



MB Companies, Inc. MSV Multi Service Vehicle

Parts Manual



For M-B Companies' Multi-Service Vehicle (MSV)

Serial Numbers 9-2052 and up

QUALITY YOU CAN SEE, PEOPLE YOU CAN TRUST™

Attachments Division, Brush Replacements, Administration

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Safety

**WARNING:**

Read this manual and any attachment owner's manuals before using this equipment. Failure to do so can result in serious injury or death. Call your dealer if you have any questions.

HAZARD DEFINITIONS

For your safety, and to assure the long life of your equipment, be sure you understand the following signal words which will be seen throughout this manual:

- **DANGER:** Alerts you to an immediate hazard, which will always result in severe personal injury and possible death if it is not avoided.
- **WARNING:** Alerts you to a hazard which will result in a serious personal injury or possible death in some cases, if not avoided.
- **CAUTION:** Alerts you to a potential hazard which may result in a serious personal injury if not avoided. It also alerts against an unsafe practice that will permanently damage equipment or property.
- **IMPORTANT:** Points out a proper use that will avoid damage to the machine, and/or will extend the life of its parts.
- **NOTE:** Suggests how to use or adjust the equipment for best product results.

IDENTIFICATION OF SAFETY LABELS

Safety labels are strategically located around the vehicle to prevent potential hazards. The labels are a permanent part of the equipment. If they become separated from the product or illegible, contact M-B Companies Inc. for replacements. Understand the information the labels are communicating before operating or maintaining the equipment.

See Parts List section for safety labels associated with this equipment.

GENERAL SAFETY

- This manual should be available during operation.
- Extra copies of this manual are available for purchase through the M-B Customer Service Department.
- To avoid serious injury or death, do not modify equipment. Any modifications made to equipment can be dangerous and can void equipment warranty.
- Never defeat a safety device to make a task easier.
- Never deface or remove factory-installed safety labels. If a label ever becomes lost, damaged, or illegible, report this condition to a supervisor and obtain a replacement label from the Customer Service department of M-B Companies, Inc.
- Always wear proper apparel when operating equipment; safety glasses, face shield or goggles, ear protection, and dust mask. Tie hair back. Never wear loose clothing or jewelry that could get caught in moving parts.
- Never operate equipment with covers or guards removed. Rotating parts can cause severe injury. Keep hands, feet, hair, jewelry and clothing away from all moving parts.
- Understand the operation of hydraulic and pneumatic controls.
- Understand which adjustments are operator and which are maintenance adjustments.
- Always shut OFF equipment when left unattended.
- Never operate or work around equipment if under the influence of alcohol, drugs or medications.
- Always use the safety link whenever transporting or performing work on the vehicle. The safety link will prevent unexpected movement of the articulation joint, Figure 1.

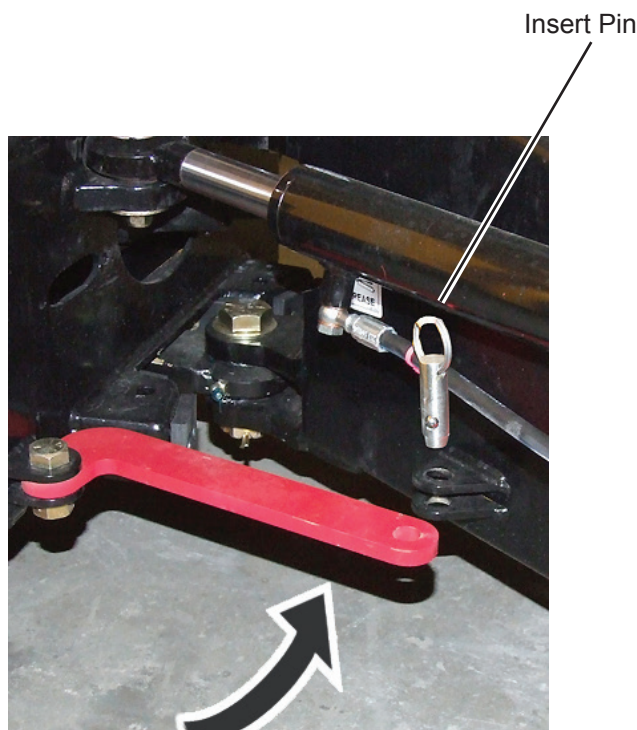


Figure 1

PRE-START-UP SAFETY

- Install any covers or guards which may have been removed for shipping purposes or maintenance.
- Before starting equipment, walk around equipment, making a visual inspection that all safety devices are properly installed and secured.
- Check that all hardware, fasteners, hydraulic fittings, etc. are in good condition and properly fastened. Replace any fatigued or damaged items with proper replacements.
- Personnel who are not required to be in the work area should be kept away. Never start the equipment unless you are absolutely certain that everyone in the area is clear of the machine and aware it is being started.
- Follow the manufacturer's recommended start-up procedure.

PRESSURIZED SYSTEMS SAFETY

- Do not disassemble a pressurized system unless properly trained and equipped with adequate tooling.
- Familiarize yourself with the proper method of relieving pressure from pneumatic or hydraulic systems. Never perform maintenance on, or disassemble, pressurized systems without first locking out power to these systems and then relieving pressure to them.
- Oils and fluids can be very hot under pressure. Use caution and allow the system to cool before beginning maintenance work.
- Never operate or pressurize one of these systems with worn or damaged components. Replace hoses, fittings, valves or other components which appear defective.
- Never adjust pressurized systems beyond recommended levels to achieve higher operating pressures.

THE MANUAL

It is the purpose of this manual to provide complete instructions for service, maintenance disassembly, repair, and installation of the mechanical components for the M-B Multi-Service Vehicle.

Directional Reference

All reference to left, right, front, or rear are given from the operator in the operator position and facing the direction of your unit.

REQUIRED OPERATOR TRAINING

Original purchaser of this unit was instructed by the seller on safe and proper operation. If unit is to be used by someone other than original purchaser; loaned, rented or sold, ALWAYS provide this manual and any needed safety training before operation.

The Operator Must Understand:

- How to operate all controls
- The functions of all controls
- How to STOP in an Emergency
- Speed Ranges



WORK AREA

- ALWAYS check overhead and side clearances carefully before operation. ALWAYS be aware of traffic when operating along streets and curbs.
- Keep area of operation clear. Stay alert for hidden hazards.
- DO NOT run engine in an enclosed area. Always provide good ventilation.
- Abnormal Vibrations are a warning of trouble. Striking a foreign object can damage unit. Stop unit and engine. Wait for all moving parts to stop. Inspect unit and make any necessary repairs before restart.
- Protect eyes, face, and head from objects that may be thrown from unit. Wear appropriate hearing protection.
- Avoid Sharp Edges. Sharp edges can cause serious injury. Wear gloves to service unit when handling sharp edges.
- ALWAYS keep hands and feet away from all moving parts during operation. Moving parts can cause serious injury or death.
- Be aware of the surroundings. Look for blind spots from which pedestrians or vehicles may suddenly appear.
- Locate the emergency stop on the vehicle.
- Do not operate in crowded pedestrian areas. This equipment may cause serious injury or death if safety rules are not followed.
- The M-B Multiple Service Vehicle (M-B MSV) uses a level gauge. The gauge helps the operator determine the angle or slope of the surface being driven on. The gauge shows percent of grade.



WARNING:

During normal operation the M-B MSV must not exceed 30% grade to either side. Adding any attachment to the M-B MSV will affect the safe maximum grade.



Figure 2

MAINTENANCE SAFETY

- Do not remove guards while operating. After maintenance work, be sure all guards and other safety devices are installed and in proper working order.
- Never clean, lubricate, or adjust equipment while it is moving, has the potential to move or when engine is running.
- Always release pressure from pressurized systems before disassembling.
- Allow ample time for heated components to cool before working on or working close to them. Use temperature sticks or other appropriate devices to test temperatures.
- ALWAYS maintain unit in safe operation condition.
- Check the conditions of the unit at the end of each day and repair any damage or defects.
- Keep all fasteners properly torqued and in safe operating condition.
- Before maintenance, adjustments, or service (except where specifically recommended), shut off engine, and secure from moving.

Storage

ALWAYS clean and lubricate equipment before extended storage. Clean and lubricate equipment every 6 months during prolonged storage.

WELDING

Before welding on a machine/unit equipped with an electronic engine, the following precautions should be observed:

- Turn the engine control switch to the OFF position.
- Disconnect the negative battery cable at the battery. If a better disconnect switch is provided, open the switch.
- Connect the welder ground cable directly to the member to be welded. Place the ground cable clamp as close as possible to the weld to reduce the possibility of welding current damage to bearings, hydraulic components, electrical components and ground straps. Do not use electrical components, the ECM, or electronics ground stud for grounding of the welder.
- Protect wiring from welding debris or splatter.

General Information

INTRODUCTION

Thank you for choosing M-B Companies, Inc. as your equipment manufacturer and supplier. As part of our commitment to total customer satisfaction, we have strived to ensure that the information contained within this manual is complete and representative of the equipment you have purchased. The manual cannot, however, anticipate every possible contingency to be met in the installation, operation and maintenance for your equipment. If you require additional information not included in this manual, please contact our Service Department at:

Customer Service Department
c/o M-B Companies, Inc.
1615 Wisconsin Ave.
PO Box 200
New Holstein, WI 53061
Phone: 1-888-558-5801 or 1-800-558-5800
Fax: 920-898-4588

CUSTOMER SERVICE

The serial number on your equipment is essential for proper service support. When contacting M-B Companies regarding service support, always provide the product serial number. This number is located on the identification plate mounted on your equipment, and should also have been recorded in the Machine Identification section.

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c/o M-B Companies, Inc.
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PO Box 200
New Holstein, WI 53061
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Fax: 920-898-4588

MACHINE IDENTIFICATION

Each machine manufactured by M-B Companies, Inc. has an identification plate mounted to it as shown in Figure 2. This plate contains the serial number of your M-B equipment. Copy the information from the plate on your equipment into the appropriate space in Figure 2. This information is important to have available when communicating with M-B.



Vehicle
Certification Label

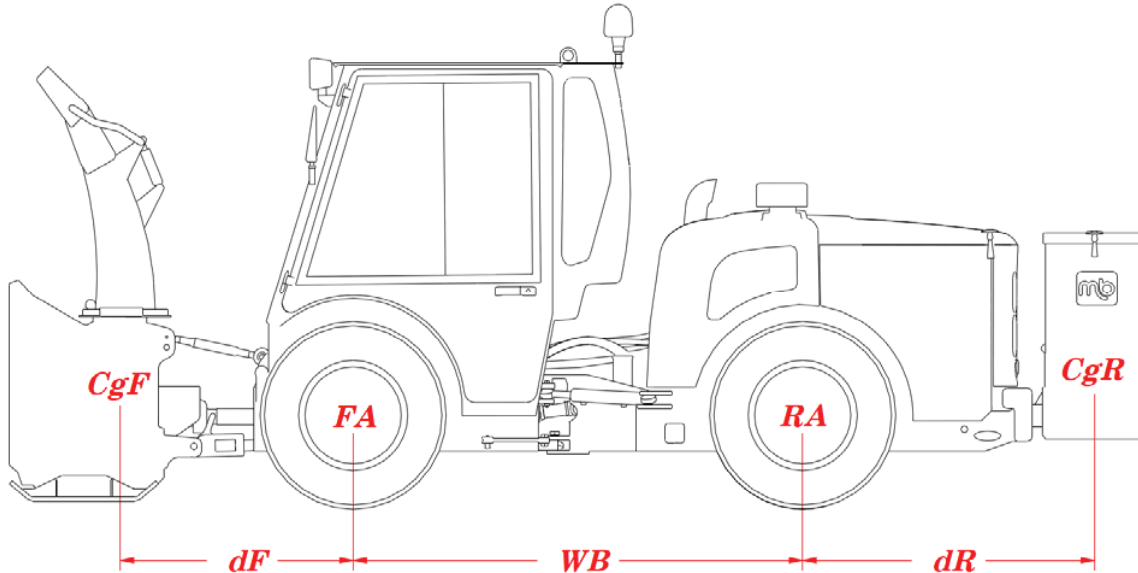
Figure 3



Ballast Calculations

Adding Attachments will affect the stability, performance, characteristics, and reduces safe operating grades.

- Never exceed the max rating of the weakest component: GVWR, max axle ratings, or tire capacity.
- Never operate with less than 25% of the total load on the front axle.
- All calculations should be verified by weighing the MSV with the attachments on a certified scale.
- Attachments such as sanders and sprayers should be checked when filled with desired particulate.
- A scale must be used to determine axle weights when using a dump body.
- Ballast Types include: Fluid filled tires, wheel weights, or another attachment.



NOTE: All weights in pounds; all dimensions in inches.

CW= Curb Weight for MSV-100501; 6620 lbs, Front-2140 lbs, Rear-4480 lbs

TW =FA+RA including attachments and or ballast.

WB = Wheel Base; 81in for MSV

TFA= Total Front Axle Weight

TRA= Total Rear Axle Weight

CgF= Weight at the center of gravity of front attachment or ballast

CgR= Weight at the center of gravity of rear attachment or ballast

FA = Front Axle

RA = Rear Axle

dF = dimension from center of front axle to Center of gravity on front attachment or ballast

dR = dimension from center of rear axle to Center of gravity on rear attachment or ballast

$$TFA = \frac{[CgF \times (dF + WB) + (2140 \times WB) - (CgR \times dR)]}{WB}$$

$$TW = FA + RA$$

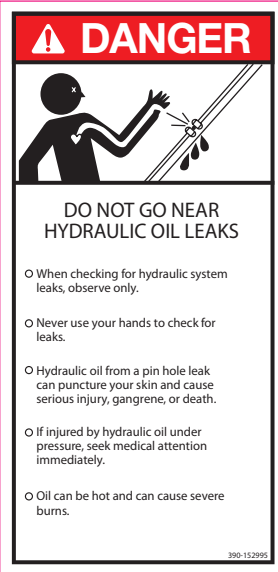
$$TRA = TW - TFA$$

If unsure of calculations, contact M-B Customer Support 1-800-558-5800

Labels

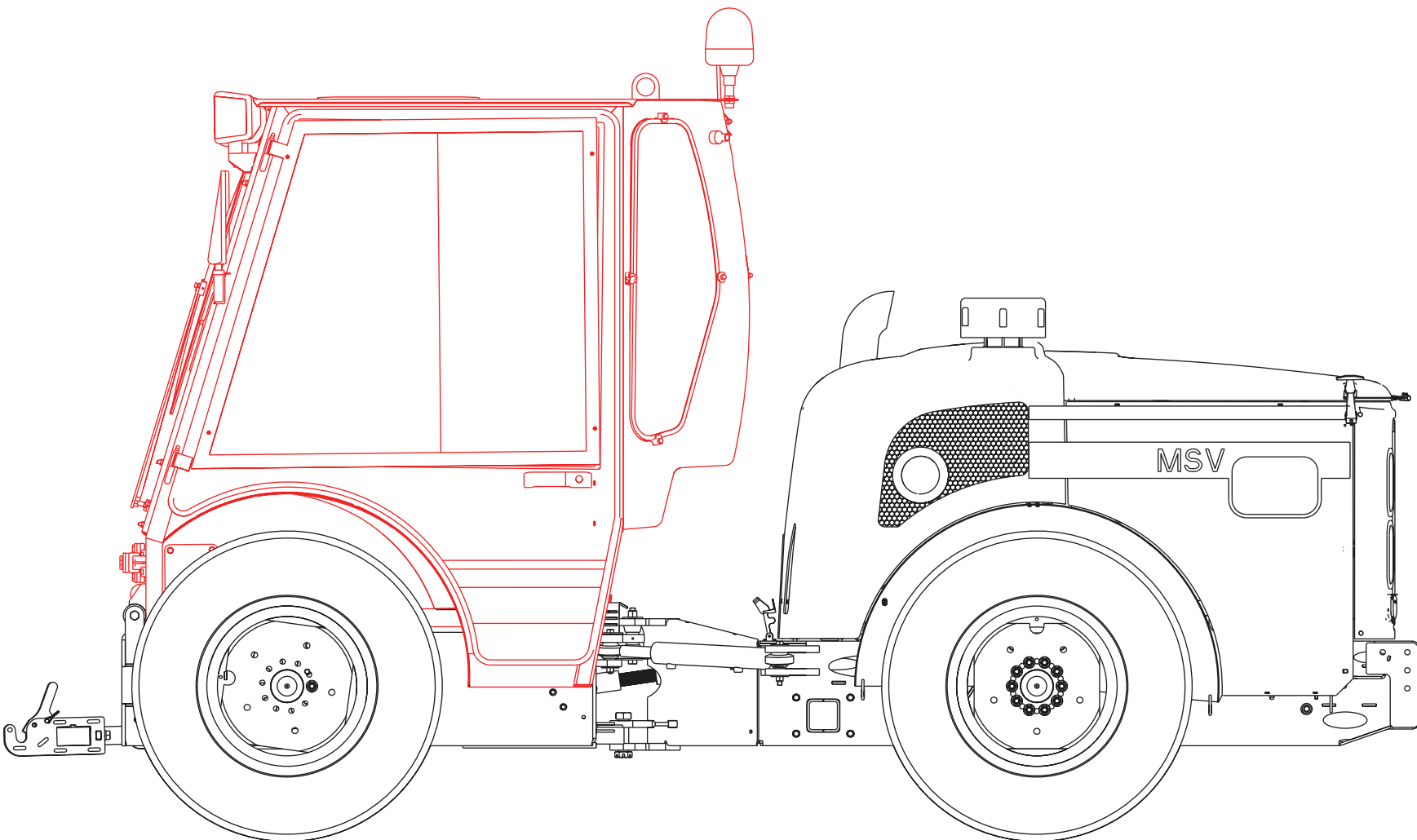
LABELS

 390-152998	 To prevent serious injury or death from pinching: • Keep all persons and objects clear while any part of this machine is in motion. 390-157201
390-152998	390-157201
 390-152993	 ROTATING DRIVELINE HAZARD To prevent serious injury or death from rotating driveline: • Keep all guards in place when operating. • Keep hands, feet, hair and clothing away from moving parts. 390-157202
390-152993	390-157202
 390-157200	 390-152994
390-157200	390-152994
 390-152996	 390-134607
390-152996	390-134607

 DO NOT GO NEAR HYDRAULIC OIL LEAKS ○ When checking for hydraulic system leaks, observe only. ○ Never use your hands to check for leaks. ○ Hydraulic oil from a pin hole leak can puncture your skin and cause serious injury, gangrene, or death. ○ If injured by hydraulic oil under pressure, seek medical attention immediately. ○ Oil can be hot and can cause severe burns. 390-152995	 390-172409
390-152995	390-172409

CAB

CAB OVERVIEW





CAB

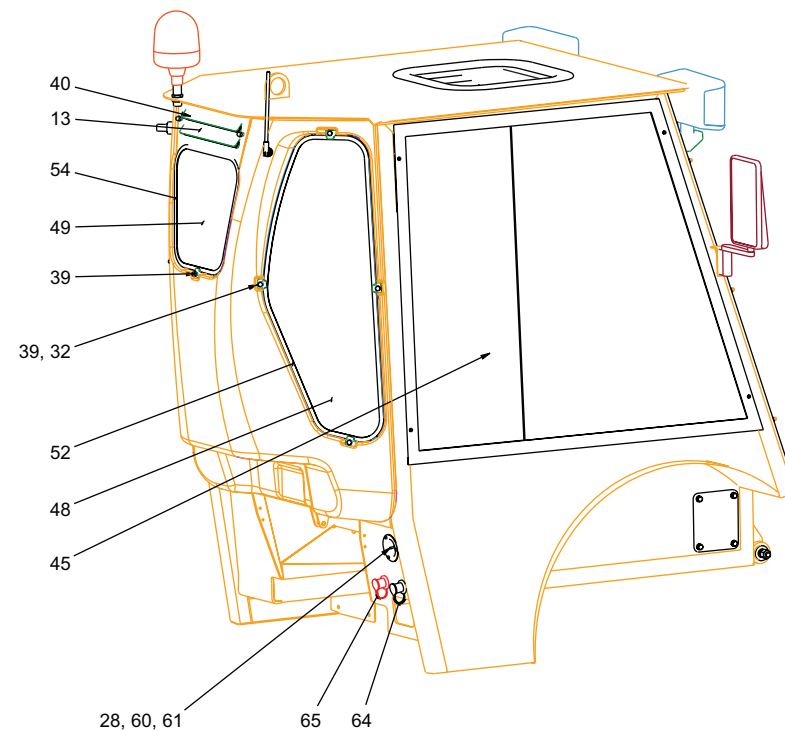
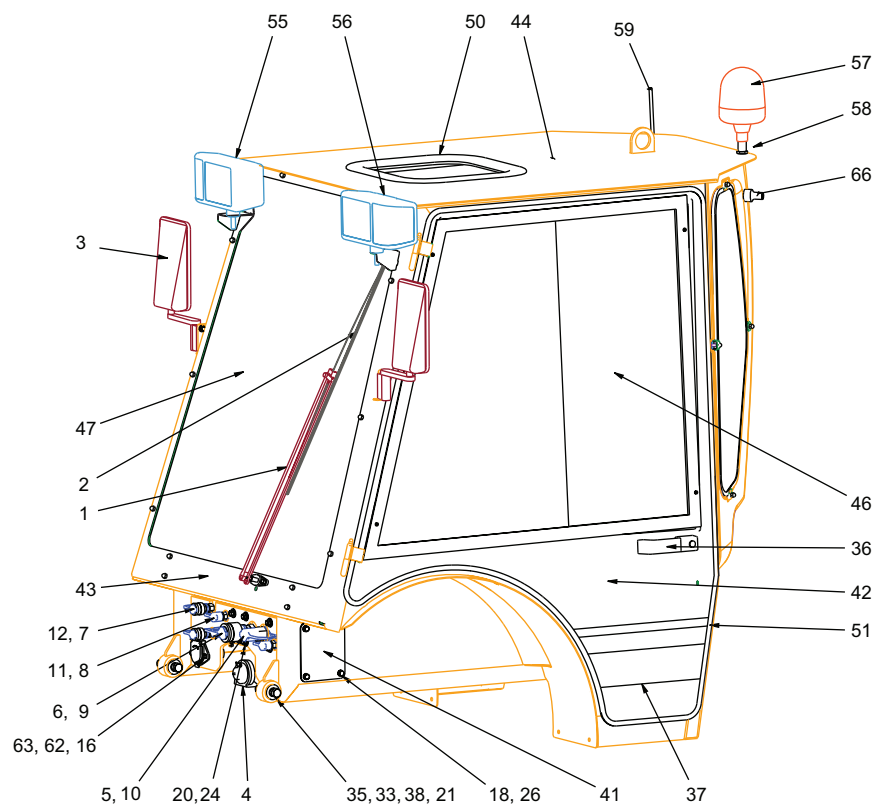
M-B Multi-Service Vehicle

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Cab

EXTERIOR CAB PAGE CALLOUTS



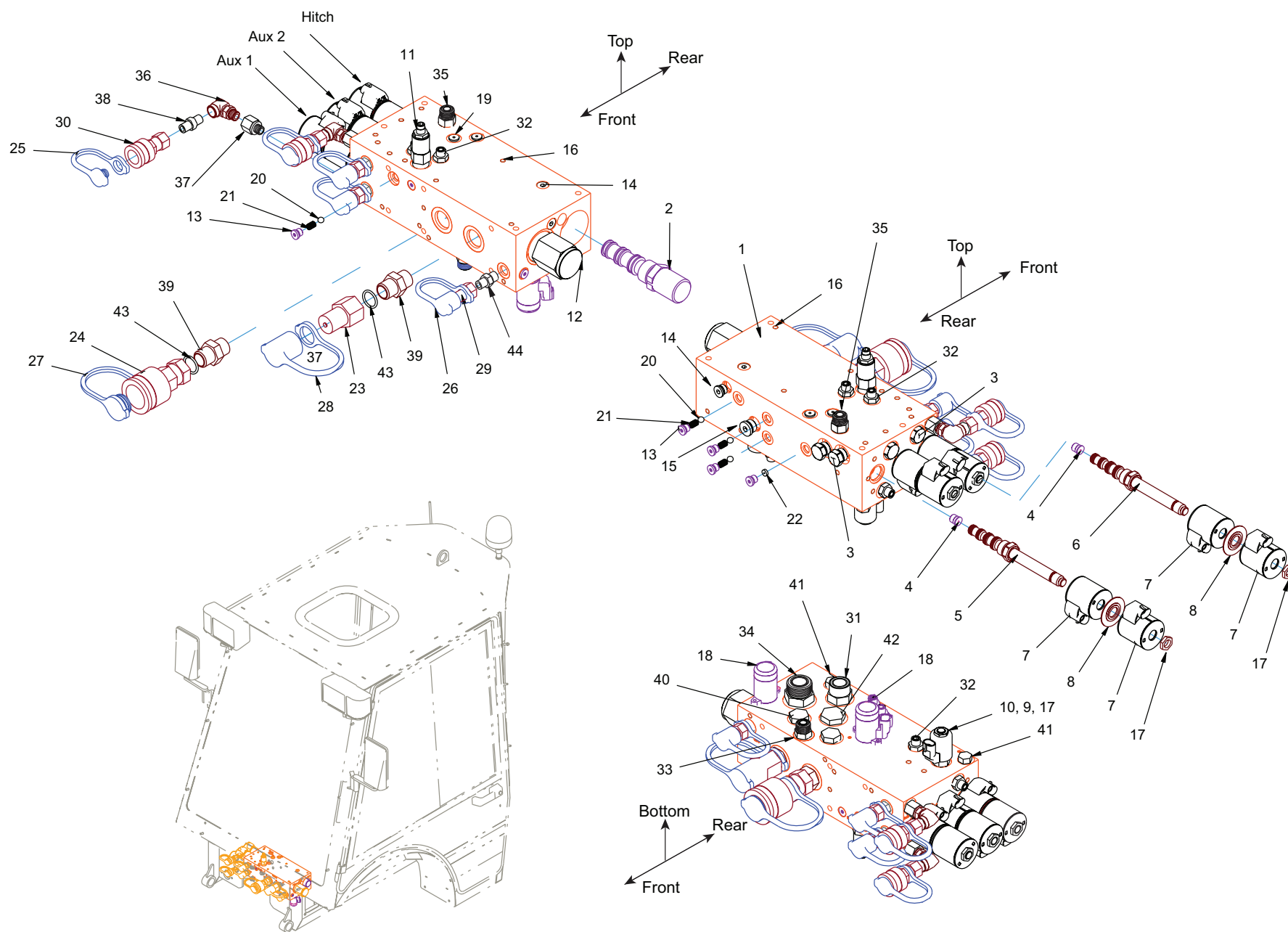
EXTERIOR CAB PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Arm, Wiper, Pantograph, 26 Inch Wet Type	106-133679
2	1	Blade, Wiper, 30 Inch Flexible	106-133680
3	1	Mirror, Exterior	106-144156
4	1	Horn MSV	106-38515
5	1	Quick Disconnect, 1-1/16 ORB Male Nipple	207-144670
6	1	Quick Disconnect, 1-1/16 ORB Female CPLR	207-144672
7	2	Plug, Dust, Female #6	207-144828
8	3	Cap Dust, Male #6	207-144830
9	1	Plug, Dust, Female #12	207-152090
10	1	Cap Dust, Male #12	207-152091
11	3	Quick Disconnect, 1/4 FNPT Male Nipple	207-157736
12	2	Quick Disconnect, 1/4 F NPT Female CPLR	207-157737
13	1	Filter MSV Cab, Air	209-144699
16	1	HHCS .31-18 UNC X 1.500	311-21500
18	8	HHCS 3/8-16 UNC X 1.000	311-31000
20	6	HHCS 3/8-16 UNC X 1.500	311-31500
21	2	HHCS .625-11 UNC X 4.000	311-74000
24	6	Washer, Flat -3/8 STD Zinc PL	341-30000
26	15	Washer, Lock -3/8 YLW Zinc PL	351-30000
28	5	Machine Screw-Round Head 10-24 X 3/4	370-84618
32	23	Nut, Acorn 5/16-18 Low Crown	371-133782
33	2	Nut, Hex, ESNA 5/8-11-UNC	371-81421
35	2	Spring, Urethane	382-133966
36	1	Handle, Non Metallic, Push Button, Trimark	384-133499
37	1	Kit, MSV Decal Door	390-152551
38	2	Sleeve, Mounting, Front Pivot	401-133968
39	9	Clip, Window MSV Cab	401-144060
40	1	Louver, Rear MSV	401-144700
41	2	Cover Plate, FR WH Well Access MSV	401-144936
42	1	Side Door - W.U. MSV Cab	410-144548
43	1	Retainer, FR Window, W.U. MSV Cab Standard	410-152001
44	1	Cab, Painted, MSV	425-162178
45	1	Window, Slider, Right Side MSV Cab	427-133786
46	1	Window, Slider, Left Door MSV Cab	427-133787
47	1	Window, Front MSV Cab	427-152007
48	2	Window, Side Rear MSV Cab Glass	427-152059

49	1	Window, Rear MSV Cab Glass	427-152061
50	1	Sunroof MSV	427-152072
51	1	Gasket, Door, Side	427-163460
52	1	Window Trim, RT Side Rear , MSV Cab	427-163468
53	1	Window Trim, 3/8 Bulb X 1/4" Grip, MSV Cab, not shown	427-163475
54	1	Window Trim, Rear Window MSV	427-163613
55	1	Headlight, Right Hand	701-133731
56	1	Headlight, Left Hand	701-133732
57	1	Beacon, Rotacompact, Pole Mount MSV	701-162418
58	1	Mount, Beacon, Through Panel, MSV	701-162421
59	1	Antenna, MSV Radio	702-152372
60	1	Plate, Recessed Switch 2" OD	702-152589
61	1	Toggle Switch DPDT MOM On-Off-MOM On	702-72319
62	1	Receptacle, 7Pole, Spring Loaded Door	703-152097
63	1	Boot, Protective For 703-152097	703-152104
64	1	Terminal Battery Jumper Black	703-162251
65	1	Terminal Battery Jumper Red	703-162252
66	1	Harness, Beacon	721-163738



AUXILIARY MANIFOLD CALLOUTS



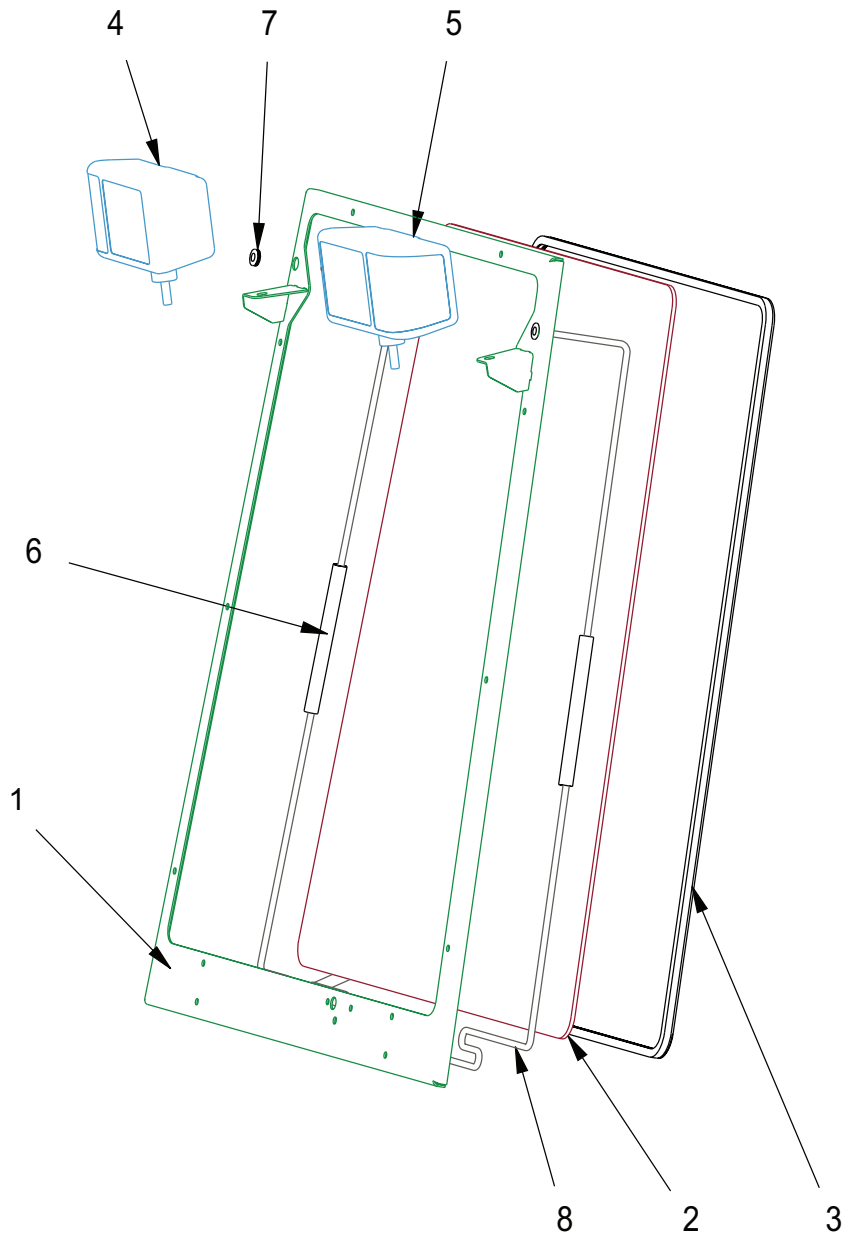
AUXILIARY MANIFOLD PARTS LIST



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Body, MSV Aux Control Valve	206-162393
2	1	#16 PRES.E Compensator, Static L.S. 150 PSI	206-162403
3	4	#8 Check Valve, 4 PSI	206-162431
4	3	#10-5 Load Sense Check	206-162440
5	1	#10 Proportional, SP10-57D (Hitch)	206-162451
6	2	#10 Proportional, SP10-57C (Aux 1 & 2)	206-162462
7	6	#10 E-Coil, 12 VDC, Metri-Pack 150	206-162470
8	3	#10 E-Coil, Spacer	206-162478
9	1	#08 Sol. Poppet	206-162492
10	1	#8 Coil, 12 VDC, Metricpac, 150	206-162499
11	1	#08 Relief, Direct Acting 2850 PSI	206-162517
12	1	42 Proportional Piloted Operated Spool	206-163130
13	7	SAE-4Plug	206-163131
14	5	SAE-6Plug	206-163132
15	1	SAE-8Plug	206-163133
16	25	7MM Plug	206-163134
17	3	10_Coil_Nut	206-163135
18	2	EHPR98-T33-0-N-12DR	206-163136
19	2	SAE-3_Plug	206-163139
20	4	#4 Load Sense Ball	206-163914
21	4	#4 Load Sense Spring, Conical	206-163915
22	1	1/16 NPTFX .080 DIA Orifice Plug	206-163918
23	1	Quick Disconnect, 1-1/16 ORB Male Nipple	207-144670
24	1	Quick Disconnect. 1-1/16 ORB Female CPLR	207-144672
25	2	Plug, Dust, Female #6	207-144828
26	3	Cap Dust, Male #6	207-144830
27	1	Plug, Dust, Female #12	207-152090
28	1	Cap Dust, Male #12	207-152091
29	3	Quick Disconnect, 1/4 FNPT Male Nipple	207-157736
30	2	Quick Disconnect, 1/4 F NPT Female CPLR	207-157737
31	1	Straight Adapter 1-3/16 ORFM 1-1/16 ORBM	211-126850
32	8	STR ADPT, Male ORF X ORB 9/16 ORF X 9/16 ORB	211-140988
33	1	Adapter STR 13/16-16 MFS X 3/4-16 MORB	211-144788
34	1	Adapter STR 1-7/16 MFS X 1-5/16-12 MORB	211-144813
35	1	Adapter STR 13/16-16 MFS X 9/16-18 MORB	211-144958
36	2	Fitting, Elbow 9/16 ORB X 1/4 NPT	211-163166

37	2	Fitting, Straight 9/16 MORB X 9/16 FORB	211-163167
38	2	Fitting, Straight 1/4 MNPT X 1/4 MNPT	211-163168
39	2	STR ADPT, Male ORB X JIC 1-1/16 X 1-1/16	211-51800
40	2	Plug 7/8 ORB	211-51812
41	2	Plug 9/16 ORB	211-51959
42	1	Plug 1-1/16 ORB	211-54359
43	2	O-Ring SAE #12, 3/4 OD Tube/SAE Fitting	211-72972
44	3	STR ADPT, ORB X NPT 1/4 NPTM X 9/16 ORBM	211-75365
45	1	Manifold, Main AUX Control, MSV (Excludes Fittings and Adapters), not shown	206-144715

WINDSHIELD CALLOUTS

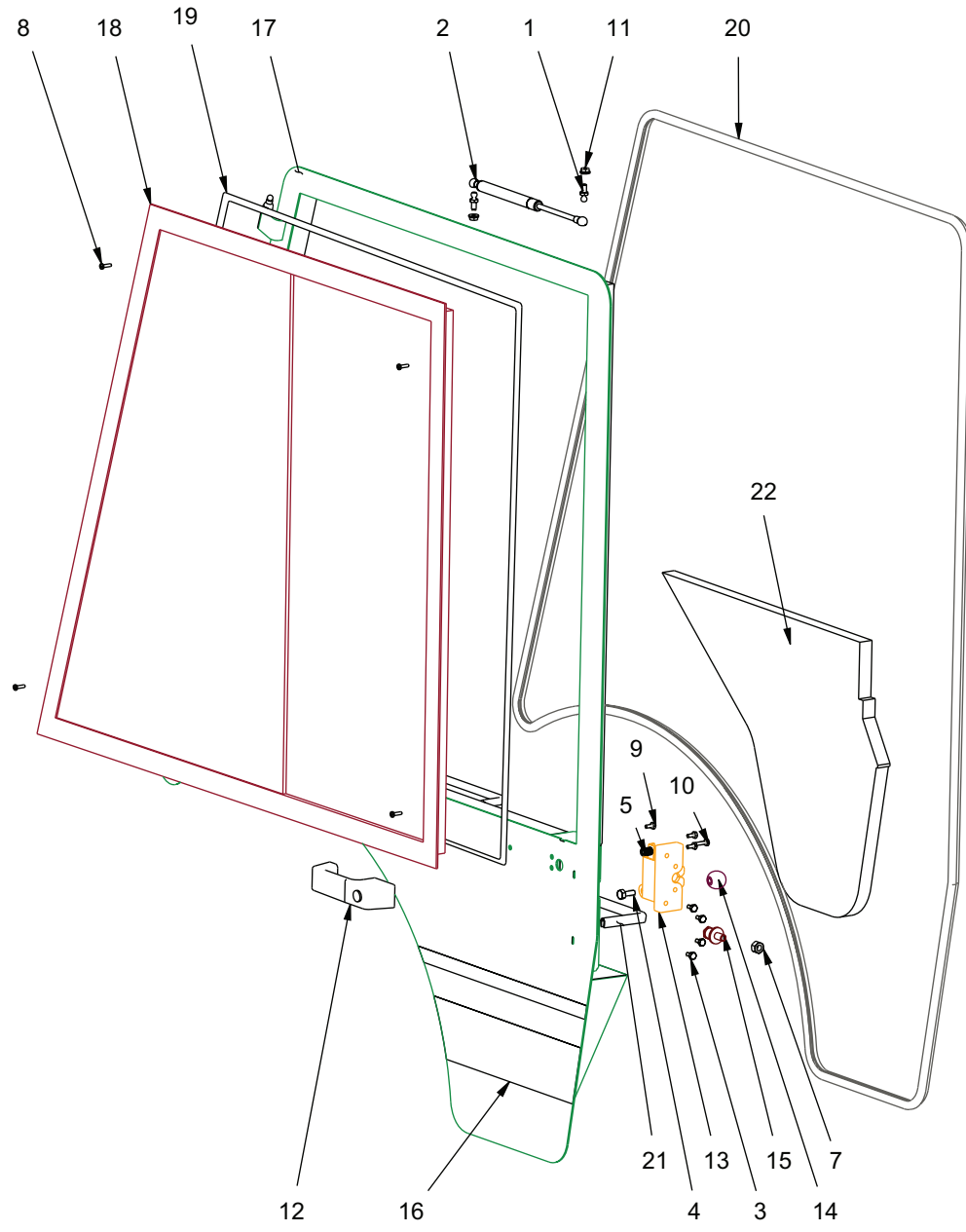




WINDSHIELD PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Retainer, FR Window, W.U. MSV Cab Standard	410-152001
2	1	Window, Front MSV Cab	427-152007
3	1	Window Trim,3/8 Bulb X 1/4" Grip, MSV Cab	427-163475
4	1	Headlight, Right Hand	701-133731
5	1	Headlight, Left Hand	701-133732
6	1	Shrink Cover,3/4", Headlight ASSY,MSV	703-163608
7	2	Grommet, 3/4 OD X 1/2 ID	703-69718
8	1	Harness, Front Window Headlight,MSV	721-152900

DOOR CALLOUTS

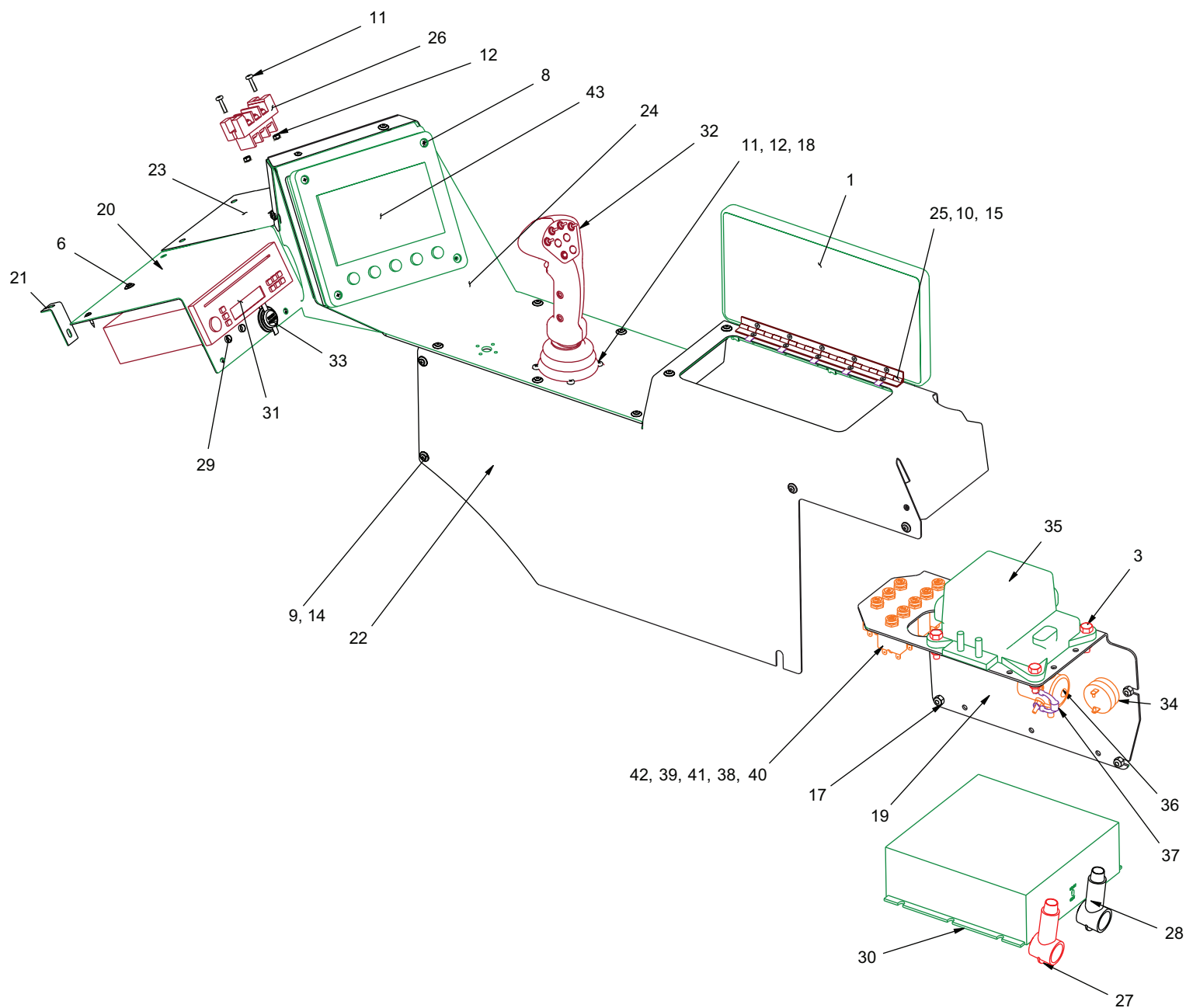




DOOR PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	2	Stud, Ball 10 MM Gas Spring MTG	100-96474
2	1	Spring, Gas, 3.94" Stroke, 150LB Force	106-133791
3	4	HHCS .25-20 UNC X 0.500	311-10500
4	1	HHCS 3/8-16 UNC X 0.875	311-30875
5	6	Washer, Lock -1/4 STD Zinc PL	351-10000
7	1	Nut, Hex, UNC, 7/16-14	361-40000
8	4	Screw,Phillips Tapping, #10 X 3/4 Long,Pan Head	370-144953
9	3	MHHCS M6 X 1.0 X 12 MM	370-92153
10	1	MHHCS M6 X 1.0 X 20 MM LG Plated	370-99433
11	2	Nut, Flanged 5/16-18 Plated Locking	371-92059
12	1	Handle, Non Metallic, Push Button, Trimark	384-133499
13	1	Latch, Door, LH Tri/Mark	384-133785
14	1	Knob, Polypropylene Ball W/Tapped Insert	384-133793
15	1	Pin, Latch Striker Bolt, .984 Installed HT	384-92015
16	1	Kit, MSV Decal Door	390-152551
17	1	Side Door - W.U. MSV Cab	410-144548
18	1	Window, Slider, Left Door MSV Cab	427-133787
19	1	Butyl 1/2"X6"x50' Roll MSV Cab	427-157761
20	1	Gasket, Trim Seal1/8 inch, Door MSV	427-163460
21	1	Trim Rubber Edge Door Pocket, MSV	427-163461
22	1	Padding, Side Door MSV Cab	435-133795

RIGHT CONSOLE CALLOUTS



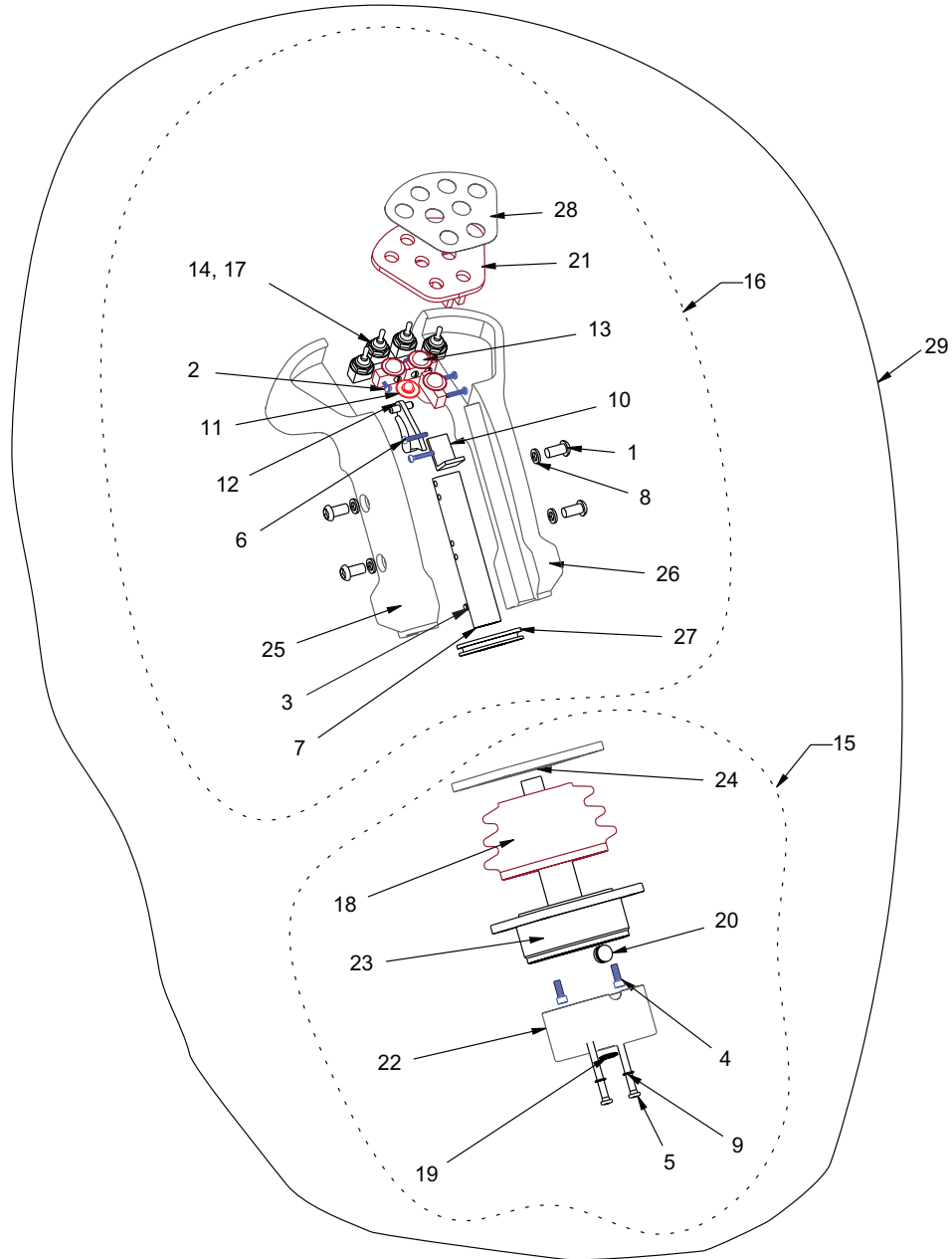
RIGHT CONSOLE PARTS LIST



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Arm Rest, MSV	152-163482
3	4	HHCS 3/8-16 UNC X 1.250	311-31250
6	19	Tapping Screw #8 X 3/4 Phillips Oval Head	370-152246
8	4	Machine Screw-Round Head 8-32 X 1-1/4	370-162205
9	4	Tapping Screw #8 X 1 Phillips Oval Head	370-162236
10	10	6-32 X 1/2 Flat Head Cap Screw	370-163622
11	6	Machine Screw-Round Head 10-24 X 3/4	370-84618
12	6	Nut-LK-NYL 10-24 W/INSRT YWZC	371-102837
14	17	#8 Long T U Speed Nut	371-152238
15	5	Nut, #6-32 No Slip, Clip On, .045"-.062"	371-163624
17	6	Nut, Hex, ESNA, 1/4-20 NC	371-81299
18	4	Washer-FL-ST .219 X .50 X .049 YWZC	372-91625
19	1	Panel Sub Front, MSV Cab	401-152139
20	1	Cover,Dash,Radio MSV Cab	401-152206
21	1	BRKT, MTG MSV Stereo	401-152247
22	1	Panel, Arm Rest, MSV Cab	401-162415
23	1	Dash MSV Back Panel	410-162207
24	1	Display, MSV Cab Panel	410-162208
25	1	Hinge, 1-1/16 Open, 3/32 Pin DIA 10" L	489-163419
26	1	Block, Terminal Through Panel	701-152940
27	1	Cover, Red #2 LUG	701-157292
28	1	Cover, Black #2	701-157293
29	2	Indicator, LED, Panel Mount, 8MM,Recessed,12VDC	701-163904
30	1	Controller, Master, MSV	702-152069
31	1	CD Player Stereo	702-152268
32	1	Joystick,MSV	702-152362
33	1	Receptacle, Power, Plastic, Snap In Mount	702-162099
34	1	Alarm, Continuous	704-144259
35	1	MVEC, Front MSV	704-152056
36	1	Relay, 80 AMP SPST	704-49093
37	1	Diode Assembly, Surge Protection, MSV	705-163140
38	4	Circuit Breaker 5 AMP	707-32754
39	1	Circuit Breaker 10 AMP	707-38228
40	1	Circuit Breaker 15 AMP	707-38229
41	1	Circuit Breaker 20 AMP	707-38230
42	1	Circuit Breaker 30 AMP	707-47320

43	1	Module,Display,Color MSV	719-162279
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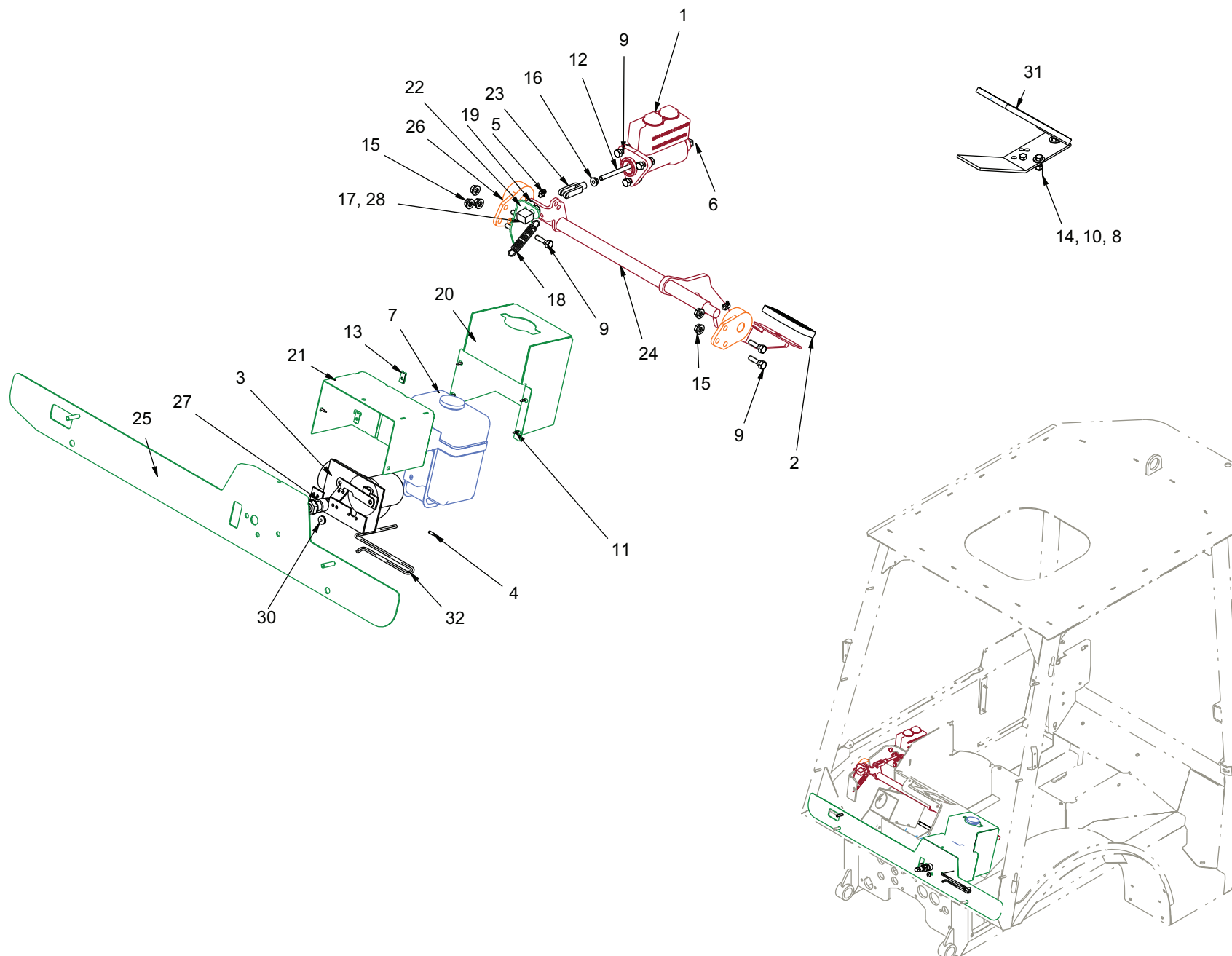
JOYSTICK CALLOUTS



JOYSTICK PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	4	10-32 X 7/16" Button Head Socket SS 18-8	370-163215
2	6	2 X 7/16" Tapping Screw- Pan Head	370-163216
3	1	6-32 X 1/2 Cap Screw	370-163217
4	2	6-32 X 3/8" Socket Cap Screw, Stainless	370-163219
5	2	6-32 X 1-3/8" Button Head Phillips Screw	370-163221
6	2	2 X 7/16" Tapping Screw- Pan Head	370-163620
7	1	Clamping Pin: 12MM Bore C/W Screw	371-163214
8	4	#10 Split Lock Washer	372-163218
9	2	#6 Lock Washer	372-163220
10	1	Leaf Spring For Trigger	382-163212
11	1	LED, Red, Joystick, MSV	701-163207
12	1	Trigger, Joystick, MSV	702-163213
13	3	Sealed, Gold Contact Switch: 100MA	702-163224
14	4	Switch, Toggle, Joystick, MSV	702-163230
15	1	Assembly, Joystick, Base, (Includes #4, 5, 9, 18, 19, 20, 22, 23, 24)	702-163232
16	1	Assembly, Joystick, Handle, (Includes #1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 17, 21, 25, 26, 27, 28)	702-163233
17	4	Boot, Toggle, Joystick, MSV	703-163201
18	1	Boot: JM Joystick	703-163202
19	1	3/8" X 1/4" Grommet	703-163203
20	1	3/8" Hole Plug	703-163204
21	1	L Series Empty Faceplate, Grey **1 Thru 4 Milled For Large Bat Toggle**	703-163208
22	1	JL Joystick: Housing Cover	706-163205
23	1	JM 12MM Shaft-Ball Assembly, Upper	706-163205-1
24	1	Boot Ring, Joystick MSV	706-163206
25	1	Grip, Left, Joystick, MSV	706-163209
26	1	Grip, Right, Joystick, MSV	706-163210
27	1	Boot Washer For Joysticks .	706-163222
28	1	L 8" Button Overlay **1 Thru 4 Milled For Large Bat Toggle**	713-163211
29	1	ASSY, Joystick, MSV	702-152362

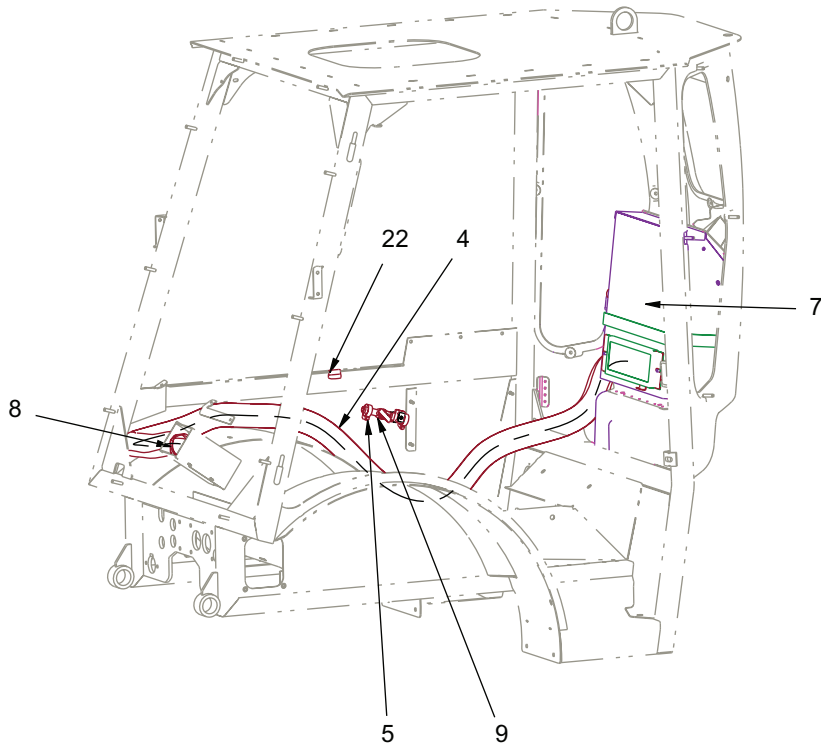
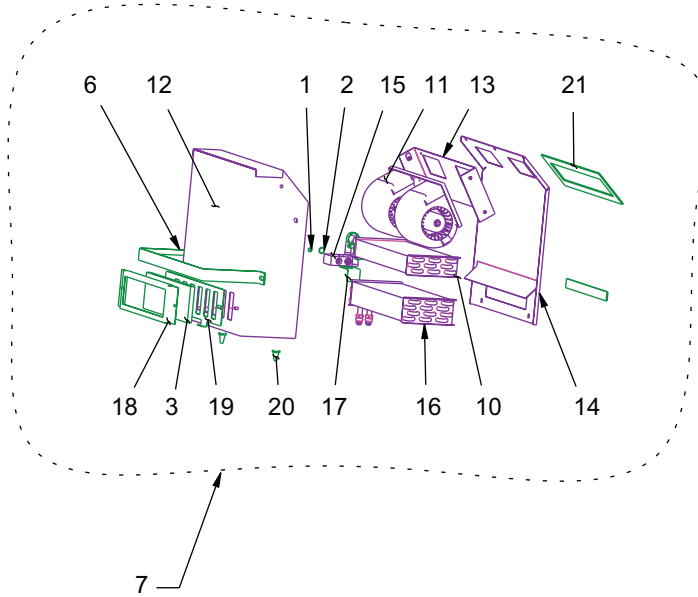
BRAKE ASSEMBLY/THROTTLE CALLOUTS



BRAKE ASSEMBLY/THROTTLE PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Cylinder, Power Brake MICO	104-157641
2	1	Pad, Brake, Pedal	104-87087
3	1	Wiper Motor ASSY	106-133945
4	1	Adapter, Hose, 1/8 X 3/16	106-133949
5	2	Grease Zerk 1/4-28, 90 deg	206-90859
6	1	TEE, 1/8 NPT X 10MM I.F. X 10M	211-157665
7	1	Bottle, Washer 2 Liter W/Pump	221-133677
8	3	HHCS .31-18 UNC X 1.000	311-21000
9	8	HHCS 3/8-16 UNC X 1.250	311-31250
10	2	Washer, Flat -5/16 STD Zinc PL	341-20000
11	5	Tapping Screw #8 X 3/4 Phillips Oval Head	370-152246
12	1	Threaded Rod, 5/16-18	370-152341
13	4	#8 Long T U Speed Nut	371-152238
14	3	Nut, Hex, ESNA, 5/16-18-UNC	371-81620
15	8	Nut, Hex, Flange Locking	371-92057
16	1	Nut, Flanged 5/16-18 Plated Locking	371-92059
17	1	Nut, Hex, ZC, M10 DIN970 Fin	372-157723
18	1	Spring, Extension 5/8 X 3 1/4 Plated	382-91616
19	1	Foot, Rubber, W/Steel Insert .88 DIA X 53 High	388-152012
20	1	Cover, Washer Bottle MSV Cab	401-152121
21	1	Cover, Wiper Motor MSV Cab	401-152130
22	1	Retainer, Brake Spring Stop, MSV Cab 10 GA	401-152217
23	1	Clevis, 5/16-18 McMaster	401-152340
24	1	Brake Lever Assembly - W.U. MSV Cab	410-144543
25	1	Frame, FR Window W.U. MSV Cab	410-152009
26	2	Bearing Flange, 3-Bolt .75" DIA. Shaft	600-152214
27	1	Bushing, Wiper MSV Cab	603-152120
28	1	Switch, Stop Light MSV Brake	702-152380
30	1	Rubber Grommet 3/16" ID X 3/8 OD	703-50256
31	1	Foot Pedal, Electronic	704-144097
32	1	Harness, Front Window Wiper Motor,MSV	721-152901

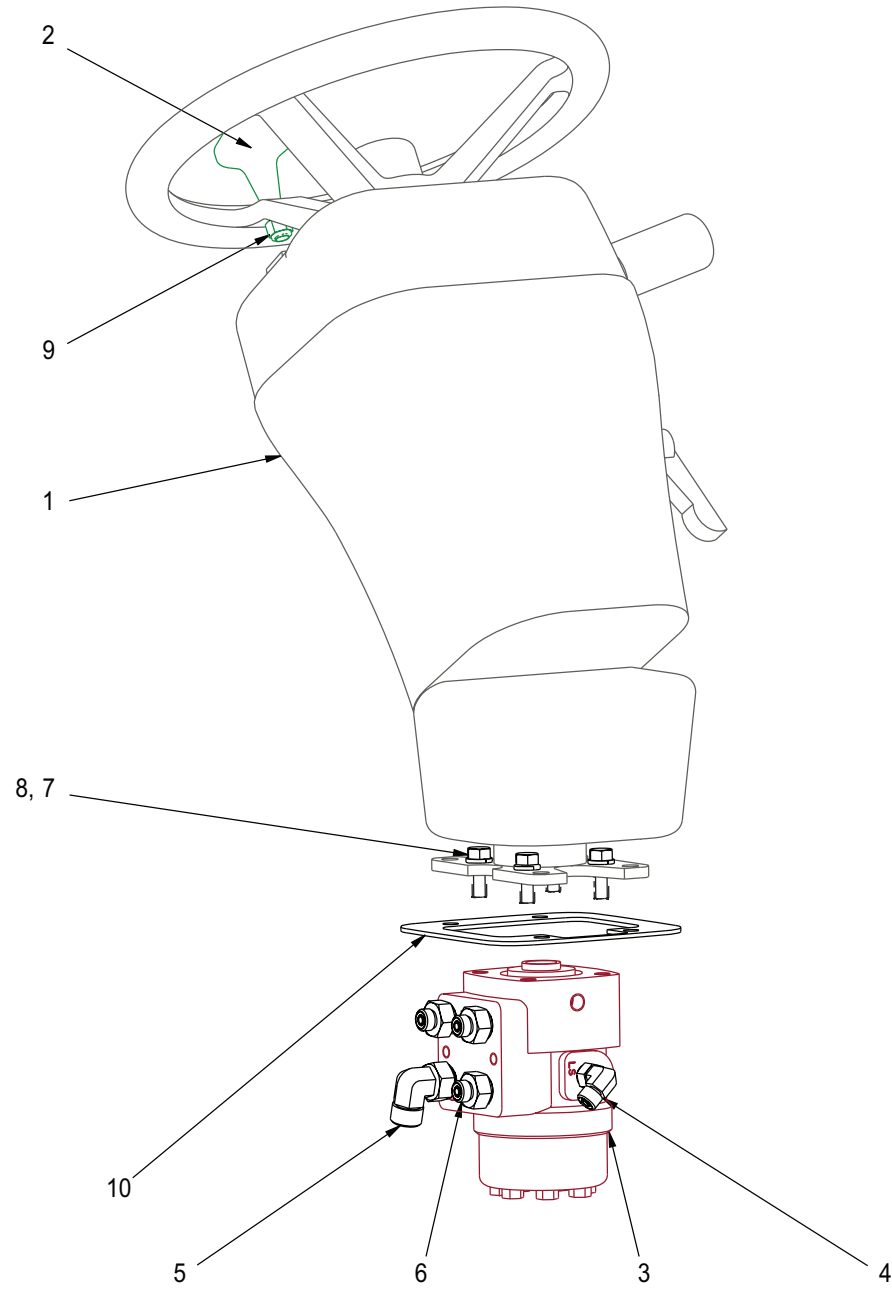
HVAC CALLOUTS



HVAC PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	O-Ring AC #6	201-152643
2	1	O-Ring, AC # 10	201-152645
3	1	Filter	209-163257
4	1	Duct, Heater	220-163466
5	4	Hose Clamp #12	387-90335
6	1	Strap, Retainer MSV Heater, A/C Box	401-152138
7	1	Heater, A/C, Cab MSV (Includes #1, 2, 3, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21)	428-133390
8	1	Adapter, 2-1/2 inch Duct Hose MSV Cab	428-133511
9	1	Valve, Water, 5/8" X 5/8" Bead STR	428-144799
10	1	Heater Coil	428-163247
11	1	Blower, 12V	428-163248
12	1	Housing, Heater ASSY	428-163249
13	1	Plate, Blower	428-163250
14	1	Cover, Heater, MSV	428-163251
15	1	EXP. Valve	428-163252
16	1	Evaporator Coil	428-163253
17	1	TXV Bracket, HVAC	428-163254
18	1	Filter Guard, HVAC	428-163255
19	1	Filter Slide, HVAC	428-163256
20	2	Duck Bill, Rubber	428-163889
21	1	Tape, Rubber Gasket, Heater, MSV	606-163615
22	1	Knob, Control, 1/4" Shaft 1.38 OD X .85 HT	711-133729

STEERING CALLOUTS

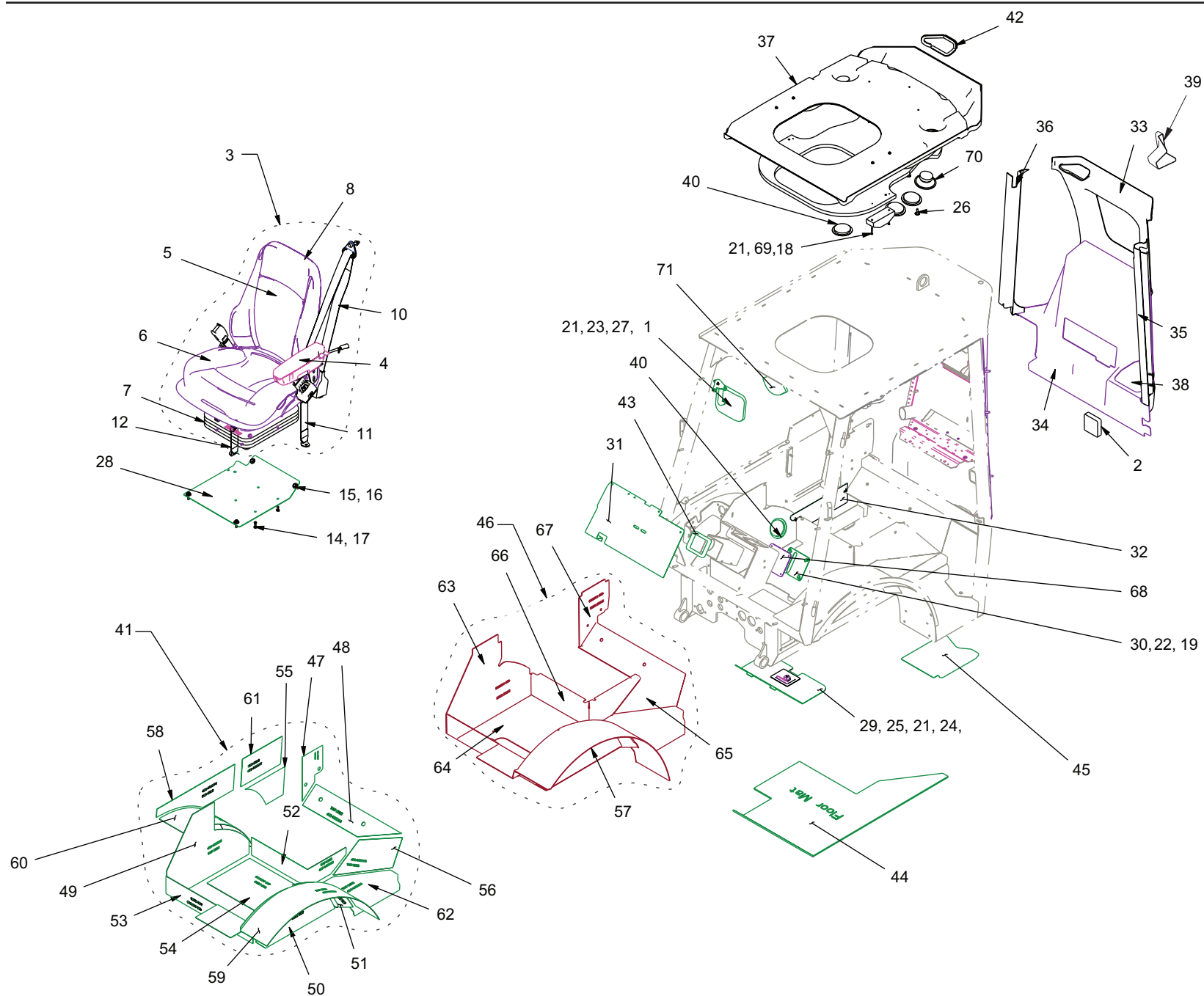




STEERING PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Steering Column Sirius 250 Short	202-144724
2	1	Spinner Knob For 320 Wheel	202-144735
3	1	Steering Control, Load Sense Closed Center	202-152080
4	1	Elbow, 90o 7/16 ORB X 9/16 MFS	211-144798
5	1	Elbow 90deg 13/16-16 MFS X 3/4-16 MORB	211-144802
6	3	Adapter STR 9/16-18 MFS X 3/4-16 MORB	211-144817
7	4	HHCS 3/8-16 UNC X 1.000	311-31000
8	4	Washer, Lock, 3/8 YLW Zinc PL	351-30000
9	1	Nut, Hex, ESNA, 3/8-16 UNC	371-81297
10	1	Flange, Rubber Boot Mount Steering Column MSV, 12 GA	401-144924

CAB INTERIOR CALLOUTS



CAB INTERIOR PARTS LIST

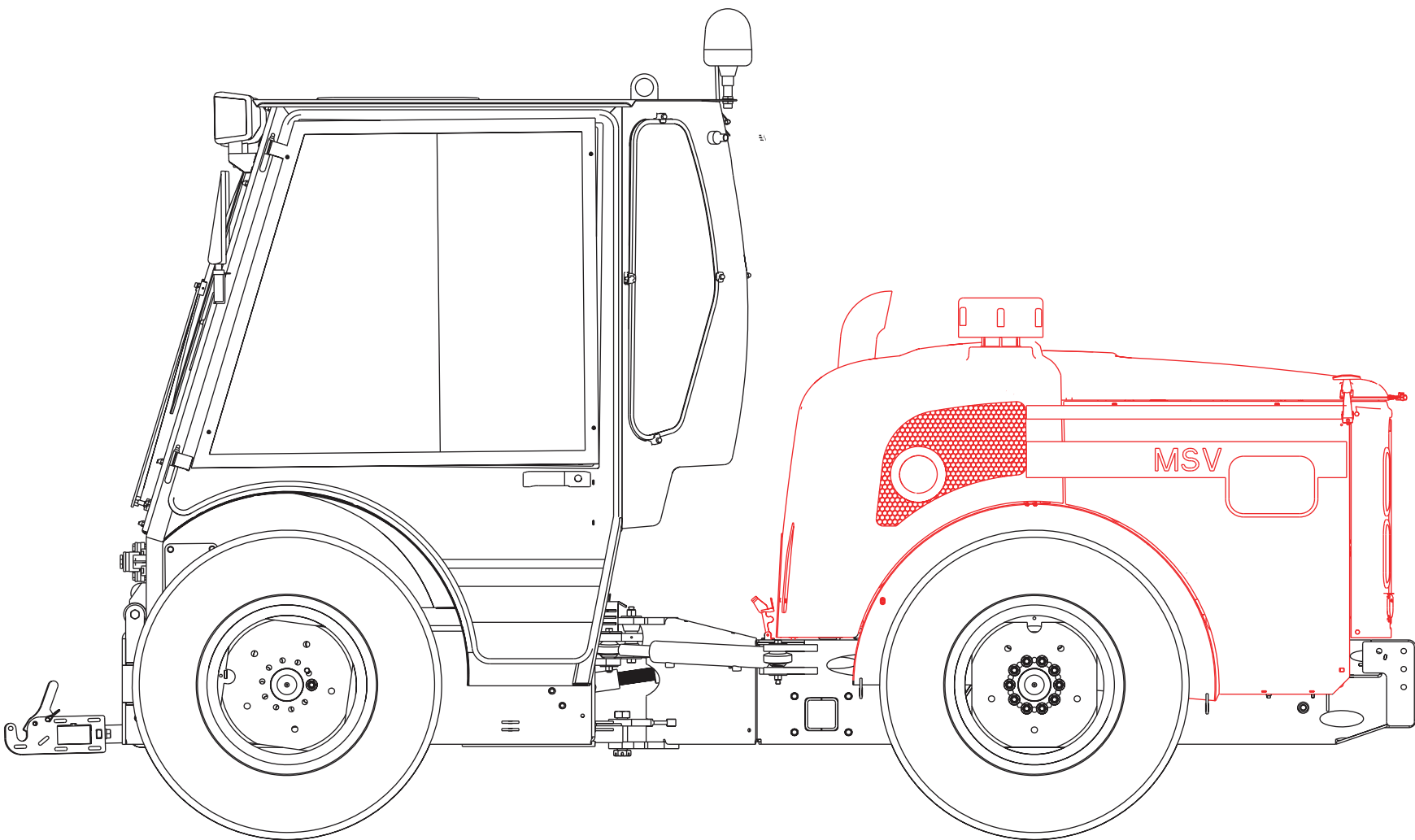


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Mirror, Interior	106-144155
2	1	Drink, Holder, Adjustable, Black	106-157784
3	1	ASSY, Seat & Susp., 8530, 12V, STD Wide (Includes Items #4, 5, 6, 7, 8, 10, 11)	152-162367
4	1	ASSY, Arm and Bracket, Left	152-176366
5	1	Cushion, Back, 8500	152-176367
6	1	Cushion, Seat STD, Wide, 5500	152-176368
7	1	ASSY, Suspension, Air Ride	152-176370
8	1	ASSY, Frame, Seat (No Cushions #4, 5, 6)	152-176371
10	1	Seat Belt, Highback, 3-PT 2" With Switch (2 Pin)	152-176373
11	1	Belt, Tether, Right	152-176376
12	1	Belt, Tether, Left	152-162469
14	4	HHCS .31-18 UNC X 0.750	311-20750
15	4	HHCS 3/8-16 UNC X 1.250	311-31250
16	4	Washer, Flat, 3/8 STD Zinc PL	341-30000
17	2	Washer, Lock, 1/4 STD Zinc PL	351-10000
18	4	Machine Screw-Plated Pan Head 10-24 X 1-1/2	370-162218
19	6	Tapping Screw #8 X 1 Phillips Oval Head	370-162236
21	10	Nut-LK-NYL 10-24 W/INSRT YWZC	371-102837
22	4	#8 Long T U Speed Nut	371-152238
23	2	Nut, Flanged 1/4-20 Plated Locking	371-90258
24	8	Washer-FL-ST .219 X .50 X .049 YWZC	372-91625
25	1	Latch, T-Han., Non-Lock, CC Rotation	384-157807
26	3	Rivet, Push Black Nylon 1/4"	384-157894
27	1	Bracket, Mirror, INT MSV Cab, 12 GA.	401-144167
28	1	Plate, Seat Support MSV Cab, 12 GA.	401-144737
29	1	Door, Floor Access 12 GA. Sheet	401-152037
30	1	Plate, Cover Brake Pedal	401-152087
31	1	Cover, Front Dash, MSV Cab	401-152208
32	1	Panel, Arm Rest, MSV Cab	401-162416
33	1	Rear Liner, MSV Cab (Thermoform, Plastic)	425-144698
34	1	HVAC Cover, MSV Cab (Thermoform, Plastic)	425-144966
35	1	LT Pillar Cover, MSV Cab (Thermoform, Plastic)	425-144967
36	1	RT Pillar Cover, MSV Cab (Thermoform, Plastic)	425-144968
37	1	Headliner, Assy	425-144972
38	1	Glove Box, MSV Cab (Thermoform, Plastic)	425-144979

39	1	Plenum Divider, HVAC, MSV Cab	425-144990
40	7	Vent, Air MSV Cab	425-452558
41	1	Kit, R-Block, Sound Suppressor (Includes Items #47, 48, 49, 50, 51, 52, 53, 54, 56, 58, 59, 60, 61, 62)	427-157797
42	1	Gasket, Trim Seal 1/8" Mat'l Grip, 3/8 Bulb	427-163473
43	1	Trim Seal, HVAC Dash	427-163611
44	1	Mat, Cab Floor MSV	435-152131
45	1	Mat, Floor, Cab Step MSV Cab	435-152132
46	1	Assembly, Carpet MSV Cab (Includes Items #57, 63, 64, 65, 66, 67)	435-157288
47	1	R-Block, Cab, MSV	435-162259
48	1	R-Block, Cab, MSV	435-162264
49	1	R-Block, Cab, MSV	435-162265
50	1	R-Block, Cab, MSV	435-162266
51	1	R-Block, Cab, MSV	435-162267
52	1	R-Block, Cab, MSV	435-162268
53	1	R-Block, Cab, MSV	435-162269
54	1	R-Block, Cab, MSV	435-162270
55	1	R-Block, Cab, MSV	435-162271
56	1	R-Block, Cab, MSV	435-162272
57	1	Carpet, MSV Left Wheel Well	435-162273
58	1	R-Block, MSV Right Outer	435-162274
59	1	R-Block, MSV Left Wheel Well	435-162275
60	1	R-Block, Cab, MSV	435-162276
61	1	R-Block, Cab, MSV	435-162277
62	1	R-Block, Cab, MSV	435-162278
63	1	Carpet, MSV Right Side Panel	435-162332
64	1	Carpet, MSV, Floor	435-162333
65	1	Carpet, MSV Rear	435-162334
66	1	Carpet, MSV Seat Base	435-162335
67	1	Carpet, MSV Right, Rear	435-162336
68	1	Gasket, Rubber Cover Plate	606-152088
69	2	Dome Light 2 X 6 W/ Switch	701-152363
70	1	Speaker Kit, 4" Mount 2/Kit, MSV	702-152064
71	1	Inclinometer, Percent Grade, MSV	704-152678

Rear Compartment

REAR COMPARTMENT OVERVIEW





REAR COMPARTMENT

M-B Multi-Service Vehicle

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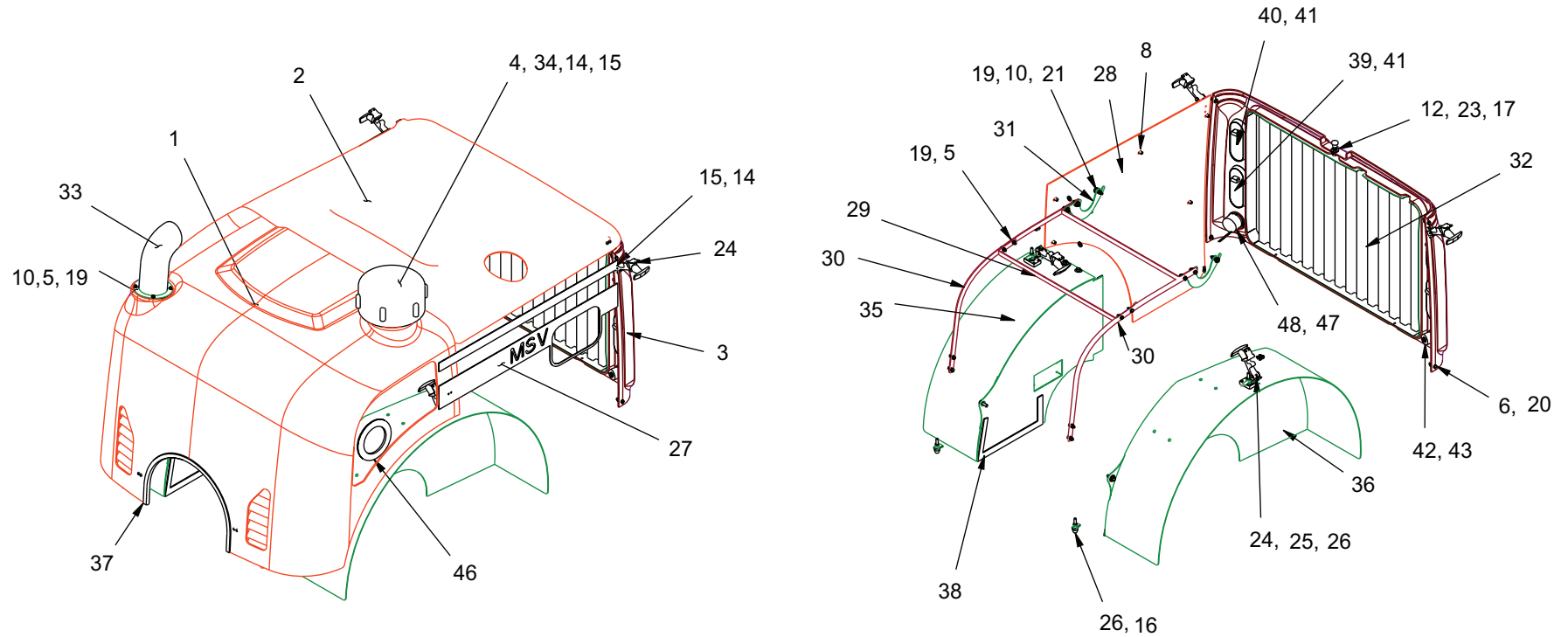
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Rear Compartment

REAR COMPARTMENT



EXTERIOR CALLOUTS



EXTERIOR PARTS LIST



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Cover, Front Half, Engine, MSV	107-144695
2	1	Hood, Engine Cover Assy, MSV	107-144696
3	1	Cover, Cooling System Assy	107-144728
4	1	Precleaner, 4.00 Plastic Engair	209-122859
5	12	HHCS .25-20 UNC X 0.750	311-10750
6	8	HHCS .25-20 UNC X 1.000	311-11000
8	7	SHCS, Button 3/8-16 X 1/2	311-157282
10	17	Washer, Flat -1/4 STD Zinc PL	341-10000
12	1	Washer, SAE 1/2	343-50000
14	28	Machine Screw-Round Head 10-24 X 3/4	370-84618
15	28	Nut-LK-NYL 10-24 W/INSRT YWZC	371-102837
16	4	U-Nut, 5/16 UNC, 7/8 COH .	371-162246
17	1	Nut, Flange Serrated, M12 X 1.5 CLS8.8 YWZC	371-163691
19	18	Nut, Hex, ESNA, 1/4-20 NC	371-81299
20	4	Nut, Flanged 1/4-20 Plated Locking	371-92058
21	4	Spacer, Nylon, .50 O.D. X .25 Long	372-152014
23	1	Plunger, Indexing	384-163690
24	4	Latch, Hood 260	384-87550
25	2	Mounting, Block Poly	388-152117
26	6	Bumper, Neoprene, Threaded Stud	388-162143
27	1	Kit, MSV,Decal	390-152551
28	1	Panel, Heat Shield, Hyd. RES. Ext. 10 GA.	401-144778
29	2	Brace, center, Engine Cover, MSV	401-152017
30	2	Rib, Reinforcement, Front Cover, MSV	401-162142
31	2	Rib, Reinforcement Front Cover, MSV	401-162152
32	1	Radiator Screen - W.U. MSV	410-144430
33	1	Exhaust With Flange, W.U., MSV	410-144959
34	1	Adapter, Air Cleaner, W.U., MSV	410-152083
35	1	Fender, ASSY - W.U., Right Rear, MSV	410-163484
36	1	Fender, ASSY - W.U., Left Rear, MSV	410-163485
37	1	Trim Edge, 1/4 x 3 FT No Bulb	427-162258
38	1	Tape,Rubber Gasket 1/8" X 1" Rear Fenders MSV	606-163463
39	2	Light, Backup Oval Grommet Mount	703-144657
40	2	Light S/T/T, Red, LED Oval, Grommet Mount	703-144729
41	4	Grommet, Oval Tail Light	703-144730
42	1	Receptacle,7Pole, Spring Loaded Door	703-152097

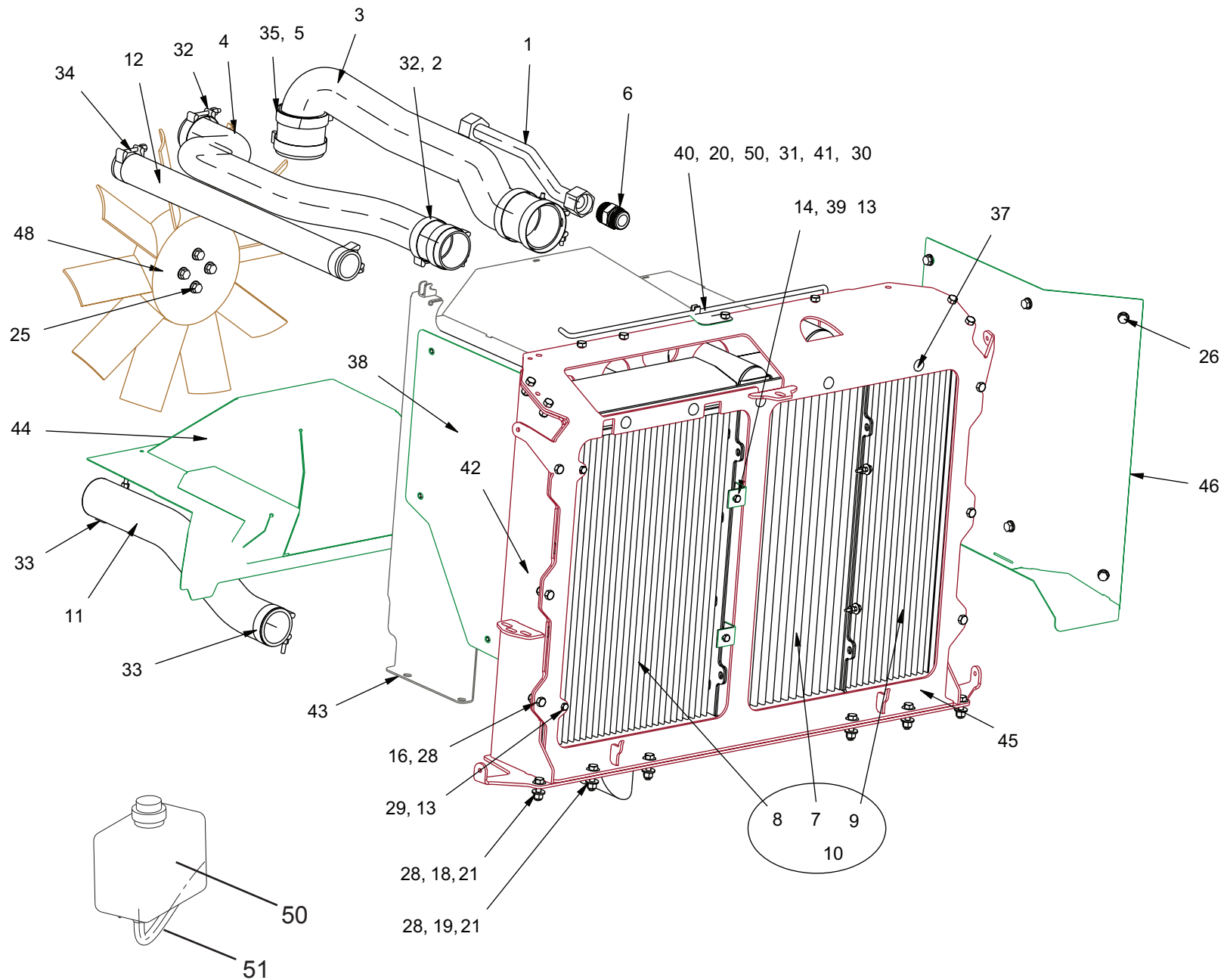
43	1	Boot, Protective For 703-152097	703-152104
46	1	Grommet, ID 4.19, OD 5.88, THK .31	703-162249
47	1	Alarm, Backup, 102DBA, 12VDC, MSV	704-152045
48	1	Grommet, MTG Back Up Alarm	704-152914

REAR COMPARTMENT

REAR COMPARTMENT



COOLING ASSEMBLY CALLOUTS



COOLING ASSEMBLY PARTS LIST



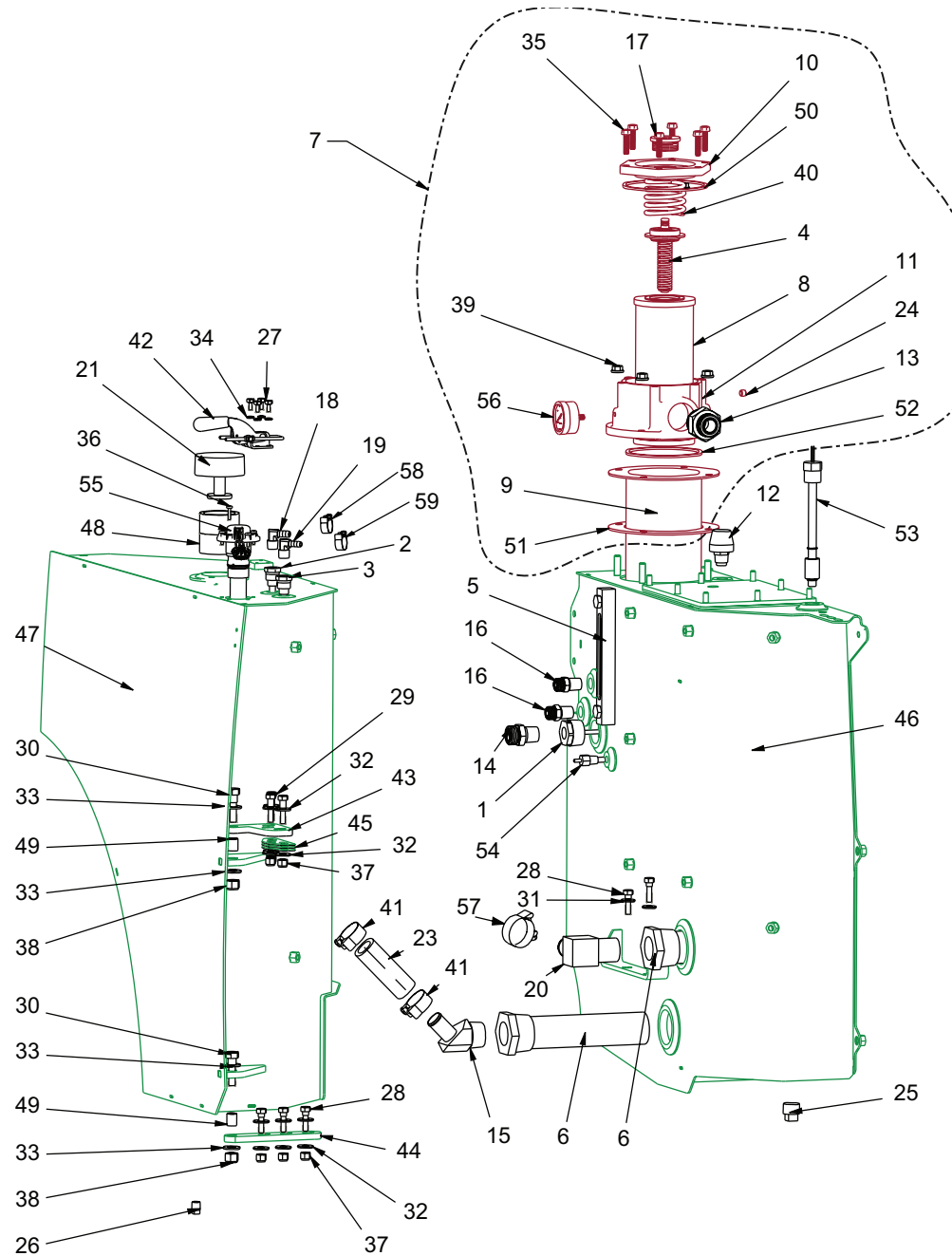
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Tube ASSY, 1"OD X .065W MSV,Reservoir	205-144888
2	1	Hose,2-1/2 ID X 3 LG MSV Tier III Engine	209-144654
3	1	Tube, Engine Intake 3 OD. MSV Cooling System	209-144755
4	1	Tube, Turbo Discharge 2.5OD, MSV Cooling System	209-144756
5	2	Hose, 3 ID X 3 LG MSV Tier III Engine	209-144946
6	2	Adapter STR 1-7/16 MFS X 1-5/16-12 MORB	211-144813
7	1	Cooler, Charge Air MSV	220-144703
8	1	7-Radiator, MSV,1.75, Inlet, 2.25 Outlet	220-144726
9	1	Cooler,Oil MSV	220-144727
10	1	Cooler Package, MSV (Includes #7, 8, 9)	220-152337
11	1	Hose Lower Radiator 2.25 ID X 25 1/2	267-144675
12	1	Hose,Upper Rad., 1.75ID MSV Cooling System	267-144757
13	4	HHCS .25-20 UNC X 0.500	311-10500
14	2	HHCS .25-20 UNC X 0.625	311-10625
16	17	HHCS 3/8-16 UNC X 1.000	311-31000
18	2	HHCS 3/8-16 UNC X 1.250	311-31250
19	4	HHCS 3/8-16 UNC X 1.500	311-31500
20	9	Washer, Flat -1/4 STD Zinc PL	341-10000
21	15	Washer, Flat -5/16 STD Zinc PL	341-20000
25	4	FLHCS M10 X 1.5 75MM Long	370-152148
26	13	HHCS, Serrated Flange 3/8-16 X 1/2 Plated	370-157725
28	24	Nut, Hex, ESNA, 3/8-16 UNC	371-81297
29	6	Nut, Flanged 1/4-20 Plated Locking	371-92058
30	1	Cotter Pin 3/32 X 1.00 Long	380-91742
31	1	Clip, Hood Prop Rod, MSV	384-152078
32	3	Clamp, T-Bolt Standard 2.56 -2.93	387-138509
33	2	Clamp, T-Bolt Standard 2.41 - 2.69	387-138523
34	2	Clamp, T-Bolt Banjo 1.81 - 2.06	387-142064
35	4	Clamp, T-Bolt Standard 3.281-3.5 ID	387-92048
37	5	Adhesive-Backed, Polyurethane Bumper Flat	388-157798
38	1	Panel, Fan Shroud MSV	401-144627
39	2	Bracket, Condenser MTG MSV HVAC System	401-144772
40	1	Rod, Hood Prop, MSV, .313 O.D. Steel	401-152077
41	1	Bracket, Hood Clip MSV, 16 GA.	401-152209
42	1	Structure, Cooling System, WU, Inner, MSV	410-144570
43	1	Upper, Fan Shroud WU. MSV	410-144753

44	1	Lower, Fan Shroud WU. MSV	410-144754
45	1	Structure, Cooling SYS Outer, WU MSV	410-144912
46	1	Panel, Heat Shield, Hyd. Res. Int.	410-144934
48	1	Fan, Sucker 20" MSV Tier III Engine	500-144702
49	1	Tape, Rubber Gasket 1/8" X 1"	606-163458
50	1	Bottle, Overflow w/INT Mount w/Cap	220-92228
51	1	Line, 5/16" 43" MSV, CO	204-162003

REAR COMPARTMENT

REAR COMPARTMENT

FUEL AND HYDRUALIC TANKS CALLOUTS



FUEL AND HYDRAULIC TANKS PARTS LIST



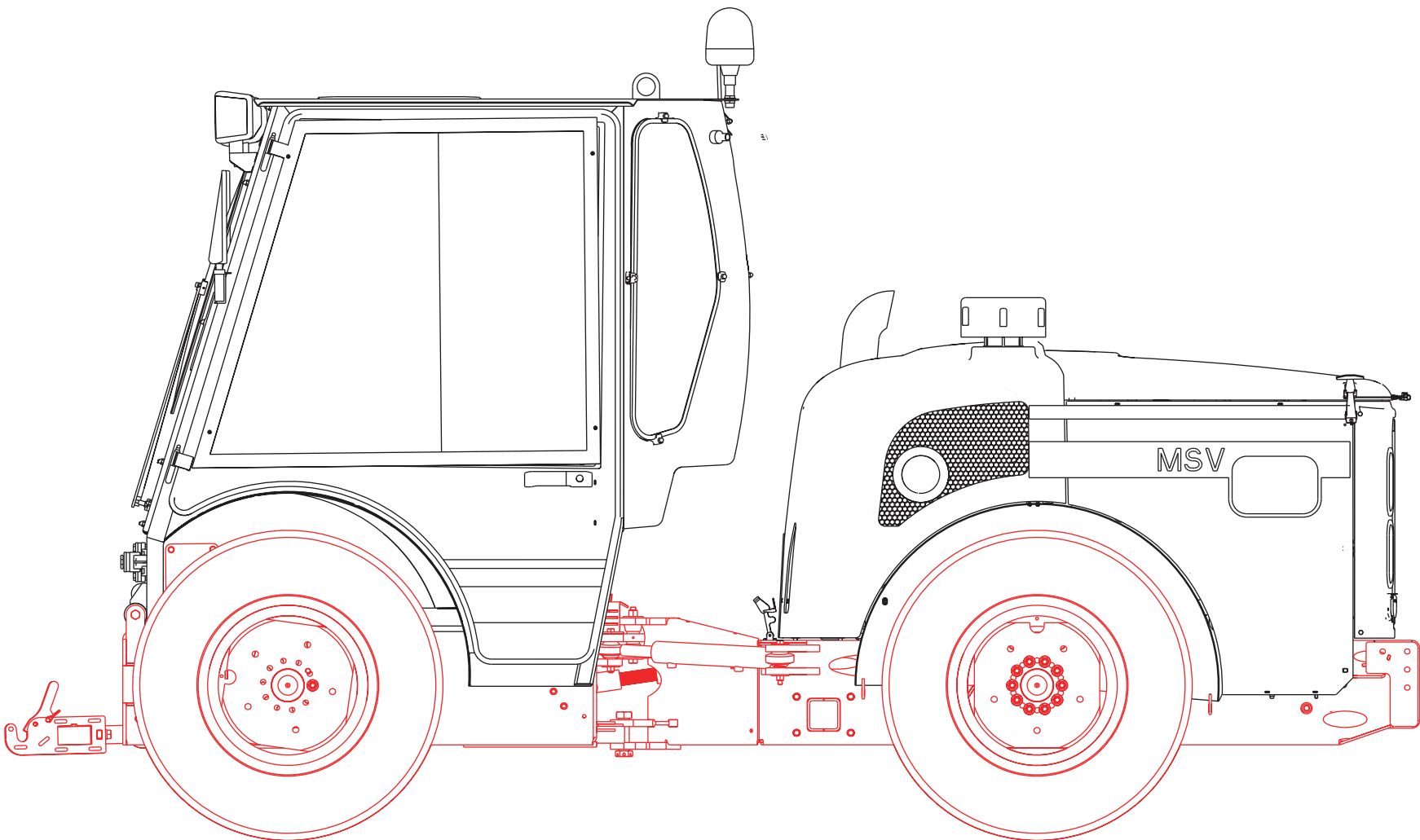
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Valve, 80 PSI Bypass Check	202-144977
2	1	Tube, ASSY, Fuel Draw MSV	205-163687
3	1	Tube, ASSY, Return Fuel MSV	205-163688
4	1	By-Pass Valve Assembly	206-163199
5	1	Glass, Sight 7" 1/2-20 Threads	208-129837
6	2	Suction Strainer 2 " NPT	209-00177
7	1	Filter, In Tank Return, Zinga, (Includes #4, 8, 9, 10, 11, 13, 17, 24, 35, 39, 40, 50, 51, 52, 56)	209-133537
8	1	Filter Element	209-163192
9	1	Element Housing	209-163196
10	1	Port Body Cover	209-163197
11	1	Port Body	209-163198
12	1	Breather	209-72725
13	1	Adapter, STR, 1-7/16 MFSX1-5/8 ORB	211-144790
14	1	Adapter, STR, 3/4NPT X 1-3/16 16 MFS Dash 12	211-144812
15	1	Elbow 45deg 1-1/4 NPTX 1 Bead	211-144820
16	2	Male Pipe Conn. 13/16-16 MFS X 1/2-14 NPTF	211-144999
17	1	Fill Port With Plug	211-163195
18	1	Elbow 90 3/8" Barb X 3/8" NPTM	211-163692
19	1	Elbow 90 5/16" Barb X 3/8" NPTM	211-163693
20	1	Bead Elbow 90, NPT 1 1/4 NPT X 1 1/4 Bead	211-66906
21	1	Cap, Fuel, Alum 2.5-8 UN 2B Thermal/Pressure Relief	212-163735
22	1	Coil 1.5 ID Plastic Protect Bulk FT	212-64808
23	1	Hose, Suction, 1" ID MSV	213-163459
24	1	1/8" NPTF Pipe Plug	214-163200
25	1	Plug Pipe 3/4 NPT Magnetic	214-81642
26	1	Plug Pipe 1/4 NPT BIP	214-83770
27	4	HHCS .25-20 UNC X 0.500	311-10500
28	5	HHCS 3/8-16 UNC X 1.250	311-31250
29	3	HHCS 3/8-16 UNC X 1.500	311-31500
30	2	HHCS .50-13 UNC X 1.750	311-51750
31	2	Washer, Flat -5/16 STD Zinc PL	341-20000
32	12	Washer, Flat -3/8 STD Zinc PL	341-30000
33	4	Washer, SAE 1/2	343-50000
34	4	Washer, Lock -1/4 STD Zinc PL	351-10000
35	6	5/16" Self Locking Bolts	370-163191

36	5	Machine Screw-Plated 10-32 X 3/4	370-91956
37	6	Nut, Hex, ESNA, 3/8-16 UNC	371-81297
38	2	Nut, Hex, ESNA, 1/2-13-UNC	371-81417
39	4	Nut, Hex, Flange Locking	371-92057
40	1	Hold Down Spring	382-163188
41	2	Clamp, T-Bolt Banjo 1.36-1.5	387-152055
42	1	Clamp, Toggle 700 LB	387-157698
43	1	Eyelet, Top Fuel Tank Pivot, Adjustable	401-144913
44	1	Eyelet, Bottom Fuel Tank Pivot, Adjustable	401-157862
45	3	Shim, Adjustable Fuel Tank Pivot	401-157897
46	1	Hydraulic Reservoir W.U., MSV	410-163491
47	1	Tank, Fuel - W.U. MSV	410-163634
48	1	Neck, Fuel, Threaded 2.0-11.5 NPT X 2.5-8UN 2B, 2.5 IN L	514-163734
49	2	Bushing, Straight .63 OD X .50 ID X .75	603-152513
50	1	Housing, Flange Seal	604-163189
51	1	Housing, Gasket	606-163187
52	1	Cover, Gasket	606-163190
53	1	Switch, Low Level Float VERT MTG, 3/4 NPT	702-144784
54	1	Sensor, Temperature	704-102762
55	1	Sensor, Fuel Level	704-144609
56	1	Gage, Service Filter, MSV	704-163186
57	1	Clamp, T-bolt, Banjo 1.62 - 1.87	387-142063
58	1	Clamp, Oetiker 3/8	387-152561
59	1	Clamp, Oetiker 5/16	387-152560

REAR COMPARTMENT

Chassis

CHASSIS OVERVIEW





CHASSIS

M-B Multi-Service Vehicle

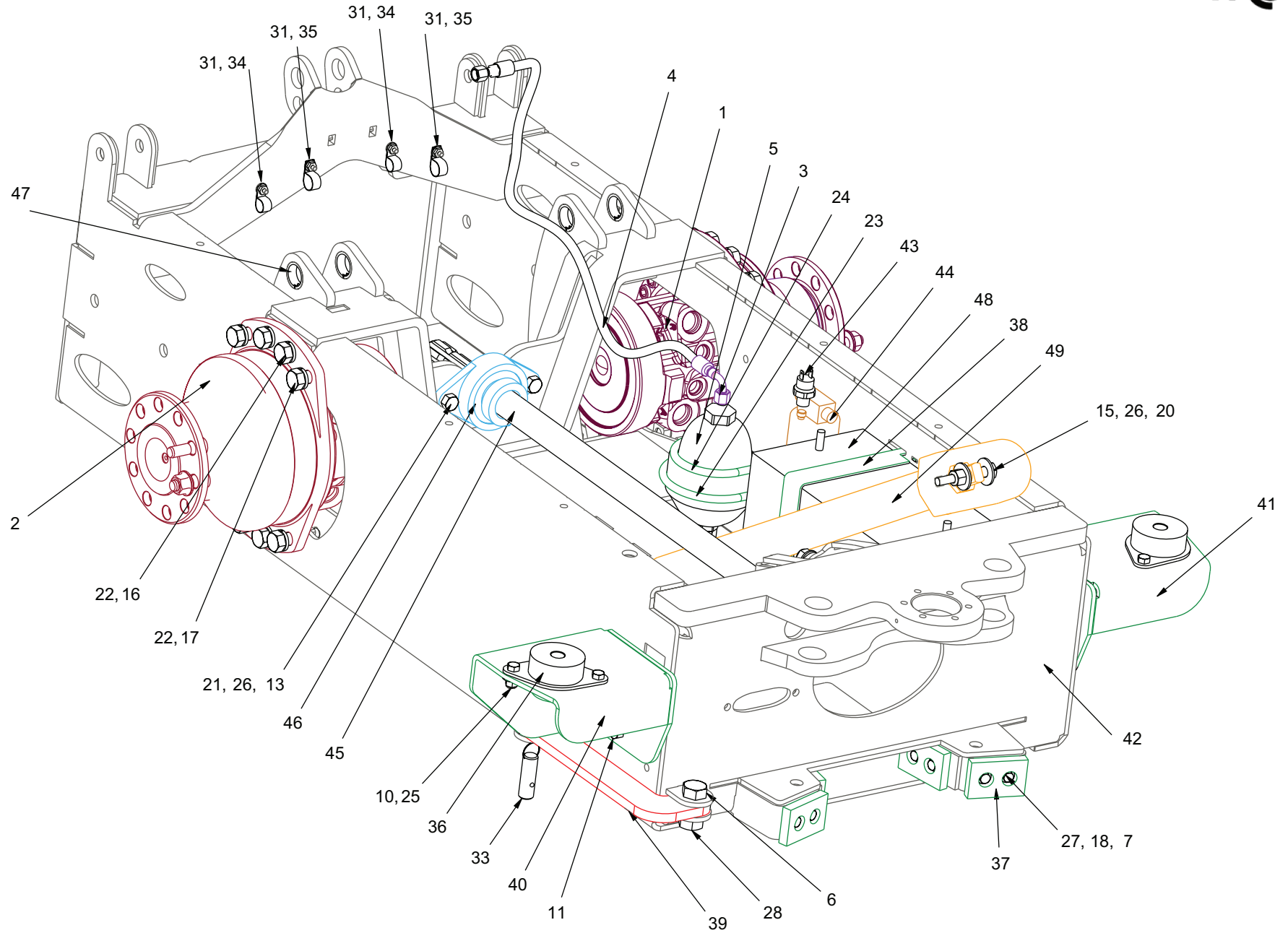
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Chassis

CHASSIS

FRONT FRAME CALLOUTS



FRONT FRAME PARTS LIST



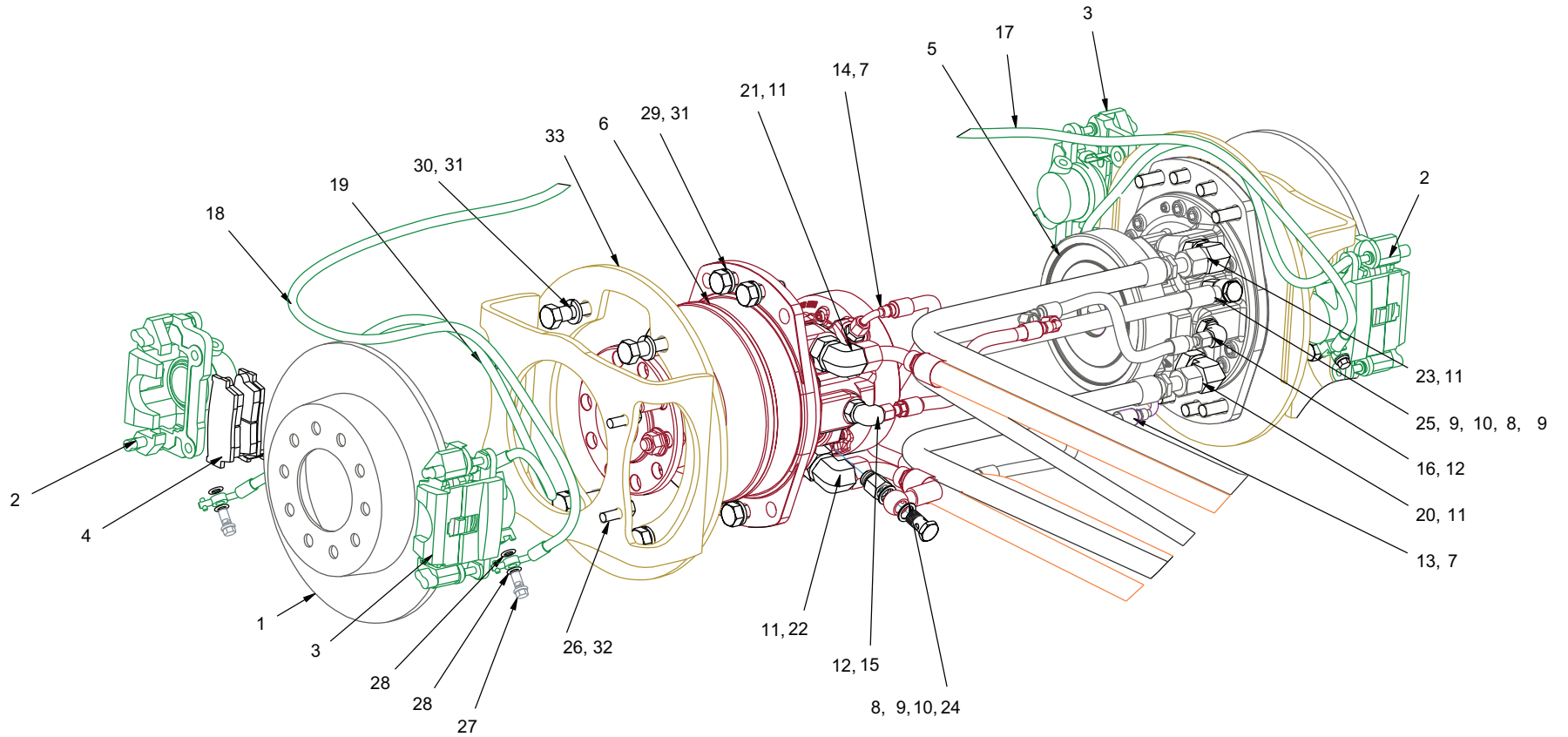
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Wheel Motor W/Brake, W/Speed Sensor, Right Front	201-144691
		Wheel Motor W/Brake, W/Speed Sensor, Right Front, Remanufactured	201-144691-R
2	1	Wheel Motor W/Brake, W/Speed Sensor, Left Front	201-163357
		Wheel Motor W/Brake, W/Speed Sensor, Left Front, Remanufactured	201-163357-R
3	1	Adapter STR 9/16-18 MFS X 3/4-16 MORB	211-144817
4	1	Hose ASSY, 1/4" X 41 OAL, 9/16-18 ORFS SWFM X 9/16-18 ORFS SWFM 90	213-144885
5	1	Accumulator, 30 CU IN .	221-152397
6	1	HHCS .75-10M UNC X 1.750	310-81750
7	6	HHCS .31-18 UNC X 1.000	311-21000
10	4	HHCS 3/18-16 UNC X 1.000	311-31000
11	6	HHCS .50-13 UNC X 1.000	311-51000
13	2	HHCS .50-13 UNC X 2.000	311-52000
15	1	HHCS .50-13 UNC X 3.000	311-53000
16	8	HHCS .625-11 UNC X 1.750	311-71750
17	8	HHCS .625-11 UNC X 2.250	311-72250
18	8	Washer, Flat -1/4 STD Zinc PL	341-10000
20	4	Washer, Flat -1/2 STD Zinc PL	341-50000
21	4	Washer, SAE 1/2	343-50000
22	16	Washer, Lock -5/8 YLW Zinc PL	351-70000
23	1	U-Bolt, MTG Hardware Kit	370-152529
24	1	U-Bolt, MTG Hardware Kit	370-162226
25	4	Nut, Hex, ESNA, 3/8-16 UNC	371-81297
26	6	Nut, Hex, ESNA, 1/2-13-UNC	371-81417
27	8	Nut, Hex, ESNA, 5/16-18-UNC	371-81620
28	1	CNTR Lock Nut 3/4-10-UNC	371-82083
31	4	Nut, Flanged 1/4-20 Plated Locking	371-92058
33	1	Lock Pin, Quick Release	380-133156
34	2	Cable Clamp 5/8 ID	387-72383
35	2	Cable Clamp 3/4 ID	387-72387
36	2	Mount, Isolation MSV Cab	388-152237
37	4	Pad, Poly UHMW MSV	401-152390
38	1	Strap, Battery Hold Down, MSV	401-162366
39	1	Link, Safety, MSV	401-163325
40	1	Mount, Cab Left MSV	401-163326

41	1	Mount, Cab Right MSV	401-163327
42	1	Frame, Front, WU, MSV	410-163330
43	1	Switch, Binary A/C High/Low 7/16 FM O-RG	428-131986
44	1	Receiver/Dryer, A/C W/Mount & SW Port	428-131992
45	1	Shaft, Front PTO Drive 1-7/16	517-144664
46	2	Bearing, Flanged 2 Bolt 1-3/8" Bore, Prelubed	600-163737
47	8	Bushing, Split, Steel 1.125 ID X 1.375 OD X .5	603-162364
48	1	Battery, GRP 31 MF 1000 CCA, 12V	700-127830
49	1	Actuator Cab Tilt, MSV	708-144063

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FRONT DRIVE CALLOUTS



FRONT DRIVE PARTS LIST

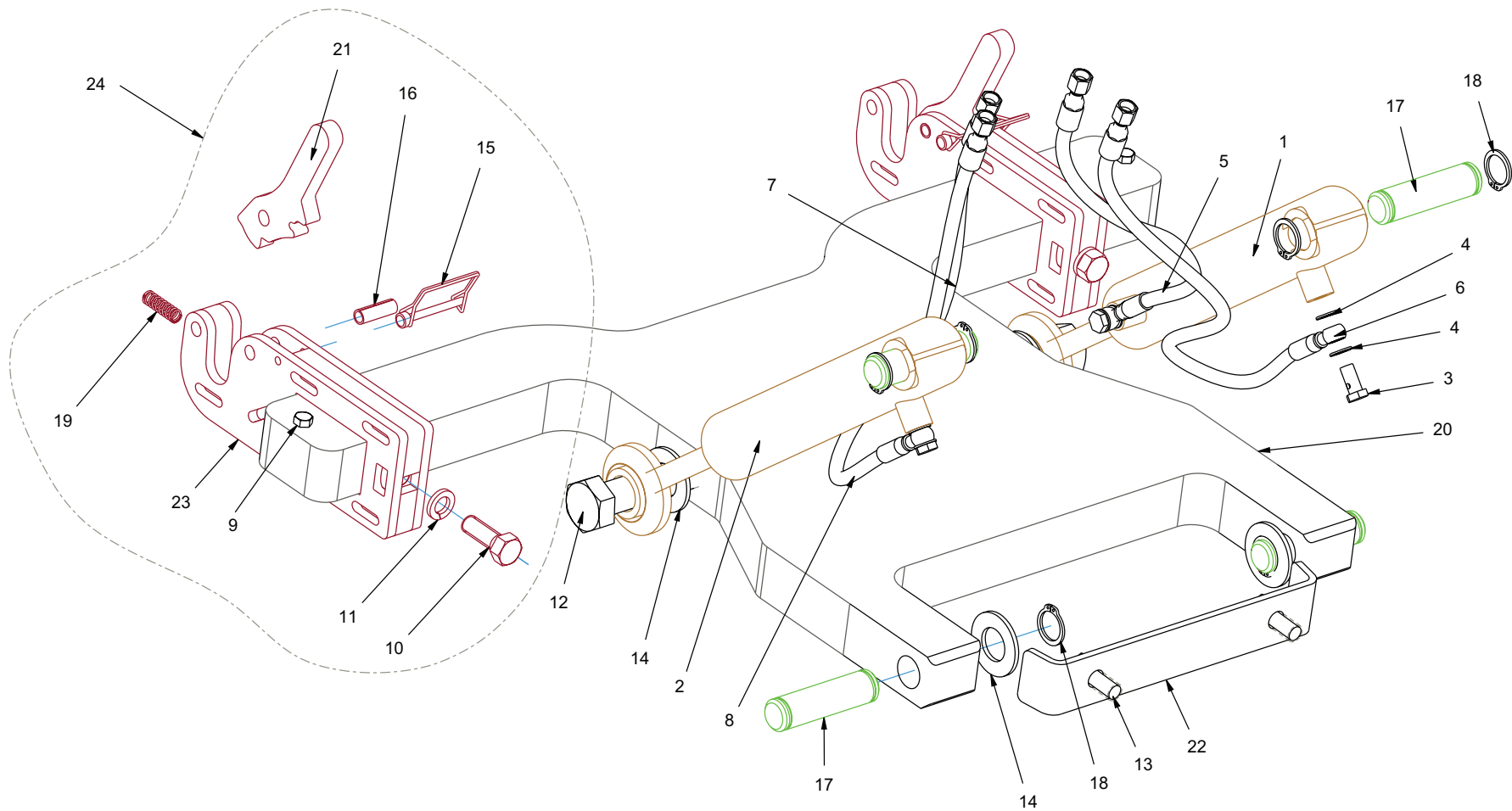


ITEM	QTY	DESCRIPTION	PART NUMBER
1	2	Rotor, MSV Disk Brake	104-152303
2	2	Caliper, Brake R MSV Disk	104-152307
3	2	Caliper, Brake L	104-152320
4	4	Brake, Shoe MSV	104-163267
5	1	Wheel Motor W/Brake, W/Speed Sensor, Right Front	201-144691
5	1	Wheel Motor W/Brake, W/Speed Sensor, Right Front, Remanufactured	201-144691-R
6	1	Wheel Motor W/Brake, W/Speed Sensor, Left Front	201-163357
6	1	Wheel Motor W/Brake, W/Speed Sensor, Left Front, Remanufactured	201-163357-R
7	2	STR ADPT, Male ORF X ORB 9/16 ORF X 9/16 ORB	211-140988
8	2	Bolt,Banjo,M16X1,5	211-144792
9	4	Seal,Bonded,16MM	211-144793
10	2	Adapter,STR,STR 3/4-16MORB XFM M16X1.5	211-144794
11	4	Elbow 90o 1-14 MFS X 1-1/16 MORB	211-144805
12	2	Elbow 90, 3/4-16 ORB X 9/16-18 ORFS	211-163433
13	1	Hose ASSY, 1/4" X 14 OAL, 9/16 ORFS SWFM X 9/16 ORFS SWFM 90	213-144852
14	1	Hose ASSY, 1/4" X 10 OAL, 9/16 ORFS SWFM X 9/16 ORFS SWFM 90	213-144853
15	1	Hose ASSY, 1/4" X 7 OAL, 9/16 ORFS SWFM X 9/16 ORFS SWFM 90	213-144868
16	1	Hose ASSY, 1/4" X 15 OAL, 9/16 ORFS SWFM X 9/16 ORFS SWFM 90	213-144869
17	1	Brake Line, Master Cylinder To Right Caliper	213-152647
18	1	Brake Line, Master Cylinder To Left Caliper	213-152648
19	2	Brake Line, Caliper To Caliper, MSV	213-157664
20	1	Hose ASSY, 5/8" X 87 OAL, 1" ORFS Male X 1" PRFS SWFM	213-162385
21	1	Hose ASSY, 5/8" X 76 OAL, 1" ORFS Male X 1" ORFS SWFM 90S	213-162386
22	1	Hose ASSY, 5/8" X 78 OAL, 1" ORFS Male X 1" ORFS SWFM 90S	213-162387
23	1	Hose ASSY, 5/8" X 85 OAL, 1" ORFS Male X 1" ORFS SWFM	213-162388
24	1	Hose ASSY, 3/8" X 90 OAL, 11/16 ORFS SWFM X 16 MM Banjo	213-162389

25	1	Hose ASSY, 3/8" X 96 OAL, 11/16 ORFS SWFM X 16 MM Banjo	213-162390
26	8	HHCS, Metric 12MM 1.000	311-152382
27	6	M10 X 1.0 Banjo Bolt	311-152391
28	6	Washer, 10 MM Banjo	311-157666
29	8	HHCS .625-11 UNC X 1.750	311-71750
30	8	HHCS .625-11 UNC X 2.250	311-72250
31	16	Washer, Lock -5/8 YLW Zinc PL	351-70000
32	8	Washer, Lock M12 STD Zinc PL	372-133187
33	2	Mount, Dual Caliper, MSV	410-163281

CHASSIS

HITCH CALLOUTS





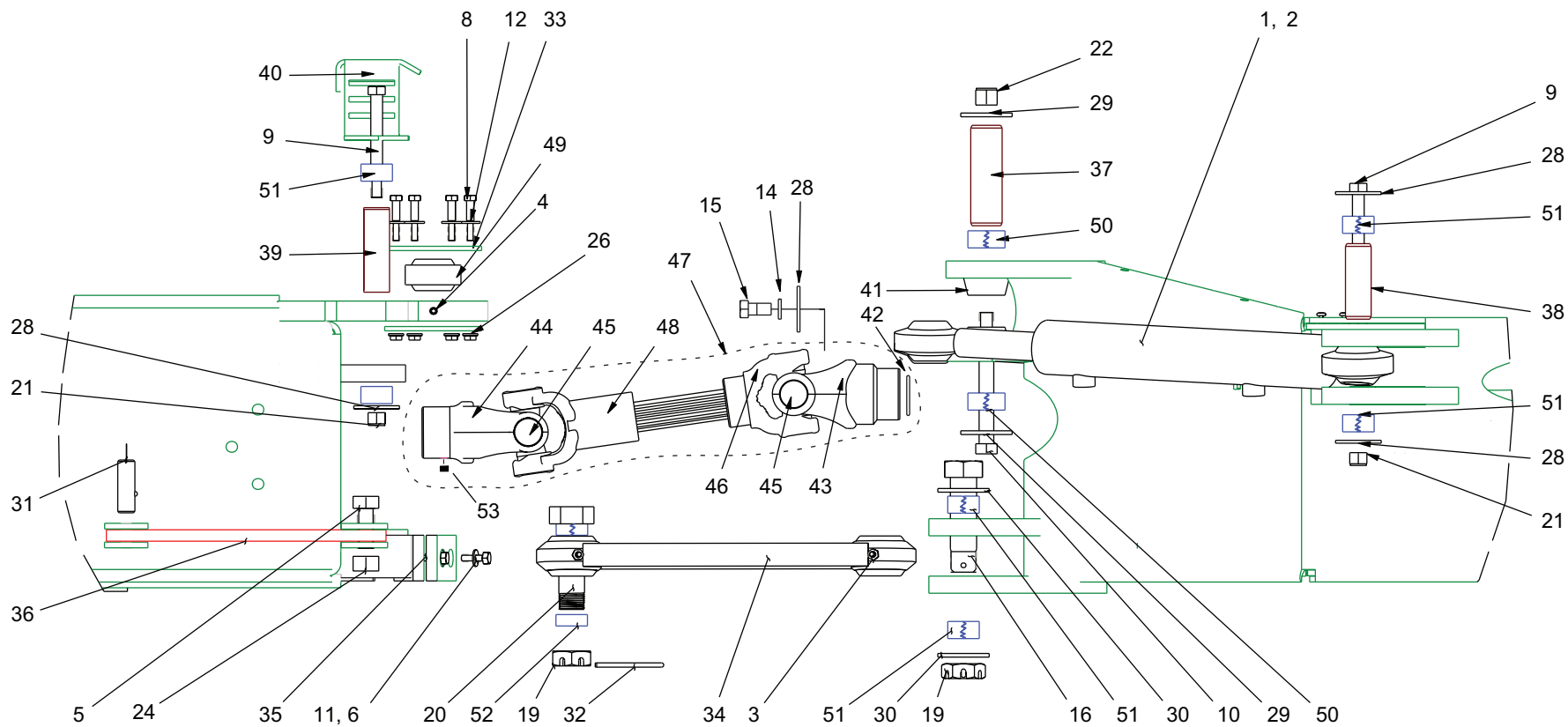
HITCH PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Hydraulic Cylinder, Right, Front Hitch, MSV	203-163653
2	1	Hydraulic Cylinder, Left, Front Hitch, MSV	203-163658
3	4	Bolt Banjo M12X1.5 THD .	211-144904
4	8	Seal Bonded, 12MM	211-144908
5	1	Hose ASSY, 1/4" X 37 OAL, 9/16 ORFS SWFM X 12 MM Banjo	213-163892
6	1	Hose ASSY, 1/4" X 28 OAL, 9/16 ORFS SWFM X 12 MM Banjo	213-163894
7	1	Hose ASSY, 1/4" X 37 OAL, 9/16 ORFS SWFM X 12 MM Banjo	213-163897
8	1	Hose ASSY, 1/4" X 28 OAL, 9/16 ORFS SWFM X 12 MM Banjo	213-163903
9	2	HHCS 3/8-16 UNC X 1.000	311-31000
10	2	HHCS .625-11 UNC X 1.750	311-71750
11	2	Washer, Lock -5/8 YLW Zinc PL	351-70000
12	2	Hex Bolt, 1-1/8-7 UNC 4-1/2 Long	370-163679
13	2	HHCS Flanged GR 8 5/8-11 X 1-1/4 PHOS & Oil	370-163680
14	4	Washer, Flat 1.125 SAE STD Zinc PL	372-92009
15	2	Pin, Snap 1/4 X 2-1/4 .	380-157602
16	2	Pin, Spring, 1/2" X 1-1/2"	380-163236
17	4	Pin, Clevis, Headless, Retaining Rings	380-163729
18	6	Retaining Ring, External HD, 1-1/8 Shaft	381-163732
19	2	Spring, Precision Compression, Zinc Plated	382-163676
20	1	Hitch, Front, MSV	401-163654
21	2	Dog, Hitch Hook, MSV	401-163664
22	1	Plate, Retainer, Pin Front Fram, MSV	401-163733
23	2	Hitch Hook, MSV, W.U.	410-163660
24	2	Assembly, Hitch Hook, (Includes #9, 10, 11, 15, 16, 19, 21, 23)	490-163659

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MIDSECTION CALLOUTS



MIDSECTION PARTS LIST



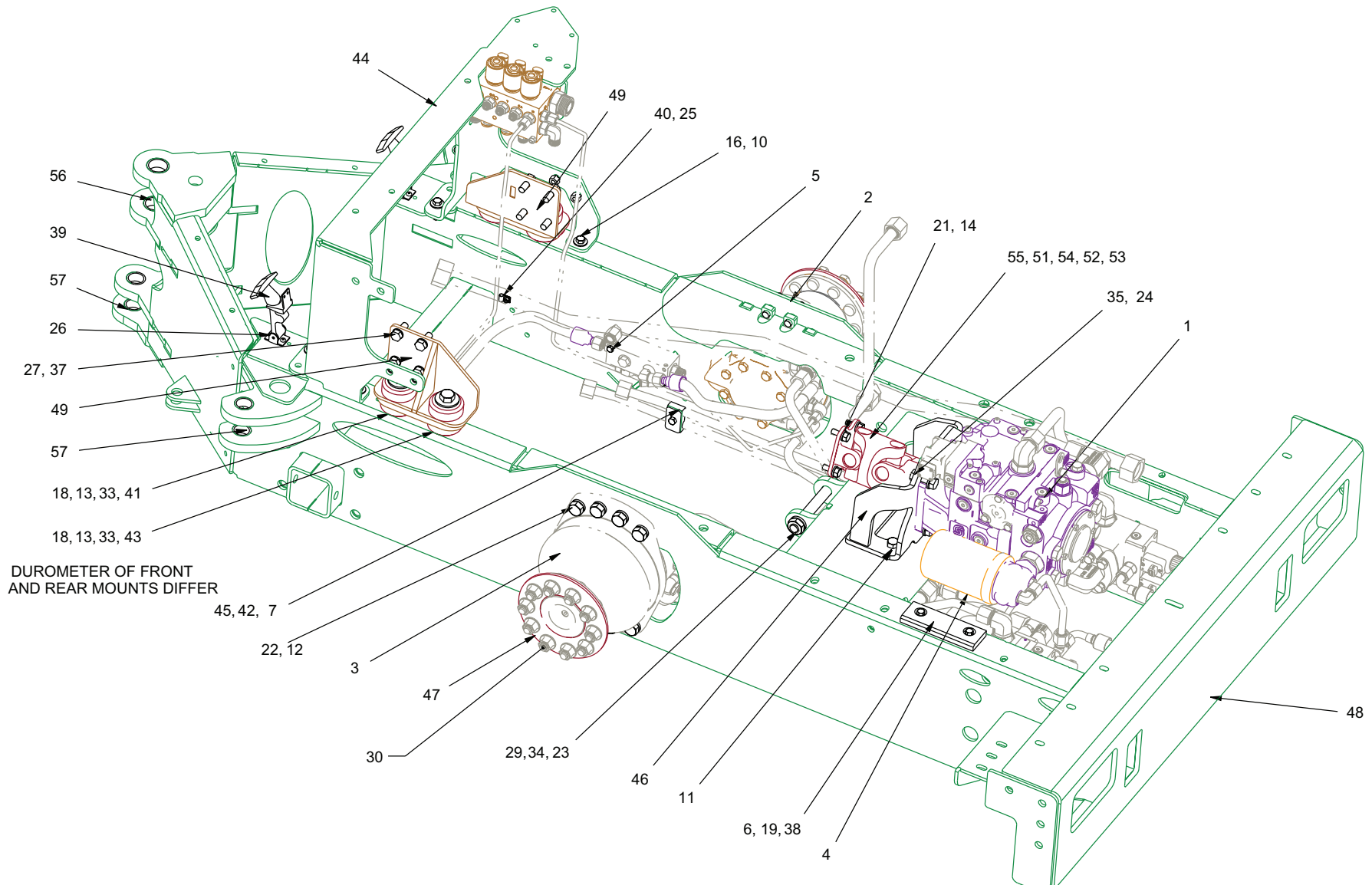
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Cylinder, Hydraulic 2" Bore X 1.25"Rod X 8" Stroke	203-163393
2	1	Cylinder,Hydraulic,W/ Position Sensor 2"B X1.25"R X8"S	203-163394
3	2	Zerk, Grease 1/8 IN. NPT	206-05000
4	1	Grease Zerk 1/4-28	206-68520
5	1	HHCS .75-10 UNC X 1.750	310-81750
6	6	HHCS .31-18 UNC X 1.000	311-21000
8	6	HHCS .31-18 UNC X 1.750	311-21750
9	4	HHCS .50-13 UNC X 4.500	311-54500
10	1	HHCS .625-11 UNC X 5.750	311-75750
11	8	Washer, Flat -1/4 STD Zinc PL	341-10000
12	6	Washer, Flat -5/16 STD Zinc PL	341-20000
14	1	Washer, Lock -1/2 YLW Zinc PL	351-50000
15	1	HHCS .50-20 UNF X 1.000	370-133224
16	1	HCCS, 1-1/8-12 UNF W/ Pin Hole	370-163657
19	2	Slotted Hex Jam Nut	371-157959
20	1	Bolt 1-1/8 - 12 X 3.75 OAL	371-162225
21	8	Nut, Hex, ESNA, 1/2-13-UNC	371-81417
22	1	Nut, Hex, ESNA, 5/8-11-UNC	371-81421
24	1	CNTR Lock Nut 3/4-10-UNC	371-82083
26	6	Nut, Flanged 5/16-18 Plated Locking	371-92059
28	7	Washer, 9/16 .125 X 2.00	372-133567
29	2	Washer, Flat, .656 X 2.25 X .164, YWZC	372-163908
30	3	Washer, Flat, 1.125 SAE STD Zinc PL	372-92009
31	1	Lock Pin, Quick Release	380-133156
32	2	Pin, Cotter	380-83701
33	2	Retainer, Pivot Bearing	401-133101
34	1	Link, Articulation Joint MSV	401-144024
35	4	Pad, Poly UHMW MSV	401-152390
36	1	Link, Safety, MSV	401-163325
37	1	Bushing, 1-3/8 OD, Articulation Joint, MSV	401-163453
38	2	Bushing, 1-1/8 OD Steering Cylinder, Rear Frame, MSV	401-163454
39	2	Bushing, 1-1/8 OD, Steering Cylinder, Front Frame, MSV	401-163456
40	1	Bracket, Hose Guard Pivot MSV	401-163618
41	2	Spacer, Articulation Joint, MSV	401-163907
42	1	O-Ring, 1-3/4 X1-1/2ID 70M DURO BUNA	501-152030
43	1	Yoke, Splined	502-133300

44	1	Yoke, Splined W/Set Screws	502-133552
45	2	Kit, Cross & Bearing	502-133553
46	1	Yoke Shaft Assembly	502-144861
47	1	Drive Shaft Assembly Front PTO, (Includes #43, 44, 45, 46, 48)	502-144960
48	1	Yoke, Splined	502-163873
49	1	Bearing, Spherical	601-133065
50	2	Bushing, Split, Steel 1.375 ID X 1.625 OD X .75	603-162345
51	10	Bushing, Split, Steel 1.125 ID X 1.375 OD X .75	603-162352
52	2	Bushing, Split, Steel 1.125 ID X 1.375 OD X .5	603-162364
53	2	Setscrew, 3/8-16 x 3/4 Stainless	370-105024

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REAR FRAME CALLOUTS



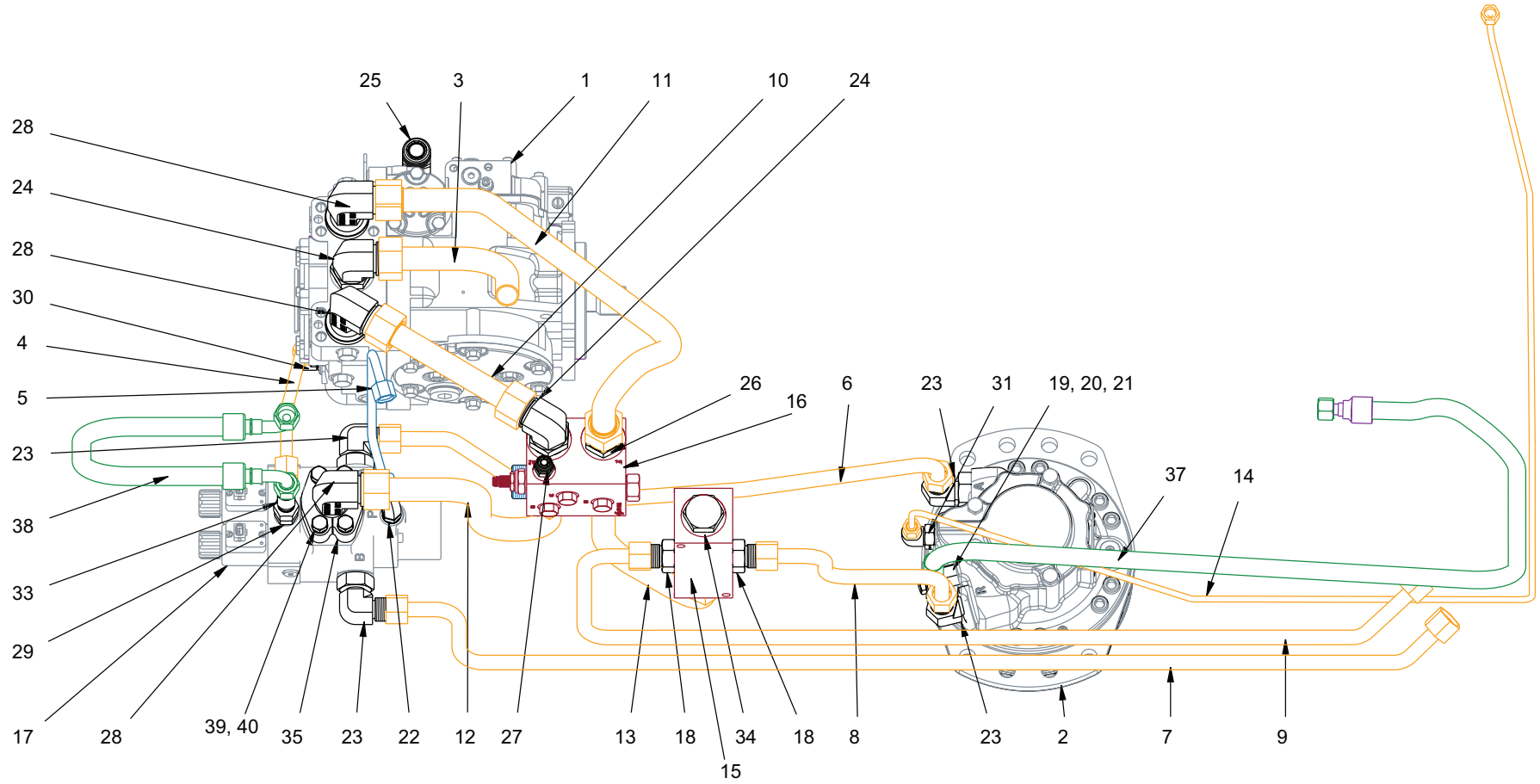
REAR FRAME PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Pump, Drive,MSV	200-144694
2	1	Wheel Motor, Poclain CW RTR	201-163355
		Wheel Motor, Poclain CW RTR, Remanufactured	201-163355-R
3	1	Wheel Motor. Poclain CCW LTR	201-163356
		Wheel Motor. Poclain CCW LTR, Remanufactured	201-163356-R
4	1	Filter, Replacement, Hydraulic Charge PMP	209-157683
5	2	HHCS .25-20 UNC X 2.500	311-12500
6	2	HHCS .31-18 UNC X 1.000	311-21000
7	4	HHCS .31-18 UNC X 2.000	311-22000
8	2	HHCS .31-18 UNC X 3.250	311-23250
9	6	HHCS 3/8-16 UNC X 1.000	311-31000
10	4	HHCS 3/8-16 UNC X 1.500	311-31500
11	4	HHCS .50-13 UNC X 1.500	311-51500
12	16	HHCS .625-11 UNC X 1.750	311-71750
13	4	HHCS .625-11 UNC X 4.500	311-74500
14	4	HHCS .44-20 X 1.00	313-41000
15	2	Washer, Flat -5/16 STD Zinc PL	341-20000
16	10	Washer, Flat -3/8 STD Zinc PL	341-30000
17	4	Washer, Flat -1/2 STD Zinc PL	341-50000
18	4	Washer, Flat -5/8 STD Zinc PL	341-70000
19	2	Washer, Lock -5/16 STD Zinc PL	351-20000
20	4	Washer, Lock -3/8 YLW Zinc PL	351-30000
21	4	Washer, Lock -7/16 YLW Zinc PL	351-40000
22	16	Washer, Lock -5/8 YLW Zinc PL	351-70000
23	1	Washer, Lock -3/4 YLW Zinc PL	351-80000
24	4	HHCS Flanged GR 8 1/2-13 X 1-1/2 PHOS & Oil	370-150476
25	2	Screw,Self Tapping 1/4-20 X 1/2, .228 Hole	370-163866
26	4	Machine Screw-Round Head 10-24 X 3/4	370-84618
27	8	MHHCS M12 X 1.75 X 30 mm	370-92028
28	4	Nut-LK-NYL 10-24 W/INSRT YWZC	371-102837
29	1	HHCS .70-10 UNC X 5.500	371-152570
30	1	Nut, Lug, MSV M14 X 1.5FSHCS	371-163123
31	4	Nut, Hex, ESNA, 3/8-16 UNC	371-81297
32	4	Nut, Hex, ESNA, 1/2-13-UNC	371-81417
33	4	Nut, Hex, ESNA, 5/8-11-UNC	371-81421
34	1	Nut, Hex, UNC, Jam 3/4-10	371-83958

35	4	Serrated Flange Locknut 1/2-13 UNC	371-92056
36	4	Nut, Hex Jam ESNA 1/4-20 UNC	371-97100
37	8	Washer, Lock M12 STD Zinc PL	372-133187
38	1	Pad, Support Gas Tank MSV	372-133422
39	2	Latch, Hood 260	384-87550
40	2	Cable Clamp 1/4 ID	387-72380
41	2	Mount, Rubber 2 PC Vibration Isolator	388-157649
42	4	Clamp, Beta, Twin Series Tubes, MSV	388-163430
43	2	Mount, Rubber 2 PC Vibration Isolator	388-92029
44	1	Bracket, Support Rear Frame, MSV	401-162369
45	4	Plate, Top Tube Holder MSV	401-163440
46	1	Bracket, Hydrostatic Pump Support, 3/8" Plate	401-163474
47	2	Spacer, Rear Rim, MSV	401-163629
48	1	Rear Frame - W.U. MSV	410-163292
49	2	Bracket Engine Mount, W.U., MSV	410-163388
50	1	Support, Exhaust, MSV Frame	410-163698
51	1	Drive Yoke Assy Ground Drive, MSV	502-133038
52	1	End Yoke, splines	502-133170
53	1	Yoke, Center	502-133171
54	2	Cross and Bearing Kit	502-133172
55	1	Drive Yoke Assy, Ground Drive	502-133208
56	2	Bushing, Split, Steel 1.375 ID X 1.625 OD X .75	603-162345
57	6	Bushing, Split, Steel 1.125 ID X 1.375 OD X .75	603-162352

CHASSIS

LEFT REAR GROUND DRIVE CALLOUTS



LEFT REAR GROUND DRIVE PARTS LIST



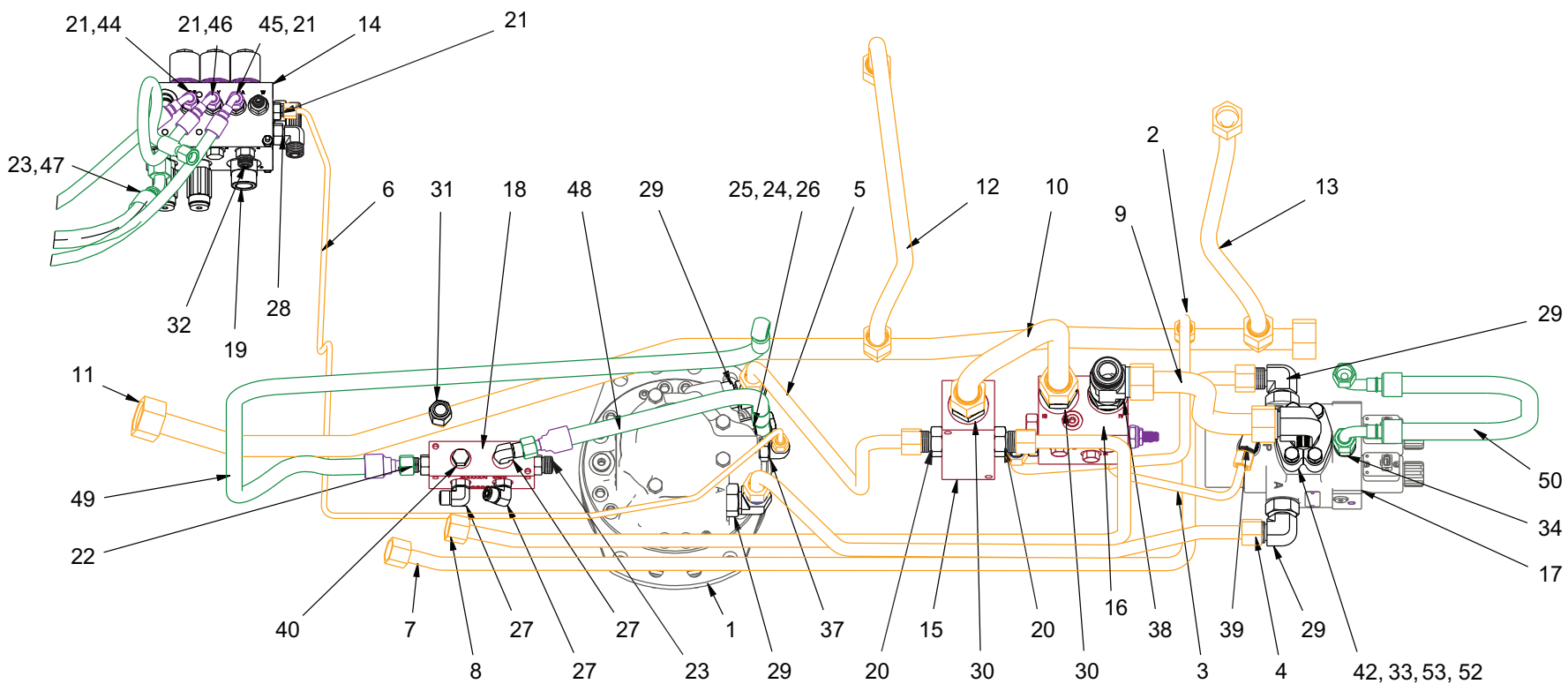
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Pump, Hydrostatic	200-144694
2	1	Wheel Motor, Poclain CCW LTR	201-163356
3	1	Tube Assy 1.00 O.D., 1 inch Sleeve	205-144880
4	1	Tube, 1/2 OD With 13/16" End Fittings LT Antispin To HYD Filter	205-162377
5	1	Tube, 3/8 OD With 11/16" End Fittings LT Antispin to RT Antispin	205-162382
6	1	Tube, 5/8 OD With 1" ORFS Fittings LT RR Wheel Motor to Antispin	205-163398
7	1	Tube, 5/8 OD With 1" ORFS Fittings Antispin To FRNT LT Wheel Motor	205-163400
8	1	Tube, 5/8 OD With 1" ORFS Fittings LT RR Wheel Motor to Header	205-163402
9	1	Tube, 5/8 OD With 1" ORFS Fittings Header to LT FRNT Wheel Motor	205-163404
10	1	Tube, 1 OD With 1-7/16" End Fittings Cooling Shuttle To HYD Pump	205-163407
11	1	Tube, 1 OD With 1-7/16" End Fittings Cooling Shuttle To HYD Pump	205-163408
12	1	Tube, 1 OD With 1-7/16" End Fittings Cooling Shuttle To LT Antispin	205-163410
13	1	Tube, 1 OD With 1-7/16" Ending Fittings Cooling Shuttle to Header	206-163411
14	1	Tube, 1/4 OD With 9/16" End Fittings, LT RR Wheel Motor to Low Pressure	205-163413
15	1	Manifold, Header, MSV	206-163395
16	1	Manifold, Cooling, Shuttle MSV	206-163435
17	1	Manifold, Antispin Control MSV	206-163436
18	2	Adapter STR 1-14 MFS X 1-1/16-12 MORB	211-126866
19	1	Bolt, Banjo, M16X1.5	211-144792
20	2	Seal, Bonded, 16MM	211-144793
21	1	Adapter, STR, STR 3/4-16MORB X FM M16X1.5	211-144794
22	1	Elbow, 90 deg. 9/16 ORB X 11/16 MFS	211-144800
23	4	Elbow, 90 deg 1-14 MFS X 1-1/16 MORB	211-144805
24	2	Elbow, 90 deg 1-7/16-12 MFS X 1-5/16-12 MORB	211-144806
25	1	Elbow, 90 deg 1-3/16-12 MFS X 1-1/16-12 MORB	211-144809
26	3	Adapter, STR 1-7/16 MFS X 1-5/16-12 MORB	211-144813

27	1	Adapter STR 11/16-16 MFS X 9/16-18 MORB	211-144866
28	3	Elbow 90 deg Flange Code 16/62 X 1-7/16-12 MFS	211-144884
29	1	Adapter STR 13/16-16 MFS X 9/16-18 MORB	211-144958
30	1	Elbow 90 deg 13/16-16 MFS X 9/16-18 MORB	211-144997
31	1	Elbow 90 3/4-16 ORB X 9/16-18 ORFS	211-163433
33	1	Fitting, ORFS To Swivel Run Tee 13/16-16	211-163443
34	1	Plug, 1-5/16 ORB	211-69527
35	1	Split Flange Kit 16/ Code 62	211-92144
37	1	Hose ASSY, 3/8" X 55 OAL, 11/16 ORFS SWFM X 16 MM Banjo	213-163452
38	1	Hose, ASSY, 3/8" X 22.75 OAL, 13/16 ORFS 90S X 13/16 ORFS 90S	213-163479
39	4	HHCS .44-14 UNC X 1.750	311-41750
40	4	Washer, Lock -3/8 YLW Zinc PL	351-30000

CHASSIS

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RIGHT REAR GROUND DRIVE CALLOUTS



RIGHT REAR GROUND DRIVE PARTS LIST

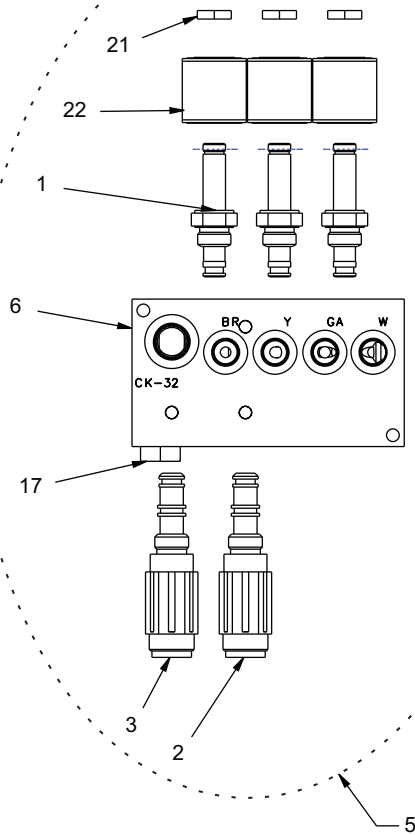


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Wheel Motor,Poclain CW RTR	201-163355
2	1	Tube, 1/2 OD With 13/16" End Fittings Saddle Branch Tube To Cooling Shuttle	205-162376
3	1	Tube,3/8 OD With 11/16" End Fittings Cooling Shuttle To RT Antispin	205-162380
4	1	Tube,5/8 OD With 1" ORFS Fittings RT RR Wheel Motor To Antispin	205-163399
5	1	Tube,5/8 OD With 1" ORFS Fittings RT RR Wheel Motor To Header	205-163401
6	1	Tube,1/4 OD With 9/16" End Fittings RT RR Wheel Motor To Low Pressure	205-163403
7	1	Tube,5/8 OD With 1" ORFS Fittings Antispin To RT FRNT Wheel Motor	205-163405
8	1	Tube,5/8 OD With 1" ORFS Fittings Header To RT FRNT Wheel Motor	205-163406
9	1	Tube,1 OD With 1-7/16" End Fittings Cooling Shuttle to RT Antispin	205-163409
10	1	Tube,1 OD With 1-7/16" End Fittings Cooling Shuttle to Header	205-163411
11	1	Tube Weldment 1.00 O.D. .065 Wall	205-163412
12	1	Tube,3/4 OD With 1-3/16" End Fittings HYD Tank To Saddle Branch Tube	205-163416
13	1	Tube,3/4 OD With 1-3/16" End Fittings HYD Pump To Saddle Branch Tube	205-163417
14	1	Manifold, Low Press CTL,MSV	206-144713
15	1	Manifold, Header, MSV	206-163395
16	1	Manifold, Cooling,Shuttle MSV	206-163435
17	1	Manifold, Antispin Control MSV	206-163436
18	1	Manifold, Case Drain	206-163438
19	1	Straight Adapter 1-3/16 ORFM-11/16 ORBM	211-126850
20	2	Adapter STR 1-14 MFS X 1-1/16-12 MORB	211-126866
21	5	Adapter STR 9/16-18 MFS X 9/16-18 MORB	211-144786
22	1	Adapter STR 11/16-16 MFS X 3/4-16 MORB	211-144787
23	2	Adapter STR 13/16-16 MFS X 3/4-16 MORB	211-144788
24	1	Bolt,Banjo,M16X1,5	211-144792
25	2	Seal,Bonded,16MM	211-144793
26	1	Adapter,STR,STR 3/4-16MORBXFM M16X1.5	211-144794

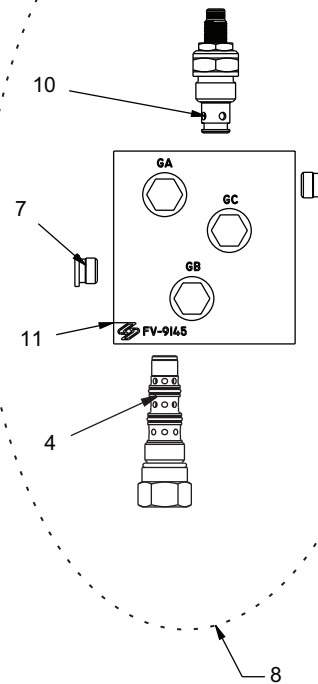
27	3	Elbow, 90 deg. 9/16 ORB X 11/16 MFS	211-144800
28	2	Elbow, 90o 13/16-16 MFS X 3/4-16 MORB	211-144802
29	4	Elbow, 90o 1-14 MFS X 1-1/16 MORB	211-144805
30	4	Adapter STR 1-7/16 MFS X 1-5/16-12 MORB	211-144813
31	1	Cap,13/16 MFS	211-144825
32	2	Adapter STR 11/16-16 MFS X 9/16-18 MORB	211-144866
33	1	Elbow 90o Flange Code 16/62 X 1-7/16-12 MFS	211-144884
34	1	Adapter STR 13/16-16 MFS X 9/16-18 MORB	211-144958
37	1	Elbow 90, 3/4-16 ORB X 9/16-18 ORFS	211-163433
38	1	Run Tee, ORFS 16, ORB 16, ORFS 16	211-163437
39	1	Fitting, ORFS To O-ring Branch Tee 11/16-16	211-163444
40	3	Male ORB Plug 9/16 ORB	211-51959
42	1	Split Flange Kit 16/ Code 62	211-92144
44	1	Hose ASSY, 1/4" X 68 OAL, 9/16 ORFS SWFM X 9/16 ORFS SWFM 90	213-144854
45	1	Hose ASSY, 1/4" X 70 OAL, 9/16 ORFS SWFM X 9/16 ORFS SWFM 90	213-144855
46	1	Hose ASSY,1/4" X 16 OAL, 9/16 ORFS SWFM90 X 9/16 JIC SWFM	213-144875
47	1	Hose ASSY 0.50" X 87 OAL, 13/16 ORFS SWFM 45° X	213-152334
48	1	Hose ASSY, 3/8" X 17 OAL, 11/16 ORFS SWFM X 16 MM Banjo	213-163451
49	1	Hose ASSY, 3/8" X 55 OAL, 11/16 ORFS SWFM X 16 MM Banjo	213-163452
50	1	Hose, ASSY, 3/8" X 22.75 OAL, 13/16 ORFS 90S X 13/16 ORFS 90S	213-163479
52	4	HHCS .44-14 UNC X 1.750	311-41750
53	4	Washer, Lock -3/8 YLW Zinc PL	351-30000

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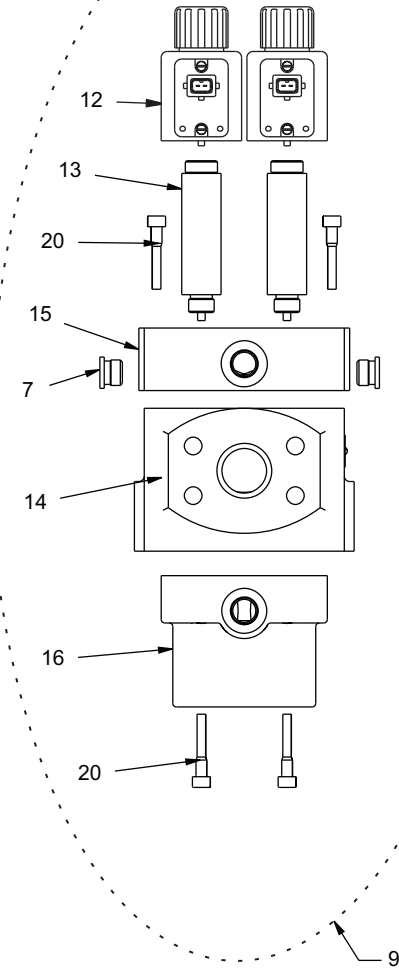
Low Pressure Control



Ground Drive Cooling Shuttle



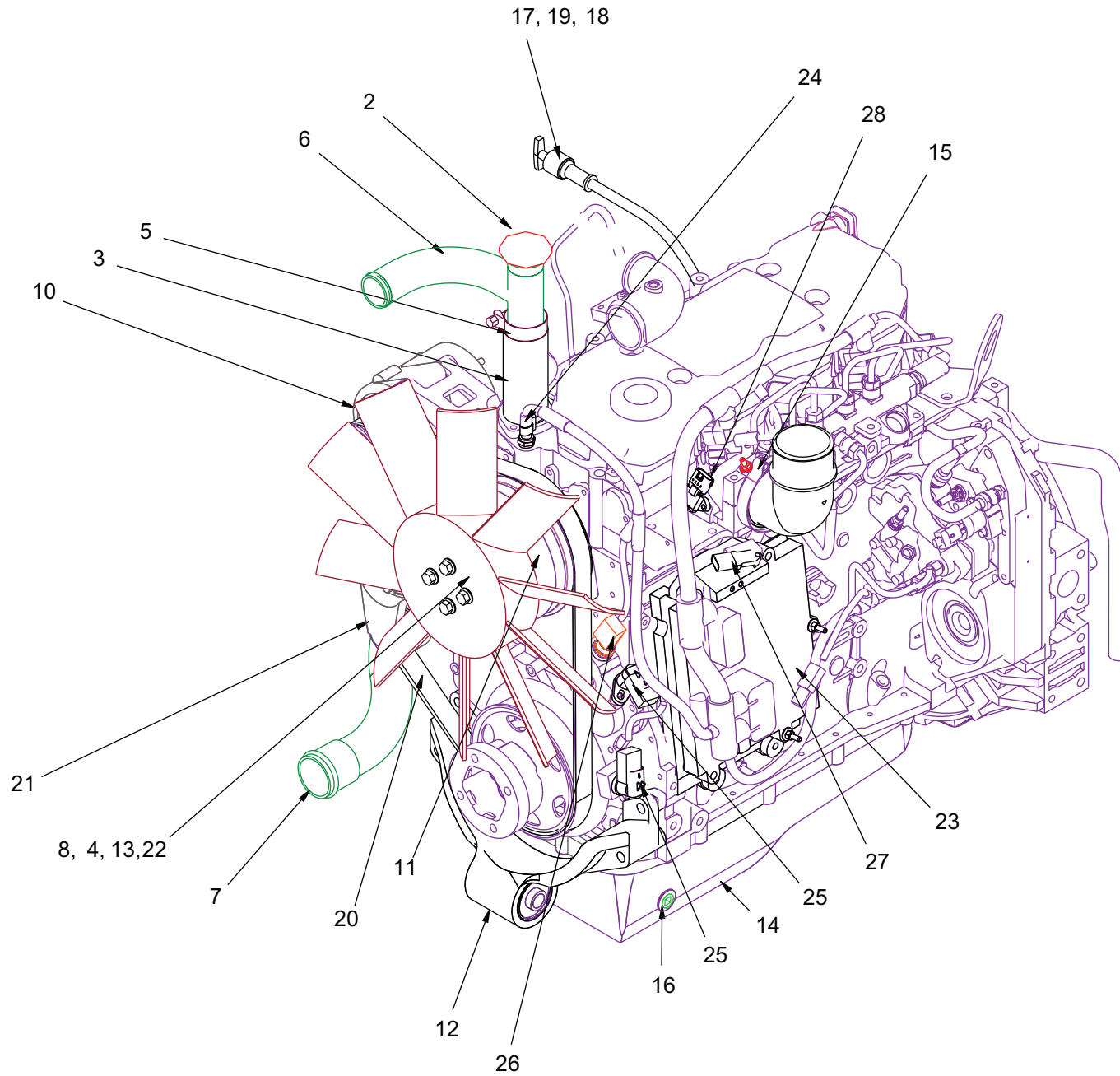
Ground Drive Anti-Spin Control (ASC)



REAR MANIFOLDS PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	3	Valve Solenoid 2-Way Normal Close Size 8	202-144080
2	1	Valve Pressure Relief 200 PSI	202-144858
3	1	Valve Pressure Relief 390 PSI	202-144859
4	1	Shuttle Valve, Closed Transition, 145 PSI Spring	202-162359
5	1	Manifold Low Pressure Control ASSY (Includes #1, 2, 3, 6, 17, 21, 22)	206-144713
6	1	Manifold Low Pressure Control	206-144748
7	4	SAE-6Plug	206-163132
8	1	Manifold, Cooling Shuttle, MSV (Includes #4, 7, 10, 11)	206-163435
9	1	Manifold Valve, Anti Spin Control (Includes #7, 12, 13, 14,	206-163436
10	1	Relief Valve, Direct Acting Poppet Type	206-176391
11	1	Manifold Body (Ductile Iron)	206-176392
12	2	Solenoid, Valve	206-176393
13	2	Cartridge, ASC Valve	206-176394
14	1	Manifold Body, ASC Valve	206-176396
15	1	Manifold Body, ASC Valve	206-176397
16	1	Cover, ASC Valve	206-176398
17	1	Male ORB Plug 3/4 ORB	211-16161
20	8	Screw-SHC M6 X 35 DIN912 10.9	370-176399
21	3	Nut, Retaining, E-Coil #10	371-133635
22	3	Coil E-Coil	702-133633

ENGINE CALLOUTS

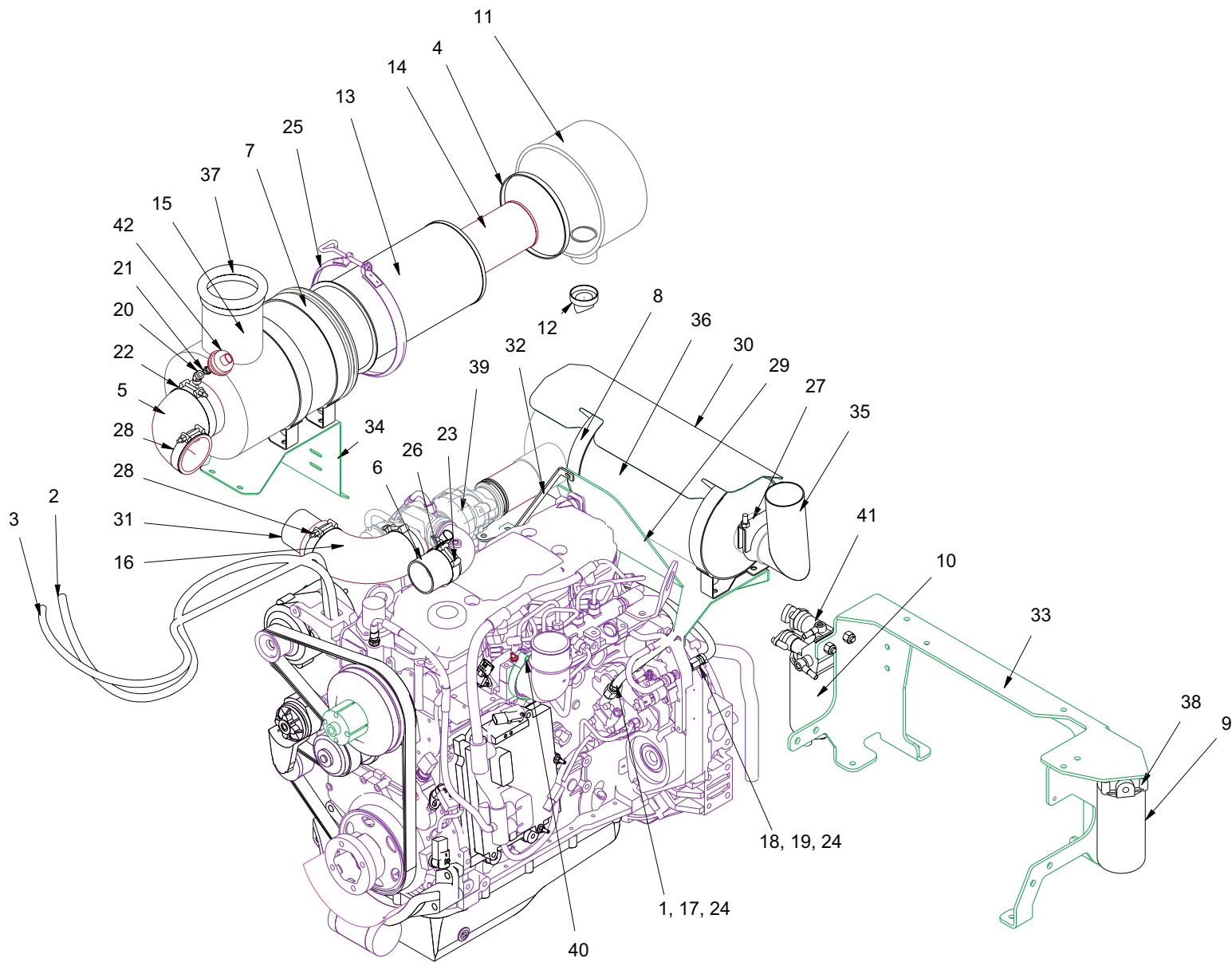


ENGINE PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Filter, Replacement, Engine Oil, not shown	209-157677
2	1	Radiator Cap 14/15 LBS	220-79192
3	1	Hose, Connector 1.75 ID X 3 LG	267-144819
4	4	M10 X 1.5 75MM Long, Hex Flange Bolt	370-152148
5	2	Clamp, T-Bolt Banjo 1.81 - 2.06	387-142064
6	1	Outlet Assembly, W.U. MSV Cooling System	410-144765
7	1	Assembly, 90o Plate Water Inlet	410-157907
8	1	Fan, Sucker 20" MSV Tier II Engine	500-144702
9	1	Starter, High Torque,MSV, not shown	500-163846
10	1	Alternator, MSV	500-163298
11	1	Pump, Water	500-163370
12	1	Support,Front Engine	500-163371
13	1	Pulley, Fan, MSV	500-163372
14	1	Pan, Oil MSV	500-163374
15	1	Aid,Air Heater Starting	500-163380
16	2	Plug, Oil Pan, MSV	500-163383
17	1	Dipstick	500-163899
18	1	Tube,Oil Gauge	500-163901
19	1	Tube,Oil Gauge, Flexible	500-163902
20	1	Serpentine Belt, MSV 0.97:1	504-152946
21	1	Tensioner,Belt	505-163369
22	1	Pulley,Accessory Drive	505-163375
23	1	Engine Control Module	513-163367
24	1	Sensor, Temp	702-163368
25	2	Sensor, Position	702-163668
26	1	Switch, Pressure,MSV	702-163669
27	1	Sensor, Pressure	702-163670
28	1	Sensor, PRS Temp	702-163684

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FUEL, AIR INTAKE AND EXHAUST SIDE 2 CALLOUTS



FUEL, AIR INTAKE AND EXHAUST SIDE 2 PARTS LIST

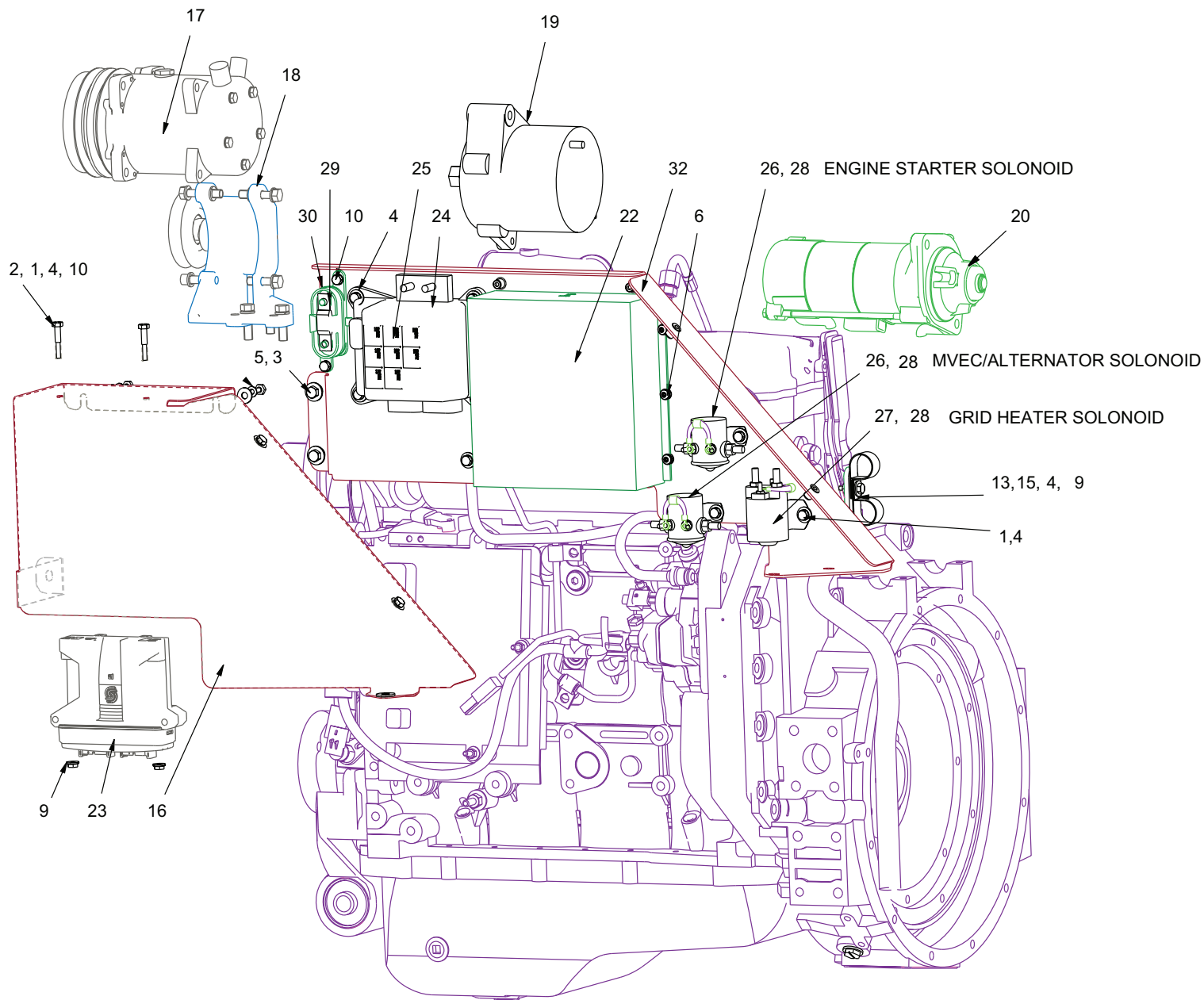


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Line,Fuel, 3/8", 39" MSV	204-162000
2	1	Line, Fuel, 3/8", 94" MSV, Fuel Tank To Water Separator	204-162001
3	1	Line, Fuel, 5/16", 102" MSV, Return Line	204-162002
4	1	Donaldson Baffle	206-163239
5	1	Elbow, 3.00 X 4.00 ID, 90 Deg. Reducing	209-133197
6	1	Hose,2-1/2 ID X 3 LG MSV Tier III Engine	209-144654
7	2	Clamp, Strap 9" DIA	209-144916
8	2	Clamp, Strap 8.5" DIA	209-144917
9	1	Filter Replacement, Primary Fuel	209-157678
10	2	Filter Replacement, Fuel Pre-Filter	209-157679
11	1	Access Cover P600657	209-163237
12	1	Vacuator Valve, Donaldson P158914	209-163238
13	1	Filter, Primary P601280	209-163242
14	1	Filter, Safety P601286	209-163243
15	1	Air Cleaner Housing	209-163244
16	1	Elbow, 90, Rubber 3"	209-92040
17	1	Adapter, 12MM To 1/4 Female NP	211-152564
18	1	Adapter, 12MM To 3/8 Female NP	211-152565
19	1	3/8 NPT X 3/8 Barb STR	211-152567
20	1	Union, Female 1/8 NPT 45 Deg .	211-152681
21	1	Fitting, 1/8 NPT X 3/8-24 THD .	211-152682
22	1	Clamp, T-Bolt Standard 4.53-4.81 ID	387-131759
23	1	Clamp, T-Bolt Standard 2.56 - 2.93	387-138509
24	3	Clamp, Oetiker 3/8	387-152561
25	1	Body Clamp P102025	387-163240
26	1	Cable Clamp 3/4 ID	387-82311
27	1	Clamp, Muffler 3 IN .375 X 3	387-89258
28	3	Clamp, T-Bolt Standard 3.281-3.50 ID	387-92048
29	1	Bracket, Muffler Support, MSV, 10 GA.	401-144770
30	1	Panel, Muffler Heat Shield	401-144982
31	1	Tube, Intake Connector, MSV, 3" Dia.	401-152027
32	1	Stiffener, Exhaust, MSV	401-157191
33	1	Bracket, Support Rear Frame, MSV	401-162369
34	1	Plate, Bracket Air Cleaner Mount, MSV	401-163893
35	1	Tube, Exhaust Outlet Elbow-W.U.	410-144986
36	1	Muffler - W.U. MSV	410-152036

37	1	Trim, Air Cleaner, MSV	427-163418
38	1	Head, Primary Fuel Filter	500-163377
39	1	Turbocharger	500-163379
40	1	AID, Air Heater, Starting	500-163380
41	2	Primer, Pre-Filter Head	500-163667
42	1	Switch, Air Filter MSV	702-152684

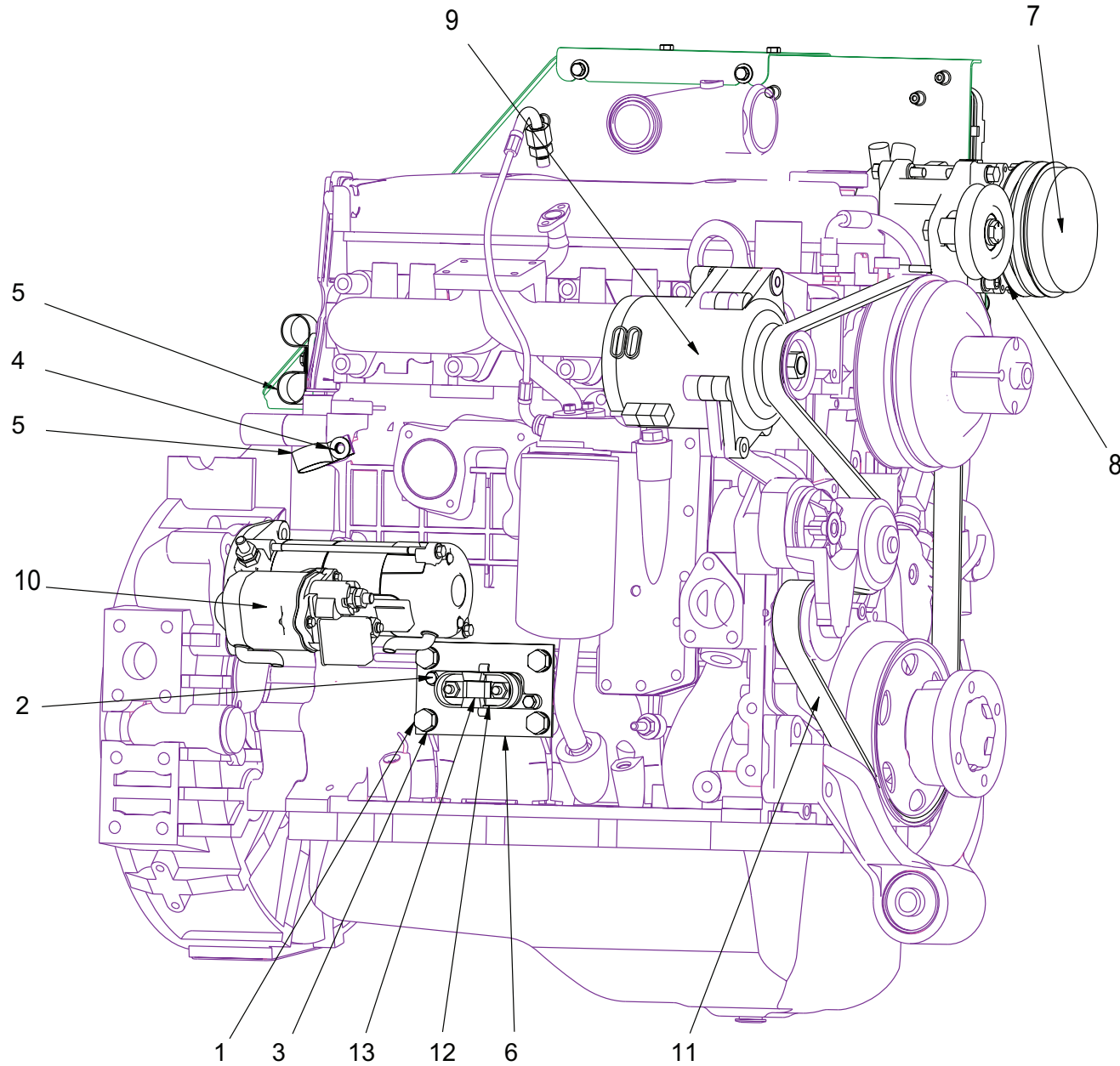
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ENGINE ELECTRICAL SIDE ONE CALLOUTS



ENGINE ELECTRICAL SIDE ONE PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	13	HHCS .25-20 UNC X 0.750	311-10750
2	2	HHCS .25-20 UNC X 1.500	311-11500
3	2	HHCS .31-18 UNC X 1.000	311-21000
4	16	Washer, Flat -1/4 STD Zinc PL	341-10000
5	3	Washer, Flat -5/16 STD Zinc PL	341-20000
6	6	Screw,Cap, Button Head, Socket,1/4-20 X 3/4", Plated	370-163895
9	3	Nut, Flanged 1/4-20 Plated Locking	371-92058
10	23	Washer, Star .50 O.D. X .25 I.D. X .027 THK	372-101385
13	3	Cable Clamp 1-1/8 ID	387-92004
15	1	Bracket, MTG Fuel Line	401-152942
16	1	Plate, Electrical Cover MSV	401-163759
17	1	Compressor, A/C Sanden 7H15 R134A	428-131955
18	1	Bracket, A/C Pump MTG,KIT, MSV	428-157731
19	1	Alternator	500-163298
20	1	Starter	500-163846
22	1	Controller, Slave MSV, Rear	702-152070
23	1	Controller,Ground Drive	702-163439
24	1	MVEC, Rear MSV	704-152071
25	8	Relay, MVEC, MSV	704-162353
26	2	Relay, 80 AMP SPST	704-49093
27	1	Relay, 100 AMP SPST	704-86320
28	3	Diode Assembly, Surge Protection, MSV	705-163140
29	1	Fuse, 125 AMP	707-133736
30	2	Holder, Fuse	707-133737
32	1	Panel Assembly, Electrical, MSV	717-163757





ENGINE ELECTRICAL SIDE TWO PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	4	MHHCS M12 X 1.75 X 25 mm	370-92026
2	2	Nut, Hex, ESNA, L.N ZC 1/4-28 NF G5	371-157724
3	4	Washer, Lock M12 STD Zinc PL	372-133187
4	1	Washer, Lock M10 STD Zinc PL	372-133519
5	3	Cable Clamp 1-1/8 ID	387-92004
6	1	Bracket,Fuse Block MTG MSV Engine 12 GA	401-152116
7	1	Compressor, A/C Sanden 7H15 R134A	428-131955
8	1	Bracket, A/C Pump MTG,KIT, MSV	428-157731
9	1	Alternator	500-163298
10	1	Starter	500-163846
11	1	Serpentine Belt	504-152946
12	2	Holder, Fuse	707-133737
13	1	Fuse, 100 AMP	707-152569

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HARNESS AND CABLE IDENTIFICATION



		DESCRIPTION	PART NUMBER
Cables			
		Battery to Starter Stud Pos.	703-152571
		MSV Battery Ground to Starter Stud Neg.	703-152572
		MSV Starter Ground Stud to Alternator Neg.	703-152573
		MSV Alternator Fuse Block to Alternator Pos.	703-152574
		MSV Alternator to Fuse Block to Starter Stud	703-152575
		MSV Grid Heater to Grid Heater Fuse	703-152576
		MSV Grid Heater Fuse to Grid Heater Solenoid Pos.	703-152577
		MSV Rear MVEC to MVEC Solenoid	703-152577
		MSV Grid Heater Solenoid to Alternator Fuse Pos.	703-152578
		MSV Rear MVEC Solenoid to Alternator Fuse Block Pos.	703-152581
		MSV Top Front MVEC to MVEC Solenoid Pos.	703-152582
		MSV Bottom Front MVEC to MVEC Solenoid Pos.	703-152583
		MSV Front MVEC Solenoid to Battery Pos.	703-152584
		MSV Battery Neg. to Cab Ground	703-152585
		MSV Starter Solenoid to MVEC relay	703-152586
		MSV Cable Remote, Battery Jump Ground	703-157684
		MSV Cable Remote, Battery Jump Positive	703-157685
Harnesses			
		Harness, front, MSV	721-162519
		Harness, rear, MSV	721-162425
		Harness, ground drive, MSV	721-163478
		Harness, Beacon	721-163738
		Harness, Headlight	721-152900
		Harness, front wiper	721-152901
		Harness, aux 4&5 (if equipped)	721-152902
Data transfer harnesses			
		Ground drive computer interface	721-163616
		Harness, data transfer, MSV display	721-163621
		Harness, MSV module, data transfer	721-162341



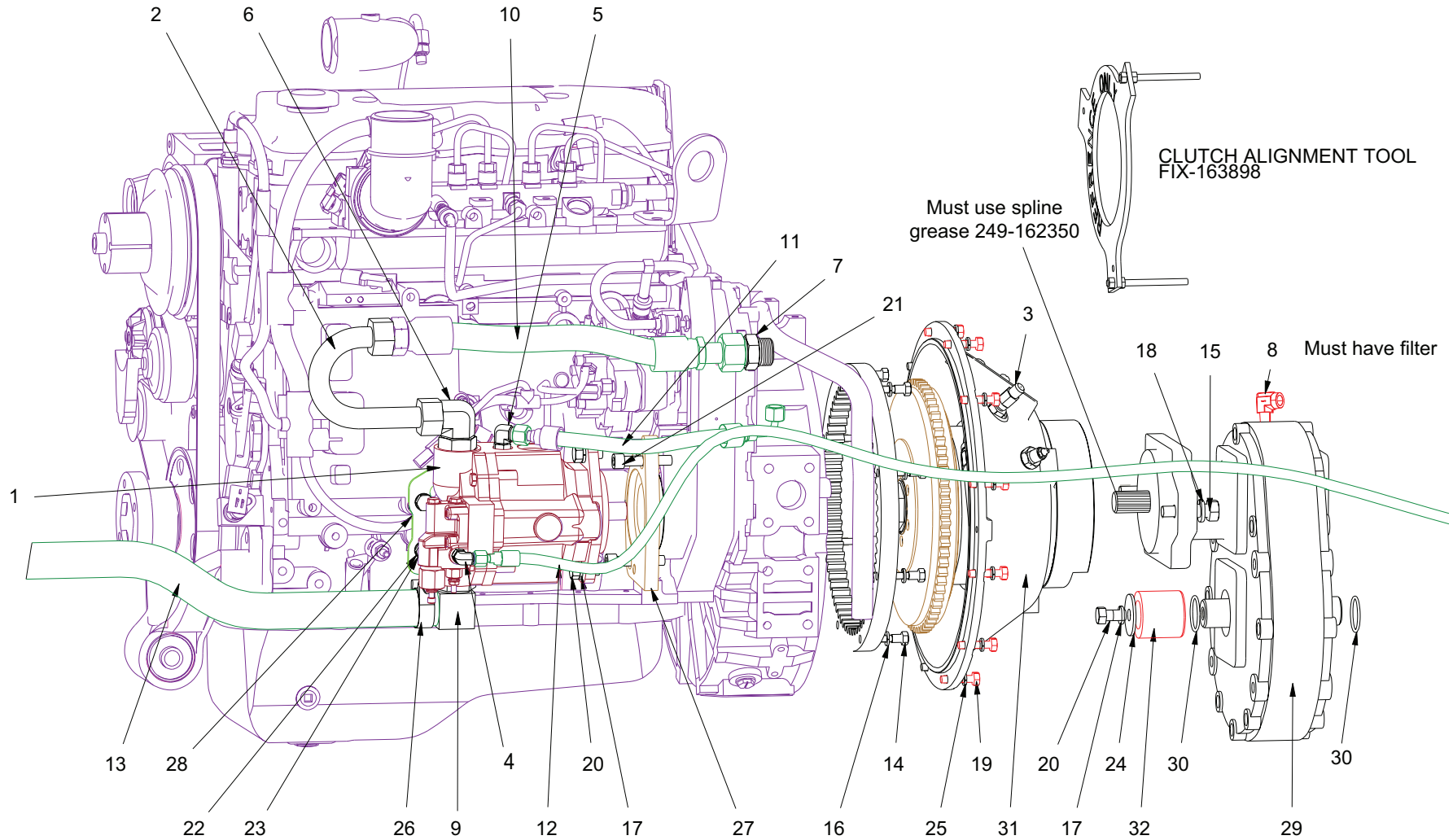
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M-B Multi-Service Vehicle

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Chassis

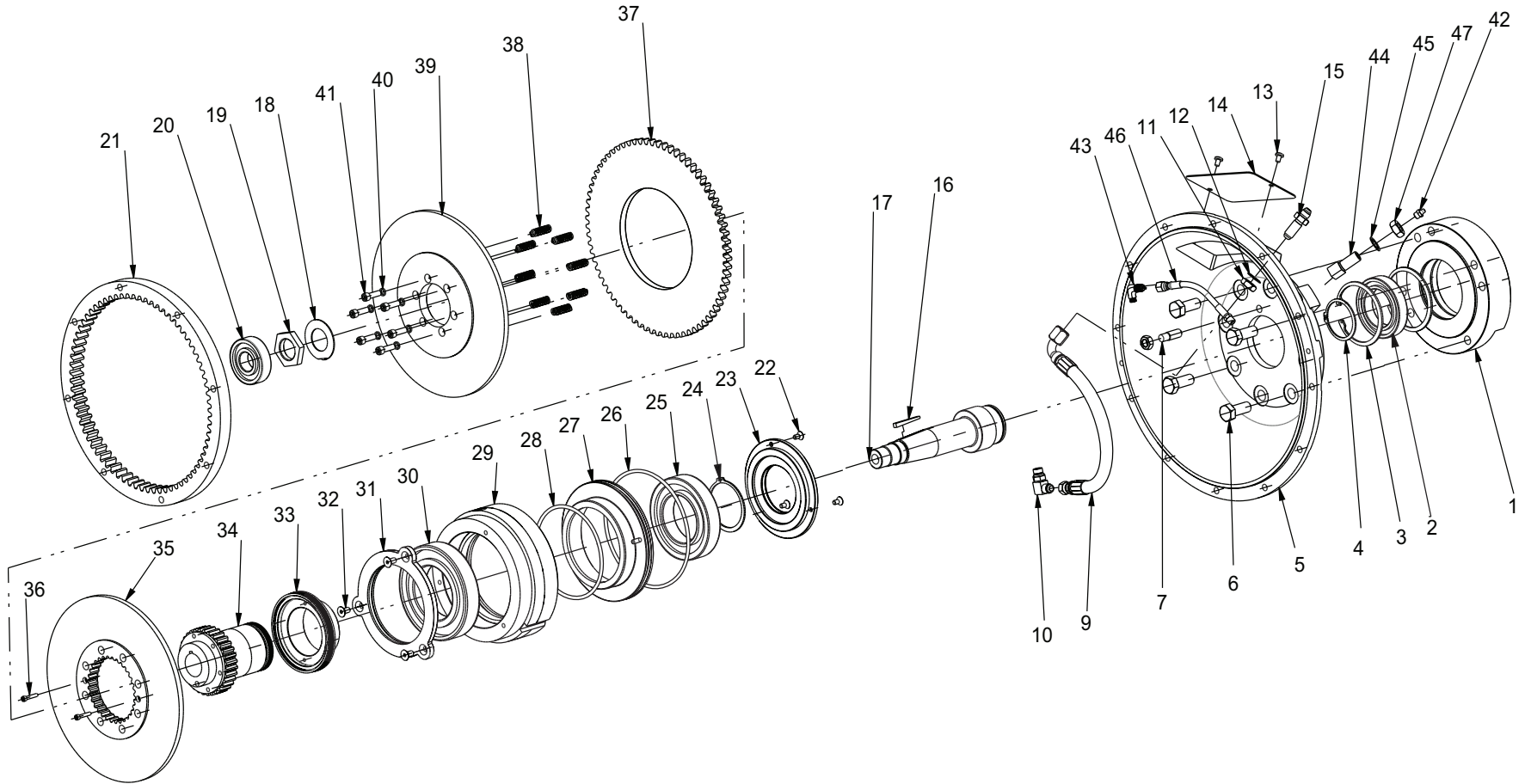




PTO PARTS LIST

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Pump, LS 2.77 CU IN/REV, 3000 PSI	200-152670
2	1	Tube ASSY, Aux Pump	205-152332
3	1	Orifice, 9/16 JIC .031"	211-132371
4	1	Elbow, 90 7/16 ORB X 9/16 MFS	211-144798
5	1	Elbow, 90 9/16 ORB X 11/16 MFS	211-144800
6	1	Elbow 90o 1-7/16-12 MFS X 1-5/16-12 MORB	211-144806
7	1	Adapter STR 1-7/16 MFS X 1-5/16-12 MORB	211-144813
8	1	Elbow 90 Street M X FM 1/4 NPT, not shown	211-157690
9	1	Bead Elbow 90, ORB 1.25 Hose X 1.63 ORB	211-68463
10	1	Hose ASSY, 1" ID X 16.75 OAL, 1-7/16 ORFS SWFM X 1-7/16 ORFS SWFM	213-144842
11	1	Hose ASSY, 3/8" ID X 13.5 OAL, 11/16 ORFS X 11/16 ORFS SWFM 90	213-144846
12	1	Hose ASSY, 1/4" ID X 106 OAL, 9/16-18 ORFS SWFM X 9/16-18 ORFS SWFM	213-144886
13	1	Hose, 28.5" IN HG Suction 1-1/4, MSV, Hydraulic Tank	267-157732
14	8	HHCS 3/8-16 UNC X 1.500	311-31500
15	2	HHCS .625-11 UNC X 2.250	311-72250
16	8	Washer, Lock -3/8 YLW Zinc PL	351-30000
17	3	Washer, Lock -1/2 YLW Zinc PL	351-50000
18	2	Washer, Lock -5/8 YLW Zinc PL	351-70000
19	12	MHHCS M10 X 1.5 X 40	370-133201
20	3	HHCS .50-20 UNF X 1.000	370-133224
21	2	M12-1.75 X 60 MM	370-152047
22	2	MHHCS M12 X 1.75 X 25 mm	370-92026
23	2	Washer, Lock M12 STD Zinc PL	372-133187
24	1	Washer, 9/16 .125 X 2.00	372-133567
25	12	Washer, Lock -10 mm STD Zinc Plated	372-92027
26	1	Clamp, T-Bolt Banjo 1.62 - 1.87	387-142063
27	1	Eaton Pump Adapter	401-144761
28	1	Pump Support Bracket MSV, 3/16" Sheet	401-157743
29	1	Gearbox, PTO 4.095:0	501-144611
30	2	O-Ring, 1-3/4OD X1-1/2 ID 70 DURO BUNA	501-152030
31	1	PTO Clutch, HYD OP. SAE #3 Housing, Dry	501-163794
32	1	Sleeve, RR Output SFT CVR,2-1/2CR RD1144	502-144961

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CLUTCH PARTS LIST



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Flange SAE 'C'	501-163795
2	1	Ball Bearing - Sealed	600-163796
3	2	Retaining Ring	381-163797
4	1	Retaining Ring	381-163798
5	1	Bell Housing	501-163799
6	4	5/8-11 UNC X 1.50 LG. Hex Bolt	311-163800
7	1	Anti-Rotation Pin	383-163801
8	1	1/2-20 UNF Jam Nut, not shown	363-163802
9	1	Hydraulic Hose Assembly	213-163803
10	1	SAE Elbow	211-163804
11	1	9/16-18 UNF Jam Nut	363-163805
12	1	Internal Tooth Lockwasher	353-163806
13	2	1/4-20 x .375 LG. Pan Head Screw	370-163807
14	1	Nameplate	390-163808
15	1	Bulkhead Fitting - Straight	211-163809
16	1	Tapered Key	386-163810
17	1	Shaft	517-163811
18	1	Lock Washer	353-163812
19	1	Locknut	360-163813
20	1	Ball Bearing	600-163814
21	1	Drive Ring	501-163815
22	3	1/4-20 UNC x .50 LG. F.H.S.C.S.	370-163816
23	1	Spacer	711-163817
24	1	Retaining Ring	381-163818
25	1	Angular Contact Bearing (7215)	600-163819
26	1	O-Ring	605-163820
27	1	Cylinder	501-163821
28	1	O-Ring	605-163822
29	1	Piston	501-163823
30	1	Angular Contact Bearing (7217)	600-163824
31	1	Spacer	711-163825
32	3	5/16-18 UNC x .625 LG. F.H.S.C.S.	370-163826
33	1	Bearing Hub	501-163827
34	1	Hub	501-163828
35	1	Pressure Plate	501-163829
36	2	10-24 UNC x 1.00 LG. S.H.C.S.	370-163830

37	1	Friction Disc	501-163831
38	8	Compression Spring	382-163832
39	1	Backplate	501-163833
40	6	High Collar Lockwasher	351-163834
41	6	5/16-18 UNC x 1.00 LG. S.H.C.S.	370-163835
42	1	Grease Fitting	206-163836
43	1	Elbow 1/8NPTx1/4 37 Deg.Flare	211-163837
44	1	Bulkhead Fitting	211-163838
45	1	Internal Tooth Lockwasher	353-163839
46	1	1/8NPT MALE x 1/4 Flare Female Hose	213-163840
47	1	5/8-18 UNF Jam Nut	363-163841

HYDRAULIC HOSES

PART NUMBER	ZIP TIE COLOR	M-B DESCRIPTION	FUNCTION OR ROUTING
213-162172K		KIT, HOSE, HYDRAULIC, CAB INTERIOR INSTALL, MSV	
213-144130		HOSE ASSY 0.25" ID 11.00 OAL 9/16-18 ORFS SWFM x 9/16-18 ORFS SWFM	STEERING ORBITAL LOAD SENSE PORT "LG" ON ORBITAL TO TOP OF AUX MANIFOLD PORT "NG"
213-152335		HOSE ASSY 0.50" ID 23.00 OAL 13/16 ORFS SWFM 90* x 13/16 ORFS SWFM	STEERING ORBITAL PRESSURE, PORT "P" ON ORBITAL TO TOP OF AUX MANIFOLD PROT "NO"
213-152336		HOSE ASSY 0.25" ID 13.50 OAL 9/16-18 ORFS SWFM x 9/16-18 ORFS SWFM 90*	STEERING ORBITAL RETURN, PORT "T" ON ORBITAL TO TOP OF AUX MANIFOLD PORT "R"
213-152333		HOSE ASSY 1.00" ID 87.00 OAL 1-3/16-16 ORFS MALE X 1-3/16-16 ORFS SWFM 45*	AUXILIARY MANIFOLD RETURN LINE, PORT "R" ON BOTTOM OF AUX MANIFOLD TO TANK/COOLER RETURN LINE
213-162414K		KIT, HOSE, HYDRAULIC, ENGINE COMPARTMENT INST	
213-144842	PURPLE	HOSE ASSY, 1 X 16.75, 1-7/16 ORFS SWM, 1-7/16 ORFS SWFM, PURPLE	AUX PUMP PRESSURE, TOP OF AUX PUMP TO PORT "P" ON LOW PRESSURE CONTROL MANIFOLD
213-144846	RED	HOSE ASSY, 3/8 X 13.5, 11/16 ORFS, 11/16 ORFS SWFM90, 80PSI, RED	AUX PUMP CASE DRAIN TO PORT "R" ON LOW PRESSURE CONTROL MANIFOLD
213-144847	PURPLE	HOSE ASSY, 3/4 X 82, 1-3/16 ORFS SWFM45, 1-3/16 ORFS SWFM90 @ 0 DEG, PURPLE	AUX VALVE POWER, LOW PRESSURE CONTROL MANIFOLD PORT
213-144886	GREY	HOSE ASSY 0.25"ID 106.00 OAL 9/16-18 ORFS SWFM x 9/16-18 ORFS SWFM	LOAD SENSE, AUX VALVE PORT "GA" TO AUX PUMP
213-144893	PINK	HOSE, ASSY, 1/4 ID X 26, 9/16-18ORFS, SWFM, 12MM BANJO, PINK	STEERING CYLINDER, RIGHT REAR TO LEFT STEERING JUNCTION
213-144894		HOSE, ASSY, 1/4 ID X 36, 9/16-18ORFS SWFM, 12MM BANJO	STEERING CYLINDER, RIGHT FRONT TO RIGHT STEERING JUNCITON
213-144895		HOSE, ASSY, 1/4 ID X 52, 9/16-18ORFS SWFM, 12MM BANJO	STEERING CYLINDER, LEFT REAR TO RIGHT STEERING JUNCITON
213-144896	PINK	HOSE, ASSY, 1/4 ID X 62, 9/16-18ORFS, SWFM, 12MM BANJO, PINK	STEERING CYLINDER, LEFT FRONT TO LEFT STEERING JUNCTION
213-144897	NONE	HOSE, ASSY, 1/4 ID X 94, 9/16-18ORFS SWFM 90, 9/16-18 ORFS SWFM	TEE ON STEERING CYLINDER HOSES, TO PORT "R" ON STEERING ORBITAL
213-144898	PINK	HOSE, ASSY, 1/4 ID X 94, 9/16-18ORFS SWFM 90, 9/16-18 ORFS SWFM, PINK	TEE ON STEERING CYLINDER HOSES, TO PORT "L" ON STEERING ORBITAL
213-157882	RED	HOSE ASSY, 1/2 X 54" OAL , 11/16 ORFS SWFM, 13/16 ORFS SWFM90, 80PSI RED	WHEEL MOTOR CASE DRAIN TO HYDRAULIC TANK PORT "CD"

HYDRAULIC HOSES

213-162411K		KIT, HOSE, HYDRAULIC, FRONT INSTALL, MSV	
213-162385	YELLOW	HOSE ASSY, 5/8 X 87, 1" ORFS MALE, 1" ORFS SWFM , 6000 PSI NEON YELLOW ZIP TIE	BOTTOM OF RIGHT FRONT WHEEL MOTOR
213-162386	GREEN	HOSE ASSY, 5/8 X 76, 1" ORFS MALE, 1" ORFS SWFM 90, 6000 PSI GREEN ZIP TIE	TOP OF LEFT FRONT WHEEL MOTOR
213-162387	ORANGE	HOSE ASSY, 5/8 X 78, 1" ORFS MALE, 1" ORFS SWFM 90 6000 PSI ORANGE ZIP TIE	BOTTOM OF LEFT FRONT WHEEL MOTOR
213-162388	WHITE	HOSE ASSY, 5/8 X 85, 1" ORFS MALE, 1" ORFS SWFM , 6000 PSI WHITE ZIP TIE	TOP OF RIGHT FRONT WHEEL MOTOR
213-144852	BROWN	HOSE ASSY, 1/4 X 14, 9/16 ORFS SWFM, 9/16 ORFS SWFM90, 200 PSI BROWN	RIGHT FRONT WHEEL MOTOR BRAKE RELEASE TO TEE FITTING TO STEEL LINE/ASC VALVE
213-144853	BROWN	HOSE ASSY, 1/4 X 10, 9/16 ORFS SWFM, 9/16 ORFS SWFM90, 200 PSI BROWN	LEFT FRONT WHEEL MOTOR BRAKE RELEASE TO TEE FITTING
213-144868	GRAY	HOSE ASSY, 1/4 X 7, 9/16 ORFS SWFM, 9/16 ORFS SWFM90, 200 PSI GRAY	LEFT FRONT WHEEL MOTOR SPEED SHIFT TO TEE FITTING
213-144869	GRAY	HOSE ASSY, 1/4 X 15, 9/16 ORFS SWFM, 9/16 ORFS SWFM90, 200 PSI GRAY	RIGHT FRONT WHEEL MOTOR SPEED SHIFT TO TEE FITTING
213-162389	RED	HOSE ASSY, 3/8 X 104, 11/16 ORFS SWFM, 16 MM BANJO, 200 PS, RED	LEFT FRONT WHEEL MOTOR CASE DRAIN TO CASE DRAIN MANIFOLD
213-162390	RED	HOSE ASSY, 3/8 X 114, 11/16 ORFS SWFM, 16 MM BANJO, 200 PSI, RED	RIGHT FRONT WHEEL MOTOR CASE DRAIN TO CASE DRAIN MANIFOLD
213-144885	BROWN	HOSEHOSE, ASSY, 1/4 ID X 41, 9/16-18ORFS, SWFM,9/16-18ORFS, SWFM90, BROWN	HITCH ACCUMULATOR PORT TS ON AUX MANIFOLD
213-144889	NEON-YEL	HOSE ASSY, 1/4 X 37, 9/16 ORFS SWFM, 12MM BANJO, NEON YELLOW	LIFT CYLINDER LEFT FRONT TO "NY" PORT ON AUX MANIFOLD
213-144890	BLACK	HOSE ASSY, 1/4 X 28, 9/16 ORFS SWFM, 12MM BANJO, BLACK	LIFT CYLINDER RIGHT REAR "BL" PORT ON AUX MANIFOLD
213-144891	BLUE	HOSE ASSY, 1/4 X 28, 9/16 ORFS SWFM, 12MM BANJO, BLUE	LIFT CYLINDER LEFT REAR "BU" PORT ON AUX MANIFOLD
213-144892	YELLOW	HOSE ASSY, 1/4 X 37, 9/16 ORFS SWFM, 12MM BANJO, YELLOW	LIFT CYLINDER RIGHT FRONT "Y" PORT ON AUX MANIFOLD
213-162175K		KIT, HOSE, HYDRAULIC, REAR FRAME, MSV	
213-144854	BROWN	HOSE ASSY, 1/4 X 68, 9/16 ORFS SWFM, 9/16 ORFS SWFM90, 200 PSI BROWN	LOW PRESSURE CONTROL MANIFOLD PORT "BR" TO TEE FOR FRONT BRAKE RELEASE
213-144855,	GRAY	HOSE ASSY, 1/4 X 70, 9/16 ORFS SWFM, 9/16 ORFS SWFM90, 200 PSI GRAY	LOW PRESSURE CONTROL MANIFOLD PORT "GA"TO TEE FOR SPEED SHIFT
213-144875	YELLOW	HOSE ASSY, 1/4 X 16, 9/16 ORFS SWFM90 X 9/16 JIC SWFM, 200 PSI YELLOW	LOW PRESSURE CONTROL MANIFOLD PORT "Y" TO PTO ENGAGEMENT
213-152334		HOSE ASSY 0.50" ID 87.00 OAL 13/16 ORFS SWFM 45* x 13/16 ORFS SWFM 45*	RETURN LINE FROM AUX MANIFOLD PORT "R" TO LOW PRESSURE CONTROL MANIFOLD PORT "R"

HYDRAULIC HOSES

PART NUMBER	ZIP TIE COLOR	M-B DESCRIPTION	FUNCTION OR ROUTING
213-162425K		KIT, HOSE, HYDRAULIC, REAR FRAME GROUP, MSV	
213-163451		HOSE ASSY, 3/8 X 17, 11/16 ORFS SWFM, 16 MM BANJO	RIGHT WHEEL MOTOR CASE DRAIN TO CASE DRAIN MANIFOLD
213-163452		HOSE ASSY, 3/8 X 55, 11/16 ORFS SWFM, 16 MM BANJO	LEFT WHEEL MOTOR CASE DRAIN TO CASE DRAIN MANIFOLD
213-163479		HOSE, ASSEMBLY, 3/8 X 22.75OAL 13/16 ORFS 90S, 13/16 ORFS 90S	CHARGE PRESSURE, RIGHT ASC VALVE TO LEFT ASC VALVE TEE / CHARGE PUMP
213-162177K		KIT, HOSE, HYDRAULIC, TANK INSTALL, MSV	
213-133796		HOSE ASSY, #6 ID X 127, 6ACA-6FTON90, 6ACA-6MTON90 @ 330 DEG	DRYER TO EVAPORATOR
213-133797		HOSE ASSY, AC, #8 ID X 60, 8ACA-8FTON134SP90, 8ACA-8FTON90 @ 300 DEG	COMPRESSOR TO CONDENSER
213-133798		HOSE ASSY, AC, #12 ID X 225 12ACA-10MTON 90, 12ACA-10FTON134SP90 @ 330 DEG	COMPRESSOR TO EVAPORATOR
213-133799		HOSE ASSEMBLY, A/C, #6 ID X 165 6ACA-6FTON, 6ACA-6FTON90	CONDENSER TO DRYER
213-152646K		KIT, HOSE, BRAKES, MSV	
213-152647		HOSE, ASSEMBLY, HYD, MSV	MASTER CYLINDER TO RIGHT CALIPER
213-152648		HOSE, ASSEMBLY, HYD, MSV	MASTER CYLINDER TO LEFT CALIPER
213-157664		HOSE, DUAL CALIPER	CALIPER TO CALIPER, USED ON BOTH SIDES
213-162417K		KIT, REAR HYDRAULICS, MSV (OPTIONAL)	
213-163718	NEON-YEL	HOSE ASSY, 1/4 X 37 OAL, 9/16-18 JIC 90S X 9/16-18 ORFS	
213-163719	BROWN	HOSE ASSY, 1/4 X 39.5 OAL, 9/16-18 JIC 90S X 9/16-18 ORFS	
213-163720	YELLOW	HOSE ASSY, 1/4 X 38.5 OAL, 9/16-18 JIC 90M X 9/16-18 ORFS	
213-163721	BLUE	HOSE ASSY, 1/4 X 43.25 OAL, 9/16-18 JIC 90M X 9/16-18 ORFS	
213-163722	NEON-PINK	HOSE ASSY, 3/8 X 166 OAL, 11/16-16 ORFS, 11/16-16 SWFM45 NEON-PINK	
213-163723	GREEN	HOSE ASSY, 3/8 X 164OAL, 11/16-16 ORFS, 11/16-16 SWFM45 GREEN	
213-163724	RED	HOSE ASSY, 1/2 X 67 OAL, 13/16-16 ORFS SWFM, 13/16-16 ORFS SWFM 90, 1000 PSI RED	

O-RINGS

Hydraulic, Flate Face Seal O-Rings	
211-152106	O-Ring, 9/16-18 FS,DASH 4
211-152107	O-Ring, 11/16-16 FS,DASH 6
211-152108	O-Ring, 13/16-16 FS,DASH 8
211-152109	O-Ring, 1-14 FS,DASH 10
211-152110	O-Ring, 1-3/16-16 FS,DASH 12
211-152111	O-Ring, 1-7/16-12 FS,DASH 16
Hydraulic, O-Ring Boss, SAE	
211-152102	O-Ring, 7/16-20, SAE DASH 4
211-133254	O-Ring, 9/16-18, SAE DASH 6
211-133255	O-Ring, 3/4-16, SAE DASH 8
211-152103	O-Ring, 7/8-14,SAE DASH 10
211-152105	O-Ring, 1-5/8-12,SAE DASH 20
Hydraulic Flange O-Ring	
211-162430	O-Ring, 1 Inch Code 62, Split Flange
Gear Box O-Ring	
501-152030	(Gear Box)O-Ring, 1-3/4 OD X 1-1/2 ID
Air Conditioning	
211-152317	O-Ring, #6 AC 6ACOR
211-152318	O-Ring, #8 AC 8ACOR
211-152319	O-Ring, #10 AC 10ACOR
Banjo Seals	
211-144908	Seal, Bonded 12 mm, Banjo (Hitch Cylinders)
211-144793	Seal, Bonded, 16 mm, (Steering Cylinders)
311-157666	Washer, 10 mm Banjo (Brake Calipers)
211-152568	Washer, Bond Seal 12 mm (Fuel Filter Heads)

MANUFACTURER'S LIMITED WARRANTY

The M-B Companies, Inc. warrants all its M-B MSV products to be free from defects in materials and workmanship for 12 months, to begin with the delivery of said product to its original owner. This warranty is not transferable without the written consent of M-B.

M-B will, at its own expense and without expense to the owner, replace all failed parts for and make all repairs that may be required by reason of workmanship or material in any part of the assembly of the product and associated components.

Upon notice in writing, M-B will promptly repair or replace all defective or damaged items delivered under the contract. The batteries, tires, rubber materials, brushes and material normally consumed in operation, and major components such as engines, air compressors, and hydraulic pumps and motors are excluded from this warranty but shall, in any event, be guaranteed by M-B to the extent of any warranty received from its supplier.

Any components replaced under warranty will be warranted for the remainder of the original warranty. Replaced components do not restart the warranty period.

If requested by M-B, products or parts for which a warranty claim is made are to be returned, transportation prepaid, to M-B's factory. Any improper use, operation beyond capacity, or substitution of parts not approved by M-B, or alteration or repair by others in such a manner as in M-B's judgement materially and/or adversely affects the product shall void this warranty.

This warranty does not apply to defects caused by damage or unreasonable use while in the possession of the owner, including but not limited to: failure to provide reasonable and necessary maintenance, normal wear, routine tune-ups or adjustments, improper handling or accidents, operation at speed or load conditions contrary to published specifications, improper or insufficient lubrication, or improper storage.

The M-B Companies, Inc. shall not be liable for consequential damages of any kind, including, but not limited to, consequential labor costs or transportation charges in connection with the replacement or repair of defective parts, or lost time or expense which may have accrued because of said defect.

THE M-B COMPANIES DO NOT MAKE ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. THE ONLY WARRANTY MADE BY M-B COMPANIES IS AS SET FORTH HEREIN. THIS WARRANTY CANNOT BE EXTENDED, BROADENED OR CHANGED EXCEPT IN WRITING BY AN AUTHORIZED OFFICER OF M-B COMPANIES, INC.

(M-B's total liability hereunder in no event shall exceed the purchase price of the product.)

