

Use with: TM 10794B-24/2, TM 10794B-12/1 & TM 10794A/B-24P/3

SKY TRAK[®]

**Model MMV (Tier 2)
(S/N MV1210 & After)**



OM0652

Manual Supplement Package

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Revised 10/10

MODEL MMV – SUPPLEMENT #1

TM 10794B-24/2 – JLG Part Number #8990505

The following pages are included in this supplement manual and should be stored with the TM10794B-24/2 Service Manual shipped with your machine:

- **Page 1.7 Safety Practices** – Section 1.8 updated with slave decal and additional IUID tags.
- **Page 2.56 General Information, Specifications and Maintenance** – Section 2.13.17 Batteries updated to include battery disconnect switch configuration.
- **General Notice Page** – New page providing general service information that will be used in place of text/graphics in repeated locations throughout the service manual.

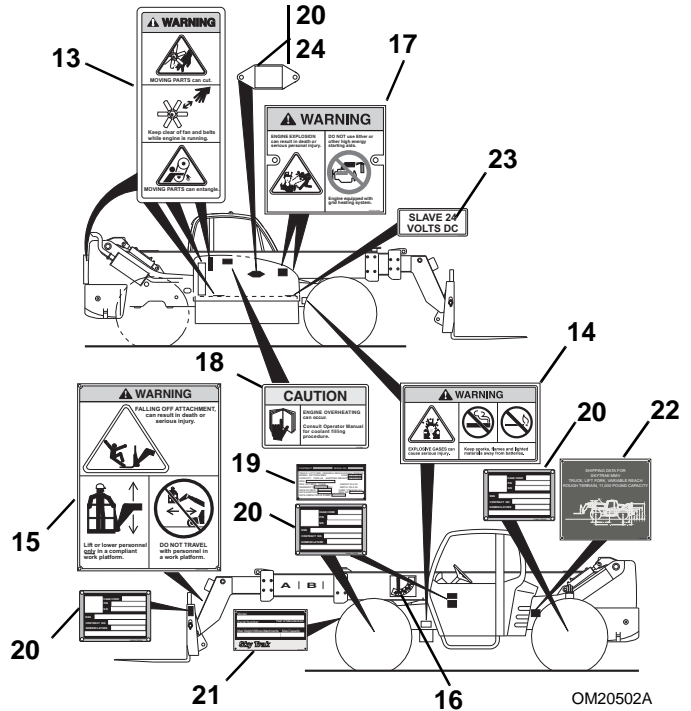
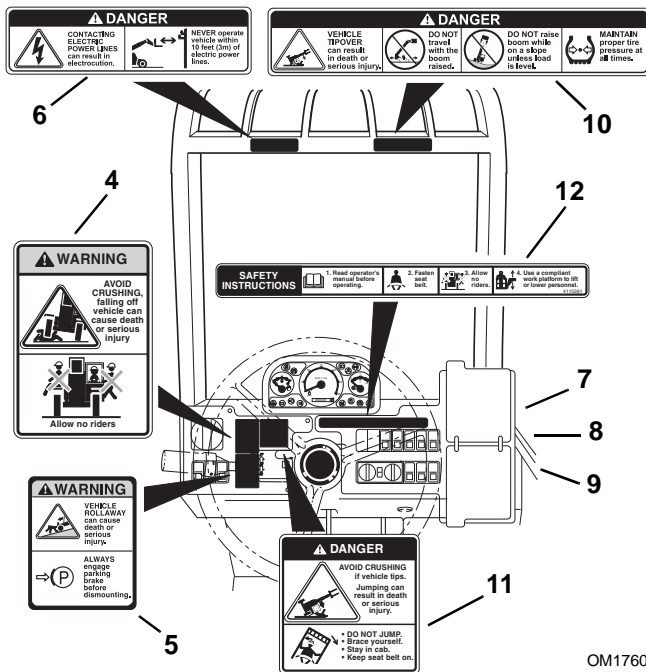


1.8 HAZARD/EMERGENCY INFORMATION SIGNS

Locations of vehicle hazard and other emergency information signs are shown below. As part of routine maintenance, check that ALL hazard and emergency information signs on the vehicle are present and readable. Keep all signs clean.

If a replacement sign is needed, refer to the Owners/Operators Manual and Parts Manual for the latest part numbers and ordering information. Or, contact JLG directly at:

Domestic: 1-717-485-5161
 or
International: 1-877-554-5438

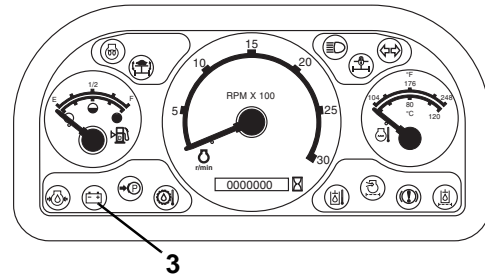
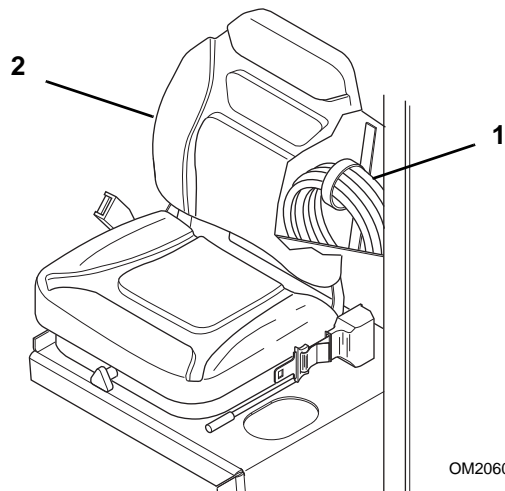


- | | |
|---|----------------------------------|
| 4. No Riders WARNING | 12. Safety Instructions |
| 5. Vehicle Rollaway WARNING | 13. Moving Parts WARNING |
| 6. Electrocution DANGER | 14. Explosive Gases WARNING |
| 7. Load Chart Booklet- 87 psi (600kPa) Full Tire Pressure | 15. Carrying Personnel WARNING |
| 8. Load Chart Booklet- 60 psi (414kPa) Full Tire Pressure | 16. Boom Angle Indicator |
| 9. Load Chart Booklet- 45 psi (310kPa) Full Tire Pressure | 17. Ether Start WARNING |
| 10. Tipover DANGER - Operating | 18. Coolant Filling Caution |
| 11. Do Not Jump DANGER | S/N MV1210 AND AFTER |
| | 19. Machine Identification Plate |
| | 20. Universal ID Plate |
| | 21. MMV Serial Number Plate |
| | 22. Shipping Data Plate |
| | 23. Slave Decal, 24V DC |
| | 24. Engine Identification Plate |

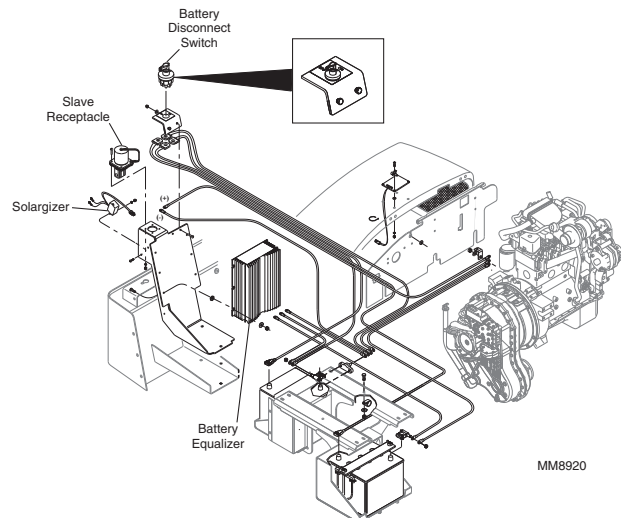


General Information, Specifications and Maintenance

13. Check the tire pressure using a good quality tire gauge.
14. Turn the engine OFF before disconnecting the tire inflation hose.
15. Remove the tire inflation hose from the quick disconnect and coil and remount the hose (1) on the rear wall of the cab, behind the seat (2).
16. Reassemble the dust cap back onto the quick disconnect.



Machines starting with Serial Number MV1210 and after include a battery disconnect switch located in the engine compartment next to the NATO Slave Receptacle. This switch eliminates the need to disconnect the batteries while performing service and prevents small current battery drainage from vehicle accessories during extended periods of non-use.



2.13.17 Batteries

a. Batteries Inspection, Testing and Service



WARNING: Lead-acid batteries produce flammable and potentially explosive gases. To avoid personal injury when checking, testing or charging the batteries:

- **DO NOT** use smoking materials near batteries.
- Keep arcs, sparks and open flames away from batteries.
- Provide adequate ventilation and wear safety glasses.

The batteries are of maintenance-free design. The batteries are filled with electrolyte and charged when shipped with the vehicle. A warning indicator light (3) on the operator's display panel illuminates when the alternator is no longer able to charge the batteries, or there is a problem in the charging system.

Move the battery disconnect switch to the "OFF" position to break the electrical circuit. Move the switch to the "ON" position to activate the electrical circuit.

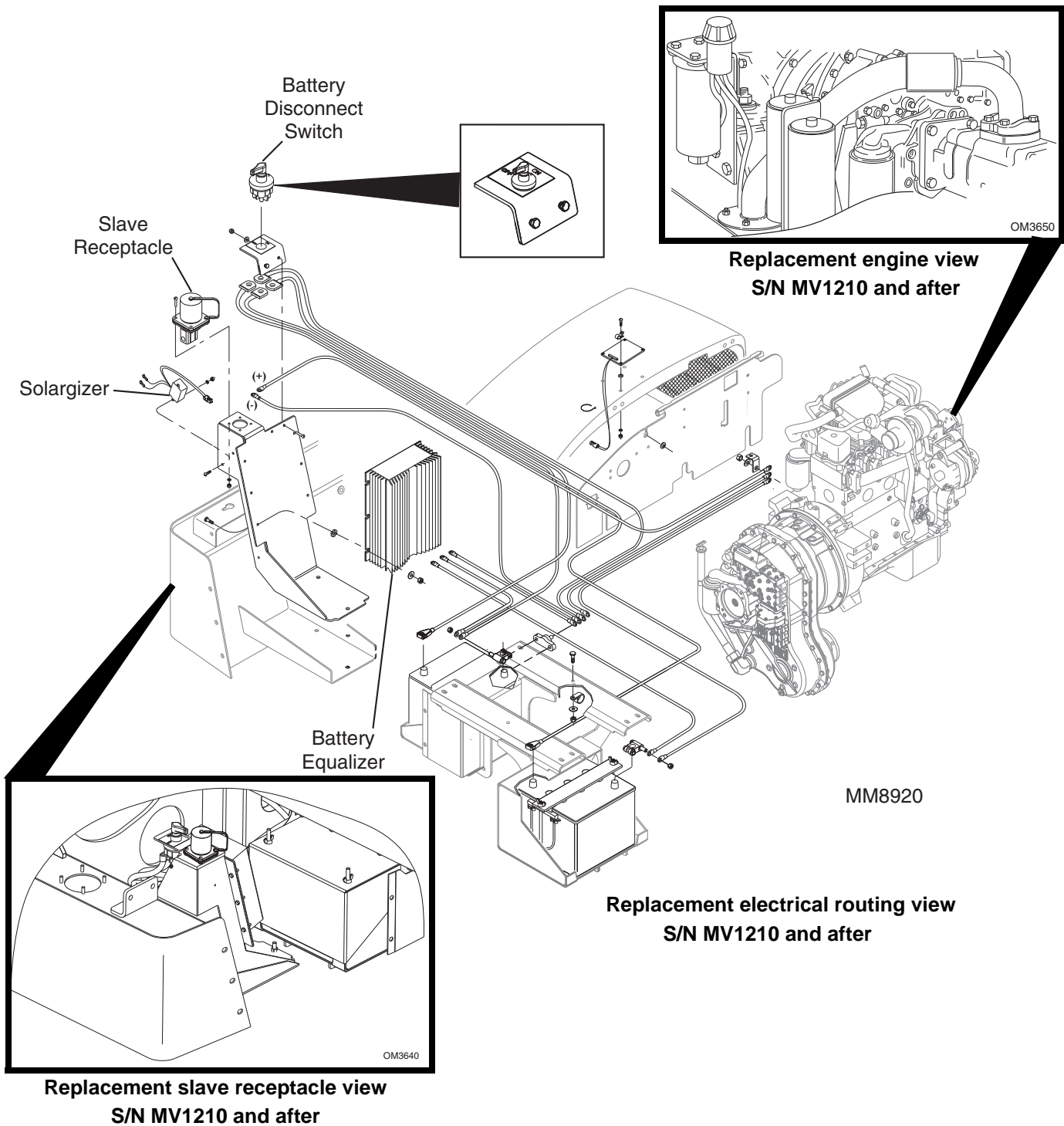
To service the batteries:

1. Level the vehicle, ground the carriage, place the travel select lever in the [N] NEUTRAL position, place the neutral lock lever in the [N] NEUTRAL LOCK position, engage the parking brake switch and shut the engine OFF.
2. The batteries (4) are located under the main frame one on each side of the frame. Remove the wing nuts (5) from the carriage bolts (6). Remove the battery box covers (7).
3. Wear safety glasses and visually inspect the batteries. Check terminals for corrosion. Check the cable connections to ensure proper tightness. Replace a battery if it has a cracked, melted or damaged case.



General Notice

Machines with starting Serial Number MV1210 and after include a battery disconnect switch located in the engine compartment next to the NATO Slave Receptacle.



Throughout the Service manual, instructions direct maintenance personnel to disconnect the battery cables prior to performing service on their machine. The battery disconnect switch provides a more convenient process to interrupt the electrical circuit by moving the switch to the "OFF" position during service or extended periods of non-use. Prior to operating machine after service or extended storage, the battery disconnect switch should be moved to the "ON" position to activate the machine's electrical circuit.

MODEL MMV – SUPPLEMENT #1

TM 10794B-12/1 – JLG Part Number #8990504

The following pages are included in this supplement manual and should be stored with the TM10794B-12/1 Operators Manual shipped with your machine:

- **Page 22 Safety Practices** – Revised art to include IUID plates and slave decal.
- **Page 27 Operation** – Added battery disconnect switch text.
- **Page 66 Operation** – Revised paragraph 7.
- **Page 67 Operation** – Revised paragraph 1.
- **Page 70 Operation** – Revised art to include battery disconnect switch.
- **Page 157 General Maintenance** – Revised art.
- **Page 170 General Maintenance** – Revised art.
- **Page 171 General Maintenance** – Revised art.
- **Page 192 General Maintenance** – Revised text to include extended storage (machine S/N MV1210 and after).
- **Page 200 General Maintenance** – Revised art.
- **Page 217 General Maintenance** – Revised paragraph 8.
- **Page 218 General Maintenance** – Added paragraph 3, revised sequence 4 thru 8.
- **Page 220 General Maintenance** – Revised paragraph 11.
- **Page 221 General Maintenance** – Revised paragraph 2.

Safety Practices

The diagram shows a truck-mounted machine with 12 numbered callouts pointing to various safety and identification decals. The decals are as follows:

- 1:** WARNING: MOVING PARTS can cut. Keep clear of fan and belts while engine is running. MOVING PARTS can entangle.
- 2:** WARNING: Explosive Gases. DO NOT use Ether or other volatile liquids. Engine equipped with grid heating system.
- 3:** WARNING: FALLING OFF ATTACHMENT can result in death or serious injury. LIFT or lower personnel only in a compliant work platform. DO NOT TRAVEL with personnel in a work platform.
- 4:** Boom Angle Indicator.
- 5:** WARNING: Explosive Gases. DO NOT use Ether or other volatile liquids. Engine equipped with grid heating system.
- 6:** CAUTION: ENGINE OVERHEATING can occur. Consult Operator Manual for coolant filling procedure.
- 7:** Machine Identification Plate.
- 8:** Universal ID Plate.
- 9:** MMV Serial Number Plate.
- 10:** SHIPPING DATA PLATE. TRUCK LIFTING AND LOWERING PROCEDURES. PLEASE READ THE OPERATOR MANUAL.
- 11:** SLAVE 24 VOLTS DC.
- 12:** Engine Identification Plate.

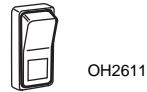
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Item	Part Number	Quantity	Decal Description
1	4110184	4	Moving Parts Warning
2	4110303	2	Explosive Gases Warning
3	4110304	1	Carrying Personnel Warning
4	4110305	1	Boom Angle Indicator
5	4110463	2	Ether Start Warning
6	4110468	1	Coolant Filling Caution
7	1001092290	1	Machine Identification Plate
8	1706549	6	Universal ID Plate
9	6623390	1	MMV Serial Number Plate
10	4110306	1	Shipping Data Plate
11	1001121649	1	Slave Decal, 24V DC
12	3576086	1	Engine Identification Plate

Transmission Disconnect Switch

The transmission Disconnect switch (3) is located on the left side of the front dash and has two positions.

- Push the TOP of the rocker switch in to DEACTIVATE the transmission disconnect function.
- Push the BOTTOM of the rocker switch in to ACTIVATE the transmission disconnect function.



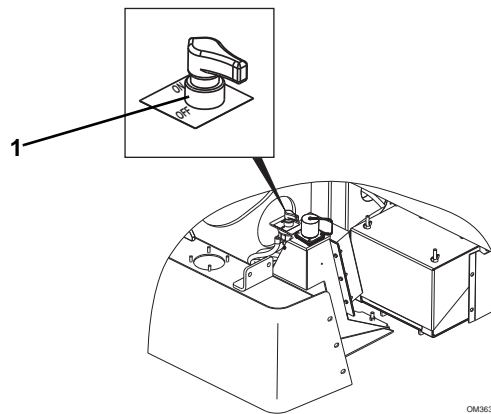
With the transmission disconnect activated, when the service brake pedal is applied, the transmission will be disconnected allowing the engine speed to be increased without the need to place the transmission shifter in the (N) NEUTRAL.

This feature eliminates the need to shift the transmission to the (N) NEUTRAL before operating the hydraulic system at high engine speed. When the transmission disconnect is active, the drivetrain is disconnected and the hydraulic system has full engine power.

IMPORTANT! With the disconnect feature active and the service brake pedal being released, the transmission will be reconnected in the same gear and direction of travel as when it was originally disconnected. The service brakes must remain fully applied for this feature to be functional.

Battery Disconnect Switch (Starting S/N MV1210 and after)

The battery disconnect switch (1) is located in the engine compartment.



This switch, when turned to the "OFF" position, disconnects the circuit between the batteries and the electrical system. The battery disconnect switch should be turned to the "OFF" position during periods of extended storage.

Operation

Pre-Operation Inspection

1. Check safety belt for damage. Check for frayed or cut seat belt webbing, damaged buckles or loose mounting brackets. Make any necessary repairs before operating the vehicle.
2. Check all four tires and rims for damage. Check for proper tire pressure, add air if required. Observe the condition of each tire looking specifically for punctures, cracks, cuts, gouges, bulges or any other damage. Check the condition of each rim for bent flanges or any other damage. Make any necessary repairs before operating the vehicle.
3. Check and add engine oil if required. This procedure is explained in greater detail on page 152.
4. Check and add transmission oil if required. This procedure is explained in greater detail on page 169.
5. Check the cooling system overflow bottle for coolant. Add coolant if required. This procedure is explained in greater detail on page 148. Remove any debris blocking the radiator cooling fins.
6. Check the hydraulic oil level sight glass and add hydraulic oil if required. This procedure is explained in greater detail on page 164.
7. Visually inspect the batteries for cleanliness. Check terminals for corrosion. Check the cable connections to ensure proper tightness. Make sure the battery shut-off switch in the engine compartment is in the "ON" position (**S/N MV1210 and after**).
8. Walk around the vehicle and check for oil leakage as well as damaged or missing parts. Make any necessary repairs before operating the vehicle.
9. Perform the LMI system test. Refer to "Load Moment Indicator System Test" on page 65.
10. Check ALL lighting systems for proper operation.
11. Adjust rear view mirrors as required to obtain proper field of vision to the rear.
12. Test the back-up alarm and horn for proper operation.
13. Check condition of cab glass, looking for cracks or other damage.
14. Visually check the condition of the air conditioner condenser. Remove any debris from the cooling fins of the air conditioner condenser located at the rear of the frame. Clean the fins as needed.

Normal Starting

1. Make sure the battery shut-off switch in the engine compartment is in the "ON" position. **For machines with starting S/N MV1210 and after.**
2. Enter the cab and adjust the seat for comfortable operation.
3. Adjust the mirrors to obtain the best rear view from the operator's position.



WARNING: **DO NOT** start the engine unless you are in the seat with the seat belt fastened around you. Death or serious personal injury could result if the belt is not securely fastened.

4. Fasten the seat belt.
5. Make sure the parking brake switch is ENGAGED.
6. Place the travel select lever in (N) NEUTRAL.
7. Move the Neutral Lock Lever to the (N) NEUTRAL LOCK Position.
8. Push and turn the ignition switch to the START position (fully clockwise) to crank the engine. Release the ignition switch when the engine starts. If the engine fails to start on the first try, wait until the engine and starter come to a complete stop before cranking the engine again.

IMPORTANT! DO NOT crank the starting motor continuously for more than 30 seconds. Stop cranking the starter and allow the starter to cool for 2 minutes before engaging the starter again.

9. After the engine starts, run engine at partial throttle for 30 to 60 seconds before operating the vehicle. Return to idle before engaging the travel or range select levers.
10. Move the Neutral Lock Lever to the (D) DRIVE Position before you start operating.
11. Disengage the parking brake switch before you start operating.

Operation

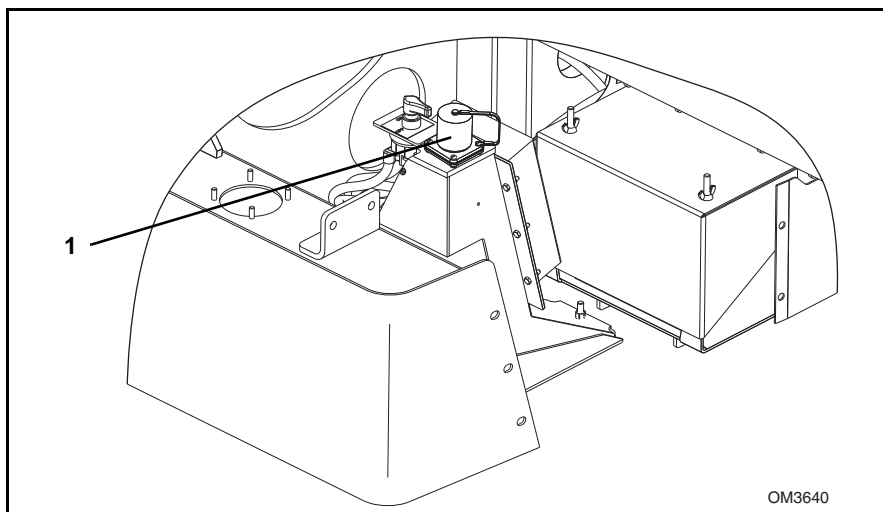
Slave Starting



WARNING: To avoid death or serious personal injury, never slave start the vehicle with a frozen battery as it will explode. Keep sparks, flames and lighted smoking materials away from the battery. Lead acid batteries generate explosive gases when charging. Wear safety glasses when working near batteries.

This vehicle is equipped with a 24 volt, negative ground electrical system. The NATO slave receptacle (1) is located under the engine cover in front of the transmission. Ensure that both the disabled and booster vehicle are equipped with a NATO slave receptacle.

1. Connect the NATO slave cable to the booster vehicle NATO slave receptacle.
2. Connect the other end of the NATO slave cable to the disabled vehicle NATO slave receptacle.
3. Run the booster vehicle at a speed just above idle.
4. Follow the steps in "Normal Starting" on page 67.
5. After starting the disabled vehicle, return the booster vehicle to idle.
6. Remove the NATO slave cable from the disabled vehicle first and then from the booster vehicle.



6. Engine Fuel System

A. Drain water from fuel water separator/filter

(10 Hour Intervals)

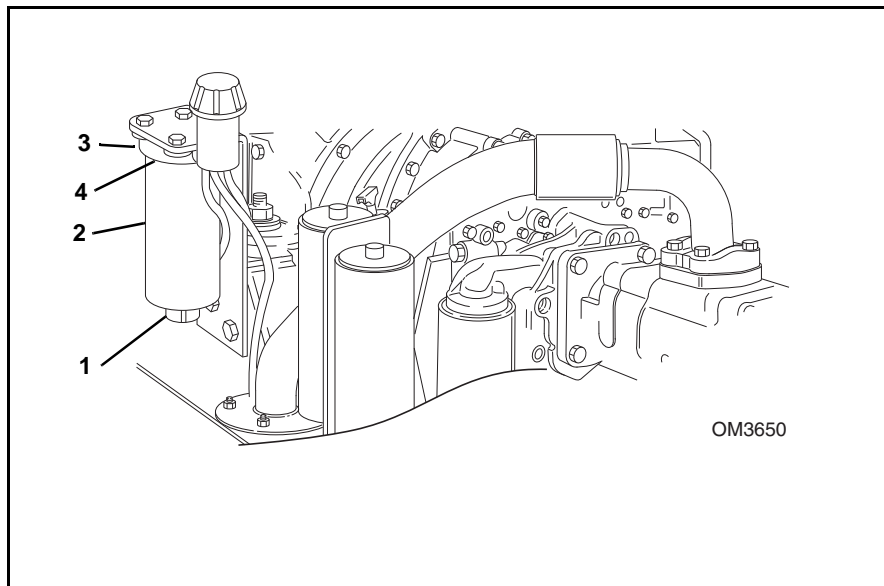


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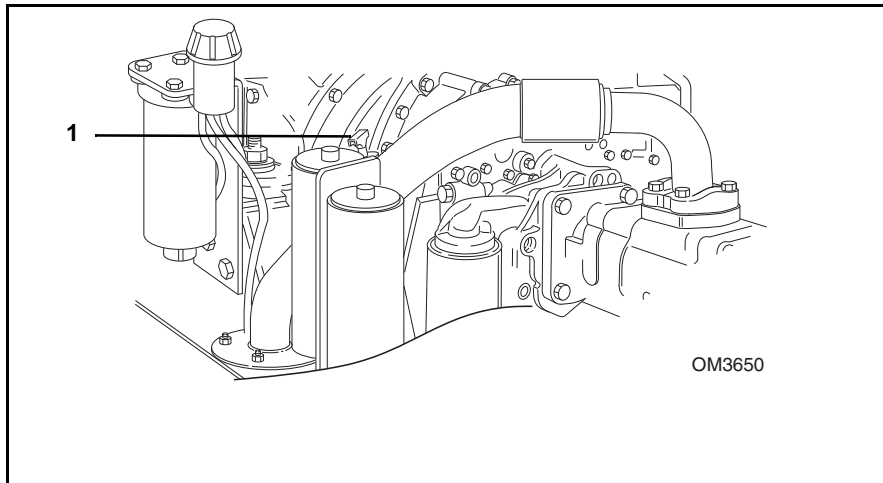


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Unlatch and open the engine cover. Loosen the drain cock (1) on the underside of the remote mounted fuel filter (2) and allow all the water to drain into a container until clear fuel is visible. Dispose of properly. Tighten drain cock after draining. Close and latch engine cover.



General Maintenance



B. Transmission Oil & Filter Change

(First 50 Hours)



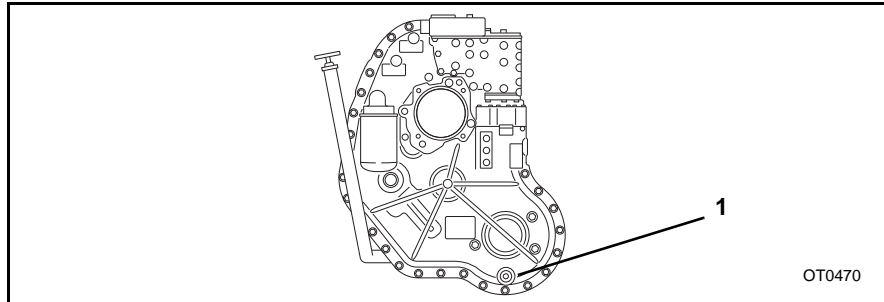
(1000 Hour Intervals)



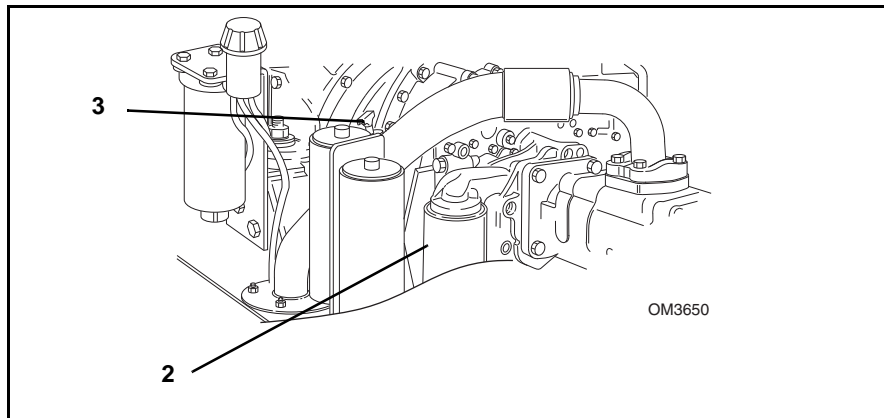
1. Level the vehicle, ground the attachment, place the travel select lever in (N) NEUTRAL, move the neutral lock lever to the (N) NEUTRAL LOCK position, engage the parking brake switch and shut off the engine.
2. Unlatch and open the engine cover. Allow the engine and transmission to cool.

General Maintenance

3. Place a receptacle under the transmission drain plug (1). Remove the drain plug and allow the oil to drain into the receptacle. Transfer the used oil into a suitable container with a cover and label the container as used oil. Dispose of properly.



4. Clean and re-install the drain plug into the transmission housing.
5. Remove the filter (2) and dispose of properly. Clean the mating surface where the filter mounts.
6. Apply a thin film of clean oil to the new filter gasket. Carefully install a new filter.
7. Remove the dipstick (3) and fill with oil approximately 12 quarts (11,4 liters). Refer to the "Recommended Transmission Oil/Temperature Range" on page 169. Re-install the dipstick.



8. Check the transmission level and add oil as required following the procedures outlined in "Transmission Oil Level Check" on page 169.
9. Close and latch the engine cover.

General Maintenance



WARNING: Fluid in electric storage batteries contains sulfuric acid which is **POISON** and can cause **SEVERE CHEMICAL BURNS**. Avoid all contact of fluid with eyes, skin or clothing. Use protective gear when handling batteries. **DO NOT** tip a battery beyond a 45° angle in any direction. If contact does occur, follow the First Aid suggestions that follows.

Battery Electrolyte First Aid:

- **External Contact** — Flush with water.
- **Eyes** — Flush with water for at least 15 minutes and get medical attention immediately.
- **Internal Contact** — Drink large quantities of water. Follow with Milk of Magnesia, beaten egg or vegetable oil. Get medical attention immediately.

IMPORTANT! In case of internal contact, **DO NOT** give fluids that would induce vomiting!

Battery Charging



WARNING: **DO NOT** charge a frozen battery, it may explode and cause serious injury. Let the battery thaw out before putting on a battery charger.

Under normal conditions, the engine alternator will have no problem keeping the batteries charged. The only condition in which the batteries may cause a problem is when they have been completely discharged for an extended period of time. Under this condition, the alternator may not be able to recharge the batteries. A battery charger will be required for recharging.

Before using a battery charger, an attempt can be made to recharge the batteries using the engine alternator by first starting the vehicle and letting the engine run. See "Slave Starting" instructions on page 70.

Extended Storage (machine S/N MV1210 and after)

Move battery shut-off switch in the engine compartment to the "OFF" position if the machine will be in extended storage.

General Maintenance

Battery Equalizer Fuses (Under Engine Cover)

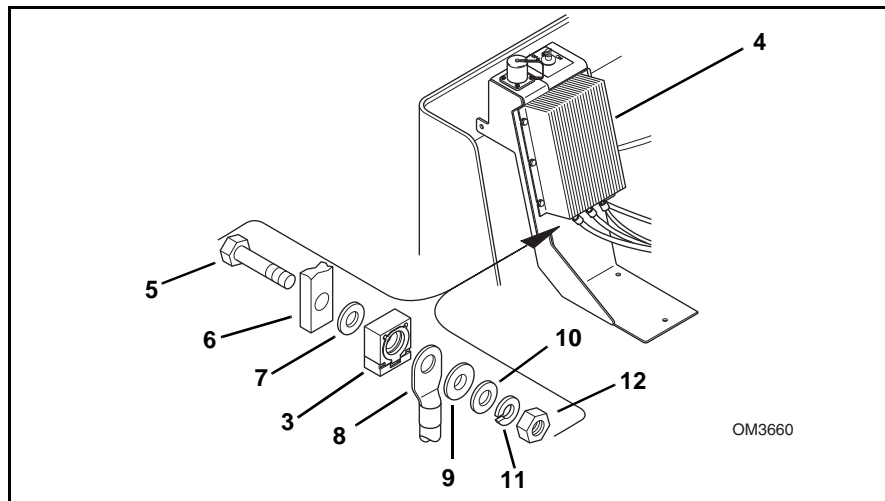
There are two fuses (3) located on the bottom side of the equalizer (4). These two fuses are 125 amp fuses and are located on the 12V and 24V positive terminals of the equalizer. These fuses protect the 12V and 24V circuits of the equalizer. You will require a small telescoping mirror to check these two fuses.

If a 125 amp fuse blows, the fuse along with the mounting hardware will have to be replaced as a kit.

Replace a 125 amp fuse as follows:

IMPORTANT! When removing the cable or cables from the fuse or fuses be sure to insulate each cable away from any metal objects to prevent shorting of the electrical system.

1. Remove the blown fuse and associated hardware. Discard all items.
2. Insert the new capscrew (5) through the tab (6) on the equalizer (4).
3. Place a flat washer (7) and new fuse (3) onto the capscrew. Position fuse as required to best see the clear window.
4. Place the positive cable (8) onto the capscrew.
5. Place the nylon shoulder washer (9) onto the capscrew and place against the positive cable with the hub toward the cable.
6. Secure in place with a flat washer (10), lockwasher (11) and hex nut (12). Torque the hex nut to a maximum of 100 lbs-in (11 Nm).



Storage and Transport

Short Term Storage

Less Than Two Months Duration

A. Before Storing

Perform the following steps prior to placing the vehicle in storage:

1. Clean the entire vehicle. DO NOT remove the grease coating from the boom chains.
2. Lubricate all grease fittings as described on page 141.
3. Prepare the engine for storage (refer to the engine manual).
4. Apply multi-purpose grease to all exposed hydraulic cylinder rods.
5. Apply Teflon based lubricant to the fork shafts fork slide plates.
6. If the ambient temperature during the storage period is expected to drop to a point that the batteries could freeze, remove them from the vehicle. Store the batteries in a dry place where they are not subject to temperatures near or below freezing.
7. If the ambient temperature is expected to remain above freezing and the vehicle is to be stored less than one month, the batteries can remain connected and no further disconnection of the equalizer is required. S/N MV1210 and after provide a battery disconnect switch that should be turned to the "OFF" position during storage.
8. If the ambient temperature is expected to remain above freezing and the vehicle is to be stored more than one month, but less than two months the batteries can remain connected. However the NEGATIVE (-) lead to the bottom of the equalizer must be disconnected to prevent electrical draw on the batteries. Save the capscrew, lock-washer and hex nut for reassembly. Isolate the cable away from the equalizer. S/N MV1210 and after provide a battery disconnect switch that should be turned to the "OFF" position during storage.
9. If the ambient temperature is expected to drop below freezing at anytime during the storage period, make sure the engine coolant is either completely drained from the radiator and engine block or that the amount of anti-freeze in the system is adequate to keep the coolant from freezing.
10. Preferably, store the vehicle inside where it will remain dry. If it must be stored outside, park it on lumber laid on flat level ground or on a concrete slab and cover with a tarp.

General Maintenance

B. Removing From Short Term Storage

After removing the vehicle from storage and before operating it, perform the following steps:

1. Reinstall the properly charged batteries (if removed). Secure the hold-down brackets and attach battery cables.
2. If the NEGATIVE (-) lead to the equalizer was disconnected, reconnect the lead to the NEGATIVE (-) terminal and secure with the capscrew, lockwasher and hex nut saved from putting the vehicle into storage. Torque the hex nut to 100 lb-in (11 Nm).
3. For machines S/N MV1210 and after, move the battery disconnect switch to the "ON" position.
4. Change the engine oil and filter to remove condensation or other residuals.
5. If the coolant has been drained from the engine block and radiator, refill with a 50/50 mixture of fresh anti-freeze and water. For detailed information, see "Drain and Flush Radiator" on page 149.
6. Wipe off any multi-purpose grease that was applied to the vehicles hydraulic cylinder rods prior to storing.
7. Refer to "Maintenance Schedule and Check List" on page 138. Perform all the maintenance checks listed under the 10 Hour Intervals.
8. Review and familiarize yourself and any other operator with all the safe and proper operating procedures contained in this manual.

General Maintenance

11. Move battery shut-off switch in the engine compartment to "OFF" for machines with starting S/N MV1210 and after. Disconnect the battery cables. Remove the batteries from the vehicle and store in a dry place where they are not subject to temperatures near or below freezing.
12. If the ambient temperature is expected to drop below freezing at anytime during the storage period, make sure the engine coolant is either completely drained from the radiator and engine block or that the amount of anti-freeze in the system is adequate to keep the coolant from freezing.
13. Preferably, store the vehicle inside where it will remain dry. If it must be stored outside, park it on lumber laid on flat level ground or on a concrete slab and cover with a tarp.

B. Removing From Long Term Storage

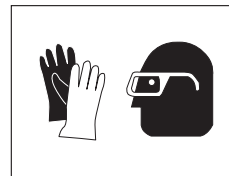
After removing the vehicle from storage and before operating it, perform the following steps:

Parts of this vehicle have been sprayed with a clear protective "transit" coating prior to being stored. Removing the transit coating will prevent discoloration. If you do not remove the transit coating it will not harm the vehicle.

The transit coating has been sprayed primarily onto plated metal parts such as brackets, pulleys, hose connections, pipe fittings and hardware. Some overspray will have settled on the surrounding areas. Before removing the transit coating, read all removal information and material data safety sheets supplied with the transit coating decoater gun.

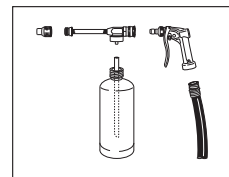
1. To remove the transit coating, refer to the following steps.

- a. Wear the recommended safety equipment, rubber gloves and eye protection.



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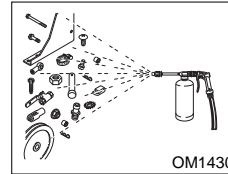
- b. Assemble the transit coating decoater gun.



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General Maintenance

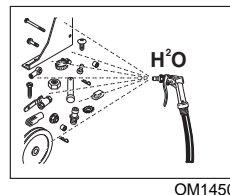
- c. Dilute the transit coating remover with water 1:6. Position the vehicle in a shaded area. DO NOT pre-rinse with water. Spray the coated areas thoroughly.



- d. Wait two - three minutes, keeping the coated areas wet the full two - three minutes.



- e. Remove the transit coating remover bottle and rinse the vehicle thoroughly with water.



2. Reinstall the properly charged batteries. Secure the hold-down brackets and attach battery cables. Move battery shut-off switch to the "ON" position for machines S/N MV1210 and after.
3. Change the engine oil and filter to remove condensation or other residuals.
4. If the vehicle has been stored for two years or more, drain the coolant from the engine block and radiator and refill with a 50/50 mixture of fresh anti-freeze and water. For detailed information, see "Drain and Flush Radiator" on page 149.
5. Wipe off any multi-purpose grease that was applied to the vehicles hydraulic cylinder rods prior to storing.
6. Refer to "Maintenance Schedule and Check List" on page 138. Perform all the maintenance checks listed under the 10 Hour Intervals.
7. If the vehicle has been stored for a six month duration or more, the fuel filter has to be replaced. Refer to "Change Fuel Filter" on page 158 for procedure.
8. Review and familiarize yourself and any other operator with all the safe and proper operating procedures contained in this manual.

MODEL MMV – SUPPLEMENT #1

TM 10794A/B-24P/3 – JLG Part Number #8990441

The following pages are included in this supplement manual and should be stored with the TM10794A/B-24P/3 Parts Manual shipped with your machine:

- **Page 10.11.1 Batteries – Equalizer and Solargizer Assemblies** – Ending serial number added to this page.
- **Page 10.11.1.1 Batteries – Equalizer and Solargizer Assemblies** – New page, art to include battery disconnect switch and circuit changes.
- **Page 10.11.1.1 Batteries – Equalizer and Solargizer Assemblies** – New page, parts list to include battery disconnect switch and circuit changes.
- **Page 10.16.1 Electrical Components – Vehicle ECM/Power** – Ending serial number added to this page.
- **Page 10.16.1.1 Electrical Components – Vehicle ECM/Power** – New page, art to include circuit changes.
- **Page 10.16.1.1 Electrical Components – Vehicle ECM/Power** – New page showing new starting serial number.
- **Page 11.1.1.1 Decals and Manuals** – Revised art to include slave receptacle decal and additional IUID plates.
- **Page 11.1.1.1 Decals and Manuals** – Revised parts list to include slave receptacle decal and additional IUID plates.

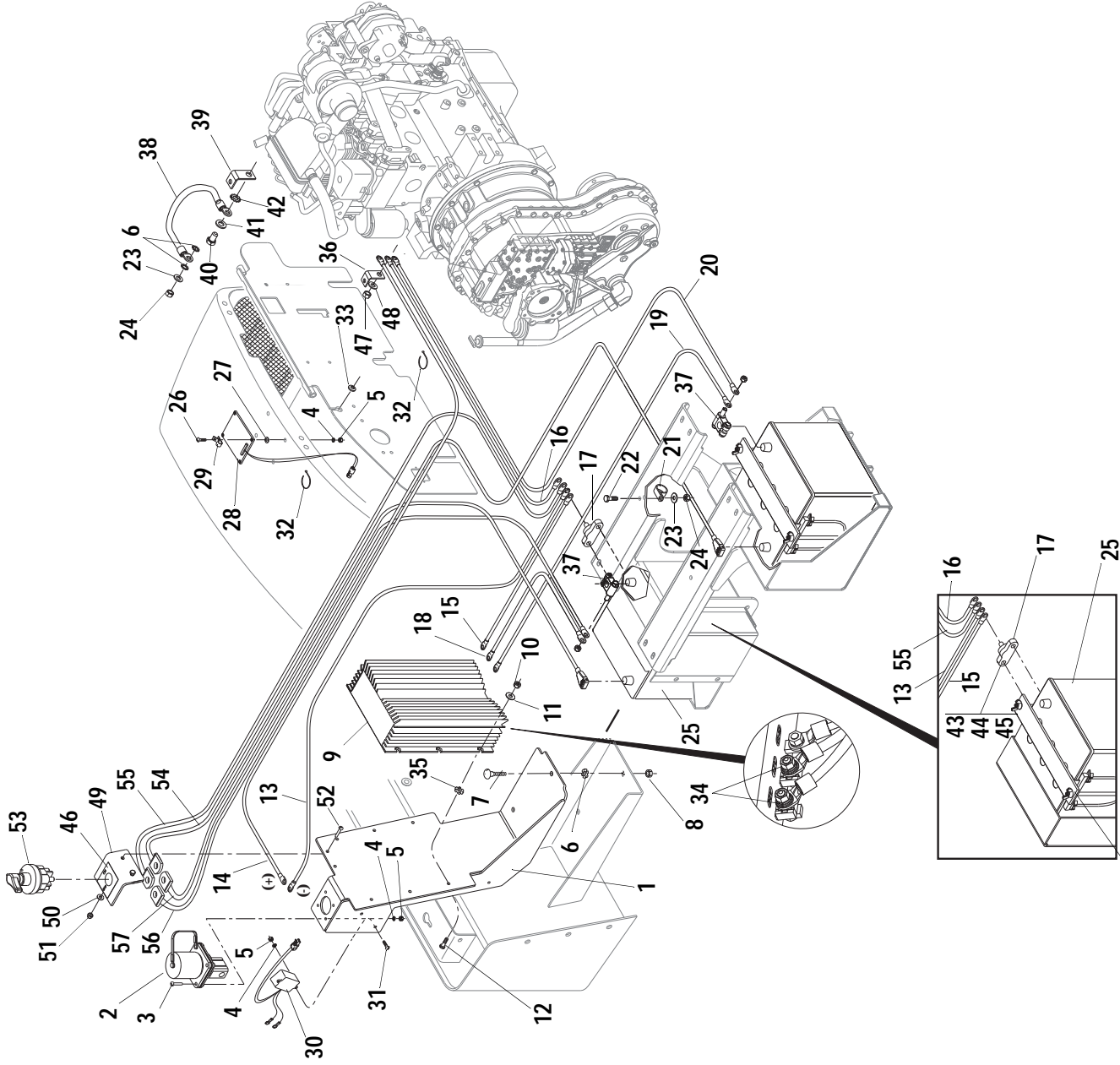
ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	6623716	1	Bracket, Equalizer	37	8270148	2	Clamp, Battery, Positive Polarity.
2	8220876	1	Receptacle, Slave (Includes Cap)	38	8270150	1	Cable, Engine Pod Ground
3	8303837	4	Screw, Slotted Pan Hd. #10-24 x 3/4"	39	7301529	1	Bus Bar, 90 Deg.
4	8307003	10	Washer, Lock #10	40	8303533	1	HHCS, M12 x 1.75 x 20mm
5	8305002	10	Nut, Hex #10-24	41	8307220	1	Washer, Plain, M12
6	8307026	5	Washer, Lock, External Tooth, 3/8"	42	8310650	1	Washer, Lock, M12 External Tooth
7	8310335	3	Bolt, Carriage 3/8-16 x 1-1/2"	43	8310647	2	Washer, Lock, M8 External Tooth
8	8305603	3	Nut, Hex Lock, 3/8"-16	44	6611172	1	Ground Strap
9	8270223	1	Equalizer, Battery	45	8307222	1	Washer, Plain M8
10	8305624	6	Nut, Hex Lock Elastic 1/4"-20	46	8305654	1	Nut, Hex Lock Elastic, M8
11	8307109	6	Washer, Flat 1/4"				
12	8303540	6	HHCS, 1/4-20 x 1" Gr. 5				
13	6623478	1	Battery Cable, Slave Rec. Neg				
14	6623812	1	Battery Cable, Slave Rec. Pos.				
15	6623479	1	Battery Cable, Equalizer Neg.				
16	6623813	1	Battery Cable, Ground				
17	6623821	1	Battery Cable, 12-24V				
18	6623477	1	Battery Cable, 12V Equalizer Pos.				
19	6623475	1	Battery Cable, 24V Equalizer Pos.				
20	6623814	1	Battery Cable, 24V Pos.				
21	10837368	1	Clamp, DoubleTube				
22	8303675	1	HHCS, 3/8-16 x 1-1/4" Gr. 5				
23	8307110	2	Washer, 3/8" Narrow				
24	8305008	2	Nut, Hex, 3/8"-16				
25	8270143	2	Battery, 12 Volt				
26	8303893	4	Screw, Slotted Pan Hd. #10-24 x 1-1/2"				
27	8580215	4	Grommet, Rubber				
28	6623571	1	Panel, Solargizer				
29	8406002	1	Clip, Wire				
30	6623572	1	Control Box, Solargizer				
31	8303836	2	Screw, Slotted Pan Hd. #10-24 x 5/8"				
32	8584001	A/R	Tie, Plastic Cable .19W x 6.7" LG				
33	8580227	1	Grommet, Rubber				
34	8229258	2	Fuse Kit, Battery Equalizer (Includes Hardware)				
35	8310002	6	Washer, Lock, External Tooth, 1/4"				
36	8270147	2	Clamp, Battery, Negative Polarity				

S/N MV201 – MV1209

BATTERIES - EQUALIZER AND SOLARGIZER ASSEMBLIES 10.11.1

MMV

Tier 1
Tier 2



Page 3.2.1.1

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	6623716	1	Bracket, Equalizer	37	8270148	2	Clamp, Battery, Positive Polarity
2	8220876	1	Receptacle, Slave (Includes Cap)	38	8270150	1	Cable, Engine Pod Ground
3	8303837	4	Screw, Slotted Pan Hd. #10-24 x 3/4"	39	7301529	1	Bus Bar, 90 Deg.
4	8307003	10	Washer, Lock #10	40	8303533	1	HHCS, M12 x 1.75 x 20mm
5	8305002	10	Nut, Hex #10-24	41	8307220	1	Washer, Plain, M12
6	8307026	5	Washer, Lock, External Tooth, 3/8"	42	8310650	1	Washer, Lock, M12 External Tooth
7	8310335	3	Bolt, Carriage 3/8-16 x 1-1/2"	43	4711000	2	Washer, #10
8	8305603	3	Nut, Hex Lock, 3/8"-16	44	3311005	2	Hex Lock Nut, 1024, GR2
9	8270223	1	Equalizer, Battery	45	3931010	2	Socket Hd Capscrew, 10-24x5/8
10	8305624	6	Nut, Hex Lock Elastic 1/4"-20	46	1001121219	1	Battery Disconnect Decal
11	8307109	6	Washer, Flat 1/4"	47	8305038	1	Hex Nut, M10x1-1/2
12	8303540	6	HHCS, 1/4-20 x 1" Gr. 5	48	8307221	1	Washer, M10
13	6623478	1	Battery Cable, Slave Rec. Neg	49	1001120766	1	Battery Disconnect Mount
14	6623812	1	Battery Cable, Slave Rec. Pos.	50	8307109	2	Washer, 0.25
15	6623479	1	Battery Cable, Equalizer Neg.	51	8305624	2	Hex Lock Nut, 0.25-20
16	6623813	1	Battery Cable, Ground	52	8303540	2	Hex Hd Capscrew, 0.25-20x1, GR5
17	1001120750	1	Insulated Stud Terminal	53	1001120778	1	Battery Disconnect Switch
18	6623477	1	Battery Cable, 12V Equalizer Pos.	54	1001120575	1	Battery Disconnect Ground Cable
19	6623475	1	Battery Cable, 24V Equalizer Pos.	55	1001120574	1	Battery Cable, Ground
20	6623814	1	Battery Cable, 24V Pos.	56	1001120573	1	Battery Disconnect Cable, 12-24V Pos.
21	10837368	1	Clamp, DoubleTube	57	1001120572	1	Battery Disconnect Cable, 12-24V Neg.
22	8303675	1	HHCS, 3/8-16 x 1-1/4" Gr. 5				
23	8307110	2	Washer, 3/8" Narrow				
24	8305008	2	Nut, Hex, 3/8"-16				
25	8270143	2	Battery, 12 Volt				
26	8303893	4	Screw, Slotted Pan Hd. #10-24 x 1-1/2"				
27	8580215	4	Grommet, Rubber				
28	6623571	1	Panel, Solargizer				
29	8406002	1	Clip, Wire				
30	6623572	1	Control Box, Solargizer				
31	8303836	2	Screw, Slotted Pan Hd. #10-24 x 5/8"				
32	8584001	A/R	Tie, Plastic Cable .19W x 6.7" LG				
33	8580227	1	Grommet, Rubber				
34	8229258	2	Fuse Kit, Battery Equalizer (Includes Hardware)				
35	8310002	6	Washer, Lock, External Tooth, 1/4"				
36	6621412	1	Terminal, 90 Degrees				

S/N MV1210 -

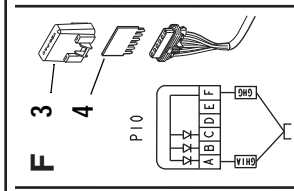
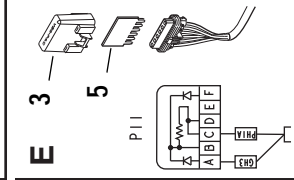
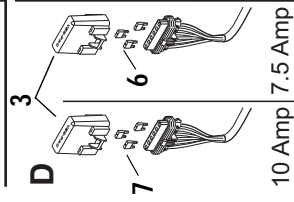
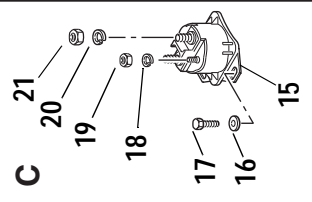
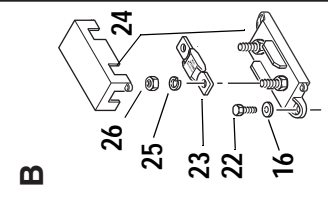
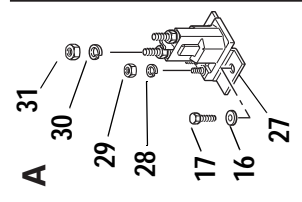
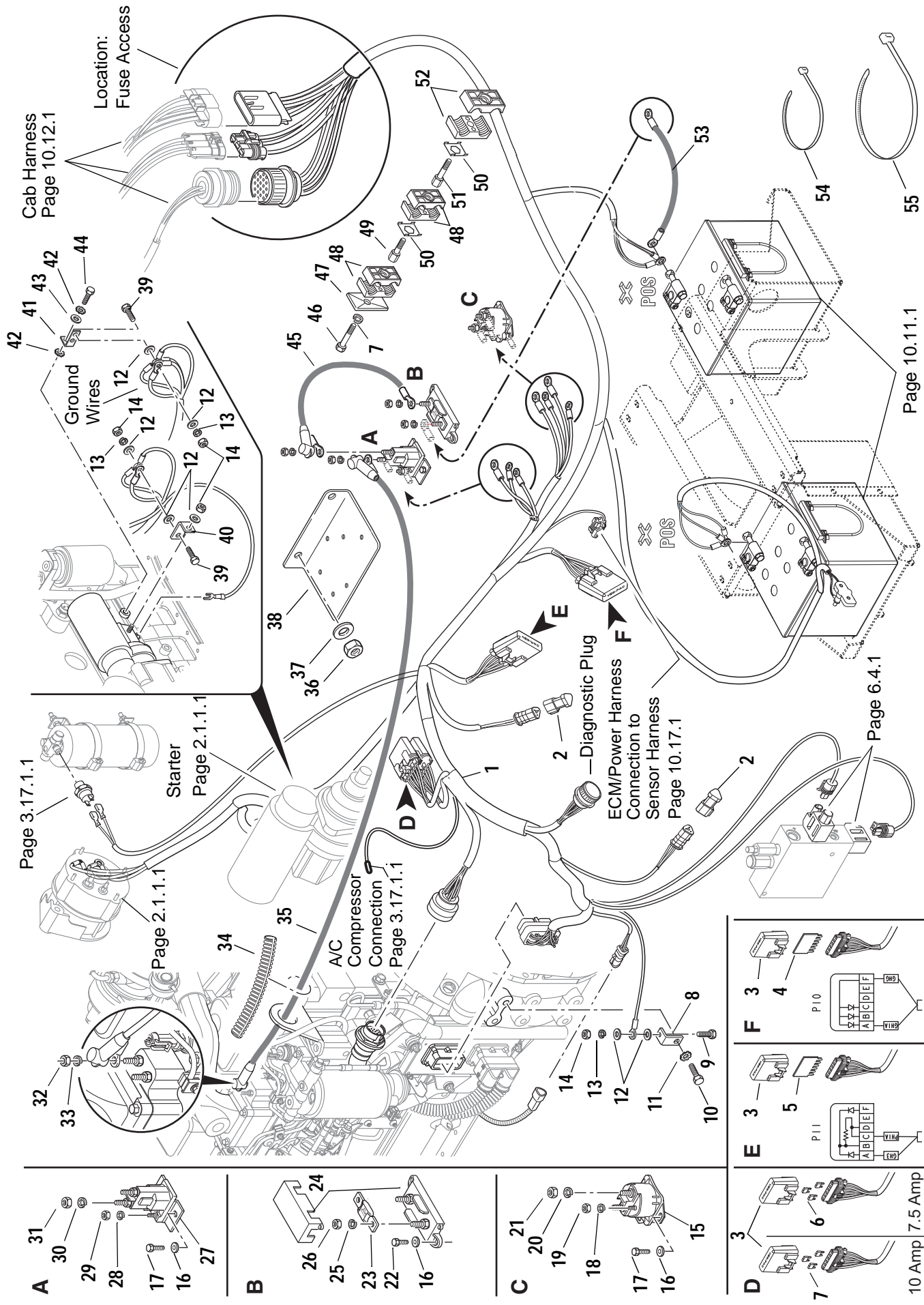
BATTERIES - EQUALIZER AND SOLARGIZER ASSEMBLIES 10.11.1.1

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	6623807	1	Harness, ECM Vehicle Power (S/N 201 and After) (Includes Items 2 thru 7)	35	6623876	1	Cable, Grid Heater, Relay to Grid Heater
2	8220553	2	Resistor	36	8305008	2	Nut, Hex 3/8"-16 NC
3	8220357	4	Cover, Clear Ves-Pac	37	8307110	2	Washer, 3/8" Narrow
4	8220366	1	Circuit Board, ECM Diode	38	6623810	1	Bracket, Relay Mounting
5	8220365	1	Circuit Board, Diode/Resistor	39	8303777	2	HHCS M10x1.5-35mm PC8.8
6	8229243	3	Fuse, Mini, 7.5 Amp	40	6621412	1	Terminal, Starter, 90°
7	8229264	3	Fuse, Mini, 10 Amp	41	7300344	1	Bus Bar, Negative Starter
8	7301529	1	Buss Bar, 90 Deg.	42	8310650	2	Washer, Lock, External Tooth M12
9	8303798	1	HHCS, M10 x 1.5 x 25mm PC8.8	43	8307220	1	Washer, Plain M12-13.00-24 2.50
10	8303533	1	HHCS, M12 x 1.75 x 20mm PC8.8	44	8303533	1	HHCS M12x1.75 20mm PC8.8
11	8310650	1	Washer, External Tooth Lock, M12	45	7301448	2	Cable, Grid Heater, Fuse to Relay
12	8307221	7	Washer, Plain, M10	46	8310009	1	HHCS, 5/16"-18 NC x 2.00 GR5
13	8307023	3	Washer, Lock, M10	47	8769128	1	Plate, Twin Cover
14	8305038	4	Nut, Hex, M10 x 1.5	48	8750027	2	Clamp Set, .84" Dia Twin
15	10167789	1	Relay, 3 Post	49	8750012	1	Bolt Stacking
16	8307219	6	Washer, Plain, M6	50	8750017	2	Plate, Locking
17	8303545	4	HHCS M6 x 1-16mm PC8.8	51	8750026	1	Bolt Stacking
18	8307003	1	Washer, Lock, #10	52	8750022	2	Clamp Set, 1.26" Dia Twin
19	8305003	1	Nut, Hex #10-32 NF	53	7301449	1	Cable, Grid Heater, Battery to Fuse
20	8307004	3	Washer, Lock, 5/16" Spring	54	8584001	A/R	Tie, Plastic Cable .19W x 6.7"LG
21	8305006	2	Nut, Hex 5/16"-18 NC	55	8584003	A/R	Tie, Plastic Cable .30W x 14.8"LG
22	8303544	2	HHCS, M6 x 1 x 20mm PC8.8				
23	8229259	1	Fuse, 125A, Mega Bolt On				
24	8229260	1	Fuseblock, Mega (Includes Items 25 and 26)				
25	N.S.S.	2	Washer, Lock, M8				
26	N.S.S.	2	Nut, Hex M8				
27	6623811	1	Relay, 4 Post (Includes Items 28 thru 31)				
28	8307003	2	Washer, Lock, #10				
29	8305003	2	Nut, Hex #10-32 NF				
30	N.S.S.	2	Washer, Lock, 5/16"				
31	N.S.S.	2	Nut, Hex, 5/16"-24 UNF				
32	N.L.A.	1	Nut, Hex Lock, M6 x 1.00 (Available through Cummins)				
33	N.L.A.	1	Washer, External Tooth Lock, M6 (Available through Cummins)				
34	7125861	1	Conduit, .75 ID x 60" LG (Cut to Fit)				

S/N MV201-MV1209

ELECTRICAL COMPONENTS - VEHICLE ECM / POWER

10.16.1



Cab Harness
Page 10.12.1

Location:
Fuse Access

Ground
Wires

Starter
Page 2.1.1.1

A/C
Compressor
Connection
Page 3.17.1.1

—Diagnostic Plug
ECM/Power Harness
Connection to
Sensor Harness
Page 10.17.1

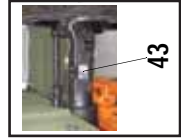
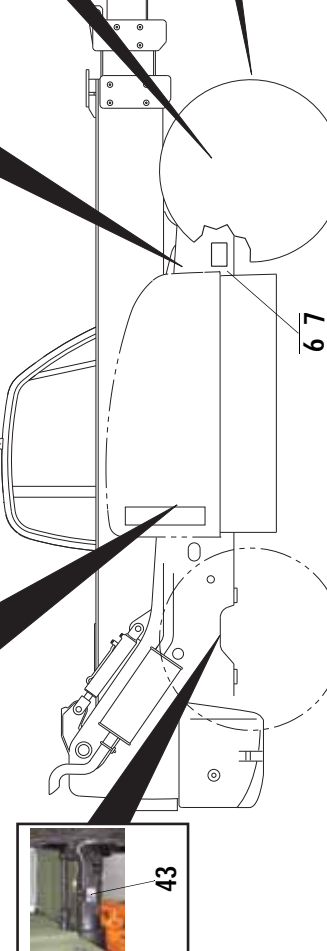
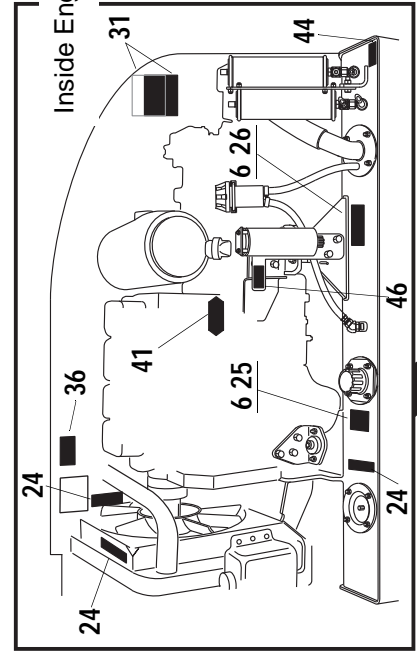
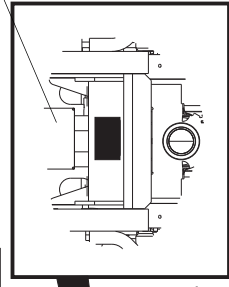
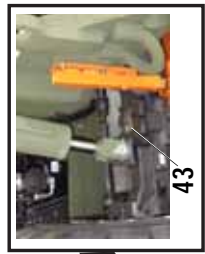
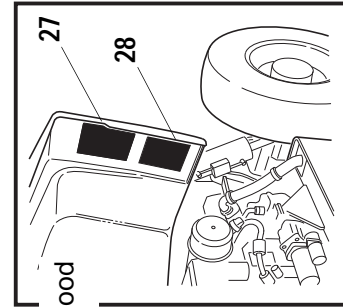
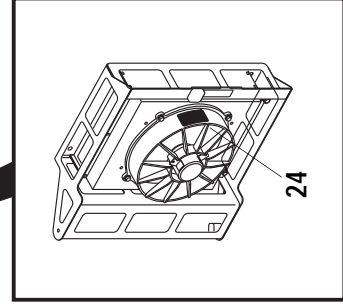
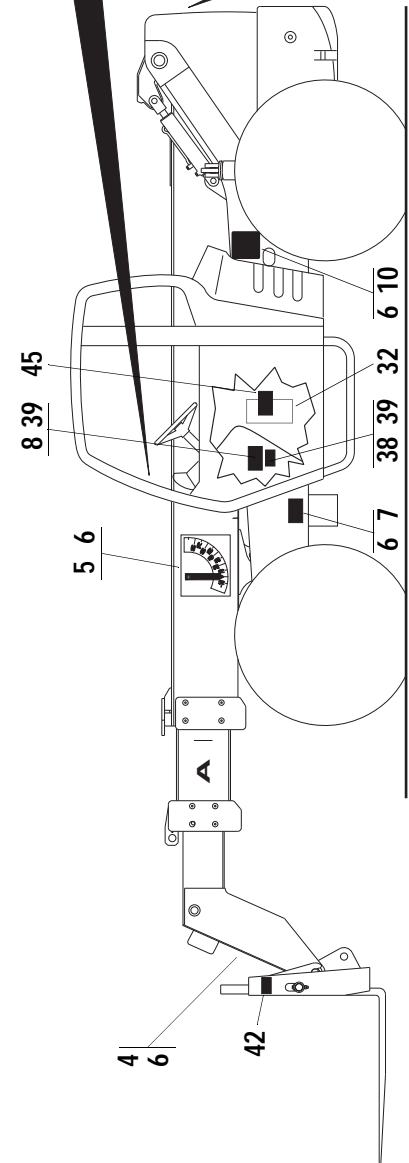
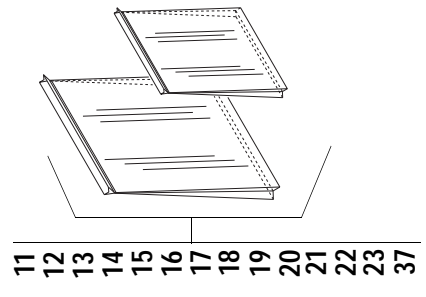
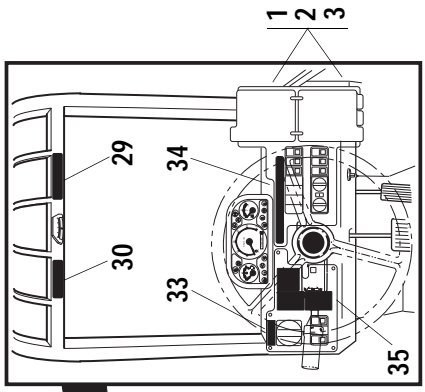
Page 6.4.1

Page 10.11.1

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	6623807	1	Harness, ECM Vehicle Power (S/N 201 and After) (Includes Items 2 thru 7)	35	6623876	1	Cable, Grid Heater, Relay to Grid Heater
2	8220553	2	Resistor	36	8305008	2	Nut, Hex 3/8"-16 NC
3	8220357	4	Cover, Clear Ves-Pac	37	8307110	2	Washer, 3/8" Narrow
4	8220366	1	Circuit Board, ECM Diode	38	6623810	1	Bracket, Relay Mounting
5	8220365	1	Circuit Board, Diode/Resistor	39	8303777	2	HHCS M10x1.5-35mm PC8.8
6	8229243	3	Fuse, Mini, 7.5 Amp	40	6621412	1	Terminal, Starter, 90°
7	8229264	3	Fuse, Mini, 10 Amp	41	7300344	1	Bus Bar, Negative Starter
8	7301529	1	Buss Bar, 90 Deg.	42	8310650	2	Washer, Lock, External Tooth M12
9	8303798	1	HHCS, M10 x 1.5 x 25mm PC8.8	43	8307220	1	Washer, Plain M12-13.00-24 2.50
10	8303533	1	HHCS, M12 x 1.75 x 20mm PC8.8	44	8303533	1	HHCS M12x1.75 20mm PC8.8
11	8310650	1	Washer, External Tooth Lock, M12	45	7301448	2	Cable, Grid Heater, Fuse to Relay
12	8307221	7	Washer, Plain, M10	46	8310009	1	HHCS, 5/16"-18 NC x 2.00 GR5
13	8307023	3	Washer, Lock, M10	47	8769128	1	Plate, Twin Cover
14	8305038	4	Nut, Hex, M10 x 1.5	48	8750027	2	Clamp Set, .84" Dia Twin
15	10167789	1	Relay, 3 Post	49	8750012	1	Bolt Stacking
16	8307219	6	Washer, Plain, M6	50	8750017	2	Plate, Locking
17	8303545	4	HHCS M6 x 1-16mm PC8.8	51	8750026	1	Bolt Stacking
18	8307003	1	Washer, Lock, #10	52	8750022	2	Clamp Set, 1.26" Dia Twin
19	8305003	1	Nut, Hex #10-32 NF	53	7301449	1	Cable, Grid Heater, Battery to Fuse
20	8307004	3	Washer, Lock, 5/16" Spring	54	8584001	A/R	Tie, Plastic Cable .19W x 6.7"LG
21	8305006	2	Nut, Hex 5/16"-18 NC	55	8584003	A/R	Tie, Plastic Cable .30W x 14.8"LG
22	8303544	2	HHCS, M6 x 1 x 20mm PC8.8				
23	8229259	1	Fuse, 125A, Mega Bolt On				
24	8229260	1	Fuseblock, Mega (Includes Items 25 and 26)				
25	N.S.S.	2	Washer, Lock, M8				
26	N.S.S.	2	Nut, Hex M8				
27	6623811	1	Relay, 4 Post (Includes Items 28 thru 31)				
28	8307003	2	Washer, Lock, #10				
29	8305003	2	Nut, Hex #10-32 NF				
30	N.S.S.	2	Washer, Lock, 5/16"				
31	N.S.S.	2	Nut, Hex, 5/16"-24 UNF				
32	N.L.A.	1	Nut, Hex Lock, M6 x 1.00 (Available through Cummins)				
33	N.L.A.	1	Washer, External Tooth Lock, M6 (Available through Cummins)				
34	7125861	1	Conduit, .75 ID x 60" LG (Cut to Fit)				

S/N MV1210-

ELECTRICAL COMPONENTS - VEHICLE ECM / POWER 10.16.1.1



ITEM PART NO. QTY. DESCRIPTION

1	6623762	1	Booklet, Load Chart Std.
2	6623944	1	Booklet, Load Chart for 60 psi Tire Pressure
3	6623997	1	Booklet, Load Chart for 45 psi Tire Pressure
4	4110304	1	Plate, Carrying Personnel
5	4110305	1	Plate, Boom Angle Indicator
6	2080075	32	Fastener, Amtack 4139
7	4110303	2	Plate, Battery Hazard
8	Not Available	Ref	Plate, Machine Identification
9	8526042	A/R	Adhesive (apply to all data plates)
10	4110306	1	Plate, Shipping Data
11	8581026	1	Poly Bag, Zipper, 8" x 10" - 4 Mil
12	8581034	1	Poly Bag, Zipper, 12" x 15" - 4 Mil
13	8990504	1	Manual, Owners/Operators
14	8990441	1	Manual, Parts
15	8990113	1	Manual, Safety
16	8990505	1	Manual, Service
17	8990497	1	Manual, Cummins
18	8990418	1	Manual, ZF Transmission Repair
19	8990419	1	Manual, ZF Rear Axle Repair
20	8990430	1	Manual, ZF Front Axle Repair
21	8990423	1	Manual, ZF Transfer Case Repair
22	8990450	1	Manual, ZF Transmission Technical Data and Maintenance
23	8990519	1	Laminate, Hydraulic Testing MMV2
24	4110184	4	Decal, Fan Warning
25	4110301	1	Plate, Hydraulic Oil Fill
26	4110302	1	Plate, Hydraulic Oil Level
27	4110308	1	Decal, Lubrication Chart
28	4110464	1	Decal, Maintenance Chart
29	4110137	1	Decal, Tip Over Hazard
30	4108991	1	Decal, Electrocut Hazard
31	4110463	2	Decal, Ether Start Warning
32	4110462	1	Decal, Fuse Location (back side of cover)
33	4110359	1	Decal, Steer Mode Indicator
34	4110361	1	Decal, Safety Instructions
35	4110358	1	Decal, Warning and Danger
36	4110468	1	Decal, Coolant Filling Caution

37	8990518	1	MMV Operator, Parts and Service Manuals on CD
38	Not Available	Ref	Plate, Universal Identification
39	8302531	8	Rivet, Pop, .125 Dia.
40	Not Available	Ref	Plate, MMV Serial Number
41	Not Available	Ref	Plate, Universal Identification, Engine
42	Not Available	Ref	Plate, Universal Identification
43	Not Available	Ref	Plate, Universal Identification, 7K Carriage
44	1001121649	1	Decal, Slave 24V DC, (S/N MV1210 and after)
45	100112065	1	Decal, Government Ground Support (front side of cover)
46	6610002	1	Plate, Engine Oil Sample

Rev.
09/10

MMV

Tier 1
Tier 2

S/N MV201 -

DECALS AND MANUALS

11.1.1.1



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