN SPACER

PART NUMBER:

8411ODX

DESCRIPTION:

UPPER RADIATOR HOSE

PART NUMBER:

40459681

DESCRIPTION:

LOWER RADIATOR HOSE

PART NUMBER:

G8M8X090

DESCRIPTION:

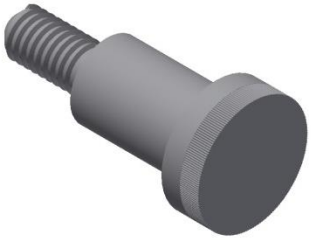
RADIATOR FAN SHOULDER BOLTS

PART NUMBER:

ZSB500750

DESCRIPTION:

RADIATOR SHOULDER BOLT



PART NUMBER:

40000694

DESCRIPTION:

EXHAUST PIPE RECIEVER

RADIATOR ASSEMBLY AND MUFFER GROUP

PART NUMBER:

HS60

DESCRIPTION:

HOSE CLAMP 3.5IN

PART NUMBER:

HS28

DESCRIPTION:

FOSE CLAMP 1.75-2.375IN

PART NUMBER:

HS32

DESCRIPTION:

HOSE CLAMP .5IN

PART NUMBER:

HS36

DESCRIPTION:

HOSE CLAMP #36

PART NUMBER:

DESCRIPTION:

PART NUMBER:

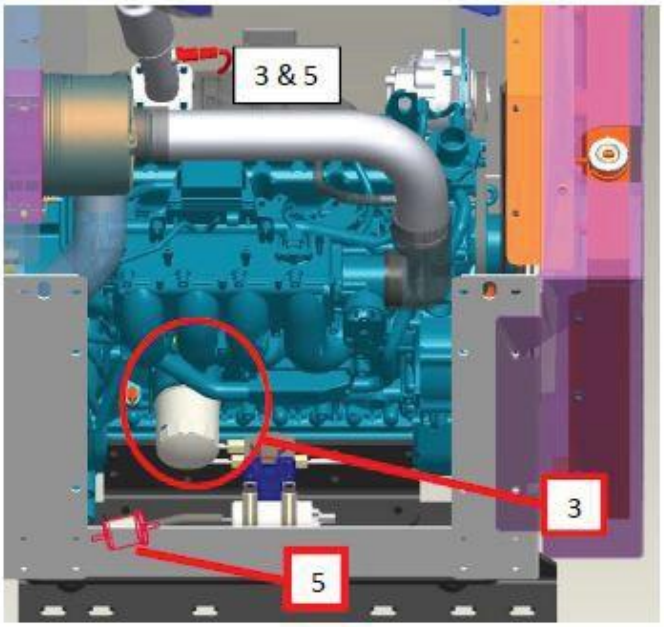
DESCRIPTION:

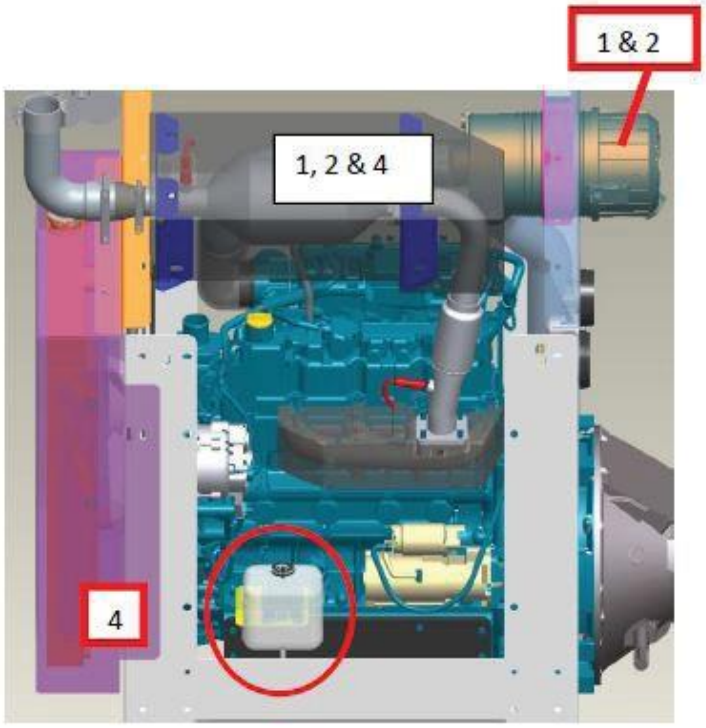
PART NUMBER:

DESCRIPTION:

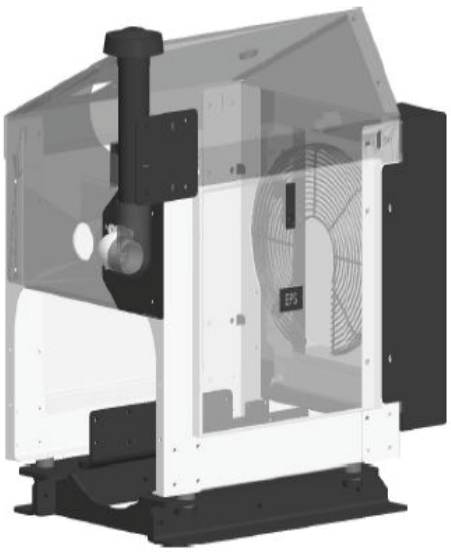
PART NUMBER:

DESCRIPTION:





	Description	Service Interval	Task Required	Notes
1	Air Filter	Yearly/As Needed	Replace Filter	Use Approved Filter **P/N: CH07-14074**
2	Safety Element	Yearly/As Needed	Replace Filter	Use Approved Filter **P/N: ST07-14270**
3	Oil Filter	*Every 400 Hours*	Change Oil & Filter 3.22 US Gal Capacity	Use SL or Better Oil Filter **P/N: EG505-32111**
4	Radiator Overflow Reservoir	Daily	Check Fluid Level	50/50 Anti-Freeze/Water Ratio Fill to Line on Reservoir
5	Fuel Filter	Every 100 Hours Yearly	Check Filter Replace Filter	Use Approved Filter **P/N: 12581-43012**
6	***Spark Plugs***	Every 100 Hours Every 2000 Hours	Clean/Adjust Spark Plugs Change Spark Plugs	Use Approved Spark Plugs **P/N: IFR6F8DN**



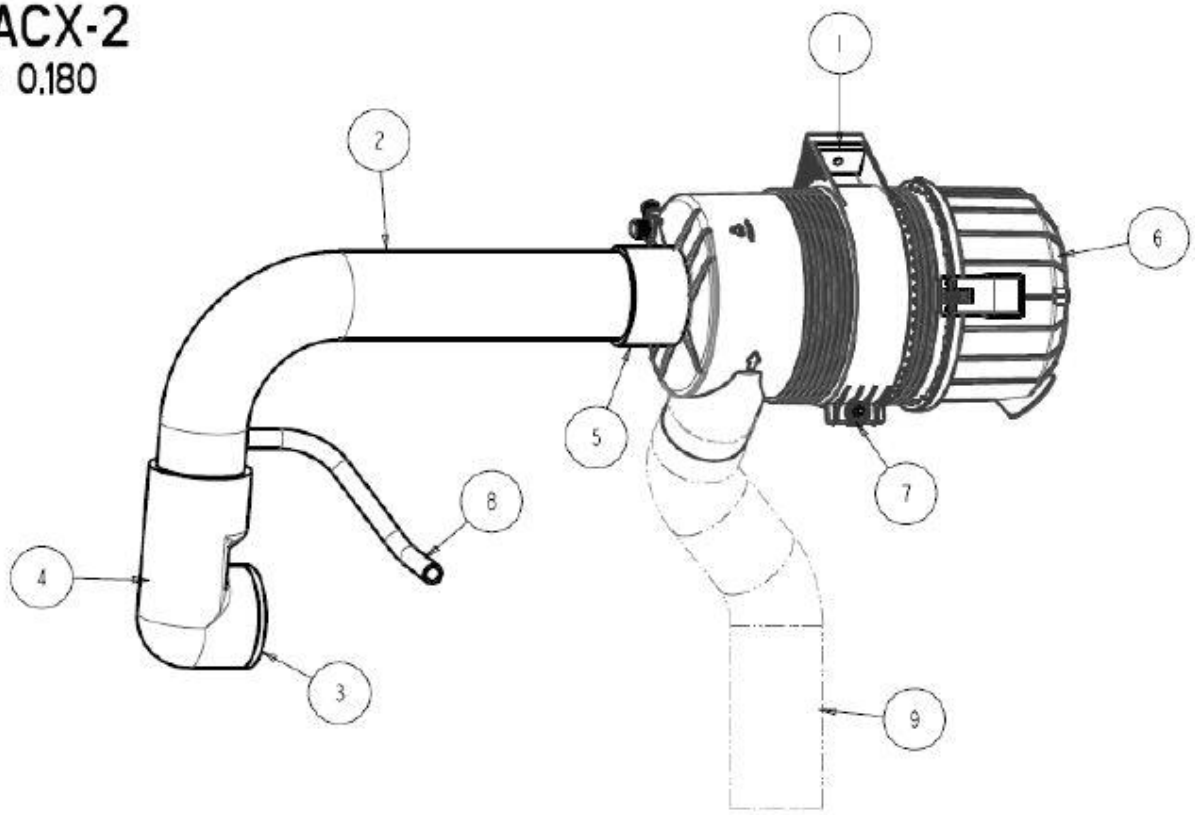
8149X-ODB
SCALE: 0.070

BILL OF MATERIALS

ITEM	FILE NAME	DESCRIPTION	MANUF.	MANUF. NO.	QTY
1	1737	FAN GUARD, 19"	EPS	EPS1737	1
2	6642	ISOLATOR CUP	EPS	EPS6642	4
3	8083	WG3800-G RADIATOR	EPS	EPS9999	1
4	8150	WG38C SUB-FRAME	EPS	EPS8150	1
5	8151	WG38C ENG MNT	EPS	EPS8151	2
6	8152	WG38C SHROUD	EPS	EPS8152	1
7	8153	WG38C BOTTOM RAIL R	EPS	EPS8153	1
8	8154	WG38C BOTTOM RAIL L	EPS	EPS8154	1
9	8155	WG38C POST FRONT R	EPS	EPS8155	1
10	8156	WG38C POST FRONT L	EPS	EPS8156	1
11	8157	WG38C POST REAR R	EPS	EPS8157	1
12	8158	WG38C POST REAR L	EPS	EPS8158	1
13	8159	WG38C REAR PANEL	EPS	EPS8159	1
14	8161	WG38C FUEL BKT	EPS	EPS8161	1
15	8168	WG38C CONTROL PANEL PLATE	EPS	EPS8168	1
16	8170	WG38C RAD HOSE UPPER	EPS	EPS8170	1
17	8171	WG38C RAD HOSE LOWER	EPS	EPS8171	1
18	8183	WG38C SGL TRIG LATCH DOOR	EPS	EPS8183	2
19	9020	WG38-STC TOP	EPS	EPS9020	1
20	9021	WG38-STC REAR PANEL	EPS	EPS9021	1
21	9022	WG38-STC FRONT PANEL	EPS	EPS9022	1
22	9291	ODB LEFT MOUNT	EPS	EPS9292	1
23	9292	ODB RIGHT MOUNT	EPS	EPS9292	1
24	9293	WG3800 ODB GUARD	EPS	EPS9293	1
25	9588	WG3800 INTAKE PIPE	EPS	EPS9588	1
26	90CB30	COBRA ELBOW, 3.00 X 3.00	PUROSIL	90CB30	1
27	9200W	ODB C PANEL WELDMENT	EPS	EPS9200W	1
28	9296W	ODB INTAKE FLANGE	EPS	EPS9296W	1
29	9600K72	GROMMET	McMASTER-CARR	9600K72	1
30	DON27	INLET HOOD	DONALDSON	H001379	1
31	EBE03	LATCH, TRIGGER	EBERHARD	536-XK BLK	2
32	EPS_LOGO_PLATE	EPS LOGO PLATE	EPS	54356-0836	1
33	GAT01	RAD CAP 13 PSI SAE SMALL	GATES	31527	1
34	MCM19	RUBBER GROMMET	McMASTER-CARR	9307K23	6
35	MCM80	SHOULDER, SCREW .375 X .50 LG	McMASTER-CARR	90298A619	6
36	TEC03	ISOLATOR	TECH PRODUCTS	60024	4
37	TOUGH_STUFF_LOGO_PLATE	TOUGH STUFF LOGO PLATE	EPS	54357-0836	1

BILL OF MATERIALS					
ITEM	QTY	FILE NAME	DESCRIPTION	MANUF.	MANUF. NO.
1	2	2425	NUT BLOCK, AIR CLEANER BAND	EPS	EPS2425
2	1	9026	WG38-STC AC PIPE	EPS	EPS9026
3	1	30R275S	EPDM INSERT, 2.75-3.00 SHORT	PUROSIL	30R275S
4	1	90CB30	COBRA ELBOW, 3.00 X 3.00	PUROSIL	90CB30
5	1	RC-300	RUBBER COUPLING	EPS	3.00" ID
6	1	V14147-20_00	AIR CLEANER	VIRGIS	V14147-20_00
7	1	V15322_01	FRGT MOUNTING BAND	VIRGIS	CFGT-15322
8	1	V38-BREATHER-HOSE-2	BREATHER HOSE	HOSEMASTER	1/2" ID X 11" LONG
9	1	WG38-INTAKE-HOSE	3" INTAKE HOSE	McMASTER-CARR	5488K61 x 1.5 FT

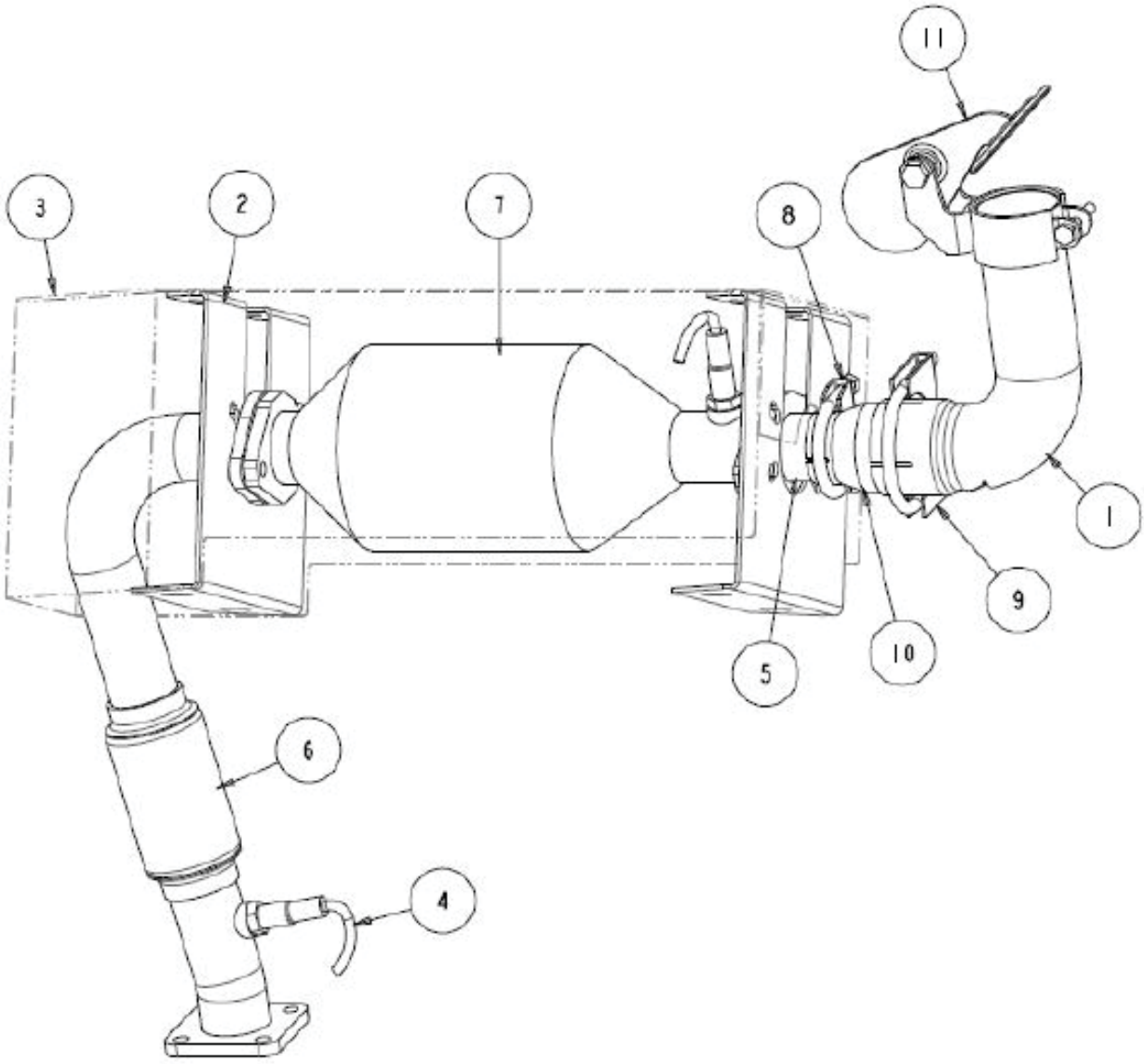
WG38-ACX-2
SCALE: 0.180



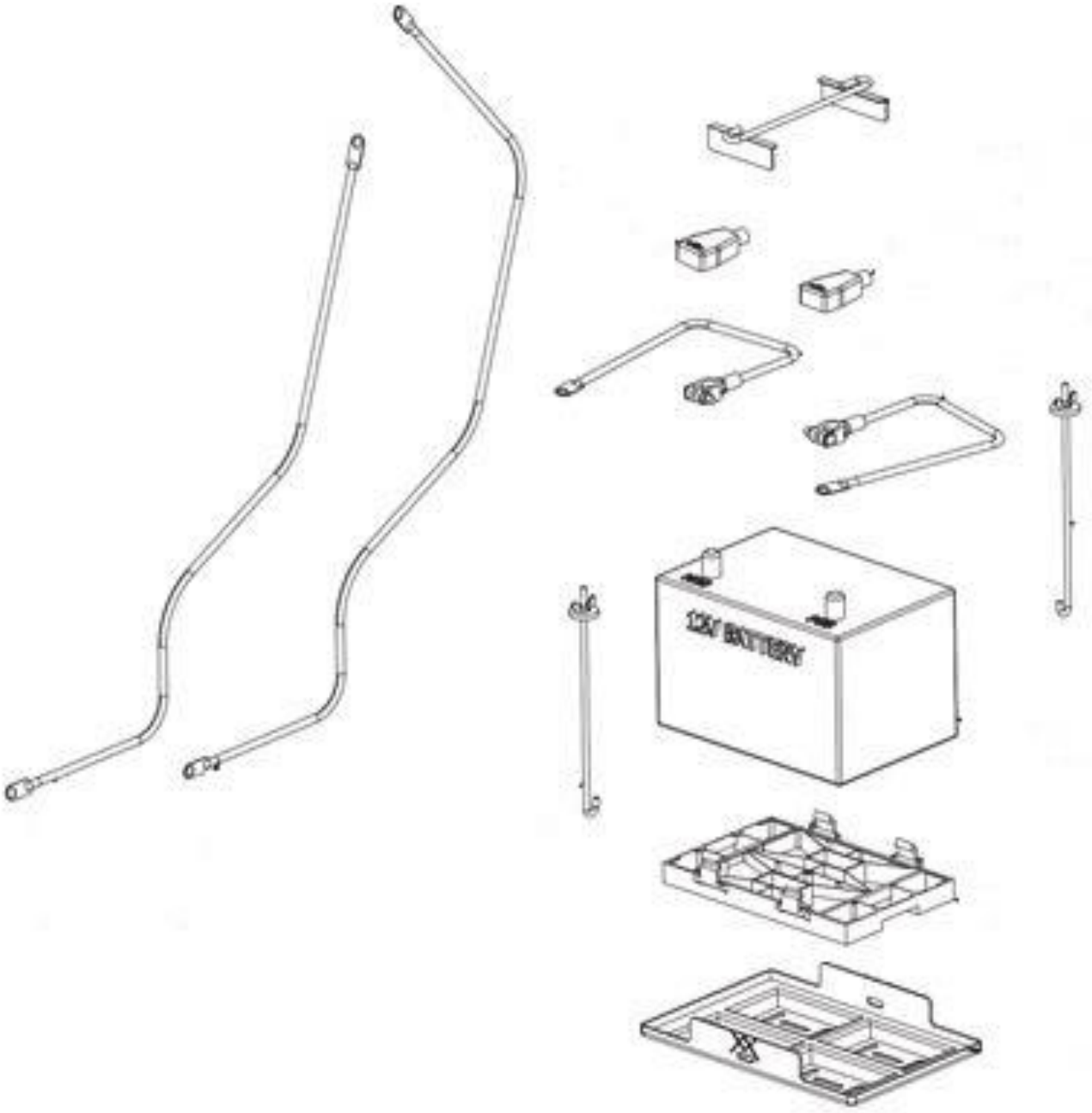
Kubota Exhuast Component Group

Kubota Engines

BILL OF MATERIALS					
ITEM	QTY	FILE NAME	DESCRIPTION	MANUF.	MANUF. NO.
1	1	3904	CHIPPER TAILPIPE FOR INLINE SA	EPS	EPS3904
2	2	9023	WG38-STC CAT YOKE	EPS	EPS9023
3	1	9024	WG38-STC CAT COVER	EPS	EPS9024
4	2	02SENSOR	02 SENSOR	KUBOTA	EG523-12101
5	1	8564W	WG38C STRAIGHT TAILPIPE	EPS	EPS8564W
6	1	9010W	WG38-STC HEADER WELDMENT	EPS	EPS9010W
7	1	EG504-12121	WG3800 CATALYST	KUBOTA	EG504-12121
8	1	HEA01	MUFFLER CLAMP, 2.00	HEARTTHROB	MC5200
9	1	NAP11	MUFFLER CLAMP, 3.00	NAPA	733-5794
10	1	RSA20200-1	SPARK ARRESTOR	ACTIVE EXHAUST	RSA20200
11	1	TIS04	RAIN CAP 2.5 INCH	TISCO	WC6



ELECTRONIC AND COMPONENTS GROUP



ELECTRONIC COMPONENTS GROUP

PART NUMBER:

STD2200

DESCRIPTION:

BATTERY, NOT SHIPPABLE

PART NUMBER:

BHB10J

DESCRIPTION:

J-HOOK

PART NUMBER:

BHCB

DESCRIPTION:

BATTERY HOLD DOWN BAR

PART NUMBER:

LCT60084B

DESCRIPTION:

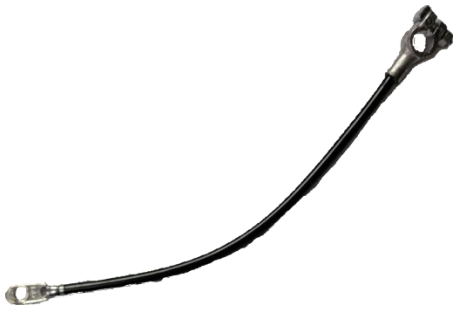
BATTERY CABLE BATTERY TO START

PART NUMBER:

LCT6015B

DESCRIPTION:

BATTERY CABLE GROUND



PART NUMBER:

LCT60024SS

DESCRIPTION:

BATTERY CABLEGROUND

PART NUMBER:

BTC

DESCRIPTION:

BATTERY TEMINAL COVER

PART NUMBER:

BTCR

DESCRIPTION:

BATTERY TERMINAL COVER RED

ELECTRONIC COMPONENTS GROUP

PART NUMBER:

JD404512SS

DESCRIPTION:

BATTERY CABLE 12IN RED, .375IN EYE

PART NUMBER:

798XZ

DESCRIPTION:

FUSE BOXSPACER

PART NUMBER:

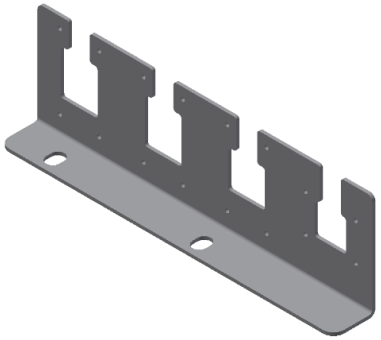
1341XZ

DESCRIPTION:

BATTERY DISCONNECT

PART NUMBER:

765XZ



DESCRIPTION:

JD DEUTSCH CONN SIDE RAIL BRACKET

PART NUMBER:

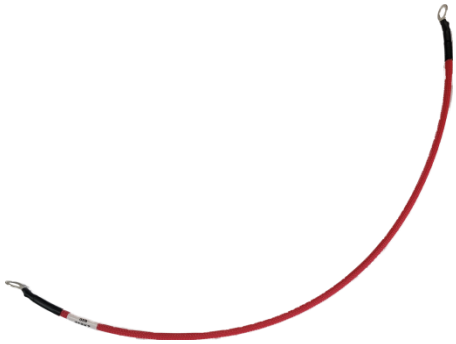
417XZ

DESCRIPTION:

SOLENOID TO STARTER

PART NUMBER:

418XZ



DESCRIPTION:

CHARGER WIRE

PART NUMBER:

8002501C

DESCRIPTION:

CENTER MARKER LIGHT HARNESS

PART NUMBER:

8002610

DESCRIPTION:

DUAL BRAKE HARNESS

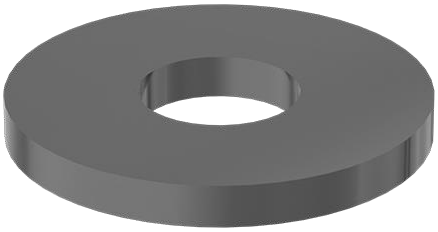
ELECTRONIC COMPONENTS GROUP

PART NUMBER:

90295A450

DESCRIPTION:

1/4IN PLASTIC WASHER



PART NUMBER:

8002608

DESCRIPTION:

BED LED LIGHTS HARNESS

PART NUMBER:

SCL800WHLBF

DESCRIPTION:

FRONT BOX HARNESS

PART NUMBER:

SCL800WHLBR

DESCRIPTION:

REAR BOX HARNESS

PART NUMBER:

SCL622826A

DESCRIPTION:

POWER CORD ACC & BREAK AWAY

PART NUMBER:

710XZ

DESCRIPTION:

BOOM 12V

PART NUMBER:

711XZ

DESCRIPTION:

LIMIT SWITCH & FUEL SENDER HARNESS

PART NUMBER:

30292112

DESCRIPTION:

DISPLAY PANEL PLATE

ELECTRONIC COMPONENTS GROUP

PART NUMBER:

40450021B1

DESCRIPTION:

LIGHT SWITCH

PART NUMBER:

9506023

DESCRIPTION:

KEYED IGN SWITCH

PART NUMBER:

MVP308

DESCRIPTION:

ENGINE DISPLAY CONTROLS

PART NUMBER:

ST40ODX

DESCRIPTION:

STARTER SOLENOID

PART NUMBER:

338XZ

DESCRIPTION:

PROX SWITCH

PART NUMBER:

813XZ

DESCRIPTION:

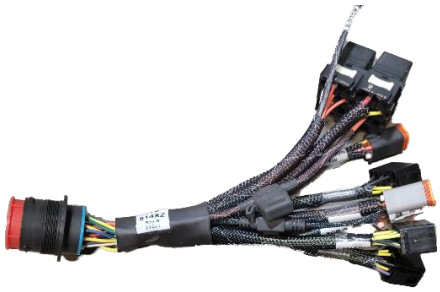
JD4045 HARNESS SIDE RAIL

PART NUMBER:

814XZ

DESCRIPTION:

JD4045 HARNESS SCREEN/ SIDE RAIL



PART NUMBER:

DESCRIPTION:

7-0

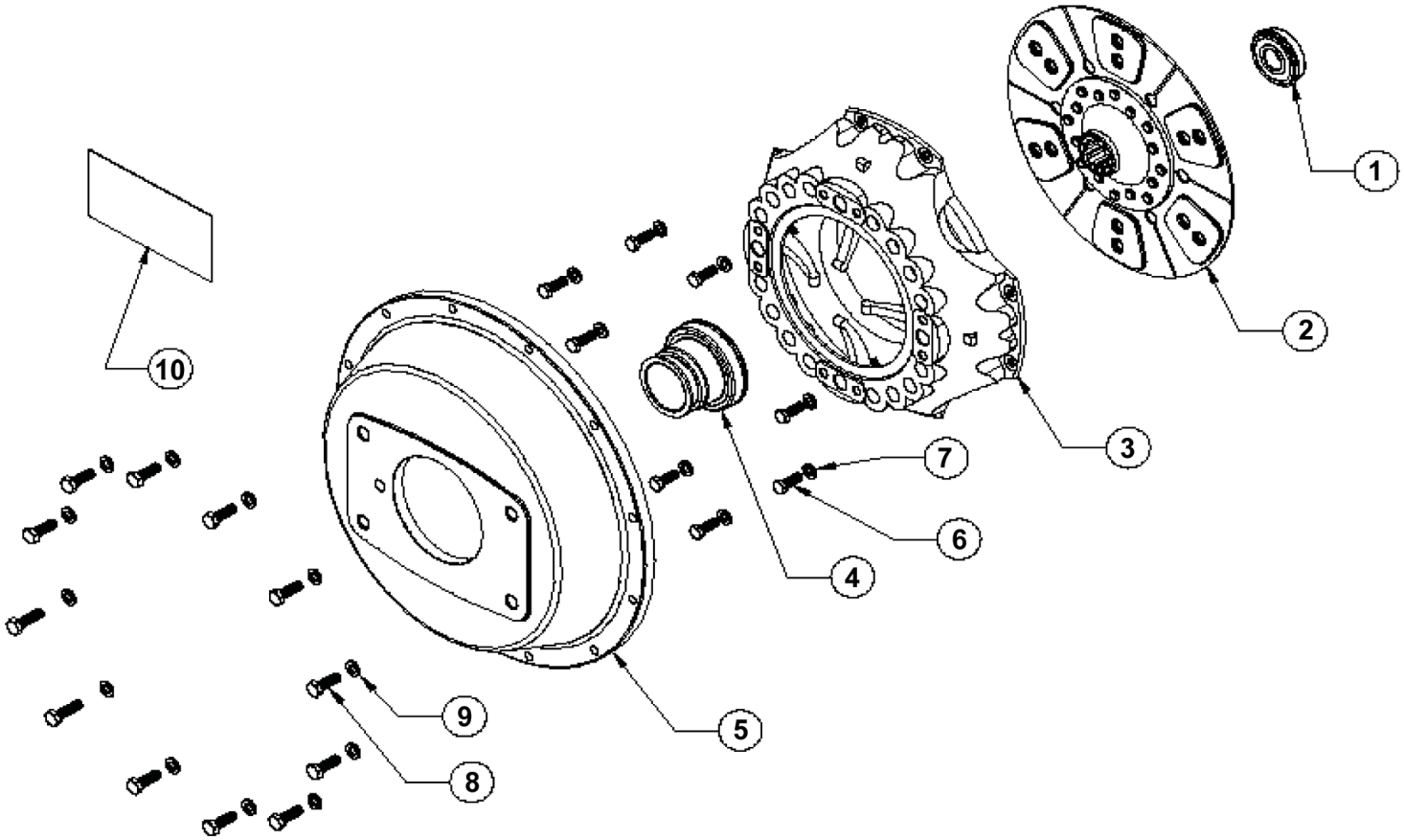
7.0 CLUTCH GROUP

7.0 CLUTCH GROUP

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

7.1 AutoHD PTO Clutch Group

February 2006 - Present

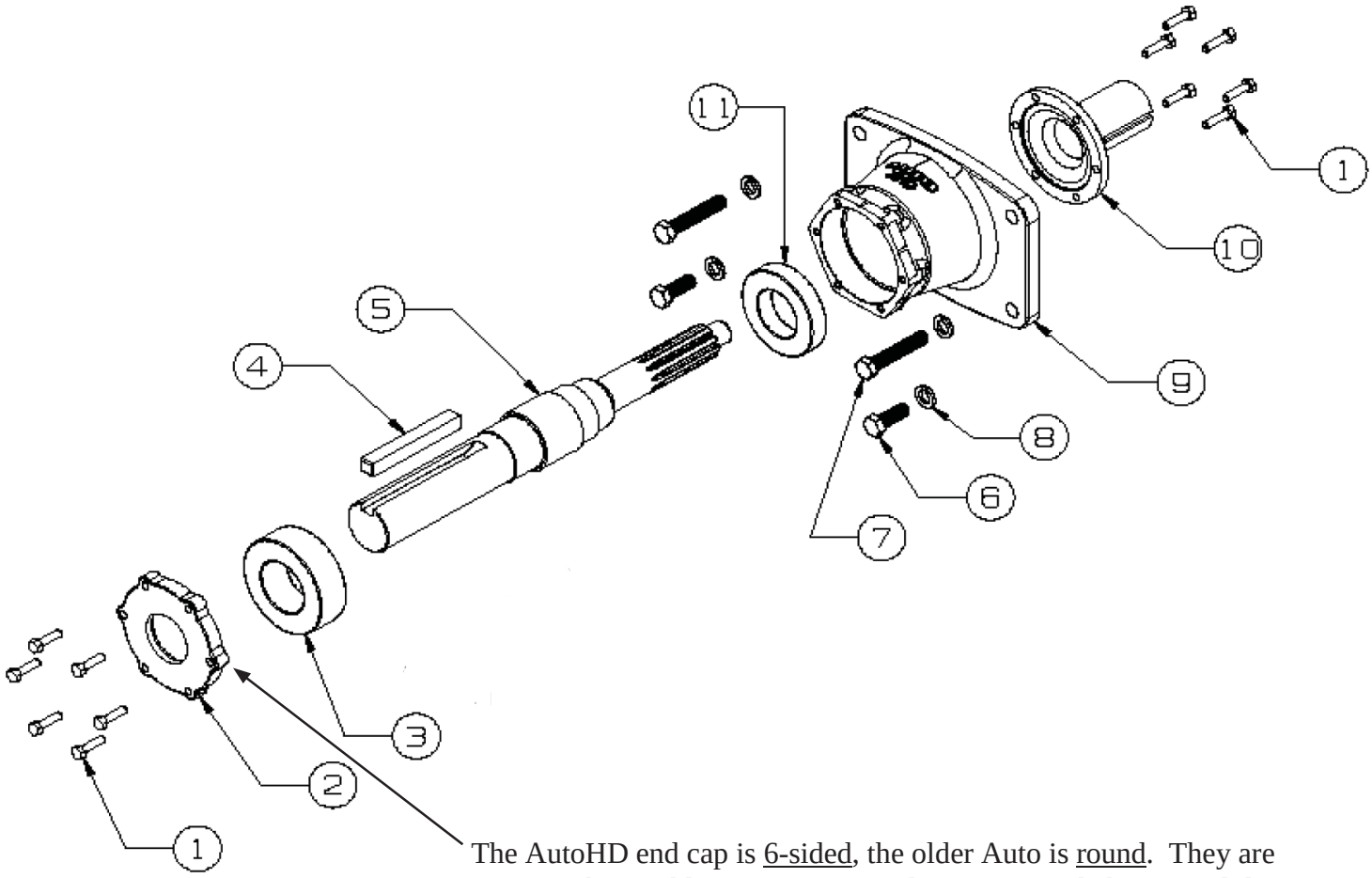


ITEM #	PART NUMBER	DESCRIPTION
*	OD-48080050.8OF	*Complete PTO and Clutch Assembly 03/08 -
1	OD-41500217	Pilot Bearing, JD
2	OD-41500237	Clutch Disk
3	OD-LC1919	Pressure Plate, 03/08 -
4	OD-41500248	Throw out Bearing,03/08 -
5	OD-41500172	Clutch Cover
6	OD-45000054	Bolt, 3/18-16 x 1"
7	OD-45000063	Lock Washer, 3/8"
8	OD-45000226	Bolt, M10-1.50 x 35MM
9	OD-45000046	Lock Washer, M10
10	OD-41500216	Decal, Diesel Clutch

Note: *48080050 and 48080050.8OF includes the everything on this page, the AutoHD PTO page and the AutoHD linkage page. This is the complete PTO/Clutch assembly. It does not include the clutch assist assembly.

7.2 AutoHD PTO Assembly Group

February 2006 - Present

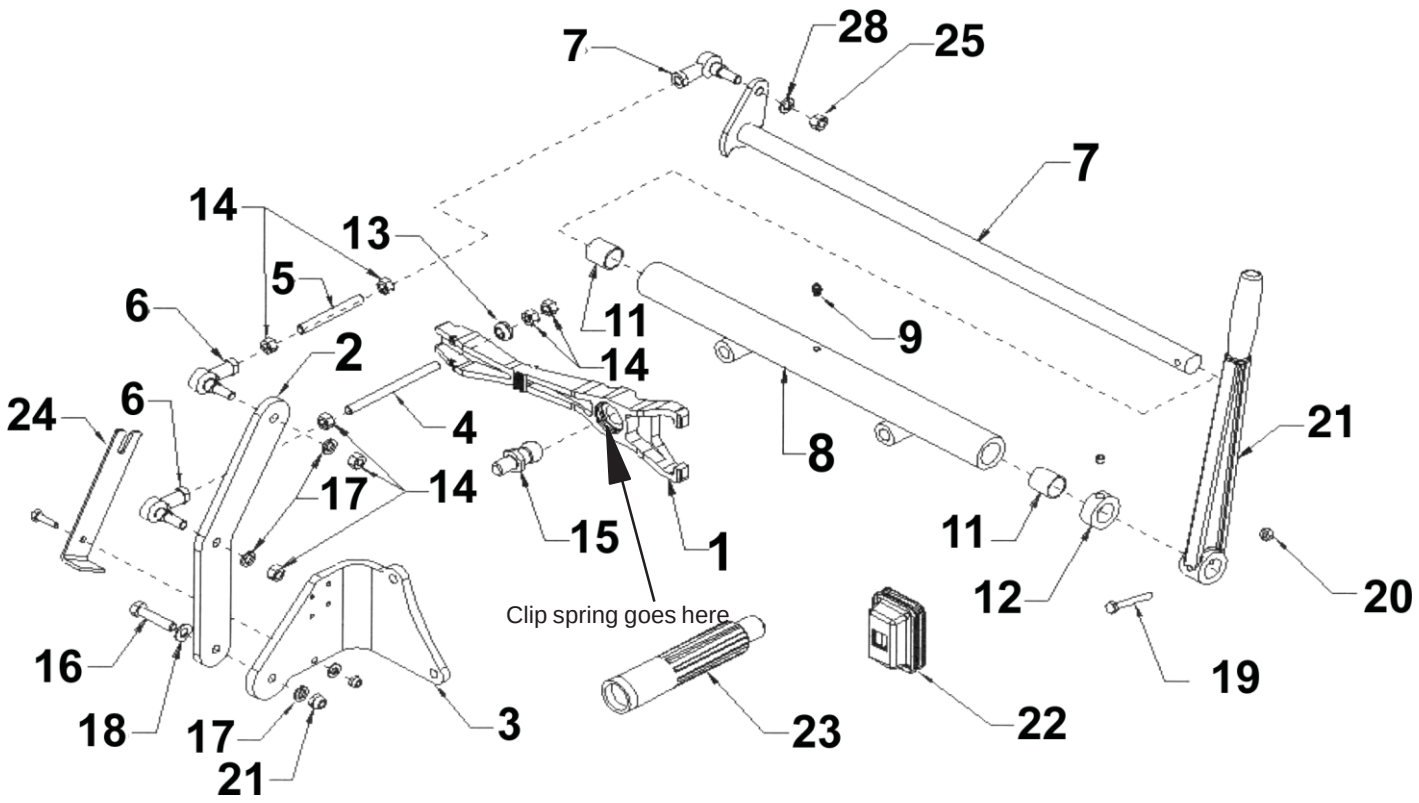


The AutoHD end cap is 6-sided, the older Auto is round. They are not interchangeable! Some units in the time period above used the standard Auto PTO. Please verify.

ITEM #	PART NUMBER	DESCRIPTION
*	OD-41500252	Complete PTO Assembly (items 1 -11,13)
**	OD-48080050.8OF	**Complete PTO & Clutch Assembly
1	OD-45000212	Bolt, 5/16-18 x 1-1/4" HD model
2	OD-41500205M	Bearing Retainer Cover
3	OD-41500206	PTO Bearing, Rear
4	OD-LCT650.601K OD-LCT650.601F	Key, Stepdown--direct drive units only Key, belt drive units only
5	OD-41500203	PTO shaft
6	OD-45000105	Bolt, 9/16-12 x 1- 3/4"
7	OD-45000177	Bolt, 9/16-12 x 3"
8	OD-45000103	Lock Washer, 9/16"
9	OD-41500204	PTO Housing
10	OD-41500242	PTO Collar, 03/08 - present
11	OD-41500207	PTO Bearing, Front

7.3 AutoHD PTO Linkage Group

February 2006 - Present



ITEM #	PART NO.	DESCRIPTION
1	41500251	Fork, 03/08-
NS	41500174	Clip Spring in Fork
NS	41500999	Return Spring
2	41500095	Linkage Bracket
3	41500241	Linkage Bracket
4	41500065	Linkage Rod
5	41500066	Linkage Rod
6	41500019	Linkage Rod End
7	see below	Shaft, Lever
8	41500102	Shaft Housing, AutoHD
9	41500043	Grease Zerk
10	NLA	NLA

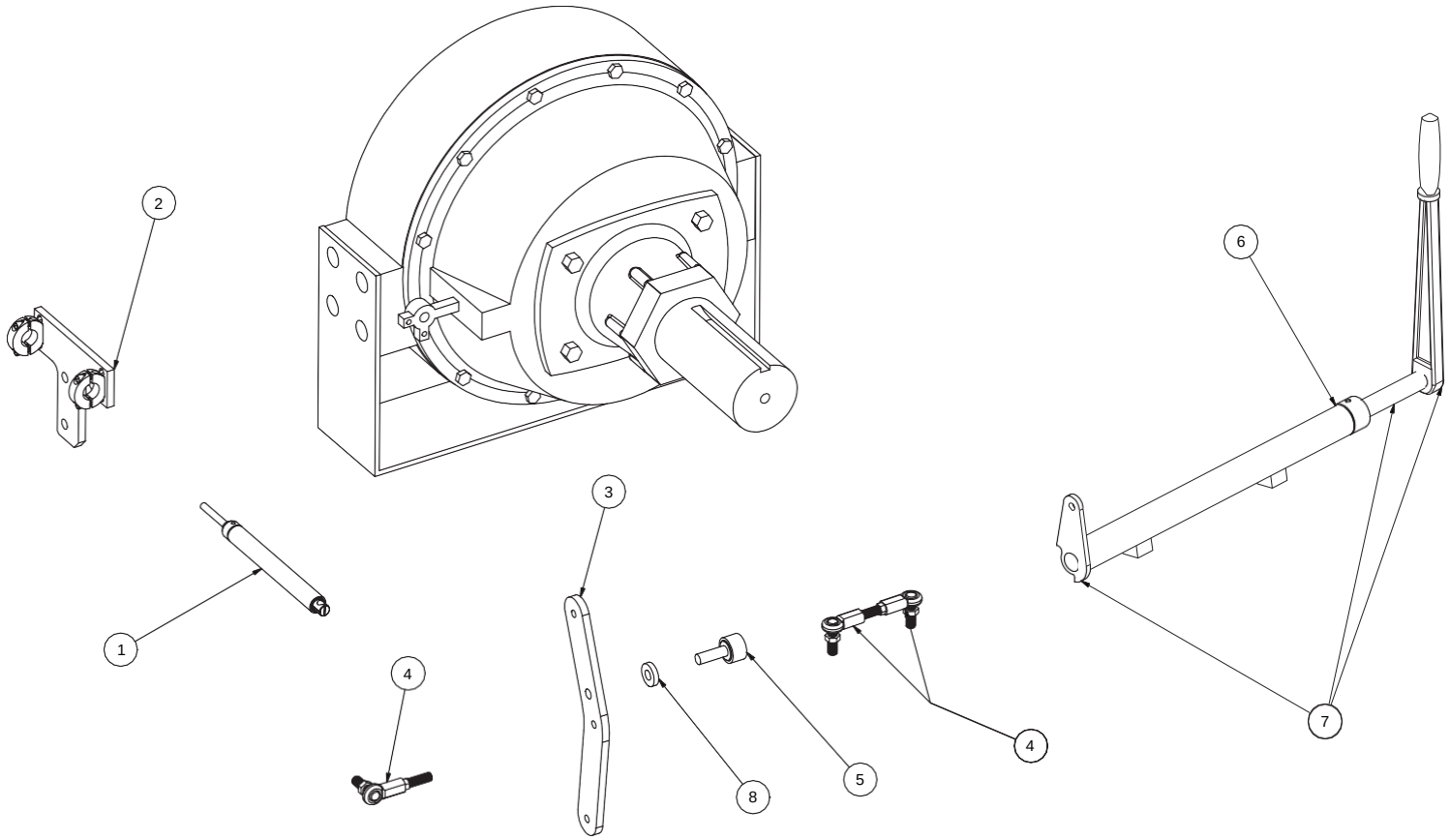
ITEM #	PART NO.	DESCRIPTION
11	41500045	Shaft Bushing
12	41500046	Shaft Collar
13	41500030	Rocker Ball
14	45000050	Nut, 3/8 - 16
15	41500072	Pivot Ball 03/08-
16	45000177	Bolt, 3/8 - 16 x 1 3/4"
17	45000063	Lock Washer, 3/8"
18	45000064	Flat Washer, 3/8"
19	45000012	Bolt, 1/4 - 28 x 2"
20	45000015	Locknut, 1/4 - 28
21	41500044	Handle
22	41500175	Boot
23	41500164	Alignment Tool
24	41500103	Alignment Tool

Item #7

Unit	Auto HD
SCL800/60C	41500041A.HD

7.4 Clutch Assist Group

Auto PTO- John Deere 4045D/T (11/00 -



ITEM #	PART NUMBER	DESCRIPTION
1	400050.A	Clutch Cylinder
2	400053.C	Cylinder Support Bracket, JD
3	41500095	Clutch Bracket Arm, Auto HD
4	41500019	Linkage, Rod end
	41500019A	Linkage, Threaded insert
5	400050.C1	Bearing
6	41500102	Pivot Shaft Tube, Auto HD
7	41500041A.HD	Pivot Shaft,
8	400050.C2	Spacer

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Suwanee, GA 30024
Ph: 770-963-6288
Fax: 770-963-9678
E-mail: transfluid@kraftpower.com

Massachusetts - New Jersey - New York - North Carolina - Ohio - Pennsylvania

INSTALLATION AND MAINTENANCE MANUAL

THIS MANUAL CONTAINS INSTRUCTIONS FOR INSTALLATION, START UP, FUNCTIONING, AND MAINTENANCE KFBD POWER TAKE OFFS.
WE SUGGEST THAT ANY PERSON WHO IS RESPONSIBLE FOR USE AND/OR MAINTENANCE SHOULD BE PROVIDED WITH THIS MANUAL. THE RESPECT OF RULES, CONTAINED IN THIS MANUAL IS MANDATORY FOR WARRENTY VALIDITY.
WE REQUIRE THAT, FOR SPARE PARTS ORDERS, IT IS IMPORTANT TO PROVIDE, BESIDES PART NUMBER AND QUANTITY: MODEL, SPECIFICATION No AND SERIAL No WHICH ARE STAMPED ON NAME PLATE.

Type : 13KFBD

Spec. nr. : 2248__ __

Serial nr. :

13KFBD

drive with us

TRANSFLUID trasmissioni industriali	13 KFBD MANUALE INSTALLAZIONE, USO E MANUTENZIONE *INSTALLATION,USE AND MAINTENANCE MANUAL*	TF 6217 Rev.0 1/3

Questo manuale contiene le istruzioni per l'installazione, l'avviamento, l'uso e la manutenzione del giunto idrodinamico tipo KFBD.
CONSIGLIAMO CHE I RESPONSABILI DELL'USO E DELLA MANUTENZIONE DEL KFBD, VENGANO DOTATI DEL PRESENTE MANUALE. IL NON RISPETTO DELLE REGOLE CITATE IN QUESTO MANUALE, PROVOCA IL DECADERE DELLA GARANZIA.
Ricordiamo che, per ordinare le parti di ricambio, e' importante specificare, oltre al numero di dettaglio e quantita' richiesta, anche:
TIPO - N° di SPECiFICA - N° di SERIE del KFBD, che si trovano stampigliati sulla targhetta di identificazione a bordo macchina.

This manual contains instructions for installation, start up, working, and maintenance of KFBD fluid coupling.
WE SUGGEST THAT ANY PERSON WHO IS RESPONSIBLE FOR USE AND/OR MAINTENANCE, SHOULD BE PROVIDED WITH THIS MANUAL. THE RESPECT OF RULES, CONTAINED IN THIS MANUAL, IS MANDATORY FOR WARRANTY VALIDITY.
We recall that, for spare parts order, it is important to provide, besides detail number and quantity, even:
TYPE - SPECIFICATION Nr. - SERIAL Nr. of KFBD that are stamped on identification metal plate.

DESCRIZIONE	*DESCRIPTION*
Il KFBD e' un giunto idrodinamico la cui parte esterna, motrice, e' collegata al volano di un motore endotermico mediante un giunto elastico ed il cui albero di uscita e' supportato da un cuscinetto orientabile a rulli, lubrificato ad olio, alloggiati in una campana di supporto flangiata al coprivolano del motore. Un secondo cuscinetto, alloggiato nel volano, sostiene l'albero di uscita dal lato motore. Il KFBD e' adatto per applicazioni con puleggia od i linea.	KFBD is a fluid coupling having the outer driving impeller connected to the internal combustion engine flywheel through an elastic coupling. The output shaft is supported by a spherical roller bearing, oil lubricated, fitted in a cover flanged to the engine flywheel housing. Another bearing, fitted into the flywheel, supports the output shaft at the engine side. The KFBD is suitable for pulley or in line applications.

Prima di iniziare il montaggio del KFBD sul motore, e' bene verificare che il volano rientri nelle tolleranze SAE. Questo e' importante soprattutto per il buon funzionamento del giunto elastico.(Vedere foglio 2/3 Fig.1)

Before KFBD be mounted onto the engine, it is recommended to check that flywheel be within SAE tolerances. This is very important for elastic coupling good working.(see sheet 2/3 Fig.1)

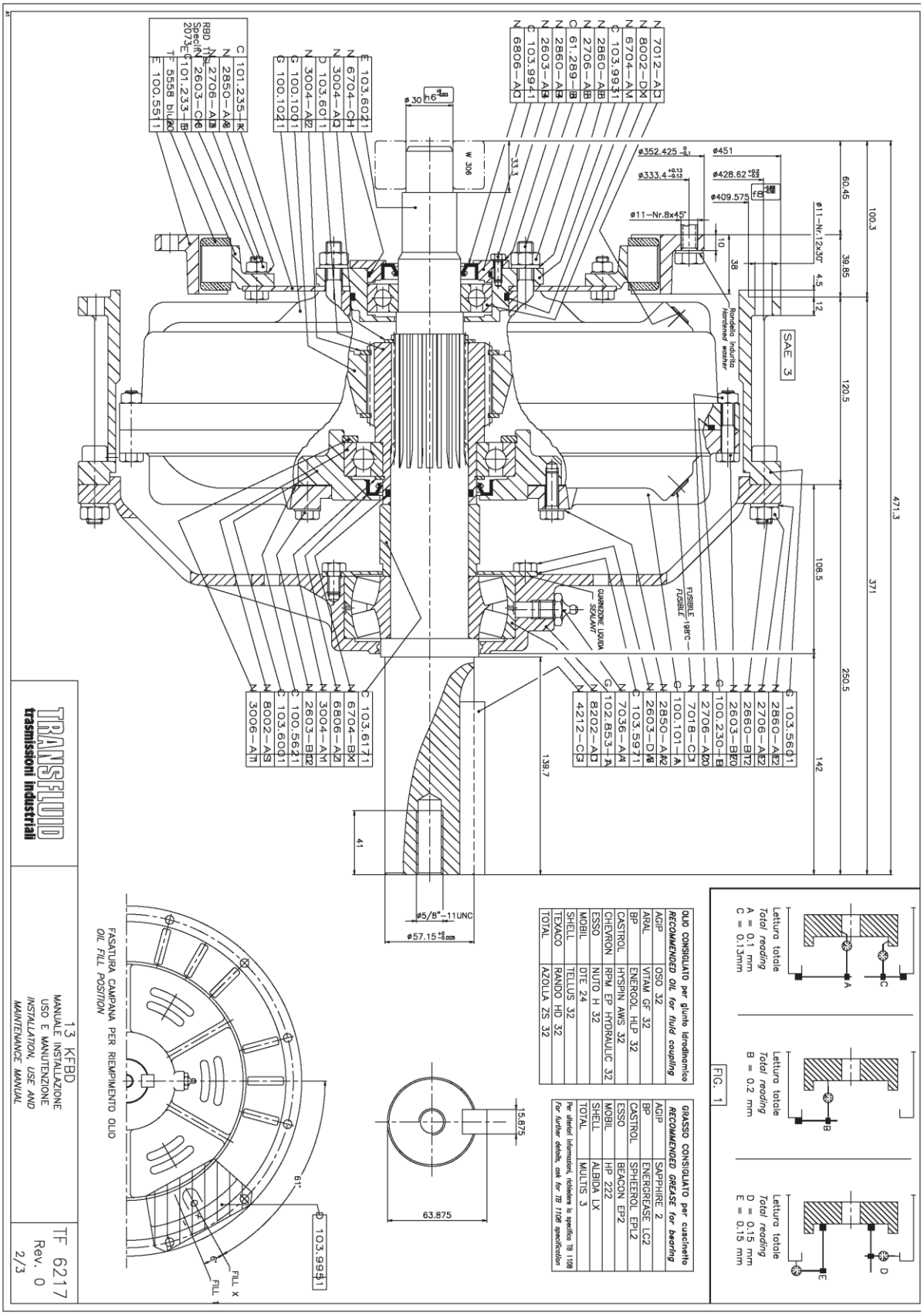
	INSTALLAZIONE (vedere foglio 2/3)		***INSTALLATION*** *(see sheet.2/3)*
1	Montare l'anello di trascinamento del giunto elastico sul volano del motore.	1	Mount elastic coupling driving ring, onto engine flywheel.
2	Montare il cuscinetto pilota, ingrassato a vita, sull'albero del KFBD.	2	Mount pilot bearing, greased for life, onto KFBD shaft.
3	Montare la flangia SAE 3 sul coprivolano.	3	Mount SAE 3 flange onto flywheel housing.
4	Posizionare il gruppo completo, osservando con cura l'allineamento dell'albero nel cuscinetto pilota e dei blocchetti del giunto elastico con l'anello di trascinamento montato sul volano. La campana esterna deve essere orientata in modo da avere l'apertura per il riempimento dell'olio a circa 60° dalla verticale, in senso orario guardando il volano del motore. Cosi' montato, si avra' l'apertura di drenaggio dell'olio in basso. Infine fissare il gruppo con le apposite viti sulla flangia esterna.	4	Install complete group paying attention at alignement between shaft and pilot bearing as well as alignement between rubber blocks and driving ring. External housing must be orientated to get the oil fill opening at about 60° clockwise from vertical line, looking at the flywheel. In such a way, the oil drain opening will be downwards. Therefore tighten screws of external flange.
5	Riempimento olio giunto (vedere tabella olii consigliati). Togliere il coperchio che protegge il tappo di carico . Ruotare il giunto sino a portare il tappo in corrispondenza del segno di riferimento X sulla verticale (X-1-2-3-4 dipende dall'applicazione). Togliere il tappo e riempire fino allo sbocco dal foro (13KFBD X=5,2 lt;), quindi chiudere utilizzando del sigillante sul filetto. La coppia di serraggio e' 30 Nm per tappo 3/8". Rimontare il coperchio di protezione.	5	Fluid coupling oil filling (see recommended oil table). Remove cover. Turn fluid coupling untill X mark be on vertical line (X-1-2-3-4 depends on application). Remove plug and fill untill oil overflows (13KFBD fill X=5,2 lt;). Therefore fit the plug using sealent on thread. Tightening torque is 30 Nm for 3/8" plug .Fit again the cover.
6	Riempimento grasso (vedere tabella grassi consigliati). Mediante l'apposito ingrasatore,, riempire la camera di lavoro del cuscinetto fino a far fuoriuscire il grasso attorno all'albero	6	Grease filling (see recommended grease table). Through the grease filler, fill grease untill it comes out around the shaft.
7	Dare alcuni colpi, con un martello non metallico, sull'estremita' dell'albero onde eliminare ogni eventuale tensione sui cuscinetti dovuta alla resistenza offerta dal cuscinetto pilota, quando esso viene montato forzato nella sede del volano.	7	Rap the shaft on the end to relieve any preloading that may result due to the resistance of pilot bearing when being pressed into the flywheel.
8	Al primo avviamento, far girare il gruppo innestato, per almeno 10 minuti,con il motore alla meta' dei giri massimi.	8	At first start up, run the unit engaged and engine at half of max speed for not less than 10 minutes.

tf6217-1 06/04/01

TRANSFLUID S.r.l. via V.Monti 19-20016 Pero (MI) Italy
tel.0039-02-339315.1 - fax.0039-02-33910699 – www transfluid.it - e-mail:info@transfluid.it

7.7 Kraft Fluid Drive Breakdown (Optional)

Fluid Drive Coupler (Optional)



7.8 Kraft Fluid Drive Common Parts (Optional)

Fluid Drive Coupler (Optional)

ITEM #	PART NUMBER	DESCRIPTION
1	UU-TFP7018CC	390 Degree Fuse Plug, 5/8"
2	UU-TFP2292	Seal Kit
3	UU-8202AD	Roller Bearing
4	UU-TFP103602X	Shaft
5	UU-8002DX	Bearing, small
6	UU-8002AS	Ball Bearing
7	UU-KPC2.01.5	Fluid, 1-1/2 gallon

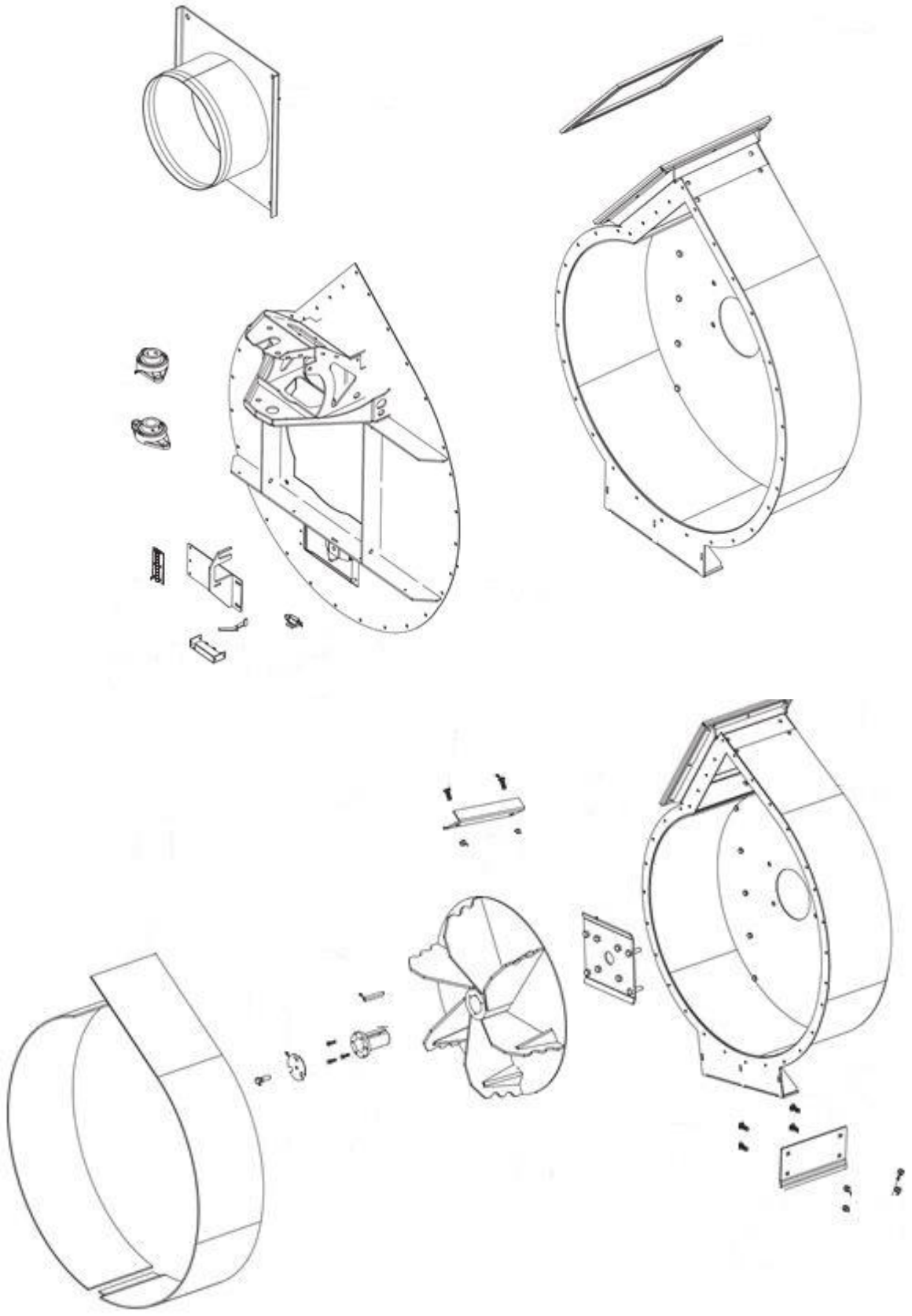
8-0

8.0 BLOWER HOUSING GROUP

8.0 BLOWER HOUSING GROUP

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

BLOWER HOUSING GROUP



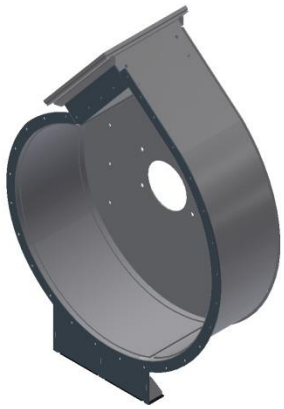
BLOWER HOUSING GROUP

PART NUMBER:

8003040

DESCRIPTION:

30IN BLOWER HOUSING 40DEG

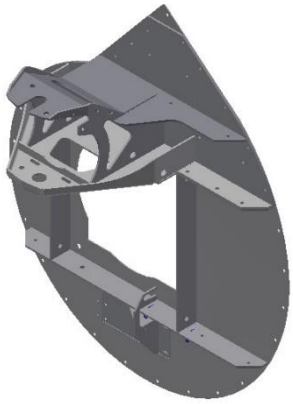


PART NUMBER:

8003041

DESCRIPTION:

BLOWER HOUSING FACE SINGLE AXIS



PART NUMBER:

LCT62060230

DESCRIPTION:

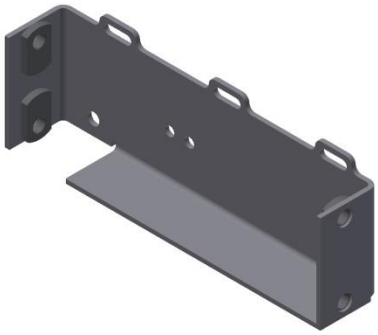
30IN LINER SET

PART NUMBER:

STD4000

DESCRIPTION:

LIMIT SWITCH BOX



PART NUMBER:

STD4001

DESCRIPTION:

LIMIT SWITCH ACTUATOR

PART NUMBER:

651051

DESCRIPTION:

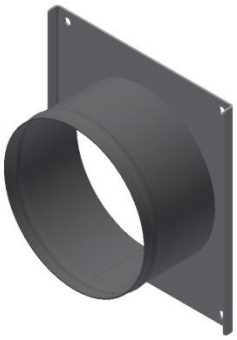
LIMIT SWITCH

PART NUMBER:

SCL875002

DESCRIPTION:

INTAKE FLANGE



PART NUMBER:

SCL821817BD

DESCRIPTION:

EXHAUST DUCT GASKET

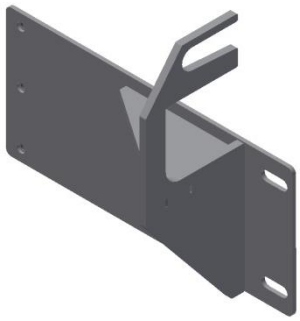
BLOWER HOUSING GROUP

PART NUMBER:

SCL621602

DESCRIPTION:

INSPECTION DOOR



PART NUMBER:

LCT621603

DESCRIPTION:

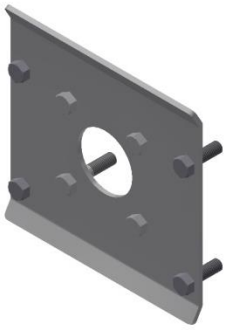
INSPECTION DOOR HINGE (DETAILS ON PAGE 100)

PART NUMBER:

LCT600602

DESCRIPTION:

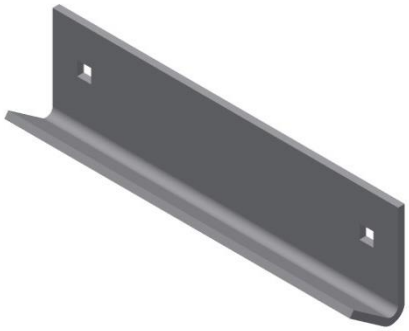
BEARING PLATE



PART NUMBER:

LCT620602A

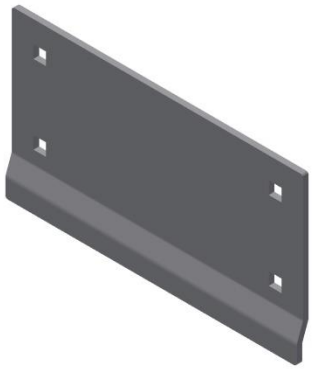
DESCRIPTION:



PART NUMBER:

LCT620604

DESCRIPTION:



PART NUMBER:

LCT650601

DESCRIPTION:

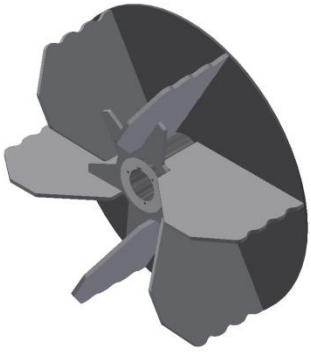
IMPELLER BUSHING

PART NUMBER:

1070XZ

DESCRIPTION:

IMPELLER 30IN



PART NUMBER:

LCT600615

DESCRIPTION:

SHAFT PROTECTOR

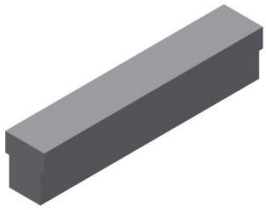
BLOWER HOUSING GROUP

PART NUMBER:

LCT650601K

DESCRIPTION:

IMPELLER KEY



PART NUMBER:

LCT621603

DESCRIPTION:

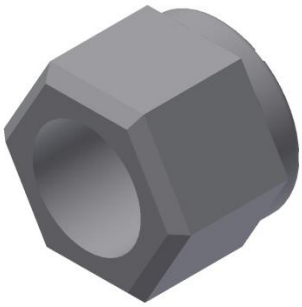
LINER BOLT
½-13X1.25IN
FLAT HEAD

PART NUMBER:

LCT620603N

DESCRIPTION:

LINER NUT
½-13 ESN

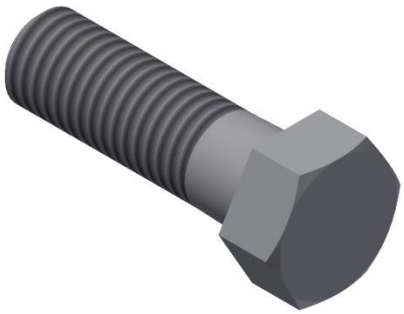


PART NUMBER:

5CZ500750

DESCRIPTION:

IMPELLER BOLT
5/8-11 UNC 2IN



PART NUMBER:

200011

DESCRIPTION:

5/8 CLEVIS PIN
4IN LONG

PART NUMBER:

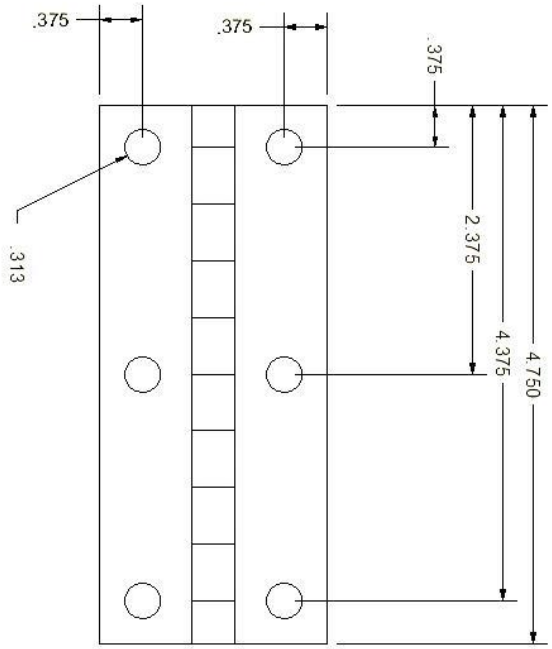
DESCRIPTION:

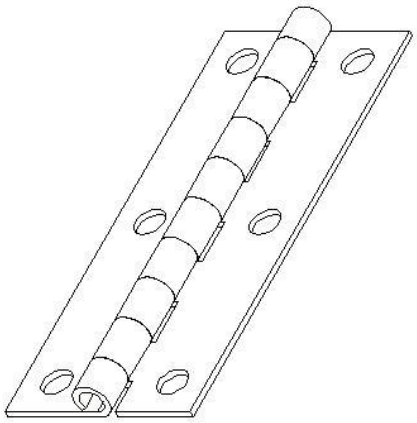
PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:





OLD DOMINION BRUSH CO.

CUST. NAME:

FILE: LCT01403 INSPECTION DOOR HINGE COMPLETE.sldprt

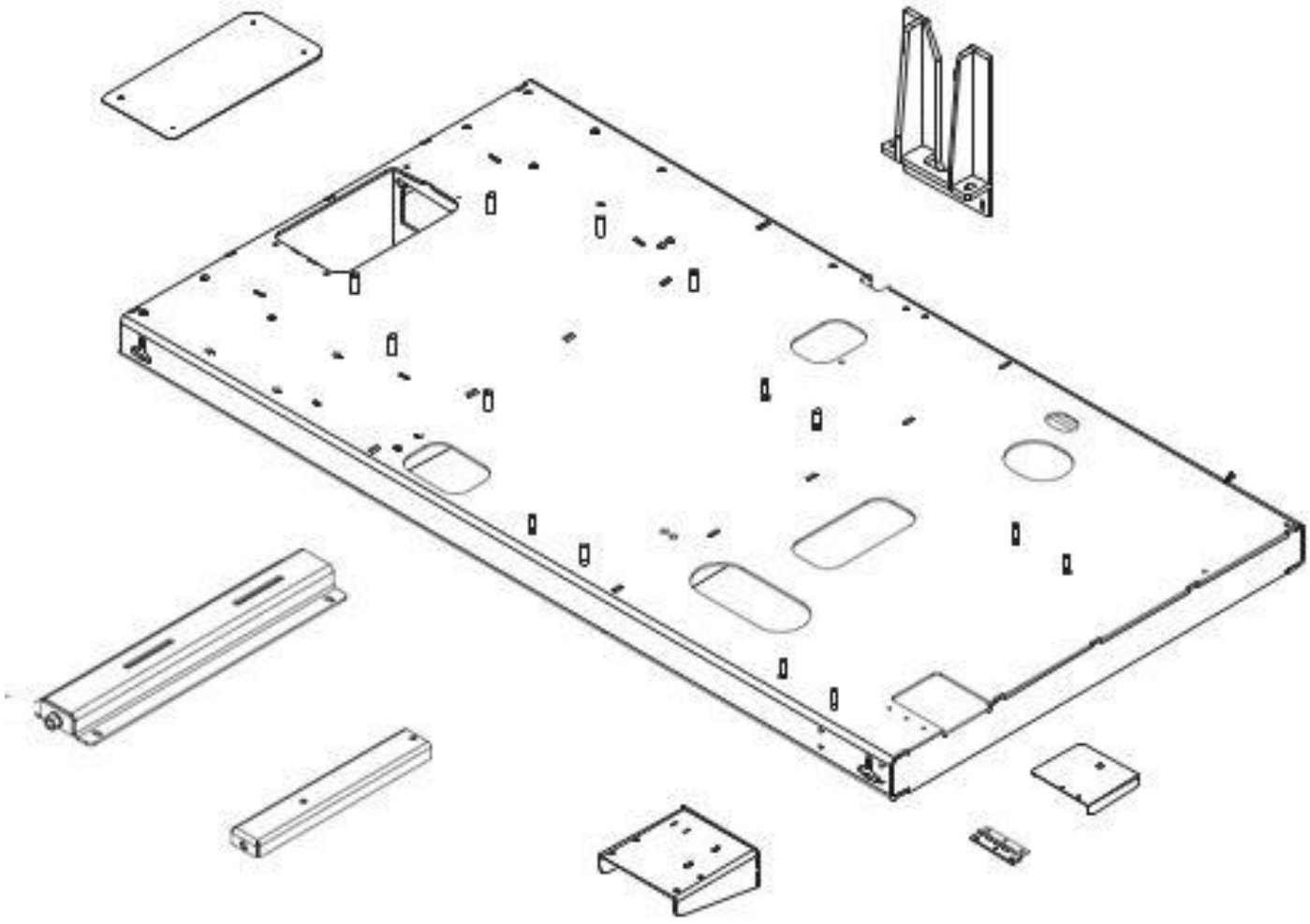
PROJECT: INSPECTION DOOR HINGE

PART NAME: HINGE

PART NO.: LCT01403

DRAWN BY: richards

SKID BASE GROUP



SKID BASE GROUP

PART NUMBER:

201XZ

DESCRIPTION:

SKID BASE

PART NUMBER:

271XZ

DESCRIPTION:

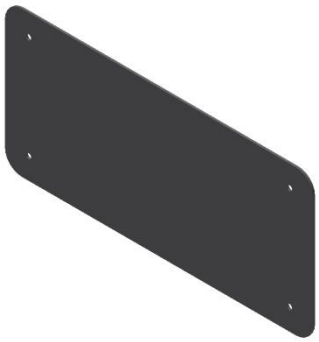
BED GUIDE

PART NUMBER:

275XZ

DESCRIPTION:

BATTERY BOX LID

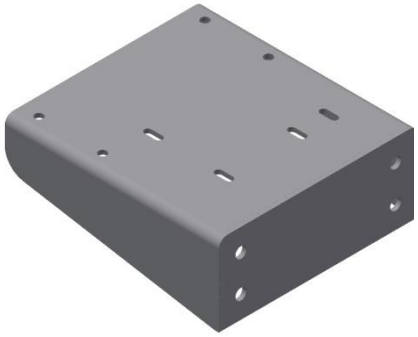


PART NUMBER:

5502011

DESCRIPTION:

HAND VALVE BRACKET



PART NUMBER:

333XZ

DESCRIPTION:

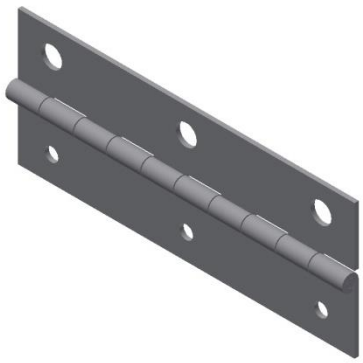
FUEL DOOR

PART NUMBER:

334XZ

DESCRIPTION:

FUEL DOOR HINGE (DETAILS ON PAGE 103)



PART NUMBER:

5501011C

DESCRIPTION:

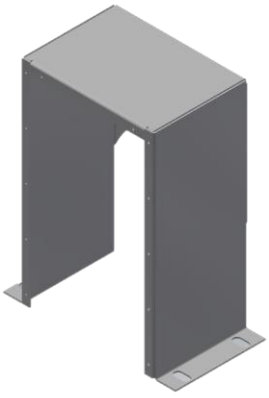
RUBBER GASKET FOR HAND VALVE COVER

PART NUMBER:

5501011A

DESCRIPTION:

HAND VALVE COVER



SKID BASE GROUP

PART NUMBER:

803XZ

DESCRIPTION:

GREASE HOSE

PART NUMBER:

4501411

DESCRIPTION:

1/8IN X 1/8IN GREASE SWIVEL FITTING

PART NUMBER:

200010

DESCRIPTION:

QUICK LINK 5/16IN

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

2560ODX

DESCRIPTION:

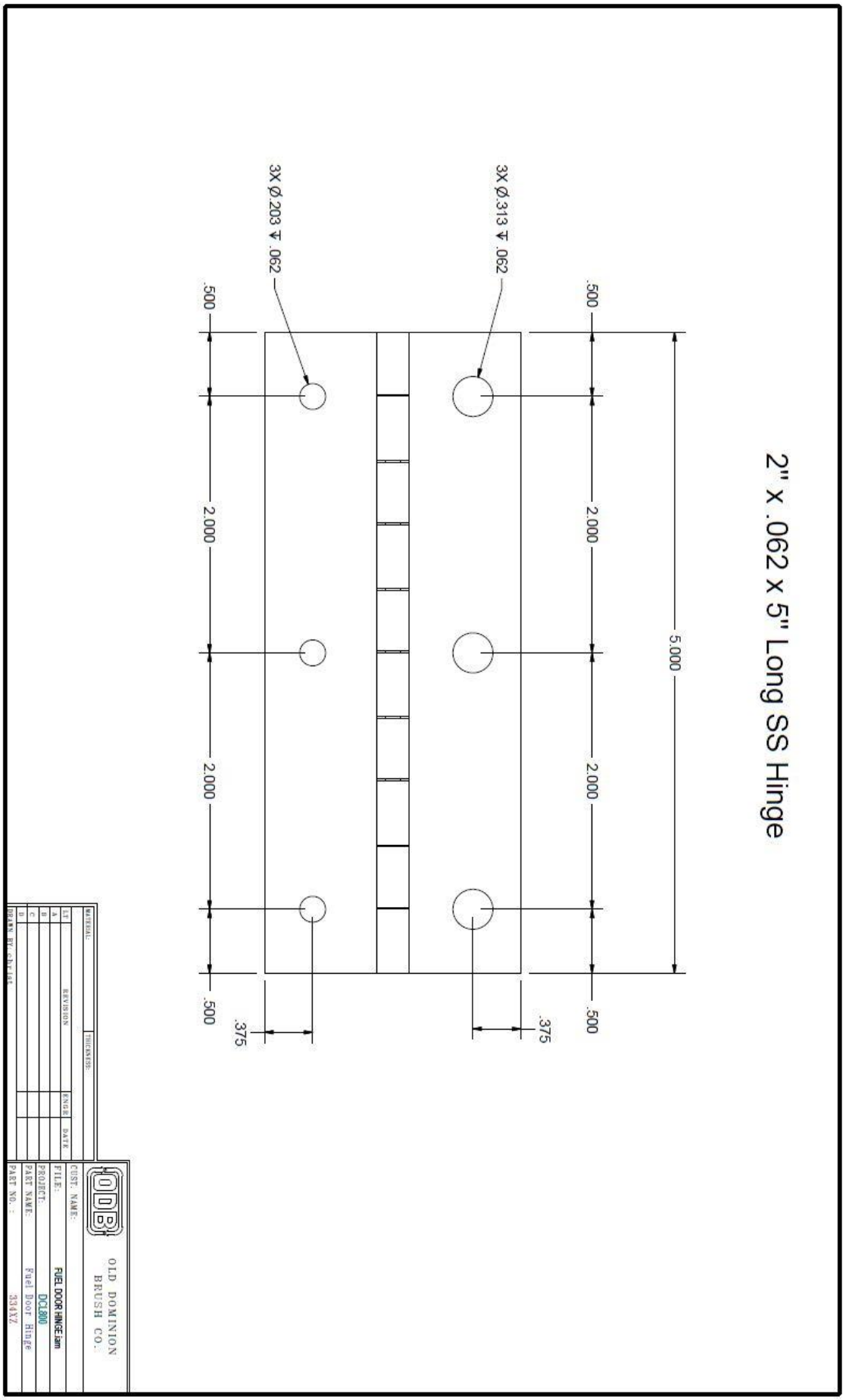
.375IN GROMMET

PART NUMBER:

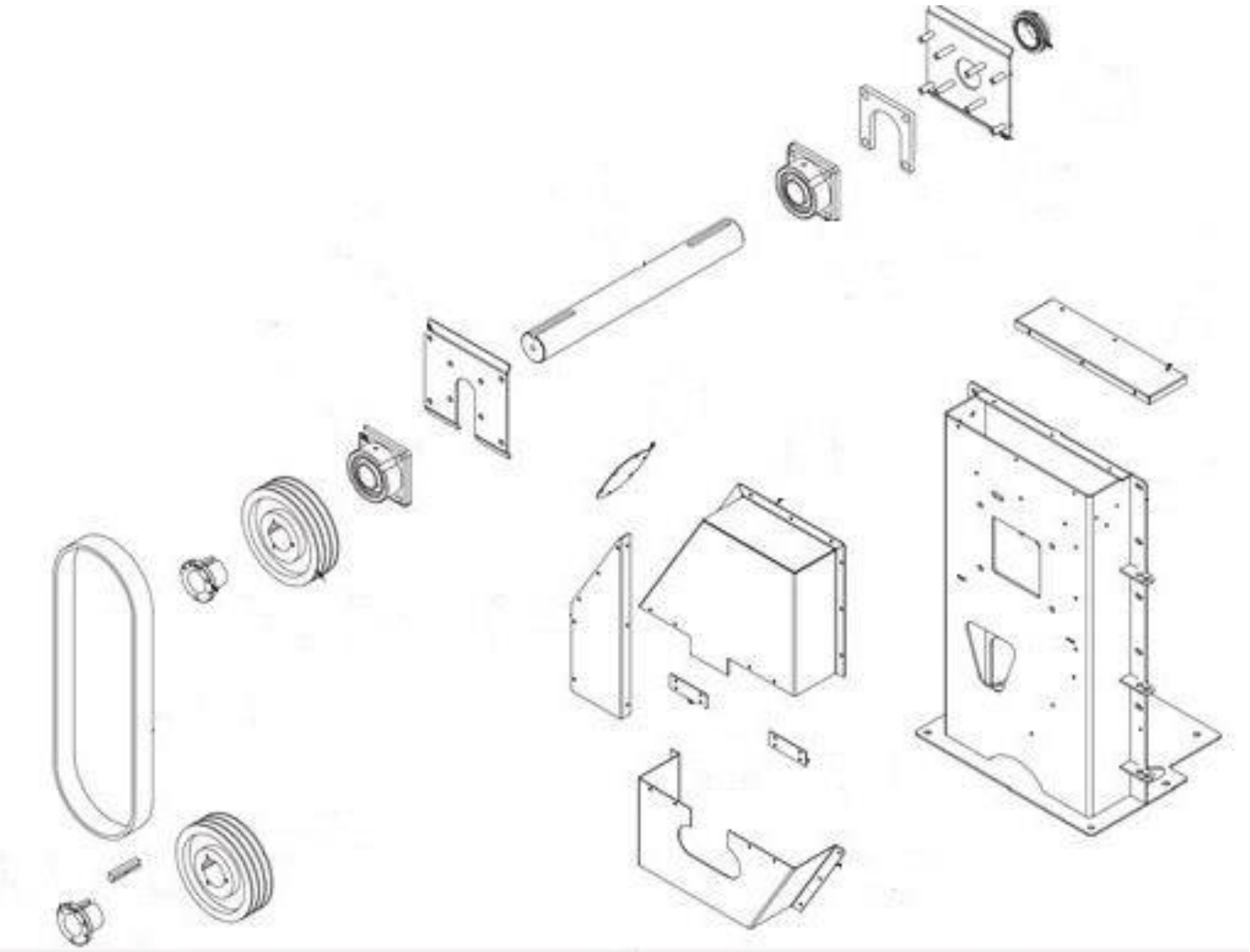
DESCRIPTION:

PART NUMBER:

DESCRIPTION:


2" x .062 x 5" Long SS Hinge
3X Ø.313 ∓ .062
3X Ø.203 ∓ .062
.500
2.000
2.000
2.000
5.000
.500
.375
.500
.375
.500
OLD DOMINION BRUSH CO.
CUST. NAME:
FILE:
FUEL DOOR HINGE.iam
PROJECT:
DCL800
PART NAME:
Fuel Door Hinge
PART NO.:
334YZ
DRAWN BY: chrisst
MATERIAL:
THICKNESS:
REVISION
ENGR.
DATE

PEDISTAL GROUP



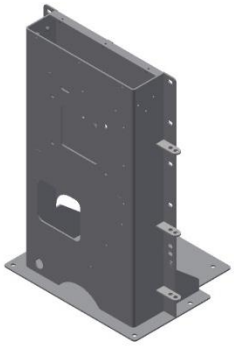
PEDISTAL GROUP

PART NUMBER:

200XZ

DESCRIPTION:

PEDESTAL

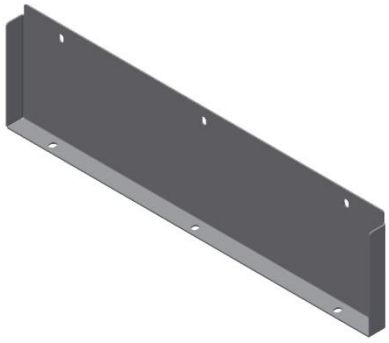


PART NUMBER:

274XZ

DESCRIPTION:

PEDISTAL LID

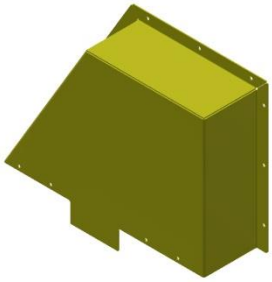


PART NUMBER:

257XZ

DESCRIPTION:

BELT GUARD TOP

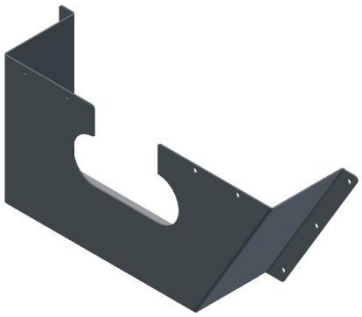


PART NUMBER:

258XZ

DESCRIPTION:

BELT GUARD BOTTOM

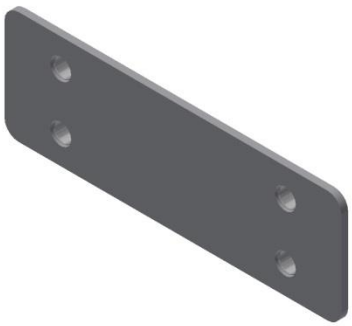


PART NUMBER:

260XZ

DESCRIPTION:

BELT GUARD NUT



PART NUMBER:

259XZ

DESCRIPTION:

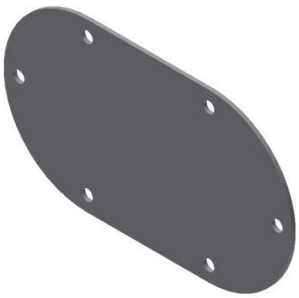
BELT GUARD BACK PLATE

PART NUMBER:

281XZ

DESCRIPTION:

BELT GUARD INSPECTION



PART NUMBER:

LCT650602A

DESCRIPTION:

4 BOLT BEARING

PEDISTAL GROUP

PART NUMBER:

LCT650602D

DESCRIPTION:

BEARING SPACER PLATE

PART NUMBER:

368XZ

DESCRIPTION:

IMPELLER SHAFT

PART NUMBER:

272XZ

DESCRIPTION:

OUTER BEARING PLATE

PART NUMBER:

4501402

DESCRIPTION:

PULLEY

PART NUMBER:

LCT650604A

DESCRIPTION:

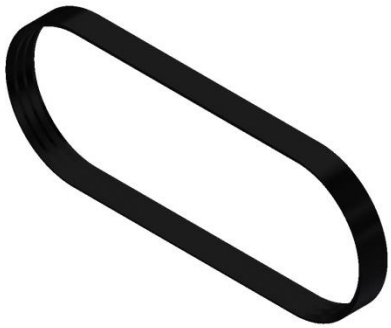
TAPER BUSHING

PART NUMBER:

580XZ

DESCRIPTION:

POWER BAND BELT



PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

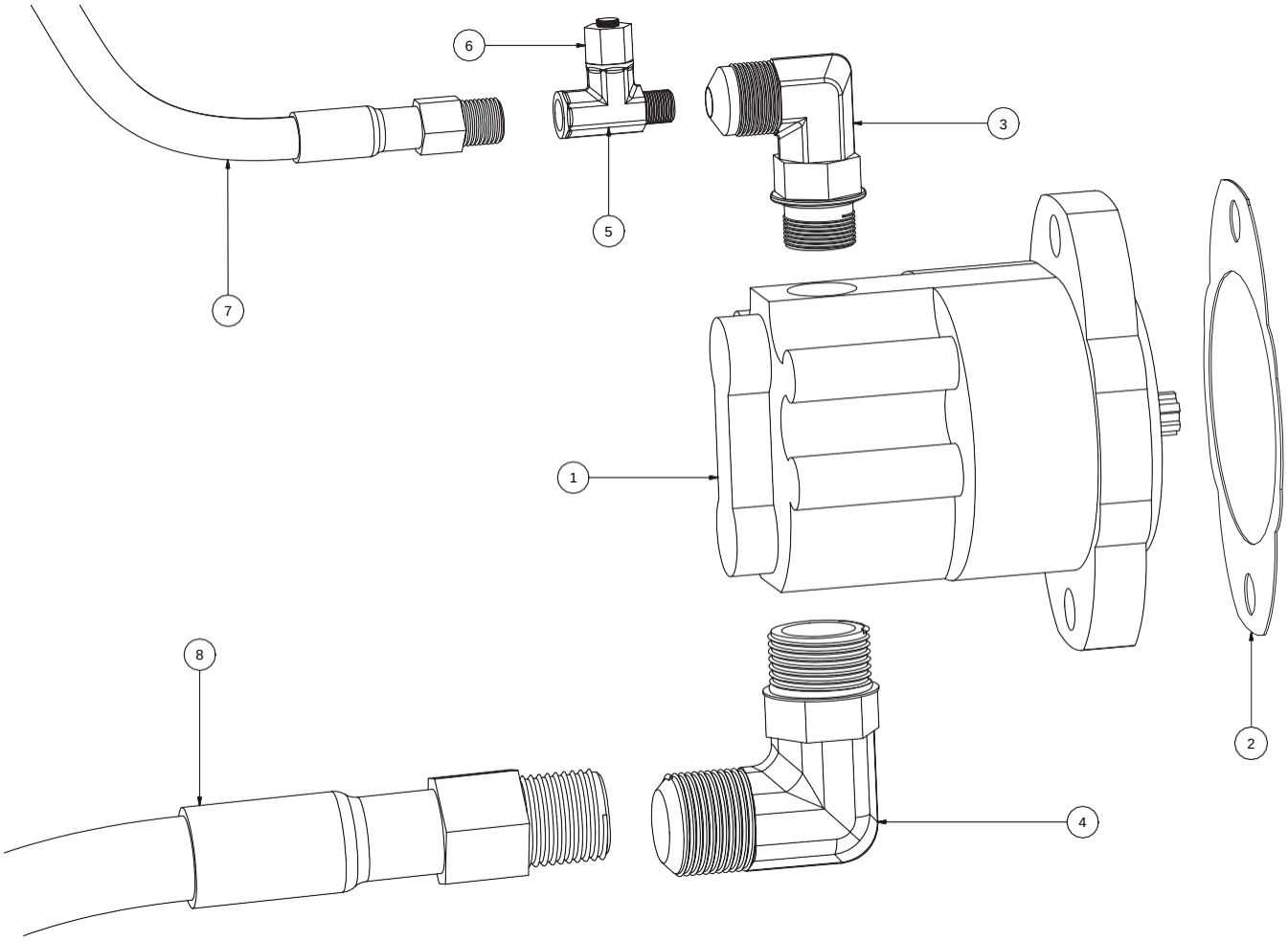
TRAILER GROUP

9-0

9.0 Hoist Hydraulic Group

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

9.1 Hydraulic Hoist Gear Pump



091913

ITEM #	PART NUMBER	DESCRIPTION
1	SCL800.017JD	Hydraulic Pump
2	JD-R123482	Gasket for Pump
3	800.2122	90 Degree Fitting
4	800.2102	90 Degree Fitting, 3/4 x 1
5		Tee Fitting
6		Tee Cap
7	800.2112	Hydraulic Hose, 1/2"
8	800.2111	Hydraulic Hose, 3/4" pressure in

Hydraulic Parts

PART NUMBER:

156XZ

DESCRIPTION:

BUCHER AL001 M8 HANDLE

PART NUMBER:

8002300

DESCRIPTION:

HAND VALVE

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

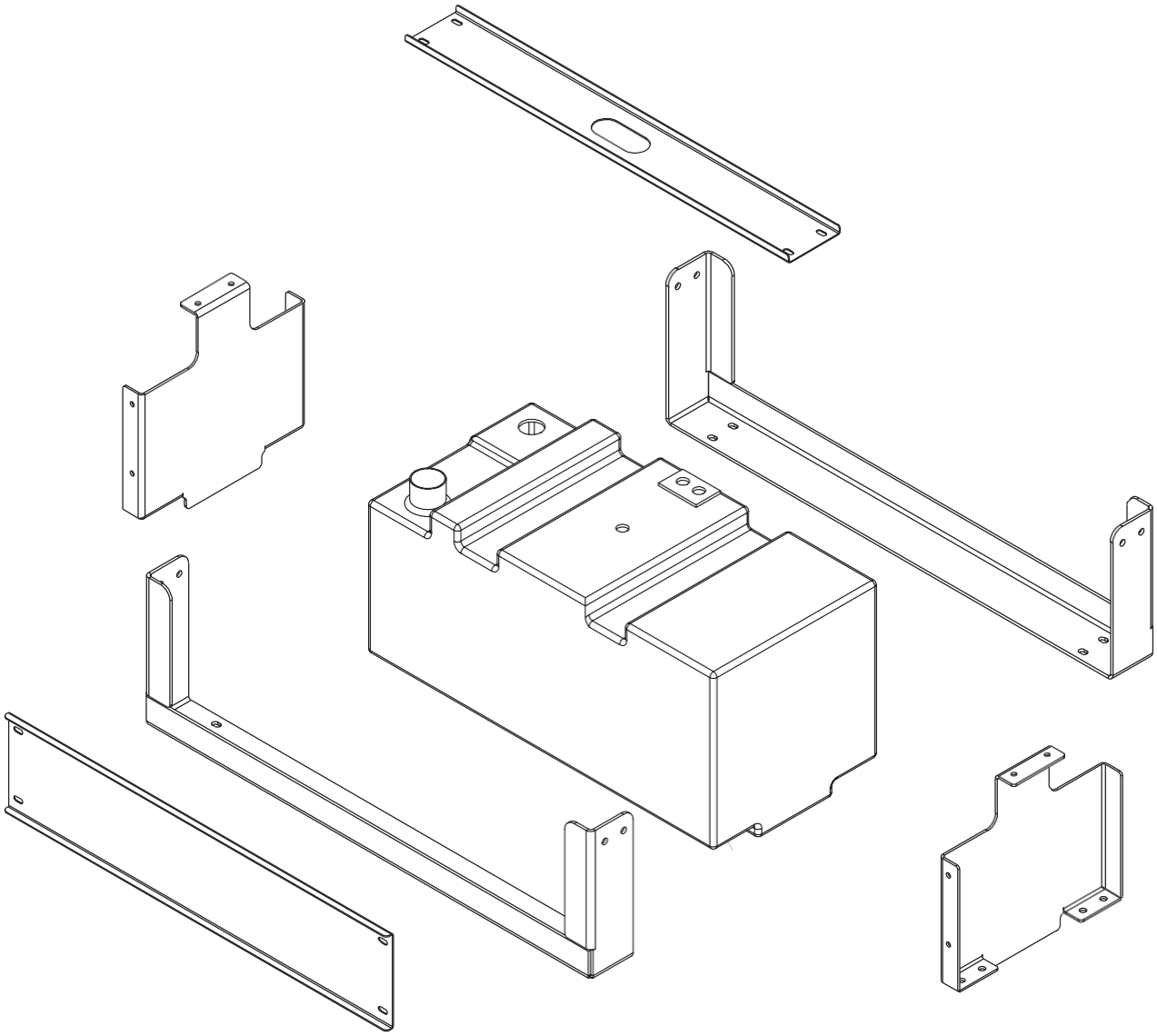
DESCRIPTION:

10-0

10.0 Chassis and Hopper Group

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

FUEL TANK GROUP



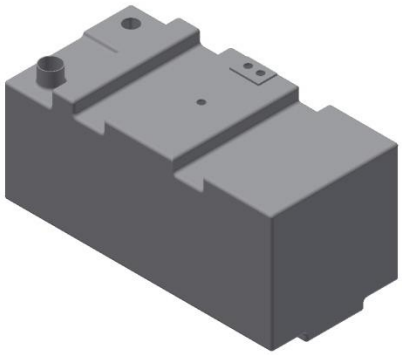
FUEL TANK GROUP

PART NUMBER:

8003501B

DESCRIPTION:

FUEL TANK, 40 GAL

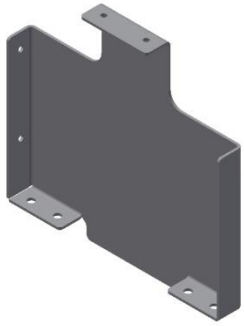


PART NUMBER:

277XZ

DESCRIPTION:

FUEL TANK RIGHT SIDE

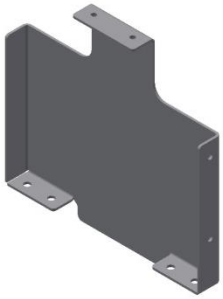


PART NUMBER:

278XZ

DESCRIPTION:

FUEL TANK LEFT SIDE



PART NUMBER:

276XZ

DESCRIPTION:

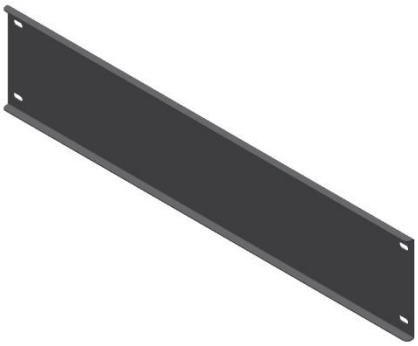
FUEL TANK SADDLE

PART NUMBER:

279XZ

DESCRIPTION:

FUEL TANKS FRONT



PART NUMBER:

280XZ

DESCRIPTION:

FUEL TANK TOP

PART NUMBER:

200040

DESCRIPTION:

HOSE CLIP, 5/16IN

PART NUMBER:

DESCRIPTION:

CHASSIS GROUP

PART NUMBER:

DCL800C*

DESCRIPTION:

CHASSIS (NUMBER CHANGES BASED ON YD SIZE)

PART NUMBER:

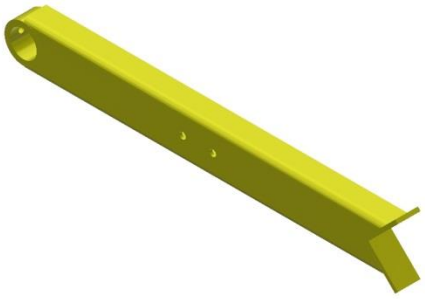
DCL800B*

DESCRIPTION:

BED (NUMBER CHANGES BASED ON YD SIZE)

PART NUMBER:

757XZ



DESCRIPTION:

BODY PROP

PART NUMBER:

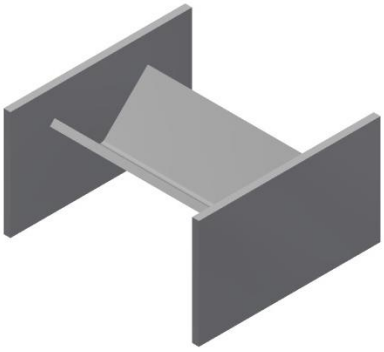
758XZ

DESCRIPTION:

BODY PROP HANDLE

PART NUMBER:

SCL800015A



DESCRIPTION:

BRACKET FOR BODY PROP

PART NUMBER:

SCL800015B

DESCRIPTION:

BODY PROP RECIEVER, DRIVER SIDE

PART NUMBER:

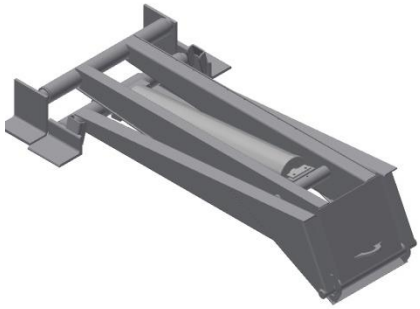
SCL800015

DESCRIPTION:

BODY PROP RECIEVER, PASSENGER SIDE

PART NUMBER:

155547



DESCRIPTION:

HOIST

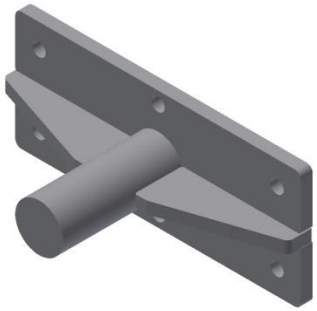
CHASSIS GROUP

PART NUMBER:

208XZ

DESCRIPTION:

BED GUIDE PIN



PART NUMBER:

PVCG46

DESCRIPTION:

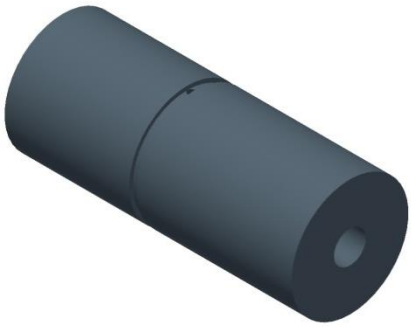
RUBBER GRIP

PART NUMBER:

8C014B

DESCRIPTION:

ST4000 HINGE PIN



PART NUMBER:

HAPP2033

DESCRIPTION:

HANGER KIT 8 12K AXLES

PART NUMBER:

SCL800811

DESCRIPTION:

MUD FLAP

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

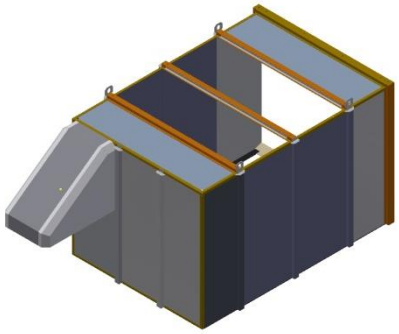
PART NUMBER:

DESCRIPTION:

BOX GROUP

PART NUMBER:

DCL800BX*



DESCRIPTION:

BOX (NUMBER CHANGES BASED ON YD SIZE)

PART NUMBER:

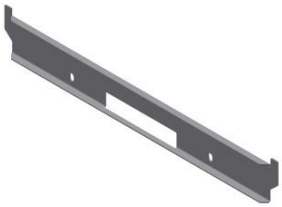
SCL805810

DESCRIPTION:

SCREEN
14/20YD-2 REQUIRED
25/30YD-3 REQUIRED

PART NUMBER:

8002807



DESCRIPTION:

SCREEN RETAINER

PART NUMBER:

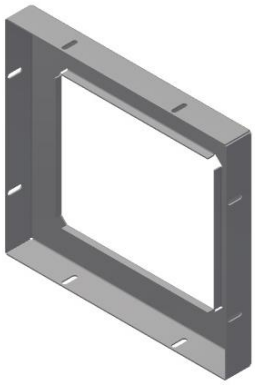
750299ODX

DESCRIPTION:

LOCK DOWN BRACKET

PART NUMBER:

8BXDB6

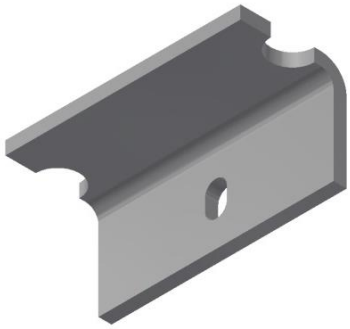


DESCRIPTION:

ADJUSTABLE INSERT

PART NUMBER:

SCL800036



DESCRIPTION:

BOX CORNER CLIP

PART NUMBER:

80076BX

DESCRIPTION:

DEFLECTOR PLATE

PART NUMBER:

SCL800030

DESCRIPTION:

DOOR SEAL RUBBER

BOX GROUP

PART NUMBER:

SCL800034

DESCRIPTION:

DOOR SEAL BRACKET, BOLTS TO WELDED PIECE ON BOX

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

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:

LCT600010

DESCRIPTION:

LICENSE PLATE BRACKET

PART NUMBER:

STD2414G

DESCRIPTION:

OVAL TAIL LIGHT GROMMET

PART NUMBER:

STD2414

DESCRIPTION:

LED TAIL LIGHT, RED

PART NUMBER:

LCT60615B

DESCRIPTION:

LICENSE PLATE LIGHT

PART NUMBER:

DESCRIPTION:

TONGUE GROUP

PART NUMBER:

SCL800622

DESCRIPTION:

TOW BAR

PART NUMBER:

SCL800623

DESCRIPTION:

PINTLE EYE

PART NUMBER:

SCL800624

DESCRIPTION:

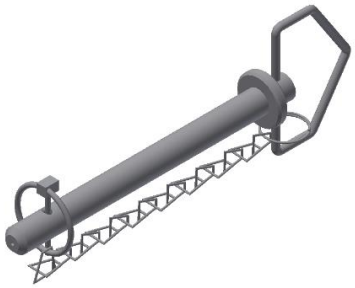
PARKING JACK

PART NUMBER:

SCL800623P

DESCRIPTION:

7/8 HITCH PIN

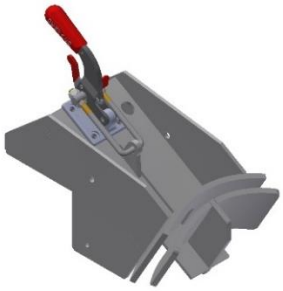


PART NUMBER:

SCL800827

DESCRIPTION:

NOZZLE CLAMP



PART NUMBER:

2000092

DESCRIPTION:

CLEVIS HOOK

PART NUMBER:

830XZ

DESCRIPTION:

CHASSIS HARNESS

PART NUMBER:

SCL6242

DESCRIPTION:

JACK HANDLE HOLDER

TONGUE GROUP

PART NUMBER:

SCLB253

DESCRIPTION:

REVOLVING HANDLE

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

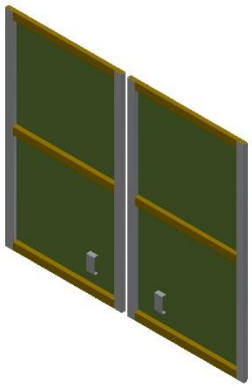
REAR DOOR GROUP

PART NUMBER:

80013BX

DESCRIPTION:

SIDE HINGE DOORS

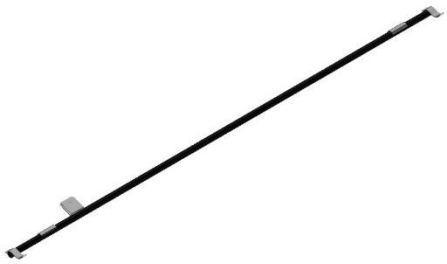


PART NUMBER:

750214A

DESCRIPTION:

LH DOOR ROD



PART NUMBER:

750214B

DESCRIPTION:

RH DOOR ROD

PART NUMBER:

75022 & 75023

DESCRIPTION:

75022-ROD BRACKET
75023-ROD BRACKET BACK

PART NUMBER:

19697X

DESCRIPTION:

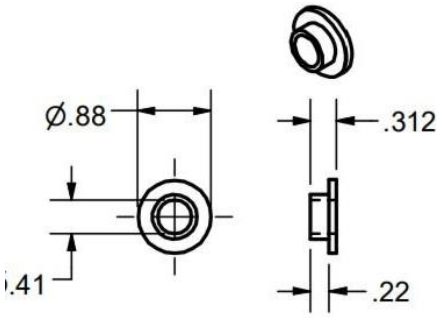
SEAL PIN

PART NUMBER:

196939

DESCRIPTION:

BUSHING



BUSHING

PART NUMBER:

19694X

DESCRIPTION:

SEAL PLATE

PART NUMBER:

19696X

DESCRIPTION:

HANDLE

REAR DOOR GROUP

PART NUMBER:

75021

DESCRIPTION:

KEEPER

PART NUMBER:

80003BX

DESCRIPTION:

HINGE

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

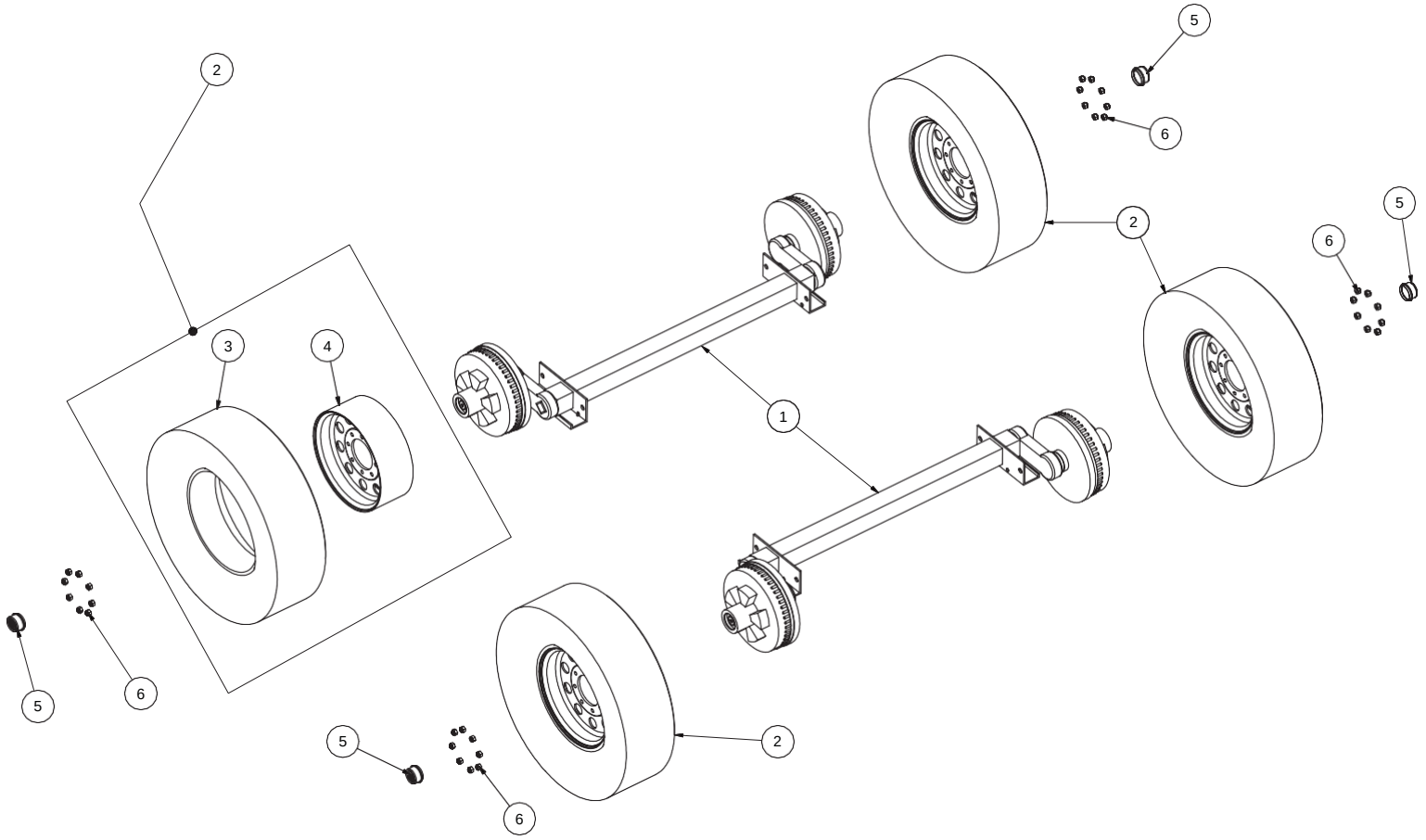
11-0

TIRE AND AXLE GROUP

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

11.1 Axle Group 14 CY, 8K

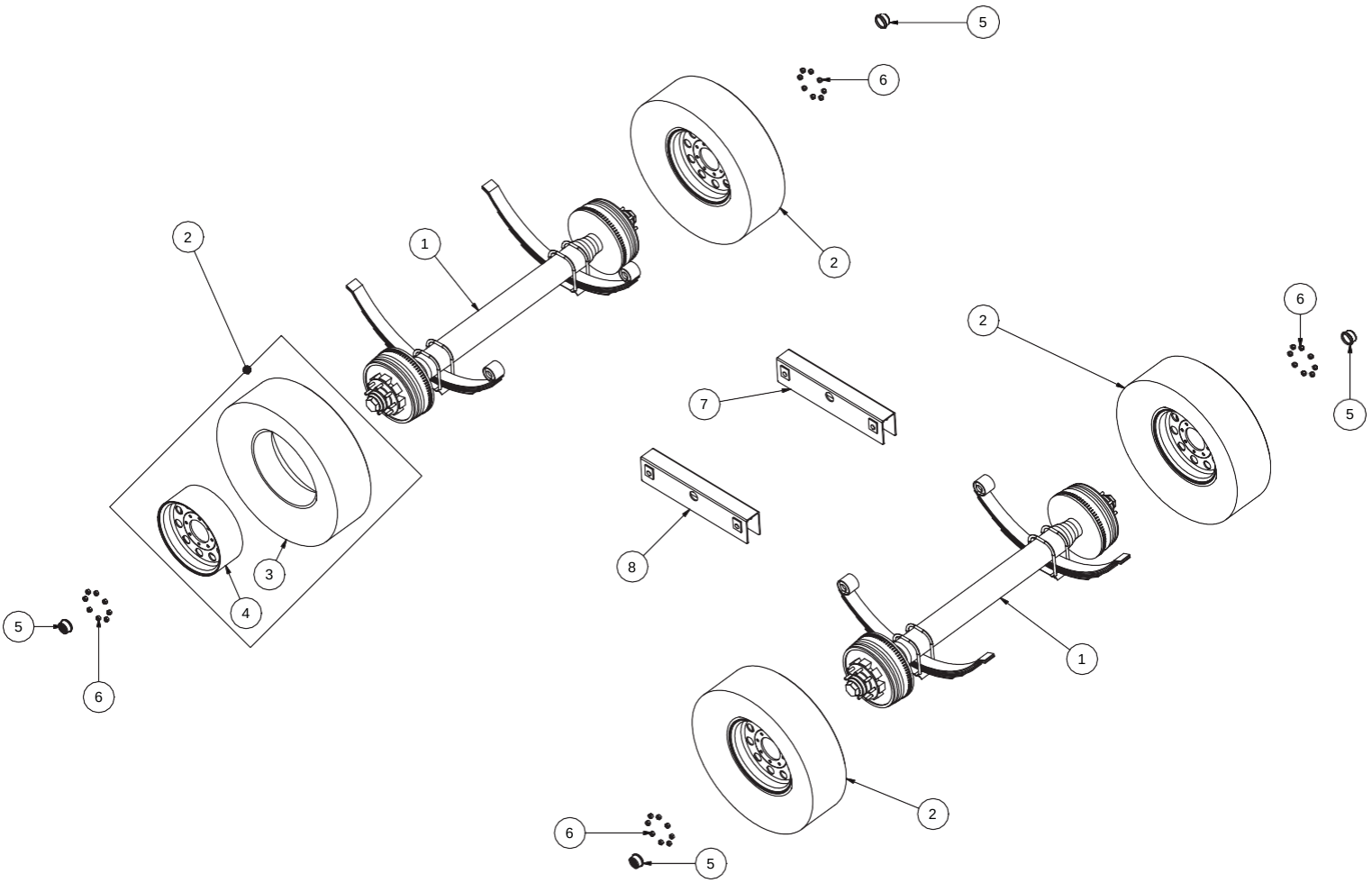
2008 and after



ITEM #	PART NUMBER	DESCRIPTION
1	SCL822.614.14	Axle Assembly, 8K
2	SCL822.619A	Time and Rim Assembly
3	...SCL822.619.T2	...Tire only ST235/85 R16
4	...SCL822.619.R	...Rim only
5	SCL810.820A	Oil Cap, O-ring assembly
6	006.053.00	Lug Nuts, 1/2" - 20

11.2 Axle Group 20/25/30 CY, 10/20K

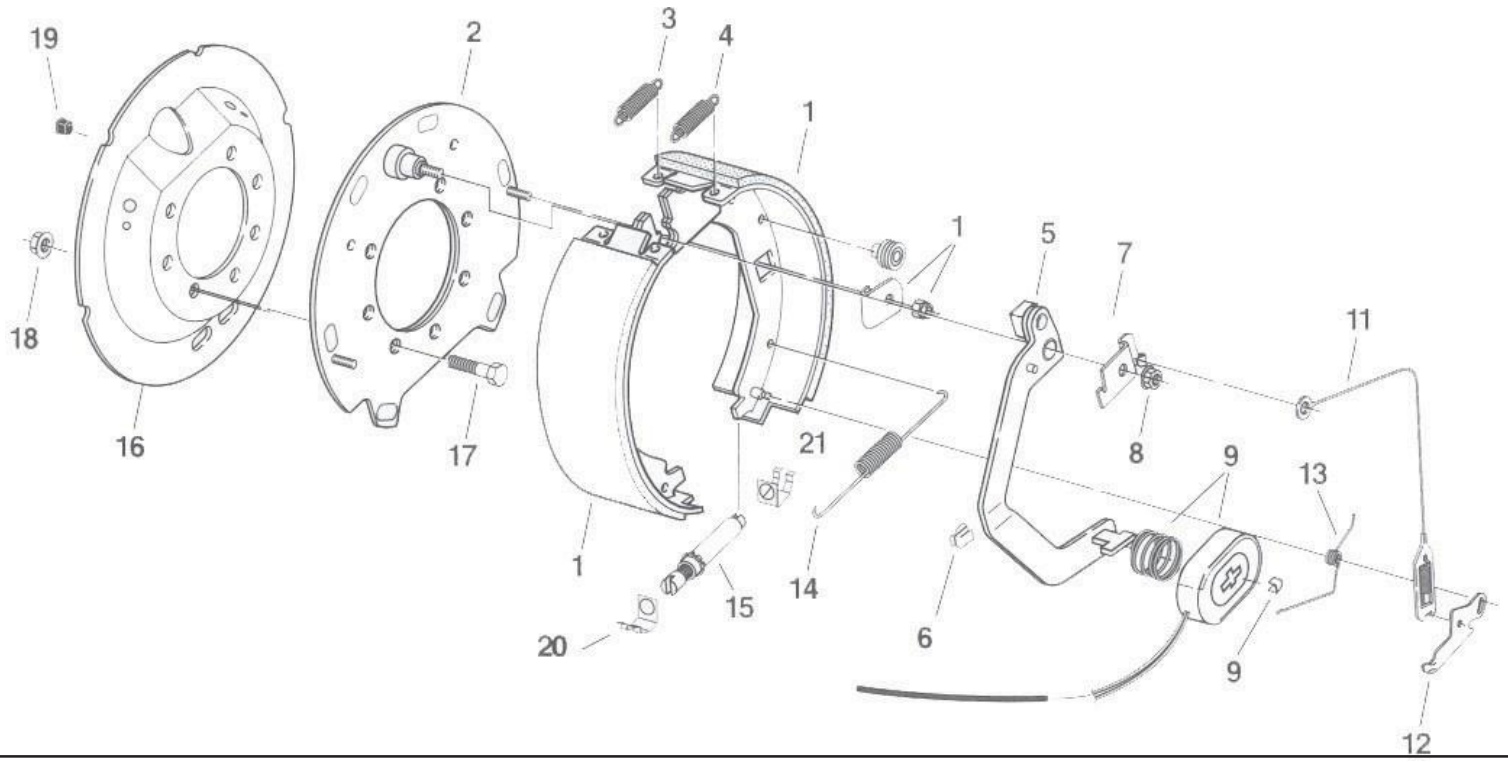
Dual Axle Units



	10K (20CY)	12K (25/30 CY)	
ITEM #	**PART NO.**	**PART NO**	**DESCRIPTION**
1	2091259	29194	Axle Assembly
2	SCL822.620DWR	SCL822.620DWR	Tire and Rim Assembly, 16" Rim
3	...SCL822.619.T2	...SCL822.619.T2	...Tire only, ST235/80 R16
4	...OD20798	...OD20798	...Rim only,16"
5	SCL810.820B	SCL810.820B	Oil Cap, O-ring Asy
6	006.109.00	006.109.00	Lug Nuts, 5/8-18
7	013.084.01	013.109.03	Equalizer, LH
8	013.085.01	013.109.04	Equalizer, RH

11.3 Brake Assembly Group

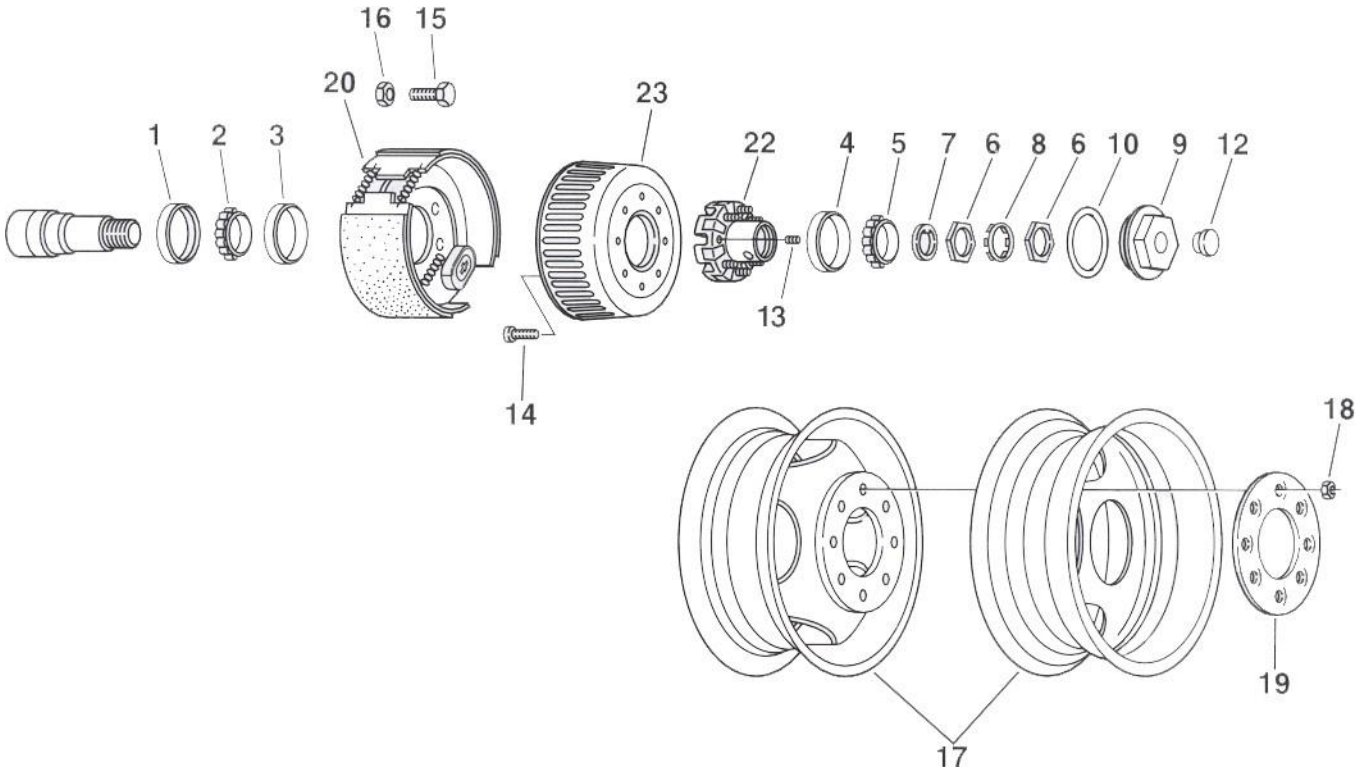
Typical



ITEM NO.	DESCRIPTION	PART NUMBERS 6K Axle	8K Axle	9K Axle	10K Axle	12K Axle
*	Brake Kit,LH (includes everyhing on page)	023.105.00	023.097.00	023.450.00	023.450.00	023.442.00
*	Brake Kit,RH (includes everyhing on page)	023.106.00	023.098.00	023.451.00	023.451.00	023.443.00
1.	LH Shoe & Lining Kit	K71.048.00	K71.049.00	K71.049.00	K71.051.00	K71.053.00
	RH Shoe & Lining Kit	K71.048.00	K71.050.00	K71.050.00	K71.052.00	K71.054.00
2.	Backing Plate Assembly	036.089.05	036.050.03	036.072.05	036.072.05	036.072.06
3.	Shoe Return Spring, (Rear-Black)	046.009.00	046.071.00	046.071.00	046.071.00	046.071.00
4.	Shoe Return Spring, (Front-Green)		046.083.00	046.083.00	046.083.00	046.083.00
5.	LH Actuator Arm Assembly	047.107.00	047.123.38	047.123.38	047.123.06	047.123.04
	RH Actuator Arm Assembly	047.108.00	047.123.38	047.123.37	047.123.05	047.123.03
6.	Wire Clip	027.005.00	027.039.00	027.039.00	027.039.00	027.039.00
7.	LH Arm/Shoe Retainer		071.455.01	071.455.01	071.455.01	071.455.01
	RH Arm/Shoe Retainer		071.455.02	071.455.02	071.455.02	071.455.02
8.	Flange Nut		006.062.00	006.062.00	006.062.00	006.062.00
9.	Magnet Kit	K71.105.00	K71.375.00	K71.376	K71.376	K71.377.00
	Magnet Retainer Clip	027.009.00	027.050.00	027.050.00	027.050.00	027.050.00
	Magnet Assembly	042.009.00	042.127.00	042.129.00	042.129.00	042.130.00
	Magnet Mfg. Spring	046.080.00	046.117.00	046.117.00	046.117.00	046.117.00
11.	Adjuster Cable		071.020.00	071.020.00	071.020.00	071.020.00
12.	LH Adjuster Lever		071.019.01	071.019.01	071.019.01	071.019.01
	RH Adjuster Lever		071.019.02	071.019.02	071.019.02	071.019.02
13.	LH Adjuster Lever Spring	046.018.00	046.073.00	046.073.00	046.073.00	046.073.00
	RH Adjuster Lever Spring	046.018.00	046.074.00	046.074.00	046.074.00	046.074.00
14.	Adjuster Spring		046.072.00	046.072.00	046.072.00	046.072.00
15.	LH Adjuster Assembly	043.004.00	048.009.00	048.009.00	048.009.00	048.009.00
	RH Adjuster Assembly	043.004.00	048.010.00	048.010.00	048.010.00	048.010.00
16.	Dust Shield Kit		036.115.20	036.115.21	036.115.22	036.115.23
17.	Brake Mounting Screw		007.097.00	007.116.00	007.116.00	007.116.00
18.	Brake Mounting Nut		006.046.00	006.092.00	006.092.00	006.092.00
19.	Sleeve			027.014.00	027.014.00	027.014.00
20.	Adjuster Clip (thread end)			046.132.00	046.132.00	046.132.00
21.	Adjuster Clip (Barrel end)			046.133.00	046.133.00	046.133.00

11.4 Axle Hub Assembly Group

Typical



ITEM NO.	DESCRIPTION	PART NUMBERS 6K Axle	8K Axle	9K Axle	10K Axle	12K Axle
1.	Oil Seal	021.042.00	010.063.00	010.051.00	010.056.00	010.056.00
2.	Inner Bearing Cone	031.030.02	031.030.02	031.019.02	031.022.02	031.020.02
3.	Innner Bearing Cup	031.030.01	031.030.01	031.019.01	031.022.01	031.020.01
4.	Outer Bearing Cup	031.017.01	031.028.01	031.030.01	031.019.02	031.021.02
5.	Outer Bearing Cone	031.029.02	031.028.02	031.030.02	031.019.01	031.021.01
6.	Spindle Nut	006.176.00	006.001.00	006.096.00	006.084.00	006.084.00
7.	Spindle Washer	005.057.00	005.057.00	005.070.00	005.060.00	005.060.00
8.	Tang Washer	N/A	005.101.00	005.071.00	005.059.00	005.059.00
	Oil Cap Kit contains (#9,10,12)	SCL810.820B	SCL810.820A	SCL810.820	SCL810.820	SCL810.820
9.	Oil Cap	021.001.00	021.035.00	021.036.00	021.036.00	021.036.00
10.	'O' Ring	N/A	010.045.00	010.050.00	010.050.00	010.050.00
12.	Oil Cap Plug	N/A	046.032.00	046.032.00	046.032.00	046.032.00
13.	Wheel Stud		007.132.00	007.115.00	007.115.00	007.115.00
14.	Drum Mounting Screw			007.245.00	007.103.00	007.103.00
15.	Brake Mounting Bolt		007.097.00	007.116.00		
16.	Brake Mounting Nut		006.046.00	006.092.01		
17.	Rim	see axle pages	see axle pages	see axle pages	see axle pages	see axle pages
	Tire and Rim Assembly	see axle pages	see axle pages	see axle pages	see axle pages	see axle pages
18.	Lug Nut	006.080.00	006.053.00	EX30300E[1]	006.109.00	006.109.00
19.	Wheel Clamp Ring	N/A	N/A	N/A	N/A	N/A
20A	LH Brake Assembly	023.105.00	023.097.00	023.450.00	023.450.00	023.442.00
20B	RH Brake Assembly	023.106.00	023.098.00	023.451.00	023.451.00	023.443.00
22.	Hubs w/cups and studs		8.287.92	8.288.3	8.214.5	8.214.08
23.	Brake Drum		8.285.9[2]	009.044.01	009.027.01	009-028-01

Notes:

1 = 1997 and after; 1997 and before use 006.109.00

2 = brake drum and studs come together

12-0

12.0 HOSE BOOM GROUP

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

BOOM GROUP

PART NUMBER:

LCT616606A

DESCRIPTION:

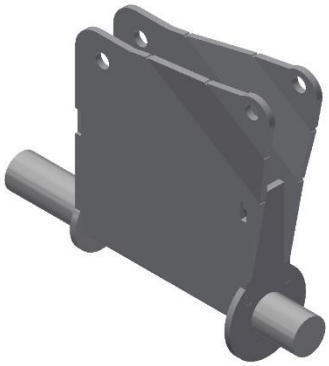
BOOM ARM

PART NUMBER:

SCL816606A

DESCRIPTION:

BOOM MAST



PART NUMBER:

788XZ

DESCRIPTION:

BOOM CYLINDER

PART NUMBER:

LCT616801

DESCRIPTION:

BOOM MAST BEARINGS

PART NUMBER:

LCT616601

DESCRIPTION:

INTAKE NOZZLE

PART NUMBER:

PVCG46

DESCRIPTION:

GRIP

PART NUMBER:

LCT616616

DESCRIPTION:

HOSEBAND

PART NUMBER:

LCT616603U

DESCRIPTION:

HOSECLAP

BOOM GROUP

PART NUMBER:

MPM3219S

DESCRIPTION:

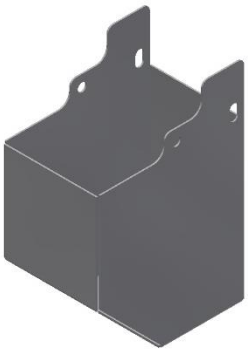
BOOM PUMP

PART NUMBER:

M3219PC

DESCRIPTION:

PUMP COVER

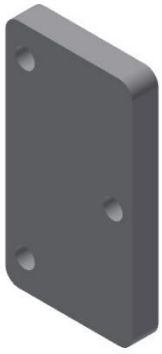


PART NUMBER:

200022

DESCRIPTION:

PUMP SPACER

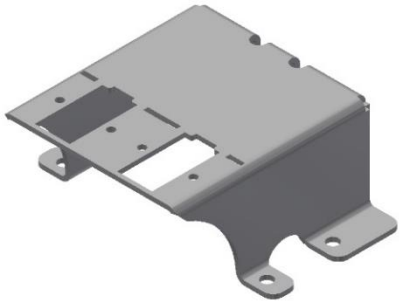


PART NUMBER:

STD2320B

DESCRIPTION:

PUSH BUTTON BOX

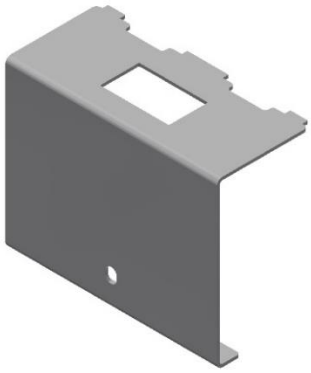


PART NUMBER:

STD2320D

DESCRIPTION:

PUSH BOTTON COVER PLATE



PART NUMBER:

LCT616615D

DESCRIPTION:

HOLD DOWN BRACKET

PART NUMBER:

STD2321C

DESCRIPTION:

PUSH BUTTONS W/ HARNESS

PART NUMBER:

6002322B

DESCRIPTION:

BOOM HARNESS

BOOM GROUP

PART NUMBER:

LCMDH16120

DESCRIPTION:

MEDIUM DUTY HOSE

PART NUMBER:

E1005X

DESCRIPTION:

BRACKET SWITCH

PART NUMBER:

HOSE1021

DESCRIPTION:

HOSE FROM BOOM CYLINDER TO PUMP

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

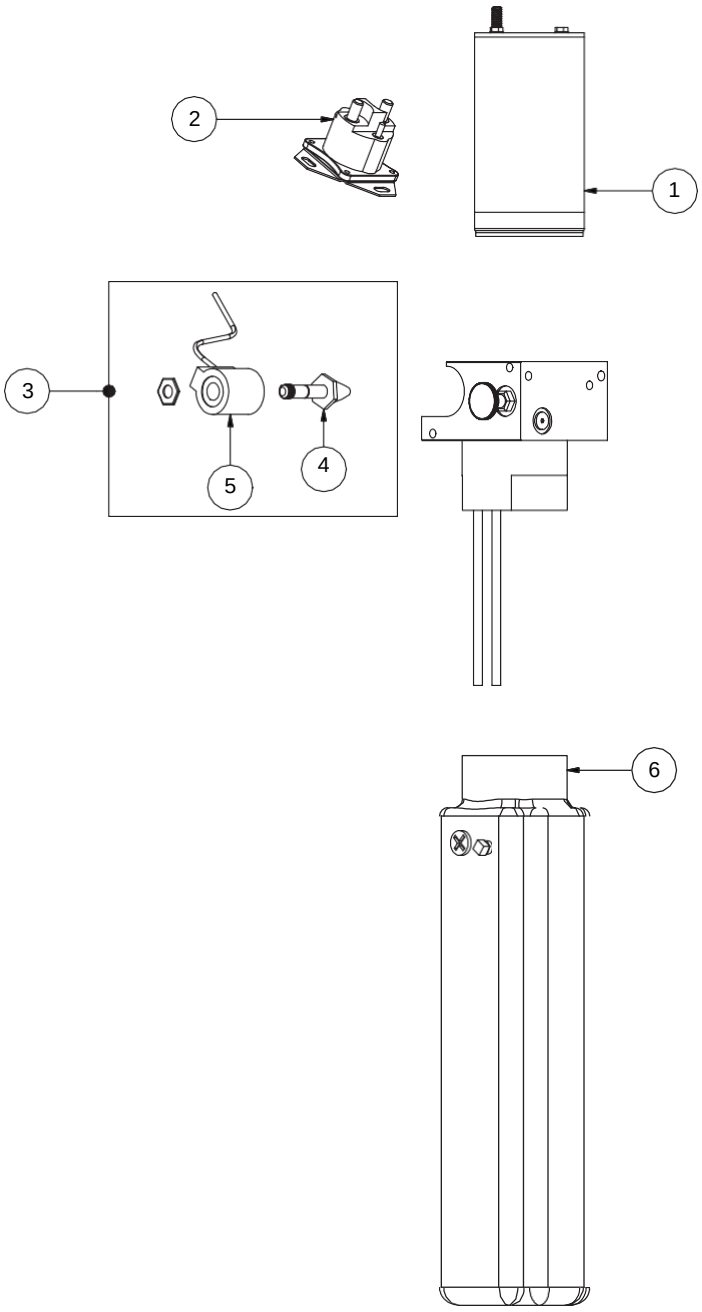
DESCRIPTION:

PART NUMBER:

DESCRIPTION:

12.3 M3219 Hydraulic Boom Pump

May 2012 and after



091913

ITEM #	PART NUMBER	DESCRIPTION
	MP-M3219.S	Complete Pump Assembly (all above)
1	MP-08004	Electric Motor, 12V
2	MP-17744	Solenoid Switch, heavy duty
3	MP-19283D	Coil, Cartridge Assembly
4	MP-07193.D	Cartridge
5	MP-10861.D	Coil, 2 way - 2 position
6	MP-06232	Plastic Reservoir, 3.5" x 15.7"

**Call ODB for any part not listed.*

HOSE BOOM GROUP

13-0

SPECIAL OPTIONS

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

BOTTOM EXHAUST

33OPT-25/30YD & 34OPT-14/20YD

PART NUMBER:

249XZ

DESCRIPTION:

REAR STIFFINER

PART NUMBER:

250XZ

DESCRIPTION:

FRONT STIFFENER

PART NUMBER:

251XZ

DESCRIPTION:

MIDDLE STIFFINER

PART NUMBER:

252XZ

DESCRIPTION:

FRONT WALL PANEL

PART NUMBER:

253XZ

DESCRIPTION:

CENTER WALL PANEL

PART NUMBER:

254XZ

DESCRIPTION:

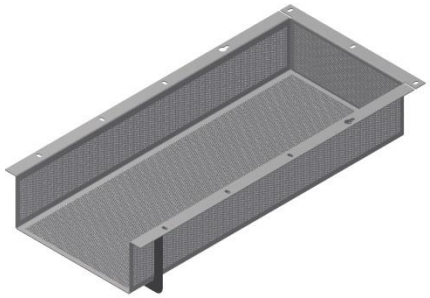
REAR WALL PANEL

PART NUMBER:

843XZ

DESCRIPTION:

EXHAUST SCREEN



PART NUMBER:

846XZ

DESCRIPTION:

OUTSIDE FILLER PLATE

BOTTOM EXHAUST

33OPT-25/30YD & 34OPT-14/20YD

PART NUMBER:

847XZ

DESCRIPTION:

CENTER FILLER PLATE

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

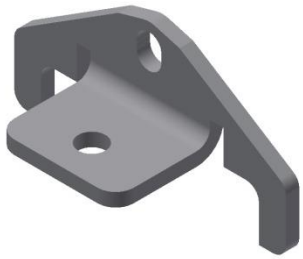
DESCRIPTION:

HOOD SCOOP

7OPT

PART NUMBER:

8001901



DESCRIPTION:

HAT CHANNEL BRACKET

PART NUMBER:

8001901L

DESCRIPTION:

HAT CHANNEL BRACKET LH

PART NUMBER:

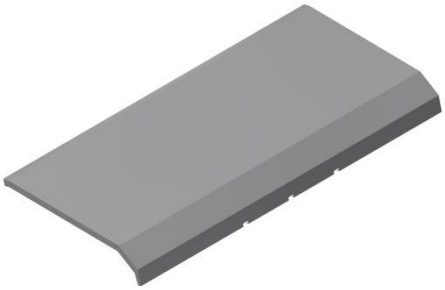
8001901R

DESCRIPTION:

HAT CHANNEL BRACKET RH

PART NUMBER:

8001902

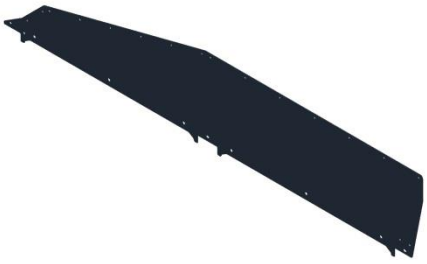


DESCRIPTION:

FRONT TOP PANEL

PART NUMBER:

8001902L

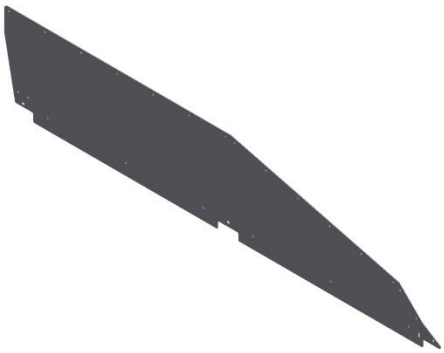


DESCRIPTION:

LEFT HAND SIDE

PART NUMBER:

8001902R

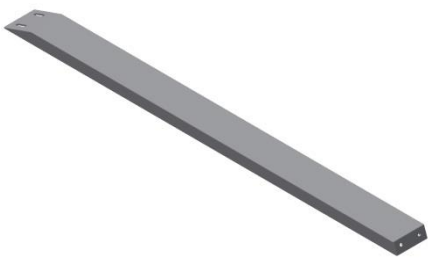


DESCRIPTION:

RIGHT HAND SIDE

PART NUMBER:

8001903



DESCRIPTION:

CROSS BRACE

PART NUMBER:

8001904

DESCRIPTION:

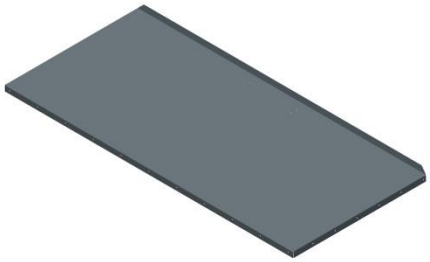
SIDE STIFFENER

HOOD SCOOP

7OPT

PART NUMBER:

8001905

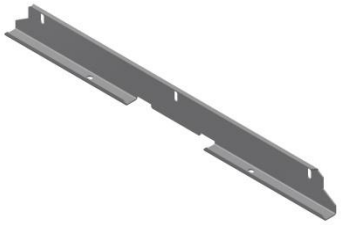


DESCRIPTION:

REAR TOP PANEL

PART NUMBER:

8001907



DESCRIPTION:

SCREEN RETAINER PANEL

PART NUMBER:

8002909

DESCRIPTION:

NUT PLATE

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

3 AXIS BOOM

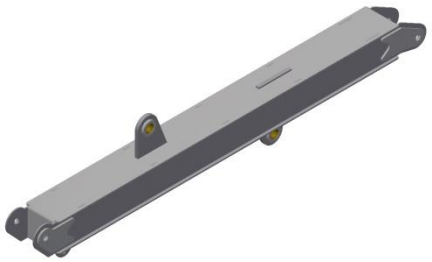
4OPT

PART NUMBER:

266XZ

DESCRIPTION:

UP/DOWN BOOM ARM



PART NUMBER:

267XZ

DESCRIPTION:

IN/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:

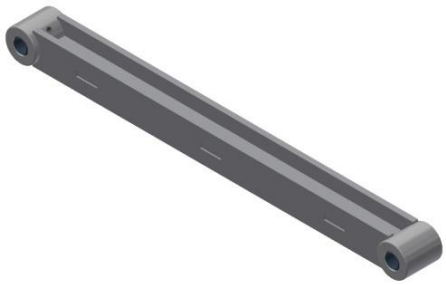
MULTI-AXIS NOZZLE

PART NUMBER:

SCL816813

DESCRIPTION:

HOSE SUPPORT BAR



PART NUMBER:

264XZ

DESCRIPTION:

BOOM SWIVEL

3 AXIS BOOM

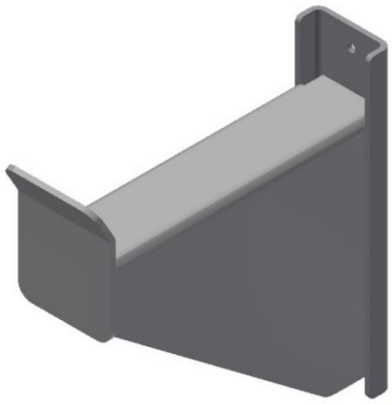
4OPT

PART NUMBER:

335XZ

DESCRIPTION:

HOSE CRADLE



PART NUMBER:

800704B

DESCRIPTION:

AUBURN GEAR DRIVE

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:

754XZ

DESCRIPTION:

PILOT FLANGE BEARING

3 AXIS BOOM

4OPT

PART NUMBER:

LCT616616

DESCRIPTION:

HOSE BAND

PART NUMBER:

800701C

DESCRIPTION:

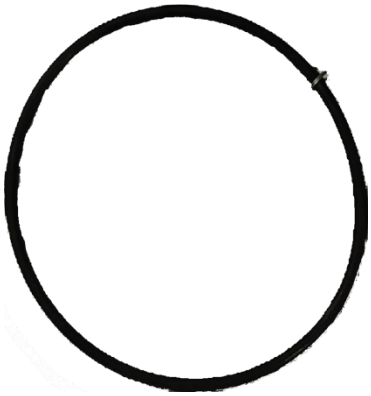
EATON HYDRAULIC MOTOR

PART NUMBER:

800701D

DESCRIPTION:

O-RING FOR HYD MOTOR

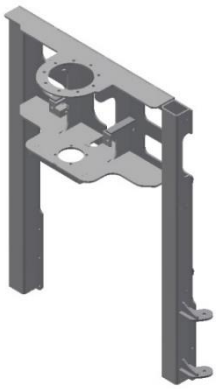


PART NUMBER:

263XZ

DESCRIPTION:

H-FRAME



PART NUMBER:

267XZ

DESCRIPTION:

HINGED FRAME MOUNT

PART NUMBER:

268XZ

DESCRIPTION:

FRAME MOUNT

PART NUMBER:

611XZ

DESCRIPTION:

IN-CAB CONTROLS

PART NUMBER:

688XZ

DESCRIPTION:

REPLACEMENT JOYSTICK FOR 611XZ

3 AXIS BOOM

4OPT

PART NUMBER:

1524XZ

DESCRIPTION:

MAIN CONTROLS ASM

PART NUMBER:

STD7000

DESCRIPTION:

CLUTCH ACTUATOR ARM

PART NUMBER:

STD7002

DESCRIPTION:

ACTUATOR ARM

PART NUMBER:

STD7003

DESCRIPTION:

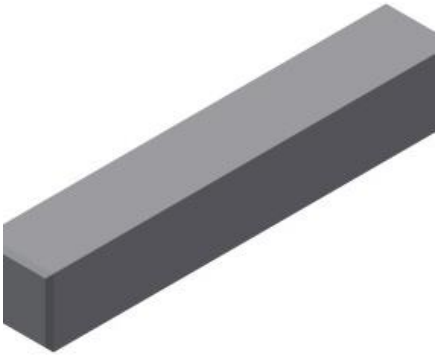
LOWER ARM BRACKET

PART NUMBER:

STD7004

DESCRIPTION:

SHAFT KEY .25IN SQ-1.5IN LONG



PART NUMBER:

STD7005

DESCRIPTION:

ACTUATOR MOUNTING BRACKET

PART NUMBER:

340XZ

DESCRIPTION:

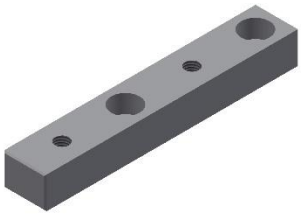
PROX SWITCH PLATE

PART NUMBER:

344XZ

DESCRIPTION:

FUEL FILTER BRACKET



3 AXIS BOOM

4OPT

PART NUMBER:

612XZ

DESCRIPTION:

MAIN VEHICLE HARNESS

PART NUMBER:

5501809

DESCRIPTION:

ROD END BALL JOINT

PART NUMBER:

585XZ

DESCRIPTION:

OIL EMBEDDED WASHER

PART NUMBER:

1173XZ

DESCRIPTION:

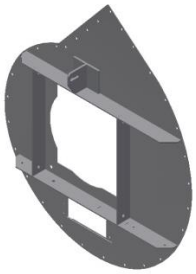
AUTO DOOR LATCH

PART NUMBER:

8003042

DESCRIPTION:

MULTI-AXIS BLOWER HOUSING FACE

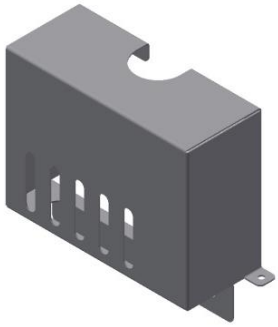


PART NUMBER:

339XZ

DESCRIPTION:

VALVE BODY COVER

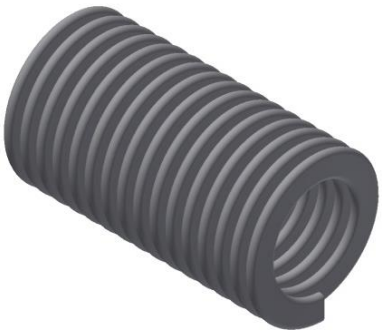


PART NUMBER:

8AD001L

DESCRIPTION:

LATCH SPRING



PART NUMBER:

8AD001C

DESCRIPTION:

THREADED ROD FOR AUTO DOOR LATCH

3 AXIS BOOM

4OPT

PART NUMBER:

217XZ

DESCRIPTION:

MIDDLE COUPLING

PART NUMBER:

215XZ

DESCRIPTION:

AUTO DOOR SHAFT

PART NUMBER:

268XZ

DESCRIPTION:

MOUNTED ADL BEARING

PART NUMBER:

569XZ

DESCRIPTION:

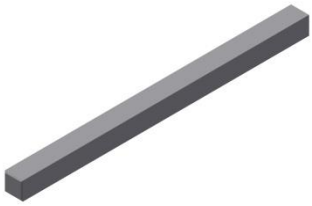
2 BOLT FLANGE BEARING

PART NUMBER:

969XZ

DESCRIPTION:

MIDDLE COUPLING KEY, .25IN SQ X 4IN LONG

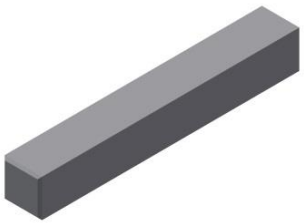


PART NUMBER:

968XZ

DESCRIPTION:

LATCH HOOK KEY, .25IN SQ X 1.75IN LONG



PART NUMBER:

609XZ

DESCRIPTION:

ADL HYDRAULIC CYLINDER

PART NUMBER:

1529XZ

DESCRIPTION:

TOP HINGE, AUTO LATCHDOOR

3 AXIS BOOM

4OPT

PART NUMBER:

80092BX

DESCRIPTION:

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

PART NUMBER:

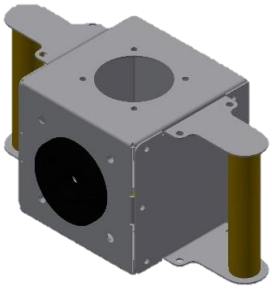
358XZ

DESCRIPTION:

AUTO DOOR PROX STRIKE

PART NUMBER:

744XZ

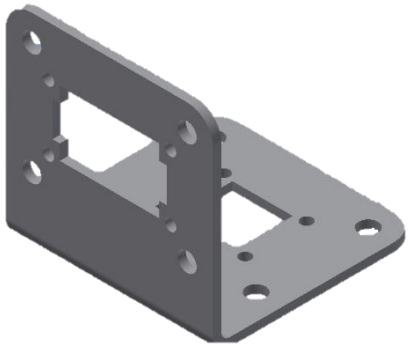


DESCRIPTION:

DCL TM 3X JOYSTICK BOX

PART NUMBER:

749XZ

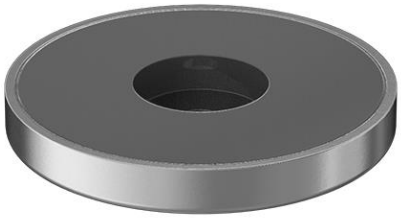


DESCRIPTION:

DCL TM 3X JOYSTICK PLUG MOUNT

PART NUMBER:

746XZ

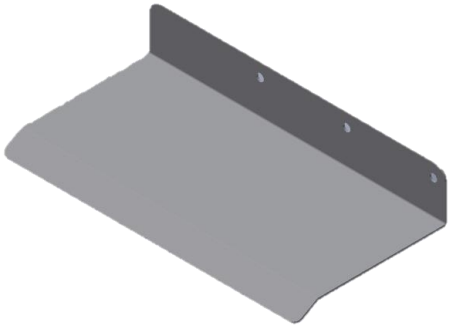


DESCRIPTION:

CERAMIC MAGNET

PART NUMBER:

736XZ



DESCRIPTION:

DCL TM3X SCREEN COVER

PART NUMBER:

8001808

DESCRIPTION:

TENSION SPRING

PART NUMBER:

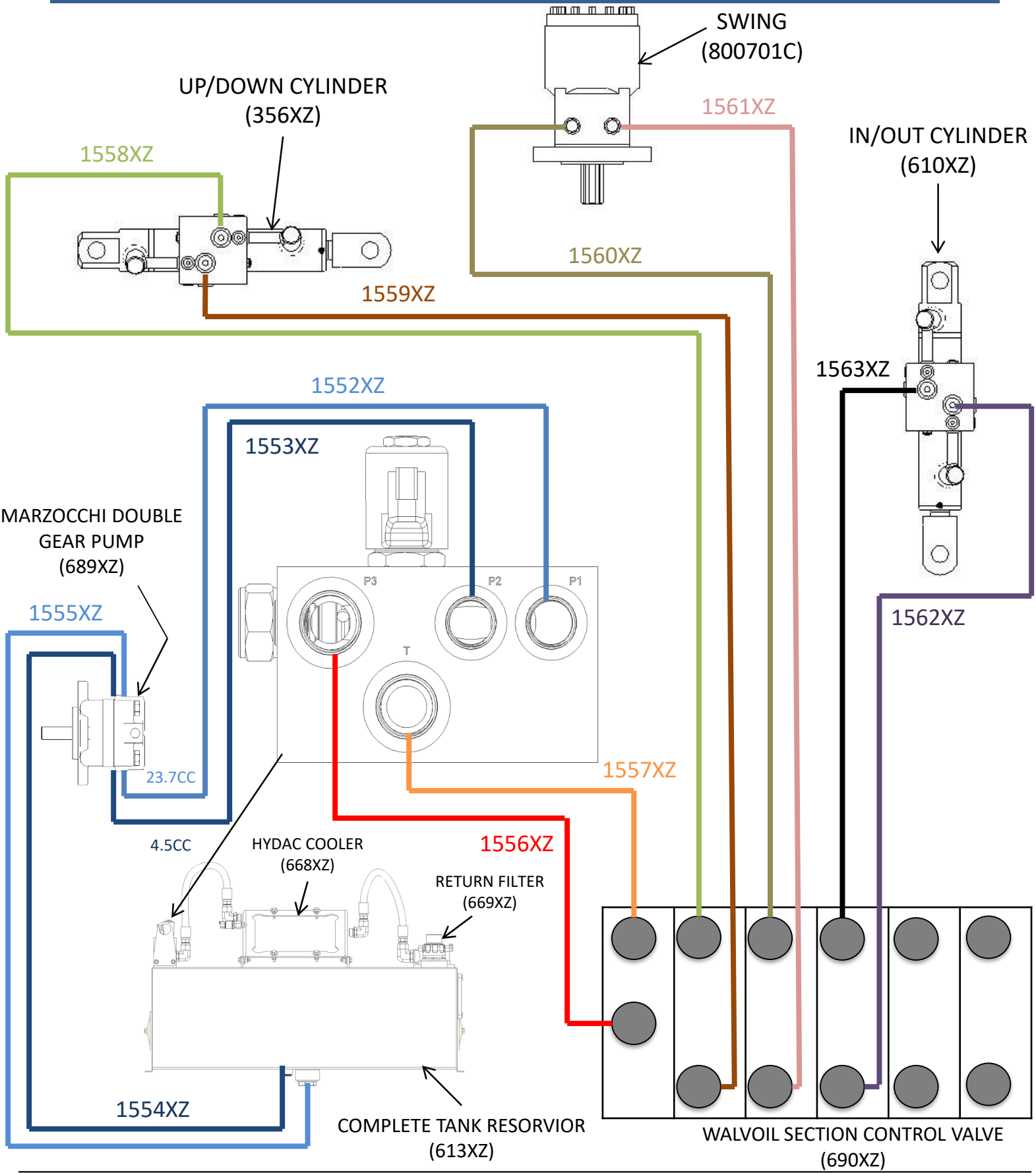
666XZ

DESCRIPTION:

REMOTE PTO ACTUATOR SHAFT

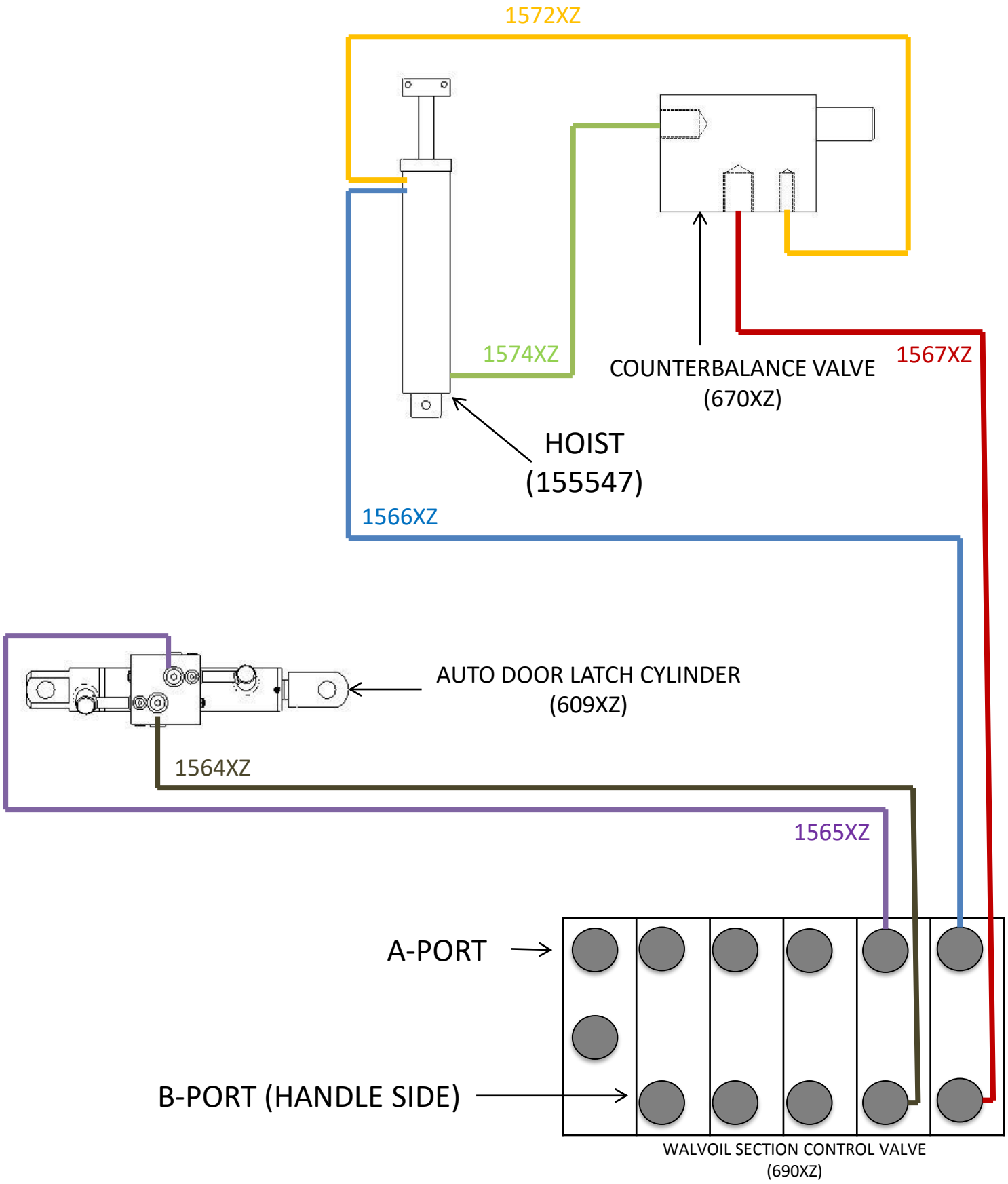
3 AXIS BOOM

4OPT HYDRAULIC DIAGRAM



3 AXIS BOOM

4OPT HYDRAULIC DIAGRAM



HYDRAULIC JACK

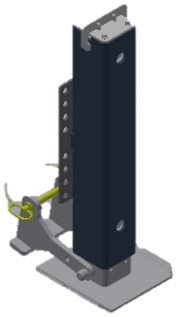
9OPT

PART NUMBER:

SCL800624G

DESCRIPTION:

HYDRAULIC JACK

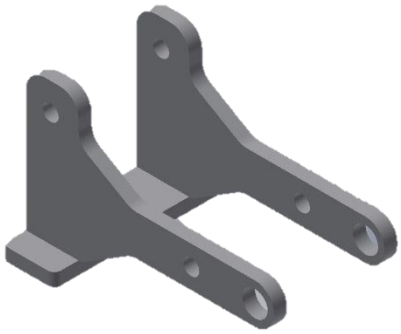


PART NUMBER:

SCL800624F

DESCRIPTION:

MANUAL STOP

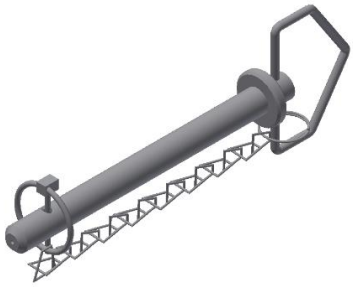


PART NUMBER:

200012

DESCRIPTION:

HITCH PIN



PART NUMBER:

SCL800624H2

DESCRIPTION:

HYD JACK PIN

PART NUMBER:

SCL800624P

DESCRIPTION:

1IN ROUND FOR MANUAL STOP

PART NUMBER:

8003005

DESCRIPTION:

HYD CYLINDER

PART NUMBER:

211109

DESCRIPTION:

SET COLLAR 1IN SPLIT

PART NUMBER:

DESCRIPTION:

MISC. PARTS

PART NUMBER:

40454001R

DESCRIPTION:

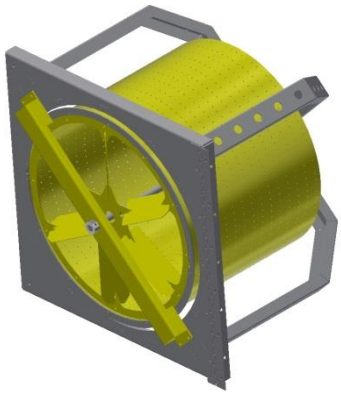
FRONT PANEL FOR 1241XZ

PART NUMBER:

1241XZ

DESCRIPTION:

ROTARY AIR SCREEN (BREAKDOWN ON PAGE 131)



PART NUMBER:

TDDL1547CUS

DESCRIPTION:

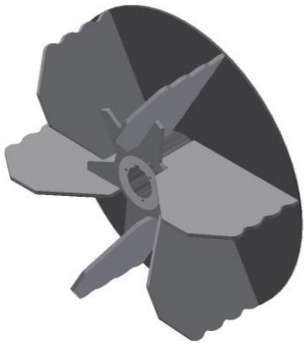
LED DIRECTIONAL TRAFFIC LIGHT

PART NUMBER:

1145XZ

DESCRIPTION:

30IN IMPELLER



PART NUMBER:

SCL805810

DESCRIPTION:

PERFERATED SCREEN
14/20YD-2 NEEDED
25/30YD-3 NEEDED

PART NUMBER:

853XZ

DESCRIPTION:

PHOTOELECTRIC SWITCH (35OPT)

PART NUMBER:

RBC3125X375

DESCRIPTION:

RUBER BODY CLAMP (35OPT)

PART NUMBER:

1240XZ

DESCRIPTION:

POLY URETHANE LINER SET

MISC. PARTS

PART NUMBER:

4045146C

DESCRIPTION:

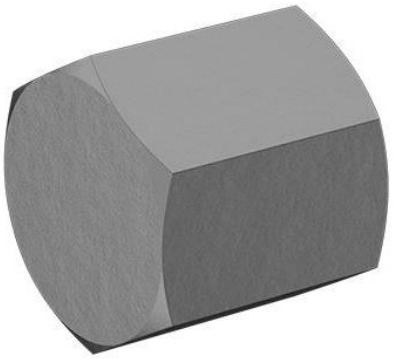
OIL DRAIN ELBOW PLATE

PART NUMBER:

4501416F

DESCRIPTION:

OIL DRAIN CAP



PART NUMBER:

HOSE1030

DESCRIPTION:

OIL DRAIN HOSE (14OPT)

PART NUMBER:

HYF1153

DESCRIPTION:

ELBOW FITTLING (14OPT)

PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

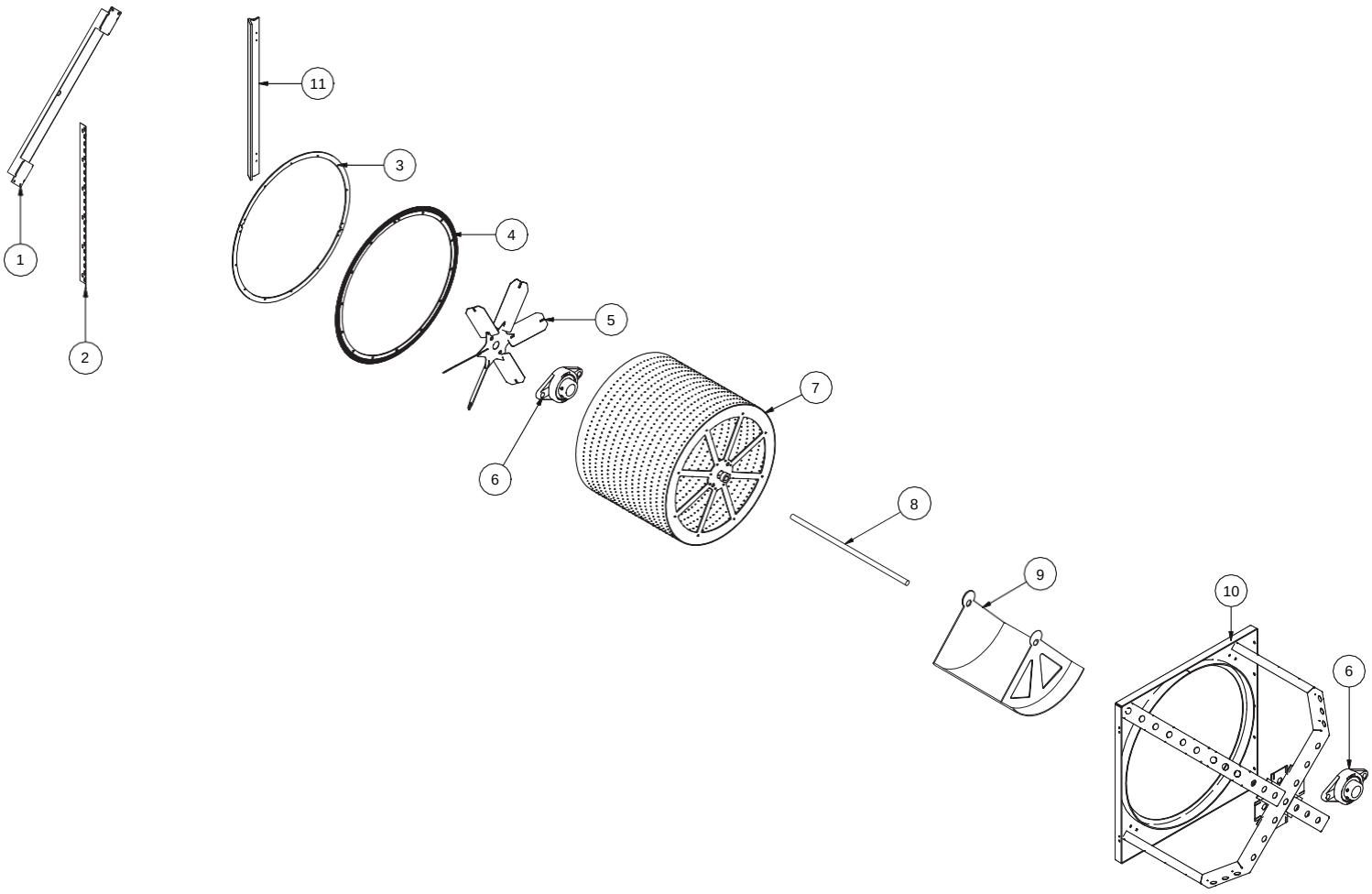
PART NUMBER:

DESCRIPTION:

PART NUMBER:

DESCRIPTION:

ROTARY AIR SCREEN BREAKDOWN



ITEM #	PART NO.	DESCRIPTION
*	1241xz	Chaffe Assembly
1	RAS207	Shaft Bracket
2	RAS206	Hinge
3	RAS110	Brush Holder
4	RAS109	Strip Brush
5	RAS201	Fan
6	RAS204	Flange Bearing
7	RAS203	Barrell
8	RAS105	Shaft
9	RAS205	Air Deflector
10	RAS202	Support Frame
11	RAS114 RAS208	Angle Frame, LCT650 only Angle Frame, 3029 Only

SAFETY PRECAUTIONS

⚠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. 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 accomodate riders. If your unit has been modified to accomdate 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
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Richmond, VA 23231
800-446-9823