

# Assembly and Operation Manual

## for the M80ECM

### 12-volt Broadcast Spreader



patent #8,201,759 B2

#### **5-YEAR LIMITED WARRANTY**

Earthway Products, Inc. warrants this product free of defects in original workmanship and materials for a period of 5-Years to the end user with the original purchase receipt. If a manufacturing non-conformance is found, Earthway Products, Inc. at its discretion will repair or replace the part(s) or product at no charge provided the failure is not the result of incorrect installation, mishandling, misuse, tampering, or normal wear and tear as determined by Earthway. Earthway at its discretion may require that the part(s) or product be returned along with the original purchase receipt at owners' expense for examination and compliance with the terms of this warranty. Do not return any product without first receiving authorization from Earthway Products, Inc. To seek remedy under this warranty, contact Earthway Products, Inc. at 574-848-7491, techsupport@earthway.com or write to Earthway Products, Inc. P.O. Box 547 Bristol, Indiana 46507 and describe the nature of the manufacturing defect. **SPECIFIC LIMITATIONS:** This warranty covers only the part(s) or product; any labor charges associated with repair or replacement of non-conformances are specifically excluded. Due to the corrosive nature of most fertilizers and ice melt products, Earthway Products, Inc. makes no warranty against and specifically excludes part(s) or product degradation or failure due to corrosion or its effects. Only use granular materials, the use of Rock Salt or other large size material will void the warranty. **Clean and dry** your spreader thoroughly after each use, as a preventative measure, coat all metal parts (inside and outside of the steel tubing) with a light oil or silicon spray.

**10-2016 Part# 52219**



**Electric Spreaders  
Models M80ECM**

- \* Always wear protective clothing, eye wear, and dust mask to prevent contact with chemicals and other materials being applied with this machine.
- \* Remove any material in the hopper before lifting or detaching this machine from the vehicle.
- \* Care must be taken when lifting this machine so as not to cause personal injury or equipment damage. Never attempt to install this machine to the vehicle alone. Recruit the help of someone to assist when attaching and detaching this machine from the vehicle.
- \* Refer to the material packaging or the Material Safety Data Sheet for precautionary measures required when handling materials to be applied.
- \* Before attaching this machine, consideration must be given to the load capacity of the vehicle. Refer to the owner's manual of the vehicle for rated load capacity. Be sure to take into account the weight of this machine is 30lbs. and the weight of the material to be placed in the hopper when calculating the total load



# WARNING

**KEEP HANDS AWAY FROM ANY SPINNING OBJECT, SHUT-OFF PLATE, SHUT-OFF MECHANISM LINKAGE, AND THE INSIDE OF THE HOPPER, EXTREME INJURY CAN OCCUR.**

**HOW TO OPERATE SAFELY:**

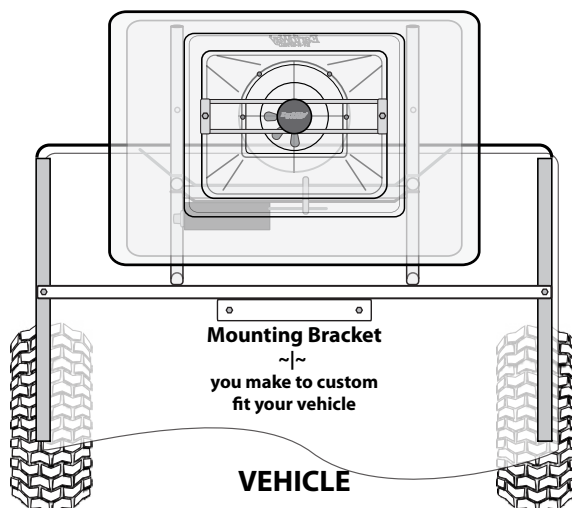
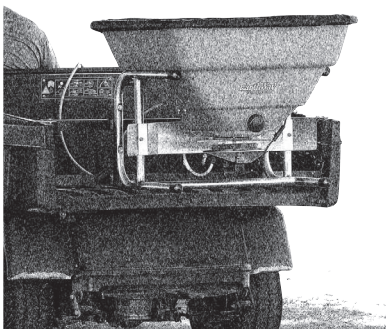
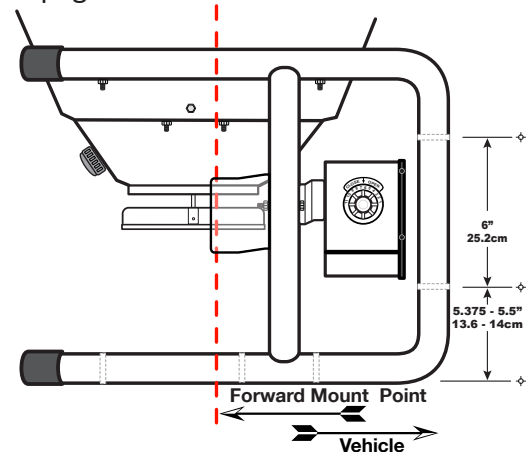
- \* Read, understand, and follow all product label information provided on the material being applied.
- \* The Setting Rate is adjusted on the ECM on the rear of the spreader see page 4 for details.

**MOUNTING INSTRUCTIONS:**

Position the M80 on the vehicle so that the vertical center frame brace is positioned at the edge of the vehicle, this will allow a full 180 degree spread pattern.

Shown in photo is a cross-bed mounting frame.

**Connect only the black wire (ground) to the negative (-) post on the battery. Connect the other wire (maked as Positive) to the positive (+) post on the battery.**



## Electric Spreaders Rate Setting Worksheet

Desired Application Rate (lbs./1,000 sq. ft.) \_\_\_\_\_

To determine the desired application rate divide the area (sq. ft.) the bag should cover by the weight of the bag, then multiply by 1,000. (Example: 5,000 sq. ft. / 25 lbs. = .005 x 1,000 = 5)

\_\_\_\_\_ Weight of Material Placed in Hopper  
 - \_\_\_\_\_ Weight of Material Left in Hopper  
 = \_\_\_\_\_ Weight of Material Used

50 Length of Test Area (50 from previous page)  
 x \_\_\_\_\_ Width of Spread Area  
 = \_\_\_\_\_ Total Spread Area

Divide the Weight of Material Used by the Total Spread Area = \_\_\_\_\_ lbs.\sq. ft.

Multiply the lbs.\sq. ft. times 1,000 = \_\_\_\_\_ lbs\1,000 sq. ft.

Compare the results of your test to the desired application rate.

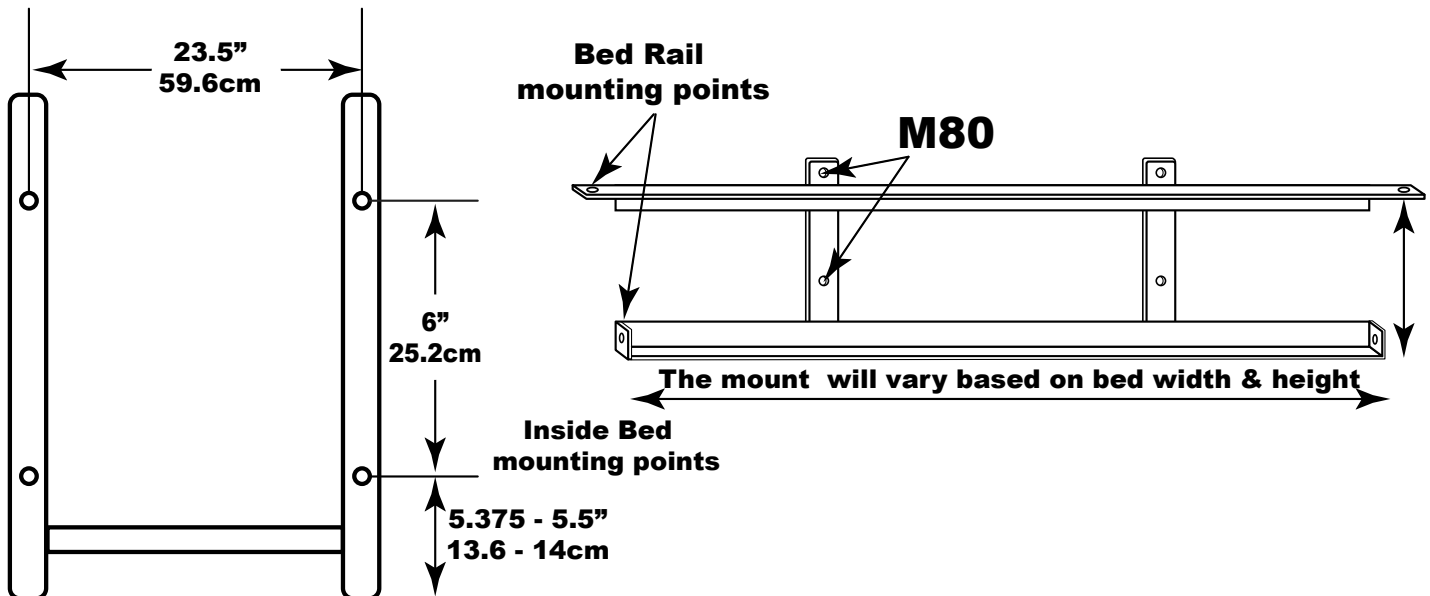
Adjust the rate setting stop accordingly and run through the test again.

Repeat this process until you have achieved the desired application rate.

The settings furnished on the Rate Setting Chart are intended as a guide only. Variations in physical characteristics of material applied, brisk walking speed (3 mph.), and roughness of ground surface may require slightly different spreader settings. Due to the above conditions, Earthway Products, Inc. makes no warranty as to the uniformity of coverage actually obtained from the setting listed.

### Mounting Systems - *user fabricated*

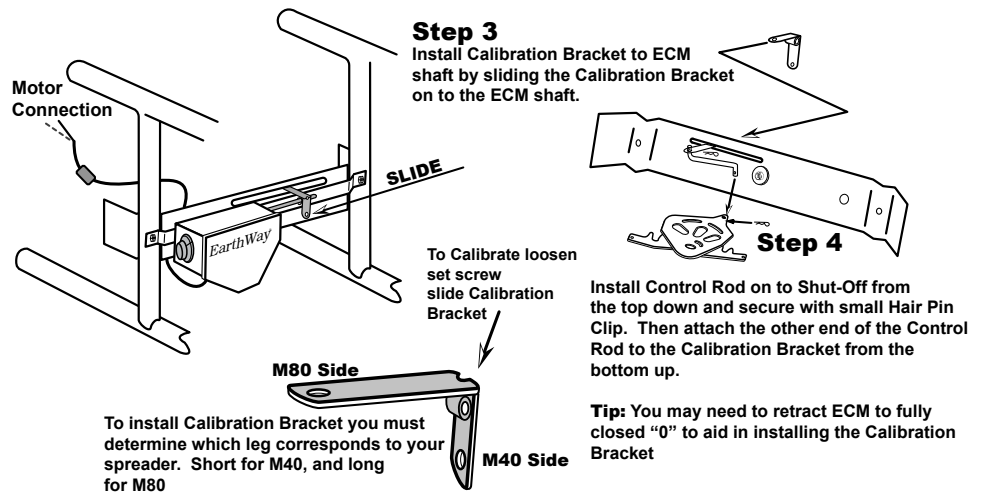
Earthway recommends that the M80ECM be mounted into the bed of a vehicle or to a secure horizontal or vertical surface capable of holding a 500lb. weight. The hole location & dimensions are for reference when constructing your mount. Earthway does not offer custom mounts.



**M80 Frame Detail**

## CALIBRATION INSTRUCTIONS:

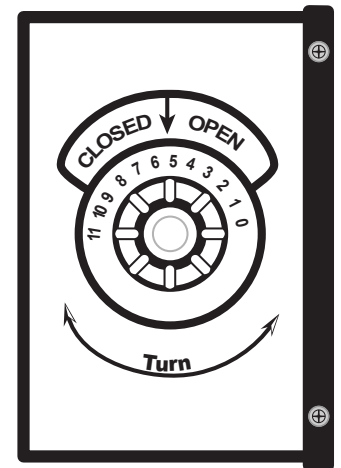
- \* Loosen set-screw on Calibration Bracket
- \* Set adjustment dial to "0" Closed
- \* Activate switch to extend to the "STOP"
- \* Slide Calibration Bracket to ensure shut-off is closed
- \* Calibration is now complete



## To Calculate RATE SETTINGS:

- \* Determine how much material is to be applied per 1,000 sq./ft.
- \* Measure off a distance of 50 feet, preferably on a paved surface such as a parking lot.
- \* Weigh out enough of the material to be applied to fill the hopper at least half full. Record the weight for future use.
- \* With the unit mounted on the vehicle and the hopper at least half full of the material to be spread, position the vehicle far enough before the beginning of the 50 foot test area so that the vehicle will achieve the desired speed before you reach the starting line.
- \* Select the Setting Rate position that you feel would be an appropriate setting on the ECM Module from 1 to 11. **IMPORTANT - only make Rate Adjustments with the shut-off in the CLOSED POSITION**
- \* Start the vehicle in motion and as you cross the starting line (of the 50 feet) move the rate lever to the open position against the stop. Take care to be aware of what is going on around you maintaining control of the vehicle.
- \* Continue from the starting line with the unit spreading the material. As you cross the finish line move the rate lever to the closed position.
- \* Stop the vehicle and note the width of the spread path that was just completed.
- \* Return to the start point and empty the remaining material from the hopper into your weighing container and re-weigh.

## **ECM Rate Adjustment**

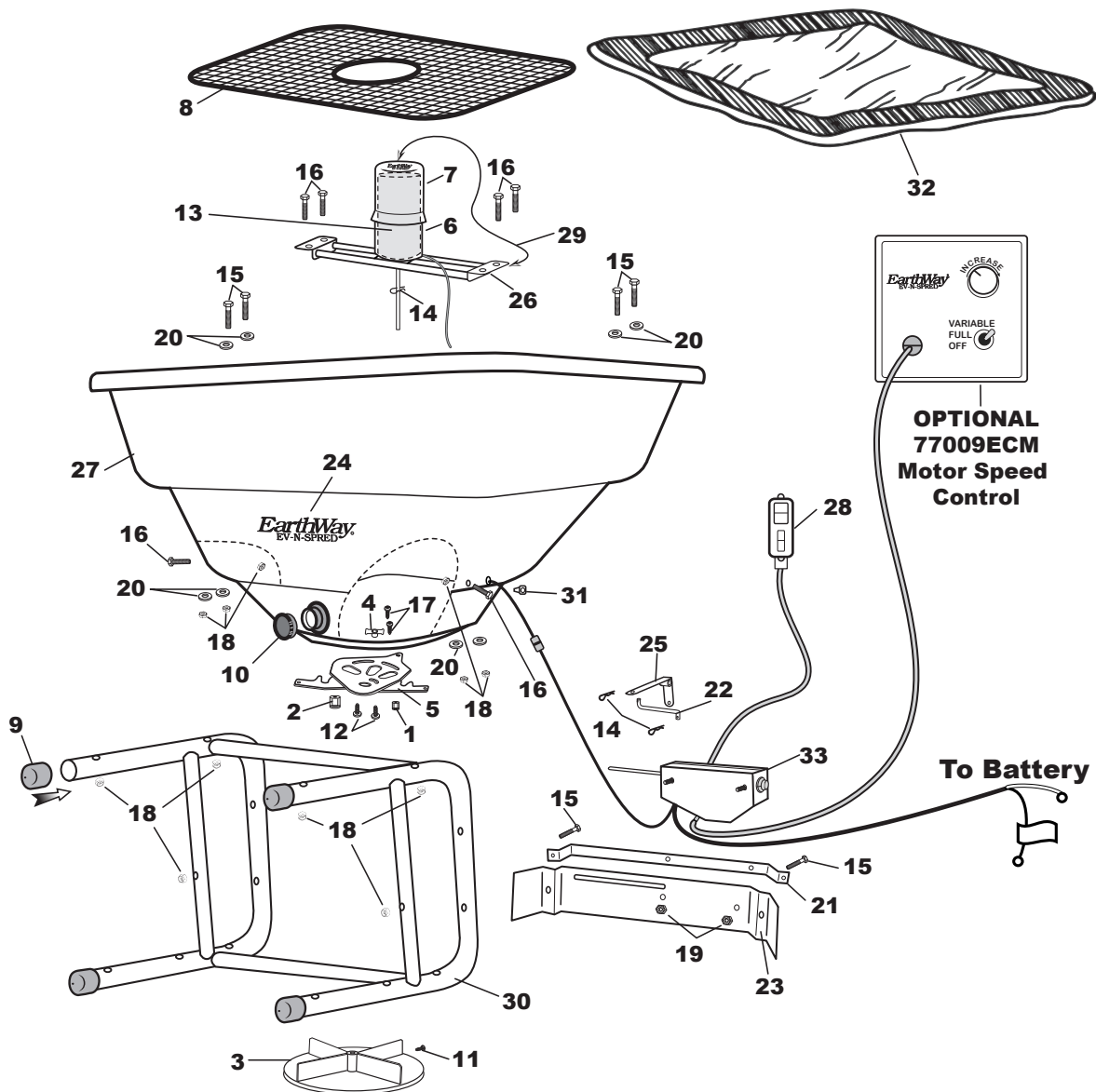


## OPERATING INSTRUCTIONS:

Before filling hopper, become familiar with the operation of this spreader.

(Practice the following steps)

- \* Turn the motor switch to the "ON" POSITION, so that the impeller is turning before going on to the next step.
- \* While driving forward turn the ECM Control switch (wide top switch) to the "ON" POSITION, this opens the shut off plate on the spreader.
- \* To stop the flow of material, turn the ECM Control switch to the "OFF" POSITION, then turn the motor off when finished.
- \* When finished empty any remaining material from hopper.
- \* Thoroughly wash spreader and allow to dry before storing. Lubricate all moving parts with a graphite or silicon spray.



### M80ECM Parts List

Key #	Part #	Description	Key #	Part #	Description
1	11926	SHUTOFF SUPPORT- SMALL	18	36300	1/4-20 NYLON INSERT LOCKNUT S.S.
2	11927	SHUTOFF SUPPORT- LARGE	19	36305	1/4-20 HEX NUT STAINLESS STEEL
3	12109	IMPELLER (9" DIA)	20	36400	5/8" OD. X 9/32" ID WASHER S.S.
4	12209	HOPPER BUSHING (C24/C25)	21	41260	ACTUATOR MODULE MOUNTING BRACKET (M80ECM)
5	12278	SHUT OFF PLATE ASSEMBLY	22	41277	CONTROL ROD (M40ECM)
6	12309	MOTOR BASE (M20/M21)	23	42293	REAR DEFLECTOR (M80ECM)
7	12311	MOTOR CAP (M21/M40)	24	53226	HOPPER LABEL (M80)
8	12315	SQUARE SCREEN W/HOLE	25	60145	CALIBRATING BRACKET ASSEMBLY
9	19168	1 1/4 TUBE CAP	26	60330	MOTOR SUPPORT ASSEMBLY (M21S & ECM UNITS)
10	19170	DRAIN PORT CAP 2" 20C	27	60409	HOPPER ASSEMBLY (M80)
11	31103	#6 X 1/2" TYPE 25 HWHS ZINC	28	60472	CONTROL PENDANT (ECM)
12	31138	#8 X 3/8" PMT #8 HD	29	60484	MOTOR ASSEMBLY (ECM SERIES)
13	77102	ELECTRIC MOTOR DRILLED	30	60543	FRAME ASSEMBLY (M80ECM)
14	36101	HAIR PIN CLIP S.S.	31	70207	STRAIN RELIEF ROUND CABLE
15	36209	1/4-20 X 1 3/4" HHCS S.S.	32	77053	HEAVY DUTY RAIN COVER
16	36210	1/4-20 X 1" HHMS S.S.	33	77059	ACTUATOR ASSEMBLY
17	36223	#6 X 1/2" TYPE "A" PHPS S.S.	<b>OPTIONAL</b>	77009ECM	MOTOR SPEED CONTROL

Earthway Products, Inc.  
P.O. Box 547  
Bristol, Indiana 46507  
USA



## EC DECLARATION OF CONFORMITY

### (Machinery Directive & Electromagnetic Compatibility Directives)

Herewith we declare that the machinery described below is in accordance with the relevant health and safety requirements of the EC Council Directives concerned with Machinery and Electromagnetic Compatibility. No alterations are to be made to the machine without prior consultation and approval of Earthway Products, Inc. otherwise the Declaration may become invalid. This equipment must be commissioned, used and maintained strictly in accordance with the operating and maintenance instructions issued with the machine. Operators must be trained in accordance with the recommendations given in the operating and maintenance instructions issued with the machine.

Description of Machine: **EarthWay® M80 12-volt Broadcast Spreader**

Date of Supply: AS INVOICED DATE

**Relevant EC Council Directives:**

Machine Directives 89/392/EEC and subsequent amendments.

Electromagnetic compatibility Directive 89/336/EEC and subsequent amendments.

Issued by: Jeffrey D. Kendall on behalf of Earthway Products, Inc.

Signed by: 

Date: October, 2016

Position of Signatory: Vice President Sales & Marketing

**DO NOT RETURN TO DEALER FOR REPAIR**

EARTHWAY PRODUCTS, INC.  
1009 Maple Street  
P.O. Box 547  
Bristol, IN 46507

FOR YOUR RECORDS

Date Purchased: \_\_\_\_\_  
Store Name: \_\_\_\_\_