



FMB FIXED ANGLE SCRAPER

Installation and Parts Manual



MONROE SNOW & ICE CONTROL

A Division of Monroe Truck Equipment

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SAFETY INSTRUCTIONS

- Read all installation, safety and maintenance instructions completely before operating this equipment.
- Keep all personnel clear of moving parts while scraper is being operated.
- Lower the scraper blade to full down position, apply emergency brake and stop engine before leaving the vehicle to inspect scraper.
- Do not operate truck in reverse with scraper blade in down position!
- Do not operate a scraper in need of maintenance! Repair immediately!
- While operating this equipment use common sense, use caution, be alert and be safety-conscious.

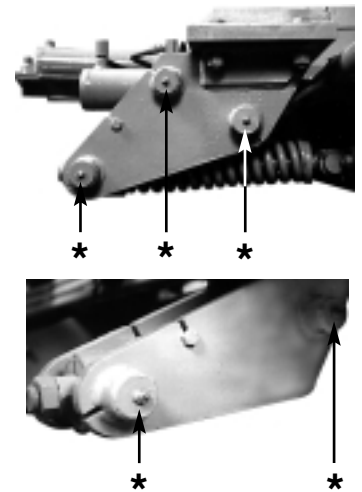
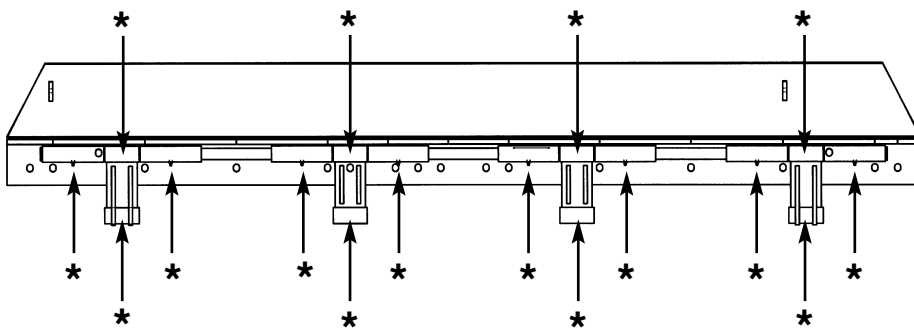
"IF IT CAN'T BE DONE SAFELY, DON'T DO IT!"

Monroe Truck Equipment safety slogan

MAINTENANCE INSTRUCTIONS

In Season:

- Check for loose bolts and nuts daily, and re-torque before use. (Failure to inspect equipment on a daily basis may seriously affect safety and/or efficiency.)
- Lubricate all grease fittings every ten hours of normal use and more frequently under heavy use. (See diagram below for locations.)
- Check all hydraulic fittings for tightness on a regular basis.
- Check cutting edge for wear. Do not let cutting edge wear closer than $\frac{1}{2}$ " to $\frac{3}{8}$ " from moldboard.
- Due to the nature of use and environment this scraper is operating in, damage and wear may occur at anytime. Therefore, **Monroe Truck Equipment** recommends the end user establish and follow a daily inspection routine before using this scraper.



* Location of grease fittings

Off Season: *(If Applicable)*

- Use care when disconnecting hydraulic lines to assure that no dirt or foreign objects enter the hydraulic system. Use caps to cover hydraulic hose fittings and insert plugs into hydraulic ports.
- Hydraulic cylinders should be fully retracted when stored during the off season to prevent damage or corrosion. The remaining exposed shaft surface should be coated with a thick grease to prevent corrosion, which must be removed before returning to regular service.
- Check mounting bolts for wear and/or damaged threads and replace before re-mounting.

INSTALLATION INSTRUCTIONS

NOTICE: This "Safety Check" ✓ symbol is a reminder to follow all safety messages and precautions involved when installing or operating the FMB Scraper. It means to be **CAREFUL, ALERT** and **SAFETY CONSCIOUS!!!**

1. Clear the truck frame for mounting space necessary for scraper. You will need approximately 24" of ground clearance for the entire area where the moldboard is installed, and 3" clearance above the mounting plate.
2. Slide the assembled circle under the truck and raise it into position. The distance from the bottom of the circle assembly to the ground should be approximately 20" (Figure 1). Be sure to square it off the truck frame, not the ground, as some truck frames are not parallel to the ground. ✓ **Stay clear of area beneath circle until it is safely and securely supported. Use Caution!**
3. Move the circle hanger brackets into position. *Note:* The mounting brackets on the circle assembly for the hanger brackets are spaced at 34". Any frame width more than 34" will require the shims we provide. These shims are to be installed between the mounting bracket on the circle assembly and the hanger brackets (Figure 2).
4. Bolt the hanger brackets (and shims if needed) onto the circle mounting bracket.
5. Locate the hanger brackets on the frame in the proper position for the length of the moldboard you have (Figure 3).
6. Check all measurements to make sure scraper is located correctly. *Note:* Be sure to square circle assembly off the frame and not off the ground!
7. Drill and bolt the circle hangers into place.

INSTALLATION INSTRUCTIONS

8. Raise the hangerboard/moldboard assembly into place. Bolt the circle clamps in place, and install the center bolt. Tighten the center bolt until the hangerboard/moldboard assembly swings freely through its entire arc. Install the cotter pin through the castellated nut. Warning: It is very important that the hangerboard/moldboard assembly swings freely through its entire arc. If everything is mounted level and square, this is easily achieved. If there is a slight problem, a small amount of adjustment in most bolt holes is available. ✓ **Stay clear of area beneath hangerboard/moldboard assembly until it is safely and securely supported. Use Caution!**

9. After everything is installed and adjusted so that the hangerboard/moldboard assembly swings freely, install the swing cylinder(s) and plumb (Figure 4). Fasten the rear portion of the cylinder support bracket to the frame or a cross-member. (2 straps and a gusset, tack-welded together, are furnished.)

The proper valve for the power angle cylinder is a three position, four-way valve, which requires a hold position in neutral. A mechanical lock system is required to prevent cylinder damage. The valve for the curl or blade lift is also a three position, four-way.

Operate all the functions on the scraper, check for oil leaks. ✓ **Stay clear of area beneath and near hangerboard/moldboard assembly while performing these operating tests. Use Caution!**

These mounting instructions are intended as a guide to aid you in the installation of your Monroe Scraper. All dimensions noted in the instructions are approximate and may vary due to: make and model of chassis, tire size, type of suspension, spring deflection, customer preference, and interference caused by immovable attachments such as a transfer case. Ideally, the scraper should be mounted to get full usage of the cutting edge without wearing into the moldboard. **Monroe Truck Equipment** assumes no responsibility for improper installation, unless installed at an MTE location. Mounting location should be discussed by the end-user and the installer prior to installation in order to achieve the best possible installation.

CYLINDER OPERATING SAFETY PROCEDURES

- ✓ Operating pressure on the **down side** of the curl or raise/lower cylinders should not exceed 400 psi. The relief valve we furnish is factory preset. It must be installed on the down side of all scrapers. **Changing the pressure may cause damage to the cylinder, possible injury, and will void the warranty.**

- ✓ System pressure should not exceed 1000 psi for the power reverse cylinder(s) or 1850 psi for the upside of the curl cylinders. High pressure systems require additional relief valves (not furnished). **Exceeding these pressures may cause damage to the cylinder(s), possible injury, and will void the warranty.**

INSTALLATION DIAGRAMS

Figure 1

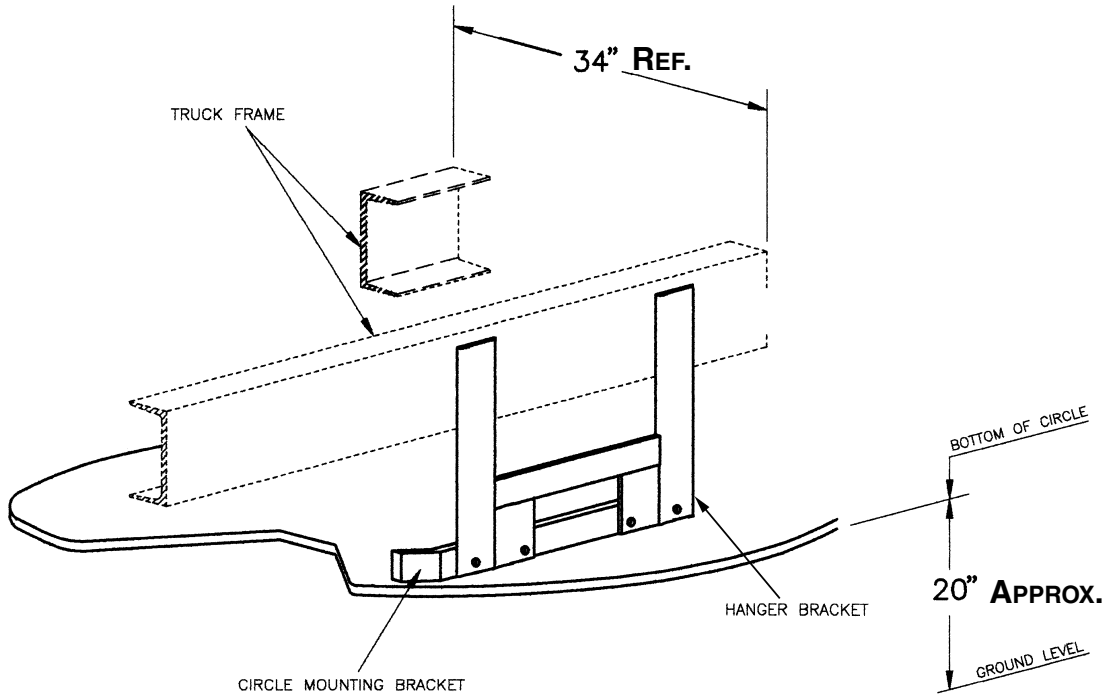
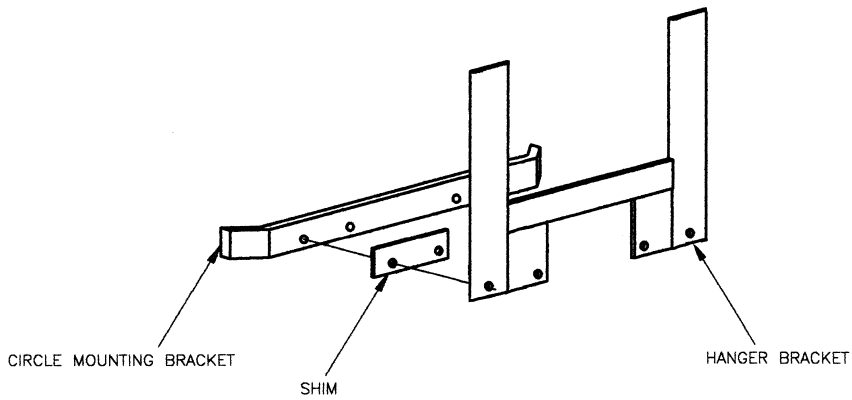


Figure 2



INSTALLATION DIAGRAMS

Figure 3

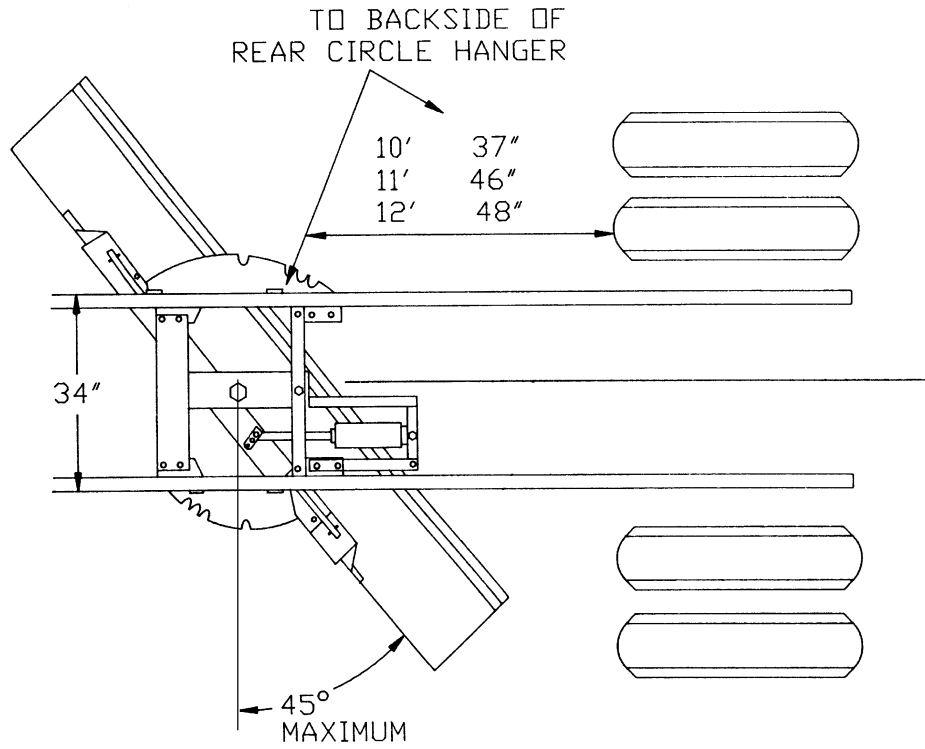
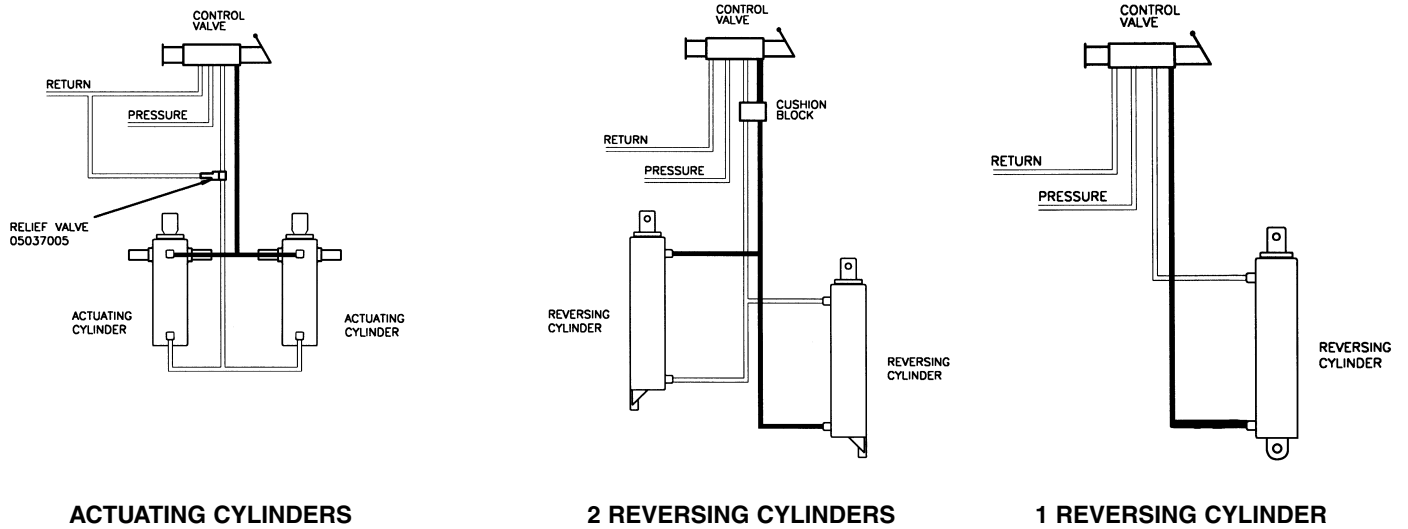





Figure 4



GENERAL INFORMATION

- Location descriptions are noted in direction of travel. (i.e. front, rear, left and right.)
- Delivery of replacement parts is subject to our sales delivery terms.
- Use only **Monroe Truck Equipment** O.E.M. replacement parts. Failure to do so will void warranty.
- Replacement parts listed in this manual reflect our most common FMB Scraper items. If you do not find the part you require, please call your distributor.
- **Monroe Truck Equipment** reserves the right to make revisions or alterations to this parts manual.

TORQUE CHART

SIZE	 GRADE 2	 GRADE 5	 GRADE 8
1/4-20	50 IN-LBS	75 IN-LBS	9 FT-LBS
3/8-16	15 FT-LBS	23 FT-LBS	35 FT-LBS
1/2-13	35 FT-LBS	55 FT-LBS	80 FT-LBS
5/8-11	75 FT-LBS	110 FT-LBS	170 FT-LBS
3/4-10	130 FT-LBS	200 FT-LBS	280 FT-LBS
1-8	190 FT-LBS	480 FT-LBS	680 FT-LBS
1 1/4-7	380 FT-LBS	840 FT-LBS	1360 FT-LBS

HOW TO ORDER PARTS

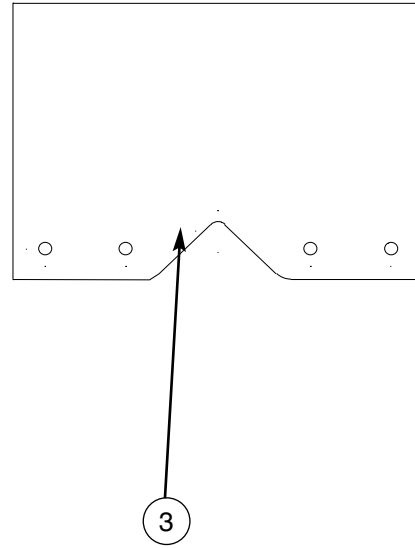
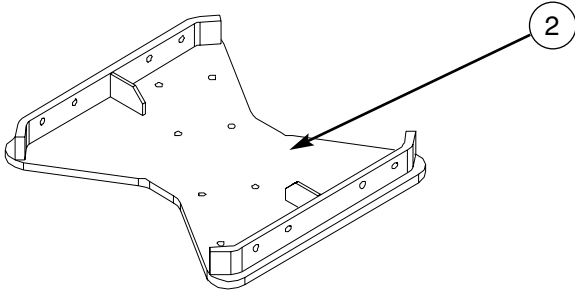
To order or inquire about replacement parts, please contact the **distributor** or **store** that the product was purchased through. To speed the information flow, please have the following information ready:

- Model Number
- Serial Number
- Part Number and/or description as per the parts manual
- Quantity needed

For further information about **Monroe Truck Equipment** replacement parts, please call 800-880-0109 and ask for **Snow & Ice Parts Sales**.

RETURN POLICY

Merchandise returned to **Monroe Truck Equipment** must have a Warranty Service Request (WSR) form filled out completely and signed by authorized personnel. To get your WSR form, call 800-880-0109. For whole goods ask for **Snow & Ice Sales**. For replacement parts, ask for **Snow & Ice Parts Sales**. All returned items are subject to a 15% restocking fee and must be sent freight prepaid!



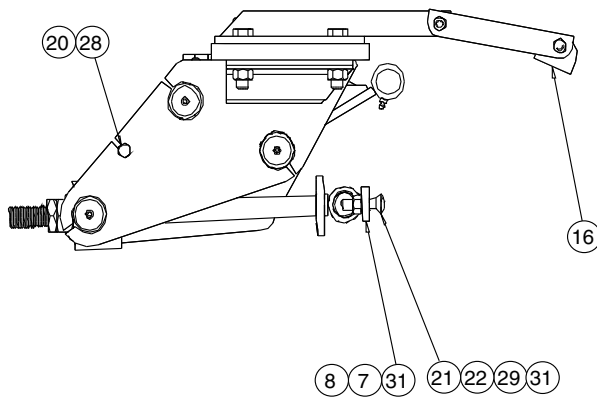
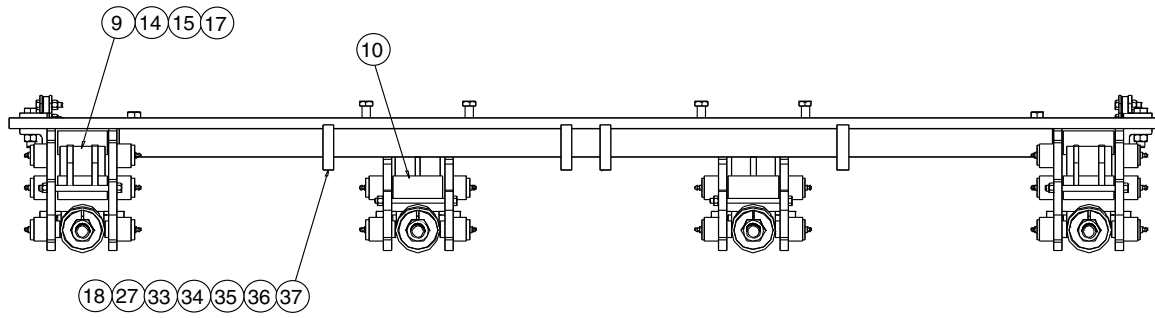
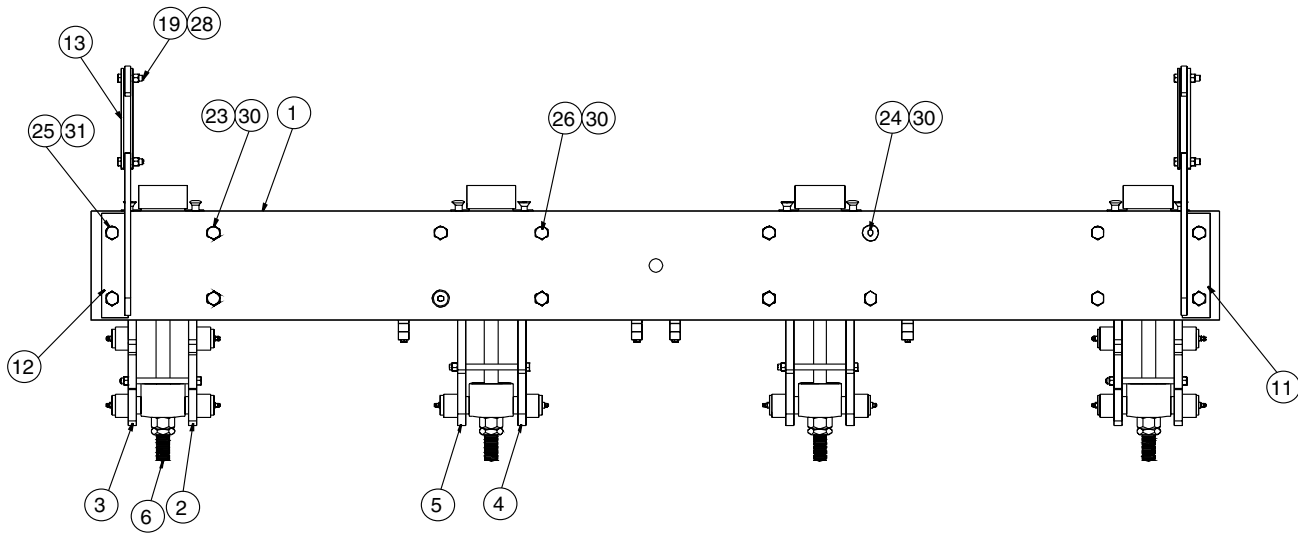
FIXED ANGLED SCRAPER, FMB 10, 3/4" X 10", MS

ITEM	QTY	PART #	DESCRIPTION
1	1	00066291	Hangerboard Assembly, FMB 10, 3/4" x 10" (See page 11)
2	1	00066292	Braket Weldment, Mounting
3	2	00039276	Hanger Bracket
4	1	00066294	Mounting Kit (See page 17)

00066291 HANGERBOARD MOLDBOARD ASSEMBLY

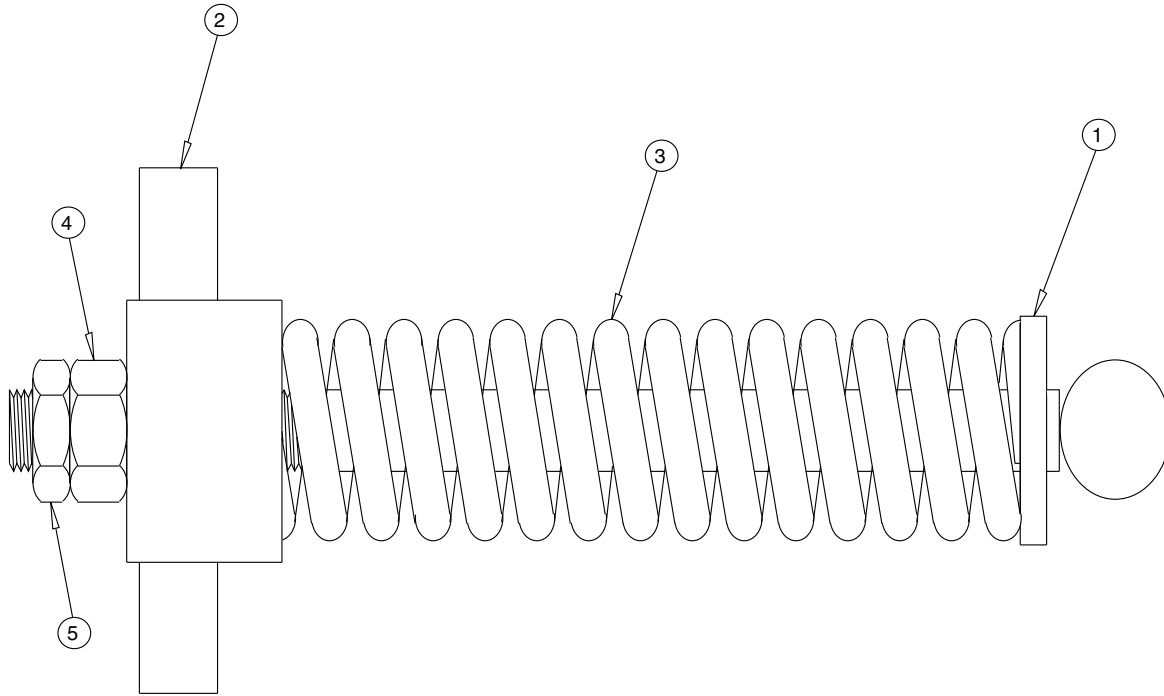
ITEM	QTY	PART #	DESCRIPTION
1	1	-----	Hangerboard Kit, FMB <i>(see page 12-13)</i>
2	1	-----	Moldboard Kit, FMB 10, 3/4"X10" <i>(see page 15)</i>
3	2	05002568	Cylinder, 3X4 DA <i>(see page 18)</i>
4	1	-----	Cutting Edge Kit, 10' <i>(see page 16)</i>

HANGERBOARD



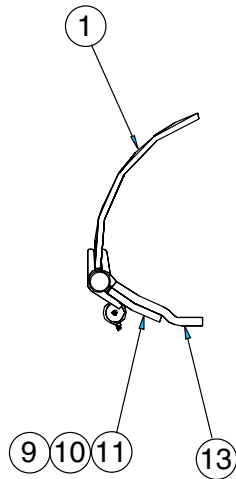
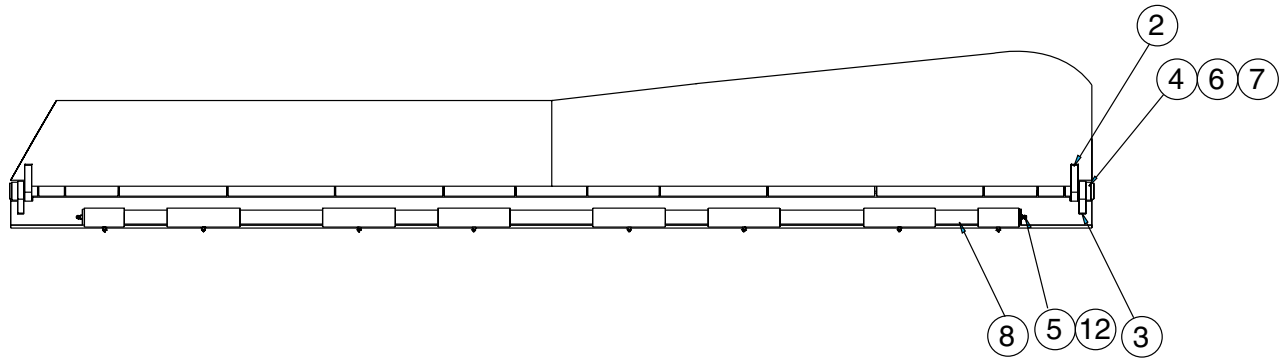
HANGERBOARD

ITEM	QTY	PART #	DESCRIPTION
1	1	00066284	Hangerboard Weldment
2	2	00060665	Outer Springs Bracket, RH
3	2	00060666	Outer Springs Bracket, LH
4	2	00060671	Inner Springs Bracket, RH
5	2	00060672	Inner Springs Bracket, LH
6	4	00060674	FMB Spring Assembly (<i>see page 14</i>)
7	4	00060703	Pin, 1½"X4¾"
8	4	00060678	Spring Attachment Bracket
9	2	00041861	Linkage Weldment, Outer FMB
10	2	00060660	Linkage Weldment, Inner FMB
11	1	00060683	Bracket, RH Linkage
12	1	00060684	Bracket, LH Linkage
13	4	00060087	Linkage, Moldboard
14	2	05022000	Pin, 1"X3½", Button Head Zinc
15	2	05022100	Pin, ¾"X1½", Cotter
16	2	00060658	Attachment, Linkage
17	4	00060701	Rod, 1½" DIA X 8"
18	8	05010626	Bolt, ⅝"-18"X3", G8, HHCS, Zinc
19	4	05010693	Bolt, ½"-13"X2", G8, HHCS, Zinc
20	4	05010707	Bolt, ½"-13"X7", G8, HHCS, Zinc
21	4	05014703	Bolt, ⅝"-11"X2½", G8, FSH, Plain
22	4	05014553	Bolt, ⅝"-11"X3", G8, DH, Plain
23	4	05010766	Bolt, ¾"-10"X2½", G8, HHCS, Zinc
24	2	05014710	Bolt, ¾"-10"X2½", G8, FSH, Plain
25	4	05010768	Bolt, ¾"-10"X3", G8, HHCS, Zinc
26	6	05010770	Bolt, ¾"-10"X3½", G8, HHCS, Zinc
27	8	05020909	Nut, ⅝"-18", GC, Toplock, C&W
28	8	05020847	Nut, ½"-13", GC, Toplock, C&W
29	8	05020270	Nut, ⅝"-11", G8, Hex, Zinc
30	16	05020849	Nut, ¾"-10", GC, Toplock, C&W
31	8	05021383	Washer, ⅝", Heavy Spring Lock, Zinc
32	4	05022007	Pin, ¼"X1½", Cotter
33	2	05037158	Tee Adapter, ⅝", Female (all three)
34	4	05037075	Elbow, 45 DEG, ⅝", Black Pipe
35	4	05037073	Hose Assembly, ⅝", 2-Wire, 22OAL



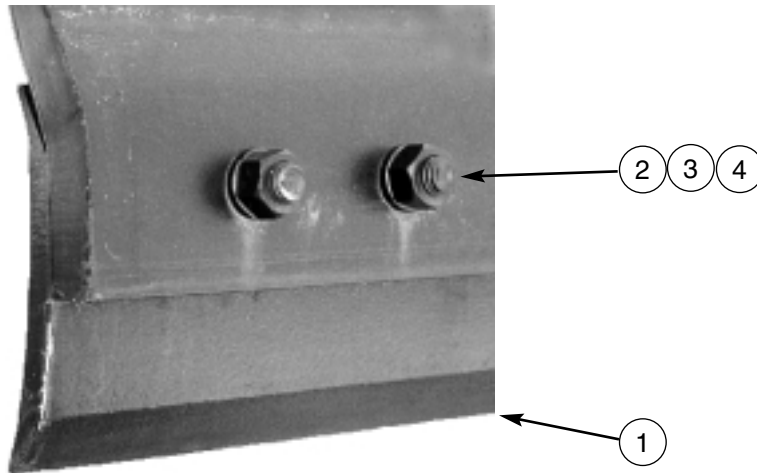
00060674 SPRING ASSEMBLY

ITEM	QTY	PART #	DESCRIPTION
1	1	00060675	Spring Adjustment Bracket Weldment
2	1	00060677	FMB Spring Cap Weldment
3	1	05035011	Compression Spring 3 $\frac{3}{8}$ " OD X17 $\frac{1}{4}$ "
4	1	05020275	Nut, 1 $\frac{1}{4}$ "-7", GR8, Zinc, HEX
5	1	05020896	Nut, 1 $\frac{1}{4}$ "-7, GR8, Zinc, JAM



MOLDBOARD KIT, 3/4"X10", RH

ITEM	QTY	PART #	DESCRIPTION
1	1	00066297	Moldboard Weldment, 10', Scrapper, FMB, Taper
2	2	00041852	Support, Upper Moldboard Hinge
3	2	00041853	Support, Lower Moldboard Hinge
4	2	00045822	Cap, Upper Moldboard Hinge
5	2	00060670	Cap
6	2	00060699	Rod, 1 3/4" DIA X 1/4"
7	2	00041863	Round Tube, 1 1/4" OD x 7/32"W X 2 7/8"
8	1	00060680	Rod, 1 1/2"DIA x103"
9	16	05014549	Bolt, 5/8-11"X2" G8, DH, Plain
10	16	05020837	Nut, 5/8-11", GC, Toplock, C&W
11	16	05021017	Washer, 5/8" Flat, SAE, Hard, F/W
12	2	05050003	Grease Fitting, 1/8", NPT, Straight
13	1	05032013	Moldboard, 3/4"X10'



CUTTING EDGE KIT, 10', 5/8"X6",DBC

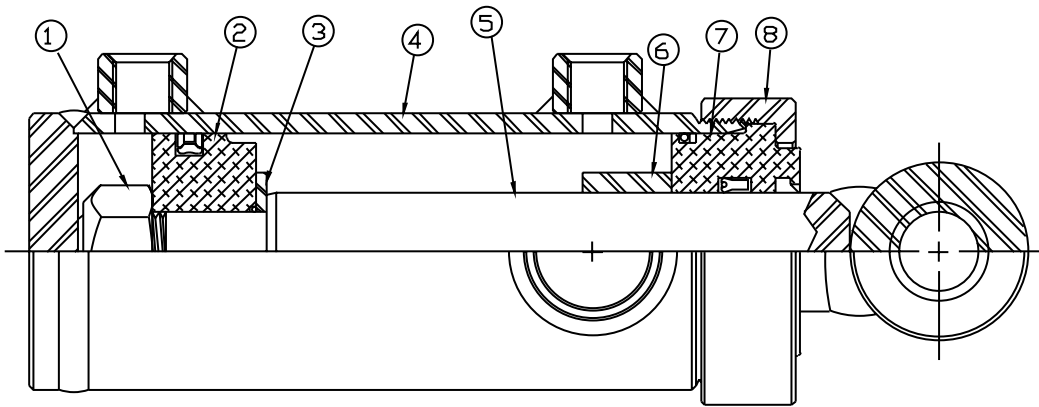
ITEM	QTY	PART #	DESCRIPTION
1	2	05031000	Cutting Edge, 5/8"x6"x5', DBC
	2	05031113	Cutting Edge, 1/2"x6"x5', DBC
2	14	05014551	Bolt, 5/8-11"x2 1/2", G8, Domehead, Plain
3	14	06020270	Nut, 5/8-11", G8, HEX, Zinc

MOUNTING BOX

ITEM	QTY	PART #	DESCRIPTION
1	8	05010768	Bolt, ¼-10"X3, G8, HHCS, Zinc
2	8	05010766	Bolt, ¼-10 x 2½, G8, HHCS, Zinc
3	17	05020271	Nut, ¼-10", G8, HEX, Zinc
4	17	05021384	Washer, ¼", Lock, Heavy, Zinc
5	1	05037005	Valve, Relief, Gresen, JL50-400
6	4	00060258	Shim, Scraper, Hanger Bracket
7	1	05010853	Bolt, 1¼-7"X4½". Toplock, C&W
8	1	05020835	Nut, 1¼-7", Flat, Zinc
9	1	05021316	Washer, 1¼", Flat, Zinc

05002568 CYLINDER, 3X4, DA, CURL FMB

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05001001	NUT, 1-14, LOCK
2	1	05002672	PISTON
3	1	05002022	WASHER, PISTON
4	1	05002684	CASE WELDMENT
5	1	05002685	ROD WELDMENT
6	1	05002686	SPACER, 1 1/8"
7	1	05002676	HEAD
8	1	05002555	CAP, THREAD
9	1	05002648	SCREW, 1/4-20, SET
	1	05002677	SEAL KIT



MONROE TRUCK EQUIPMENT, INC. WARRANTY SNOW & ICE CONTROL PRODUCTS

Monroe Truck Equipment, Inc. warrants to the original purchaser, that if any part of the product proves to be defective in workmanship or material within **ONE YEAR** of the original installation, and is returned to us within 30 days of the discovered defect, we will (at our option) repair or replace the defective part. This warranty does not apply to damage resulting from misuse, neglect, accident, improper installation, normal wear items or lack of maintenance. This warranty is exclusive and supersedes all other warranties, whether expressed or implied. **Monroe Truck Equipment, Inc.** neither assumes, nor authorizes anyone to assume for it, any other obligation or liability in connection with this warranty and will not be liable for consequential damages.

All engines, pumps, motors, cylinders and valves are warranted by their manufacturer and not by **Monroe Truck Equipment, Inc.**. The manufacturer's warranty will apply to these parts. Electrical and hydraulic components are not to be disassembled without the express written permission of Monroe Truck Equipment. Use of replacement parts other than original equipment voids this warranty.

All defective parts returned must be accompanied by the model number, serial number, date installed, date of defect, description of defect, and the name of the distributor from whom it was purchased. All warranty claims must have prior written approval from **Monroe Truck Equipment, Inc.**

Please return the warranty registration card that accompanies this manual to confirm receipt of this parts catalog and acknowledge the information contained within. Failure to return the attached card may result in a voided warranty.



1051 West 7th Street
 Monroe, WI 53566
 608-328-8127 ~ Fax: 608-328-4278

Warranty Policy

Uninstalled Parts and Equipment provided by Monroe Truck Equipment

Monroe Truck Equipment will provide the following limited warranty for a period of one year to the original purchaser of all uninstalled goods provided by Monroe Truck Equipment:

LIMITED WARRANTY: All goods provided by Monroe Truck Equipment (MTE) will be free from defects in material and workmanship for a period of one year from the date of purchase by the original purchaser. This limited warranty shall be the sole and exclusive remedy for any such product found to be defective. This limited warranty supercedes all previous warranties and is exclusive and in lieu of all other warranties, whether expressed or implied.

This limited warranty applies only to parts or accessories manufactured by MTE and/or provided by same. Except with respect to title, this limited warranty does not pertain to parts or accessories not manufactured and/or provided by MTE, regardless of whether such parts or accessories were selected and/or recommended by MTE. MTE will, as a service to the buyer, pass on any warranties received from the original manufacturer of MTE provided parts and/or accessories.

MTE will not under any circumstances be liable for any incidental or consequential damages whether in tort, contract, or otherwise, for any bodily injury, death, property damage, loss of use, or loss of income resulting from or in any way arising out of any goods provided by MTE, or their sale, use, or manufacture.

Any warranty claim deemed to be arising from the result of misuse, abuse, neglect, accident, improper installation, lack of maintenance, act of war (whether declared or otherwise), or act of God will be denied. Any repair or modification by the buyer or any third party, without the prior written consent of MTE, will void any possible warranty compensation. Any damage deemed to be the result of abnormal operation will not be compensated by this warranty.

Normal or special maintenance items such as fuels, fluids, tires, belts, hoses, filters, air cleaners, light bulbs, and any other items subject to normal wear and tear that are supplied in connection with goods provided by MTE are not allowed under this warranty.

All engines, pumps, cylinders, valves, and motors are warranted by their manufacturer and not by Monroe Truck Equipment. The manufacturer's warranty will apply to these parts. Electrical and hydraulic components are not to be disassembled without the express written consent of MTE. Any disassembly of MTE provided components without prior authorization will void the applicable warranty.

Monroe Truck Equipment shall be the sole and final determining authority as it applies to the administration of this warranty policy. Purchaser acknowledges receipt of Monroe Truck Equipment Warranty Policy and agrees to be bound by same.



GLOBAL SOLUTION
 ARMORED VEHICLES ~ SPORT TRUCK CONVERSIONS
 MUNICIPAL SNOW & ICE CONTROL ~ FIRE APPARATUS
 PICKUP TRUCK ACCESSORIES ~ TRUCK EQUIPMENT/MODIFICATIONS



Any and all warranty claims must be forwarded to MTE within 10 days of defect discovery. A copy of the original Monroe Truck Equipment invoice as well as the manufacturer's model number, serial number, and date of installation must accompany all correspondence regarding said claims. MTE will, at their option, choose whether to repair or replace the defective part unless otherwise specified by the original manufacturer of said part.

Procedures for Warranty Claims Notification

For submission of any warranty claim please contact Monroe Truck Equipment – Warranty Department at 800-356-8134

The following documentation will be needed when you call for initial warranty authorization:

1. A copy of the original MTE invoice.
2. Make, Model, and VIN or Serial Number of the equipment involved.
3. Part number and serial number of the part in question.
4. A complete description of the problem.

The following must accompany any claim submitted to Monroe Truck Equipment:

1. Documented photographs of any physical damage.
2. Inspection notes by MTE personnel or MTE authorized 3rd party.
3. Authorization number issued by Monroe Truck Equipment – Warranty Department.

Defective parts must be returned to Monroe Truck Equipment (freight prepaid) within 30 days of issuance of Authorization Number.

Monroe Truck Equipment reserves the right to void any warranty for failure to comply with Monroe Truck Equipment Warranty Policy.

This policy is effective January 1, 2004

