Parts & Service Manual for Multi-Cast Flex Plow

Torsion Trip Edge

Monroe Snow & Ice Control
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05090730
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Safety Instructions

⚠WARNING ***Before working under the vehicle or around the plow, shut off the truck engine and remove the key from the ignition. Prevent accidental hydraulic system startup and operation of the plow to avoid personal injury!***

- Locate and read all safety decals on the unit before operating the equipment. Familiarize yourself with all potential hazards in operating this equipment.
- Read all installation, operation, and maintenance instructions before operating the equipment.
- Be aware of the extra vehicle length and width created by the plow installation. Allow for the extra width when driving in traffic, passing parked vehicles, and entering buildings through overhead doors.
- Maximum recommended plowing speed is 35 mph.
- For transport, plows with angle cylinders should be angled fully to the right to reduce the overall width of the truck and plow.
- Maximum recommended transport speed is 45 mph.
- Stay away from the plow when it is moving (raise, lower, angle). Stay away from pinch points created by the moving plow components.
- Always lower the plow to the ground before leaving the vehicle unattended.
- Lower the plow to the ground before working on any of its components.
- Never work on or around the plow unless the vehicle is turned off and the ignition key is removed. Follow lock-out/tag procedures for working on hazardous equipment.
- Watch for hydraulic fluid leaks at fittings and hoses. High-pressure fluid leaks can penetrate skin and cause severe injury.
- Do not climb or walk on the plow or its mounting components, especially when the unit is wet or icy.
- If the plow needs repair or the controls are not functioning properly, repair the unit immediately. Do not continue to operate a malfunctioning unit—further and more serious damage may occur.
- Do not disassemble spring-loaded components such as trip edges and trip springs unless you have the correct tools and are trained in these tasks. Pre-loaded springs are under extreme compression and can cause severe injury if the spring force is released suddenly and unexpectedly.
- If the plow accidentally impacts an object during use, stop immediately and inspect all components. Look for bent and broken components. Do not continue to operate with a severely damaged plow.
- When removing and storing a plow for summer, locate it away from high traffic areas and block it securely so it cannot fall or be pushed over.

Maintenance Instructions

Due to the nature of plow use and the environment that plows operate in, wear and damage can be expected during the life of a plow. For maximum safety, durability, and longevity of a plow, end users must establish and follow a maintenance schedule and a storage procedure.

Plowing Season

Plow Mechanical

- Check the operation of all plow functions prior to a snow event. Make sure the plow is working properly before starting to plow.
- Retighten all fasteners after the first 8 hours of plowing.
- Lubricate all grease points every 10 hours under normal use and more frequently under heavy use.
- Inspect all threaded fasteners after each plowing event. Retighten as necessary.
- Inspect any pivot pins (unthreaded) after each plowing event. Make sure cotter pins, lynch pins, or spring clips are in place in the pivot pins.
- Check trip spring tension after each plowing event (adjustable springs only).
- Inspect the cutting edge after each plowing event. Replace the cutting edge when the bottom edge is ½" from the bottom angle of the moldboard.
- If the plow impacts a fixed object above 5 mph, stop and inspect the plow and hitch closely for bending or fracturing of metal components.

Hydraulics

- All reversible plows must have a 30 gpm (minimum) cross-over relief valve between the reversing cylinders. The required relief pressure is 1,800 psig for 3-inch cylinders and 1,000 psig for 4-inch cylinders. This relief valve protects the plow, the hitch, and the vehicle from damage if the plow hits a fixed object when partially angled.
- If MTE did not install the plow, the end user is responsible for installing a cross-over relief valve.
- Check the level in the hydraulic reservoir weekly. Use only the type of fluid recommended by the hydraulics supplier.
- Check for fluid leaks at hydraulic fittings and hoses weekly. Repair leaks immediately.
- Tighten all hydraulic fittings annually or more often during frequent use of the hydraulic system.
- Unless otherwise specified, system pressure must not exceed 2,000 psig.
- Do not make adjustments to hydraulic system pressures without consulting MTE.

Electrical

- Check the plow lights and turn signals each day.
- Keep wiring harnesses tied up so they don't drag on the ground or get snagged by moving components. Keep wiring off sharp edges that could cut through the wire insulation.
- Keep electrical connectors pushed together tightly to reduce entry of water and road salt.
- Pull electrical connectors apart once a month to check for corrosion. Re-apply dielectric grease each time a connector is pulled apart.
- If a fuse blows, replace it with a fuse of the same amperage rating as the original. If a fuse keeps blowing, investigate the reason for the overload condition.

Off Season

- Inspect the plow and check the operation of all functions before removing the plow for the season. Determine if there are any problems with the plow and its controls before storing it for the off season. Schedule repairs and parts replacements before the start of the next snow season.
- Inspect all fasteners for looseness and corrosion. If fasteners are removed during plow removal, inspect for damaged threads, bending, and signs of shearing forces. Damaged fasteners must be replaced. Split lock washers and clincher-type lock nuts should not be reused.
- Lubricate all grease points before storing the plow.
- Retract hydraulic cylinders as far as possible to protect the polished ram surfaces from corrosion. Apply a heavy coat of grease to the remaining exposed ram to protect it from corrosion.
- Cap and plug the ends of quick disconnects on hydraulic hoses when disconnecting them. Dirt that gets on the disconnect halves will enter the hydraulic system when the hoses are reconnected. Wipe the quick disconnect ends with a clean rag before reconnecting them.
- If the plow is stored outside, cover electrical wiring, hydraulic hoses, and plastic parts to protect from sunlight and UV damage. Store the plow inside a building if possible.

Replacing the Cutting Edge

1. Raise the plow as high as possible and block it up unde the hitch. Do not work under the plow if it is supported only by the hydraulic system.
2. Inspect the old cutting edge for uneven wear or damage that could indicate other problems with or improper operation of the plow.
3. Remove the old cutting edge fasteners. The old fasteners will typically be corroded and/or damaged. If necessary, cut off the fasteners with a torch. Be careful not to damage the moldboard.
4. Never re-use the old fasteners. Make sure you have new fasteners before removing the old cutting edge. Fasteners must be Grade 8.
5. With the old cutting edge removed, inspect the mounting area on the moldboard.

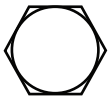
   Look for severe corrosion, bending, and impact damage. Clean off dirt and surface corrosion and check the mounting face with a straight edge. A bent or damaged mounting surface will make it difficult to keep the cutting edge fasteners tight and in severe cases, may cause plow chatter.
6. Severe damage to the moldboard must be repaired before a new cutting edge is installed and the plow is returned to service. In some cases the moldboard may need to be replaced.
7. Use a scraper and light sanding to remove all dirt and corrosion from the mounting face on the moldboard. The new cutting edge must rest flat on the moldboard for proper clamping force when the fasteners are tightened.
8. Check the mounting face of the new cutting edge for dirt, corrosion, paint and other contamination. Clean any contamination off the cutting edge mounting face.
9. Hold the cutting edge up to the moldboard. Make sure it fits properly and sits flat against the moldboard. Make sure all the fastener holes line up between the cutting edge and the moldboard.

(Continued on the following page.)

Replacing the Cutting Edge *(Continued)*

10. Note the required installation direction for carriage-type bolts and insert the fasteners. Start the nuts on to the bolt threads. Flanged top-lock (clicher) nuts are recommended. Standard top-lock nuts with hardened flat washers are also acceptable. Standard nuts with split lock washers are supplied with some installations but are not recommended. Do not use nylon-insert type lock nuts. Non-hardening (blue) thread locker is recommended for any fastener used.
11. Snug all the nuts down just enough to hold the cutting edge in the proper position.
12. Starting at the middle of the cutting edge and working outward, tighten the fasteners with a calibrated torque wrench. Use the recommended torque for Grade 8 bolts and the type of nut being used.
13. After the first four hours of plow operation with the new cutting edge, tighten the fasteners again.
14. Check the fasteners for condition and tightness prior to or just after each storm event.

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	1,360 FT-LBS

Operation Guidelines

Definitions

Back-Dragging: Driving over snow, dropping the plow blade, and pulling snow back wards. Used to clear snow from around buildings, garage doors, etc. Snow is typically pulled back far enough to gain access to push it away using normal plowing techniques.

Windrowing: Process of plowing from the middle of a parking area and creating a row of piled snow that is pushed further aside with each pass of the plow vehicle or left in an area where it does not obstruct traffic.

Reversing: Angling the plow blade to the left to change the direction of snow movement. Pushing snow to the right on a road is considered the normal plowing angle.

Stacking: Pushing snow up on to an existing snow pile to gain more room in a parking area, etc.

- Know the locations of fixed obstacles in the area to be plowed. This is best done by studying the area to be plowed before the first storm and noting items like fire hydrants and culverts. Hydrants, gas mains, water risers and other objects likely to be in the path of a plow should be flagged early in the season.
- Have a plan for where to push the snow you are plowing. Push snow into areas where it can remain throughout the winter. If it's early in the season, remember to leave room for future storms.
- Maximum recommended plowing speed is 35 mph, and slower where there are many obstructions.
- For snow close to buildings and overhead doors, drive straight up to the building or door. Drop the plow and backdrag the snow to a point where you can plow it away perpendicular to the building.
- Unless you are backdragging snow, raise the blade when backing up.
- Avoid trying to "stack" snow too high—this stresses the plow hitch and may cause mechanical damage. Keep snow pushed back as far as possible early in the season so there is room to store it without high stacking.
- Avoid "ramming" into snow piles at plowing speed. This can damage the plow and the vehicle.
- Do not plow snow into public streets where it will obstruct traffic. This is illegal in most areas.
- Do not push snow into streams, rivers, or lakes. Salt and debris in the snow may contaminate surface water.
- Do not cover storm drains with snow piles. Drains need to remain open to prevent flooding when the snow thaws.

Plow Float Function, Double Acting Hydraulic Cylinder

- Your plow may be equipped with a "Float" function. Float is used when the plow is on the ground and plowing snow.
- When the Float function is engaged, the plow is free to move up and down. This allows the plow to follow ground contours better and lets the plow ride up if it hits a large obstruction.
- For systems with a double acting hydraulic lift cylinder, Float overrides the normal power circuits for the cylinder and allows it to move freely.
- Float should be engaged at all times when plowing. Plowing with the plow "powered down" may cause plow or vehicle damage or loss of vehicle control.
- Do not "power down" plow except when back-dragging at low speed.
- For hydraulic systems with manual control levers, the Float function is a detent in the spool valve. The plow lever must be pushed all the way forward where it will remain until manually pulled back. Make sure the plow lever stays in the detent position when you remove your hand from the lever.
- For hydraulic systems with electric valves and controls, the Float function is typically engaged by a spring-return toggle switch on a joystick. The switch must the pressed each time the plow is lowered to the ground. The Float function typically disengages automatically when the joystick is pulled back to raise the plow.
- If you believe the Float function is not operating properly, have the system checked and repaired as soon as possible.

Cross-Over Relief Valve

- Each plow is equipped with a cross-over relief valve that protects the plow and vehicle from damage if an outboard edge of the plow impacts a fixed object. A heavy impact causes the relief valve to open, transferring hydraulic fluid from one reversing cylinder to the other. This allows the blade to angle back and away from the impacted object.
- The standard pressure relief setting for Monroe Truck Equipment installed valves is 1,800 psi. For most plows, this provides the best balance between protecting the plow and vehicle and preventing the plow form “drifting” back to full angle under normal plowing conditions.
- NOTE: If the plow blade is angled all the way back to a stop, the relief valve will not have any effect if the blade impacts a fixed object.
- Under normal circumstances, the pressure relief valve should not be adjusted or tampered with.
- If necessary, the relief pressure set point can be adjusted to a lower pressure to let the valve relieve during lighter impacts. However, this will result in more “drifting” of the blade while plowing.
- Never increase the relief pressure set point - this can lead to damage to the plow blade, hitch and possibly the vehicle.
- Whenever the relief valve is checked or adjusted, install a pressure gauge in the hydraulic circuit to monitor pressure. Never make adjustments to a hydraulic system without gauges to monitor pressures.

General Information

- Use only Monroe Truck Equipment O.E.M. replacement parts. Failure to do so will void the warranty.
- 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.
- Replacement parts listed in this manual reflect the most common items for this product. 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 the parts manual at any time.

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 available:

- Model Number
- Serial Number
- Part Number and/or Description of the Part
- Quantity Needed

For further information about Monroe Truck Equipment replacement parts, please call 877-834-9049.

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 for whole goods, call Snow & Ice Sales at 800-880-0109.

To get your WSR form for replacement parts, call Warranty at 877-834-9049..

All returned items are subject to a 15% restocking fee and ***must be sent freight pre-paid.***

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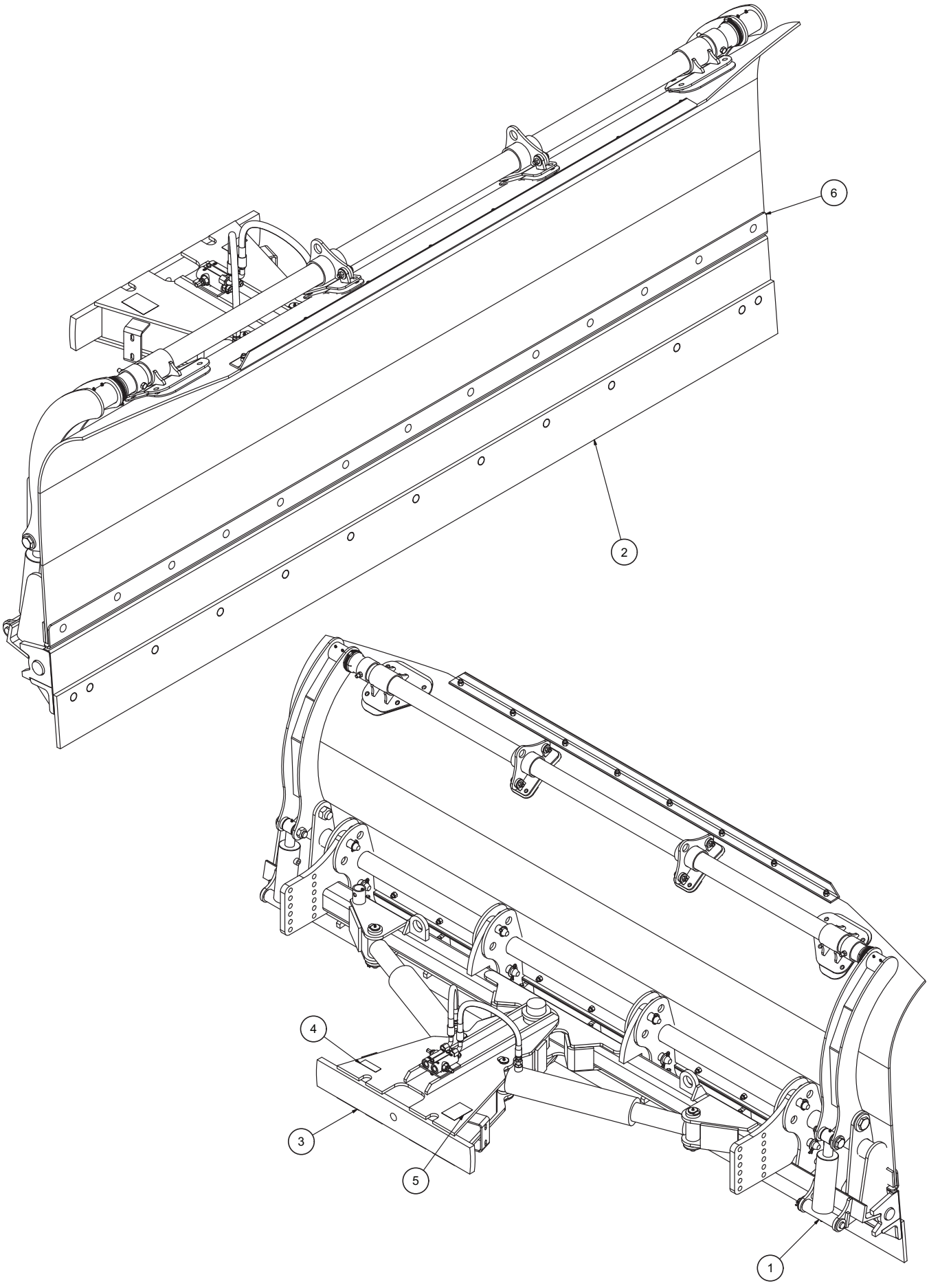
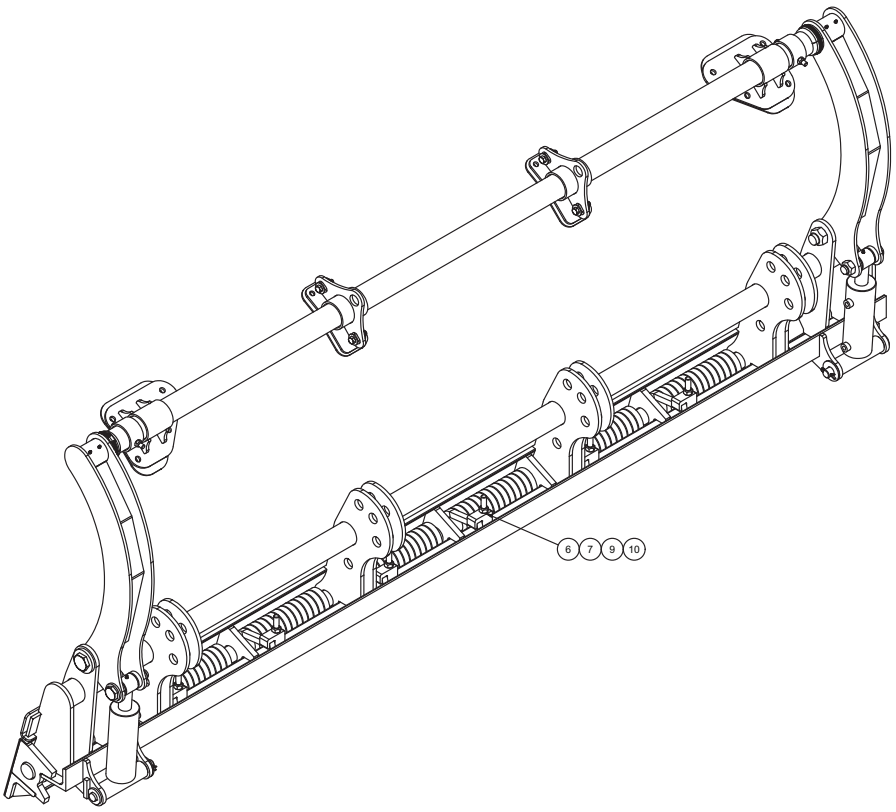
00151032 MPP3451R11-TT FLEX PLOW



00151032 MPP3451R11-TT, FLEX			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151062	MLDBD ASSY,MPP3451R11-TT,FLEX *See page 14*
2	1	00049753	CE KIT,11',.625 x 8.000,TPCSK *See page 15*
3	1	00151061	PUSHFRAME KIT,RVS,MPP-FLEX *See page 18*
4	1	05050095	TAG,SERIAL NUMBER, STANDARD
5	1	00055962	DECAL KIT,PLOW/WING *See page 20*
6	1	00152331	POLY KIT,PLOW,11' FLEX PLOW *See page 21*
7	1	00153468	REVERSING KIT,PLOW,3x16,(2)CYL *See page 22*
8	1	05090730	MANUAL,PLOW,MPP3451,FLEX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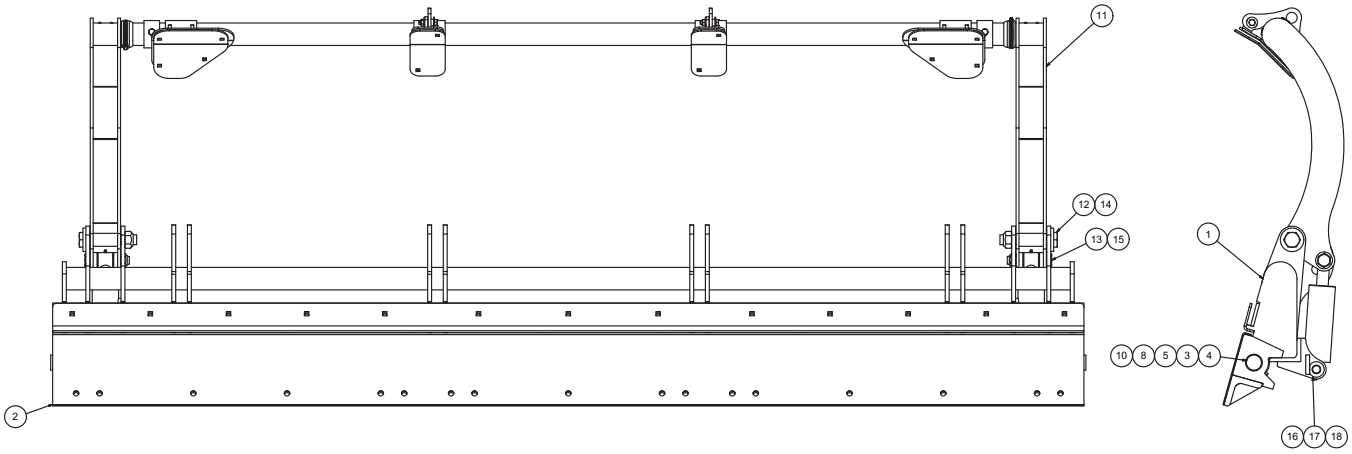
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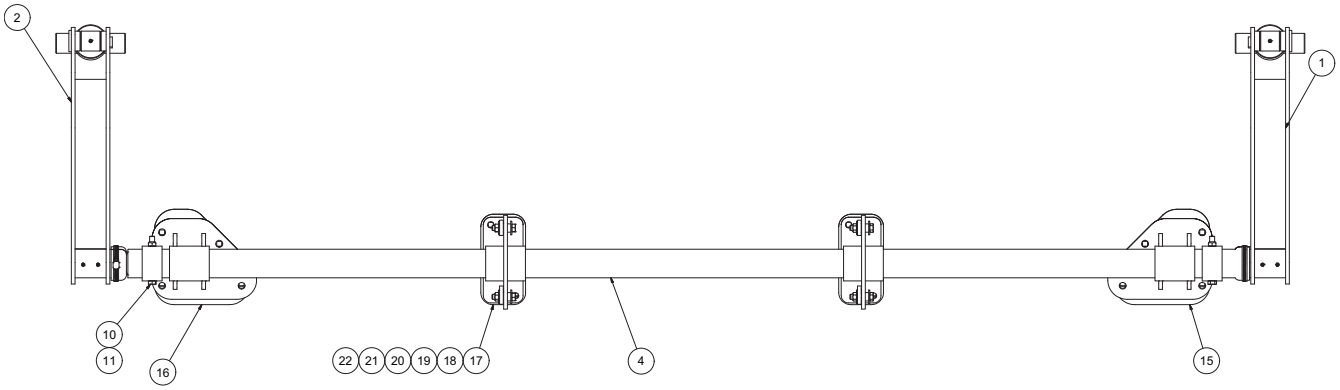
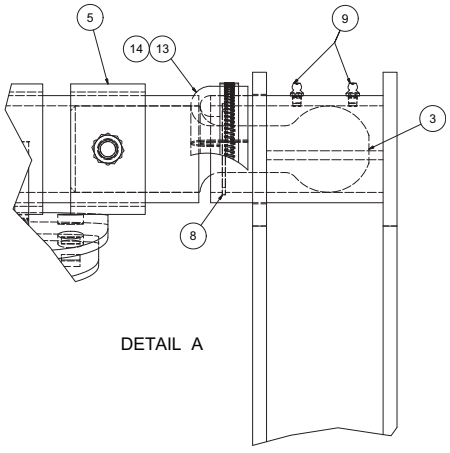
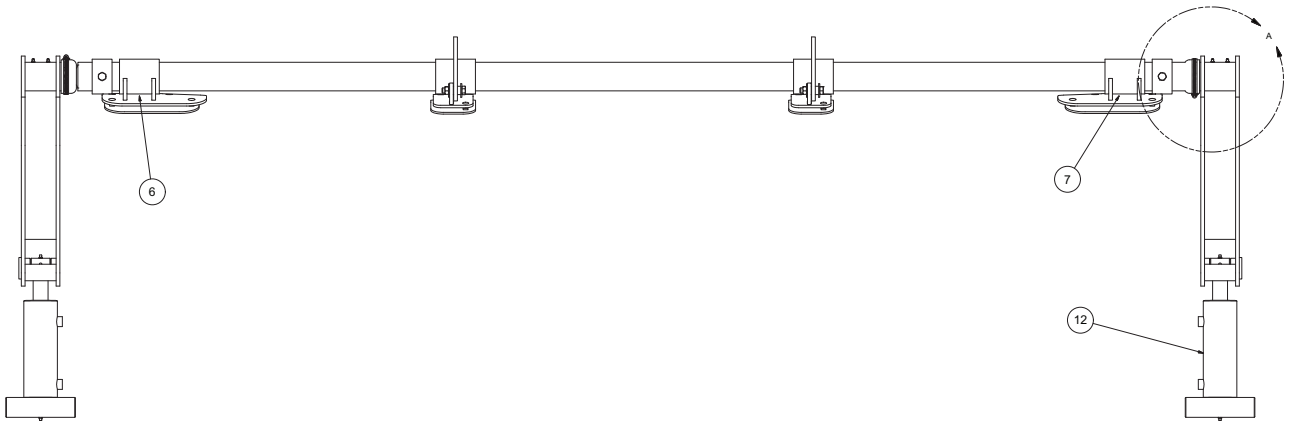
00151062 MOLDBOARD ASSY, MPP3451R11-TT, FLEX			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151033	MLDBD WLDMT,PLOW,MPP3451R11-TT
2	1	00119781	TRIP EDGE WLDMT,PLOW,11'
3	6	00031115-B	BUSHING,HITCH,HUSTING,MS
4	1	00126052	HINGE,PLOW,MPPJ,11'
5	2	00111188	COLLAR,HINGE,PLOW,MPPJ,IA
6	6	00061481	CLAMP,SPRING,PLOW,MPPJ,SQUARE
7	6	05035110	SPRING,TORSION,.750 SQ WIRE
8	2	05010745	BOLT .625-11 x 3.50 G8 HHCS ZC
9	6	05016109	BOLT .625-11 x 5.50 G8 HHCS ZC
10	8	05020837	NUT .625-11 GC TOPLOCK C&W
11	1	00151063	MTG KIT,POLY,MPP3451R11-FLEX *See page 16*
12	2	00151065	BOLT MOD,1.25-7x6.5
13	2	00151064	BOLT MOD,1.00-8x5.0
14	2	05020835	NUT 1.25-7 GC TOPLOCK C&W
15	2	05020834	NUT 1.00-8 GC TOPLOCK C&W
16	2	00040466	PIN WLDMT,1.00 DIA x 8.75 GL
17	2	05022189	PIN .250 x 1.500 COTTER
18	2	05021314	WASHER 1.00 FLAT ZC

00049753 CUTTING EDGE KIT, 11', .625 X 8, TPCSK			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05031013	CUTTING EDGE,.625x8x11',1084
2	13	05014551	BOLT .625-11 x 2.50 G8 DH PLN
3	13	05021383	WASHER .625 LOCK HVY ZC
4	13	05020270	NUT .625-11 G8 HEX ZC

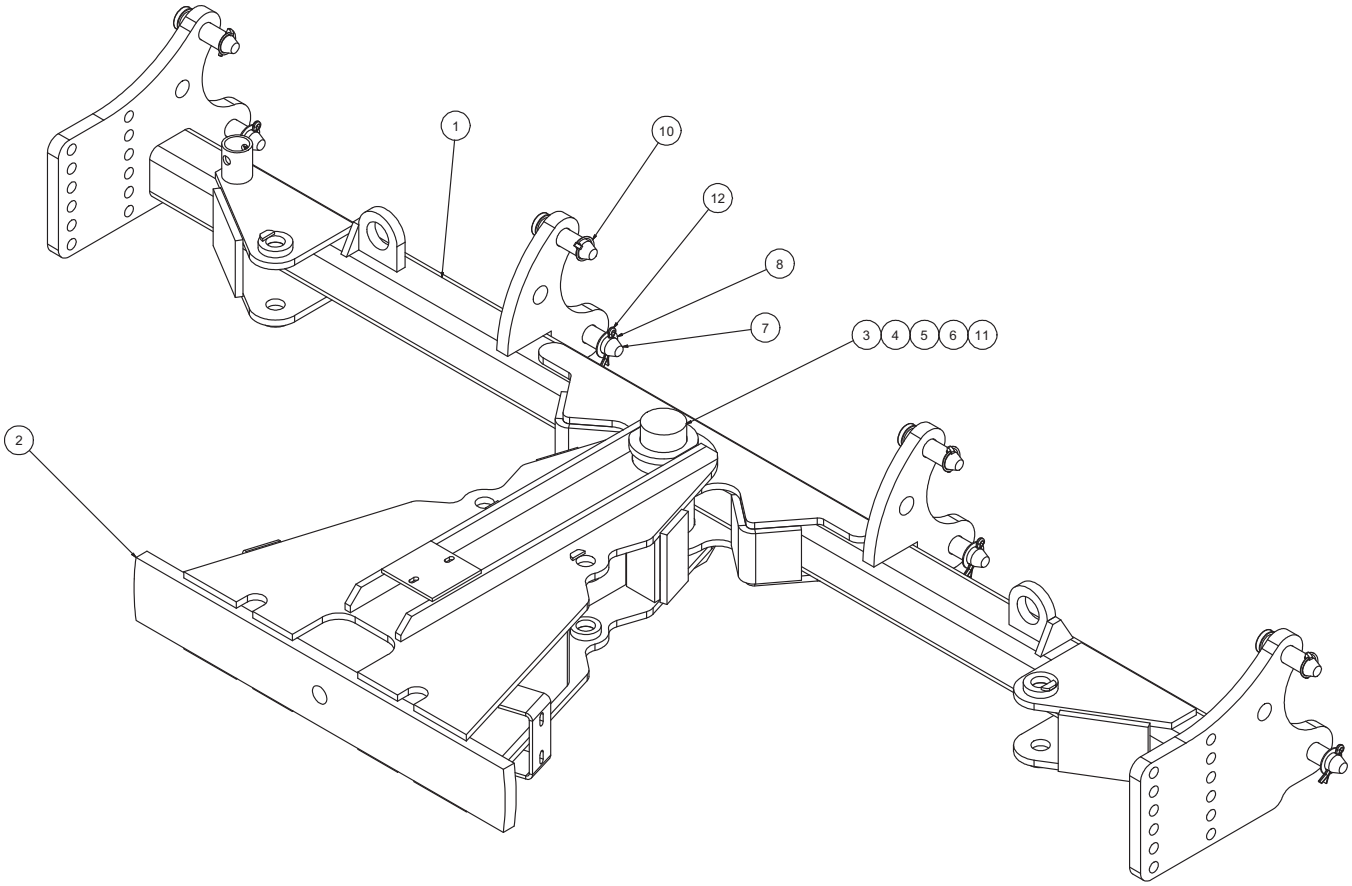




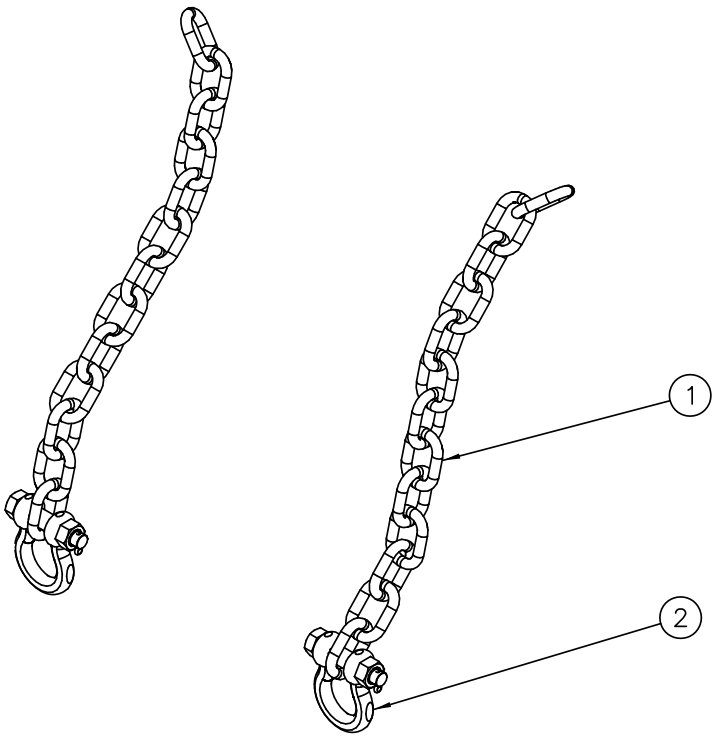
DETAIL A



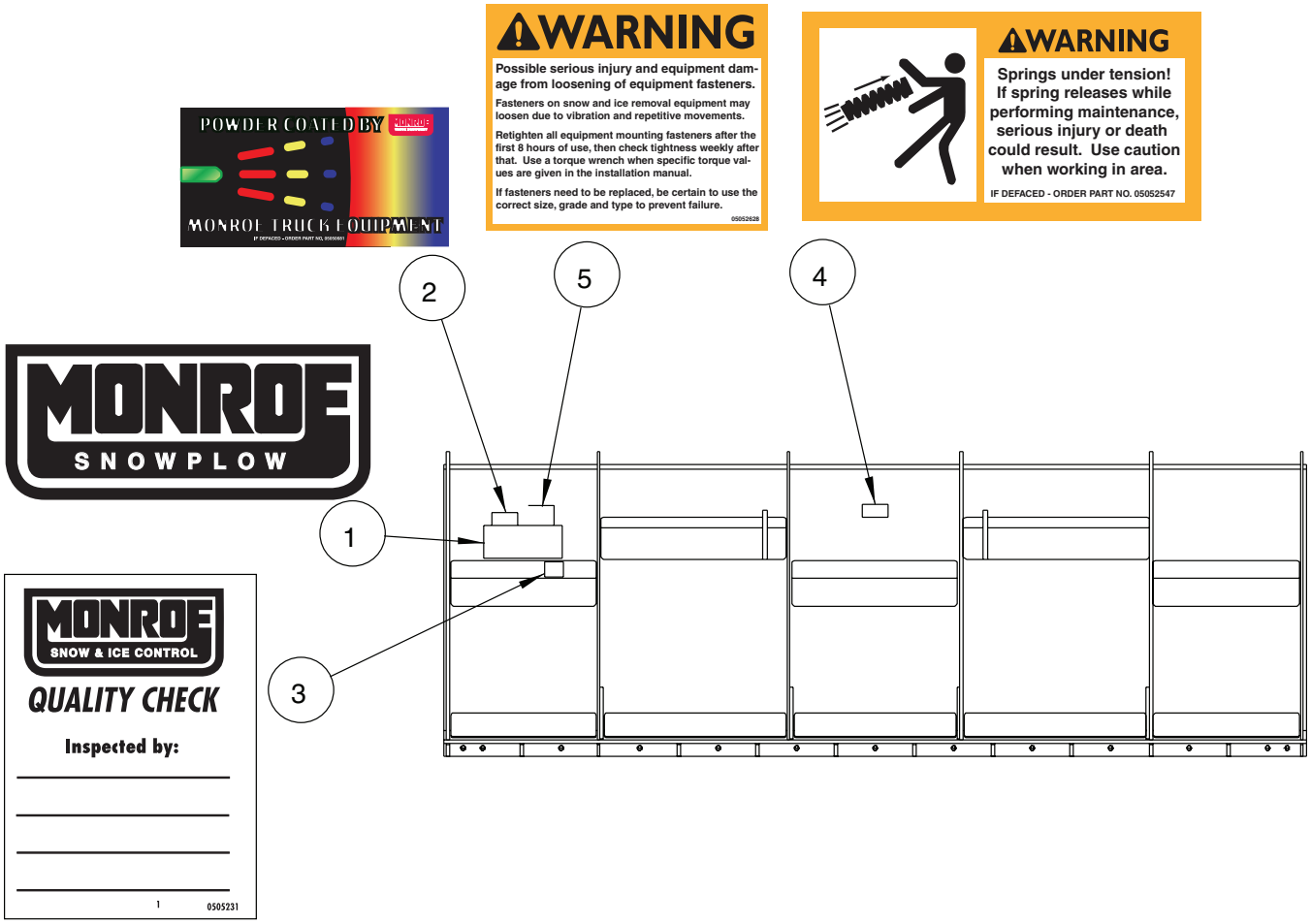
00151063 MOUNTING KIT, POLY, MPP3451R11-FLEX			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151043	ARM WLDMT,LH,MPP3451-FLEX
2	1	00151044	ARM WLDMT,RH,MPP3451-FLEX
3	2	00151049	PIVOT BALL,MPP-FLEX,PLOW
4	1	00151052	CROSS TUBE,PLOW,MPP-FLEX-R11
5	2	00151053	COLLAR,PAD,PLOW,MPP-FLEX
6	1	00151057	PAD WLDMT,LH,PLOW,MPP-FLEX
7	1	00151058	PAD WLDMT,RH,PLOW,MPP-FLEX
8	2	05053259	SNAP RING INTERNAL
9	10	05050288	GREASE ZERK,.250-28 STRAIGHT
10	2	05010702	BOLT .500-13 x 4.50 G8 HHCS ZC
11	6	05020847	NUT .500-13 GC TOPLOCK C&W
12	2	05002630	CYLINDER,3x5,DA,CAP"T"SEAL,EXT
13	2	05053297	SEAL,SHAFT,1.25"ID-2.88"ID
14	2	05044278	CLAMP,HOSE,3.50,SST
15	1	00154849	DOUBLER PL,LH,MPP-FLEX
16	1	00154850	DOUBLER PL,RH,MPP-FLEX
17	2	00154862	DOUBLER PL,CNTR,NAR,MPP-FLEX
18	2	00154879	PAD WLDMT,CNTR,PLOW,MPP-FLEX
19	2	00154861	RETAINER WLDMT,CNTR,PLOW
20	4	00154863	PIPE,SS,.500xSCH80x.750
21	8	05021309	WASHER .500 FLAT ZC
22	4	05010693	BOLT .500-13 x 2.00 G8 HHCS ZC



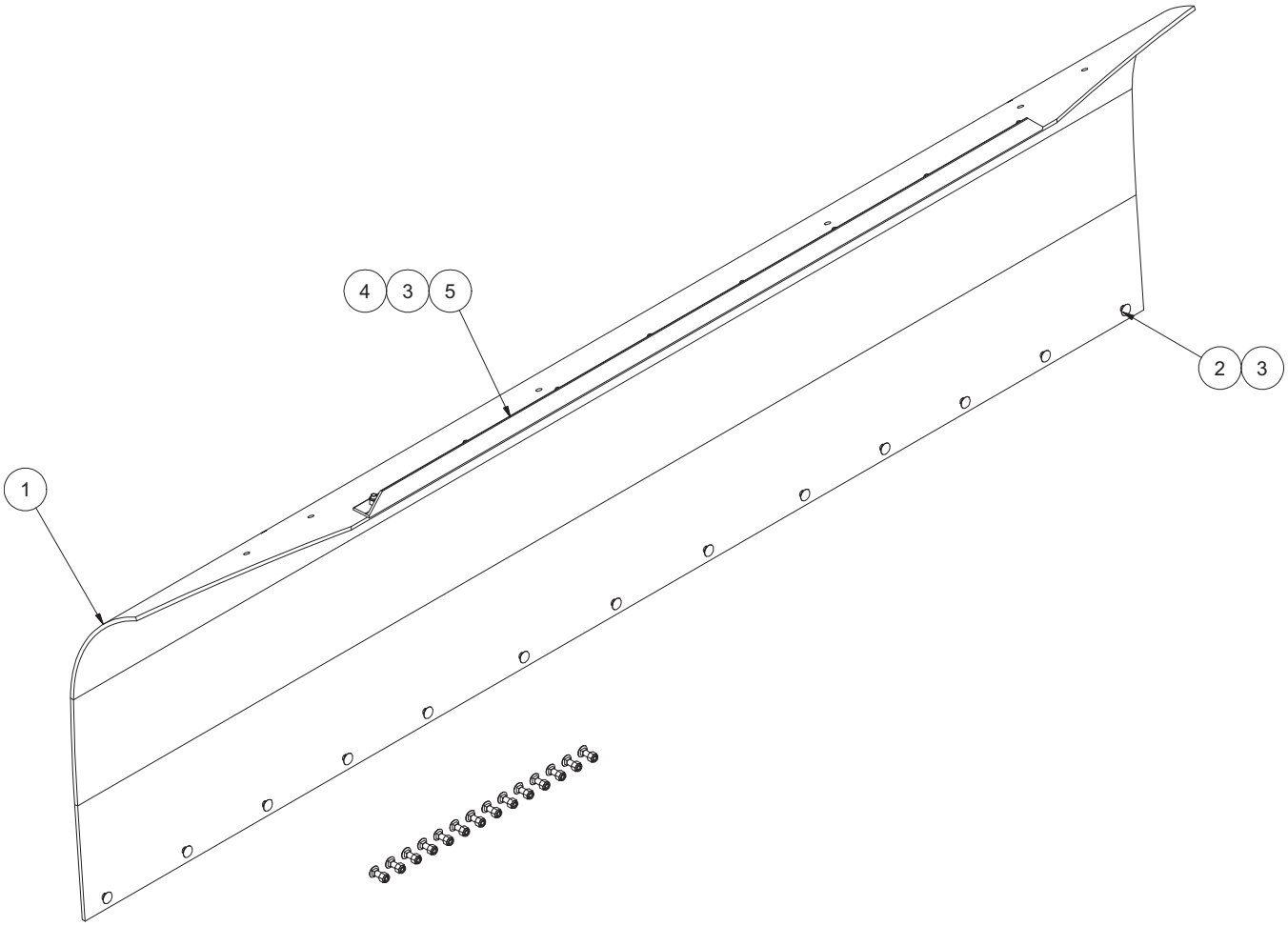
00151061 PUSHFRAME KIT, RVS, MPP-FLEX, 11'-12' PLOW			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151029	PUSHFRAME WLDMT,RVS,FLEX PLOW
2	1	00134590	A-FRAME WLDMT,2012,MUNICIPAL
3	1	00137680	PIN WLDMT,3.000 DIAx9.250
4	1	00093321	COLLAR,RETAINING,PIN,PUSHFRAME
5	1	05010703	BOLT .500-13 x 5.00 G8 HHCS ZC
6	1	05020847	NUT .500-13 GC TOPLOCK C&W
7	8	05022067	PIN 1.242 x 3.370GL x 4.835,ZC
8	4	05021191	BUSHING,MACH,1.88x1.25x14GA,ZC
9	1	00148004	LIFT KIT,2 CHAIN,W/SHACKLES *See page 19*
10	4	05022190	PIN .250 LYNCH
11	1	05050288	GREASE ZERK,.250-28 STRAIGHT
12	4	05022240	PIN .313 x 2.000 COTTER ZC



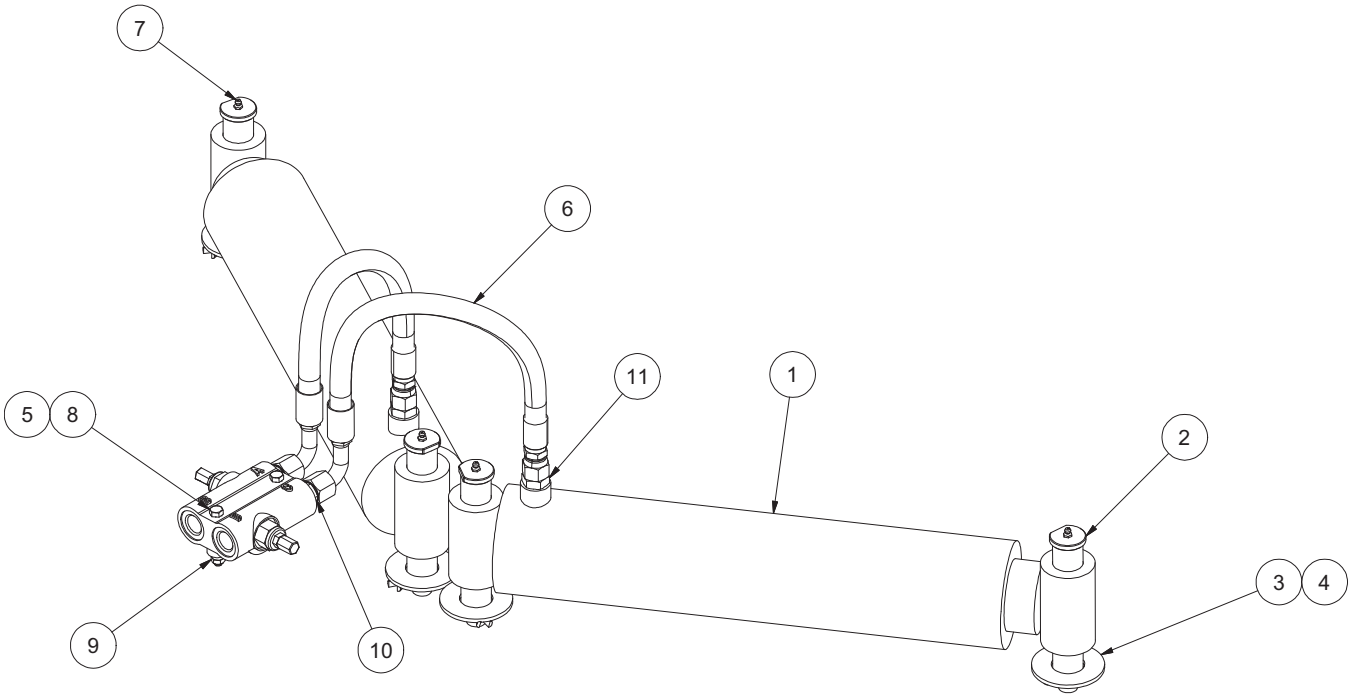
00148004 LIFT KIT, 2 CHAIN, W/SHACKLES			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	00027691	CHAIN,HIGH TEST,.500x60.000
2	2	05050126	SHACKLE,.625,BOLT-TYPE,GALV



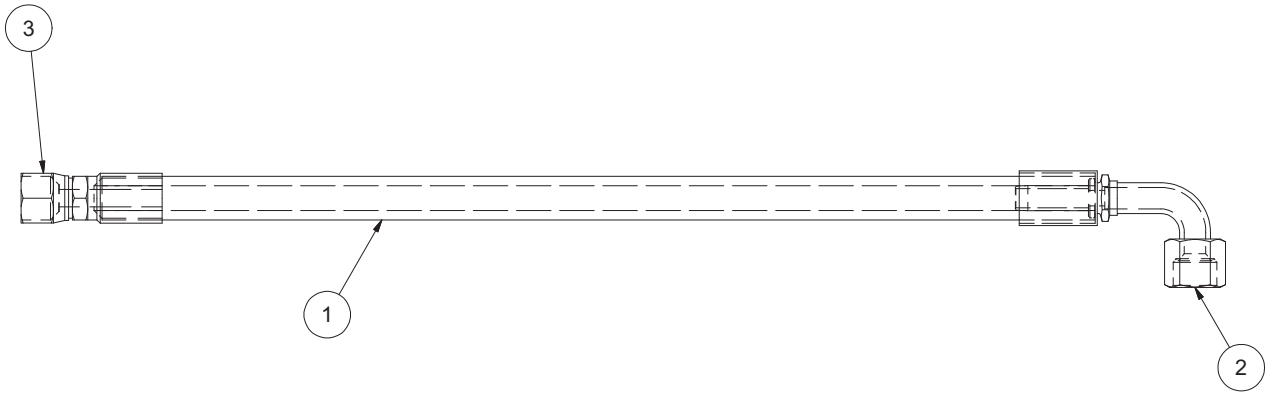
00055962 DECAL KIT, PLOW			
Item	**Qty.**	**Part Number**	**Description**
1	1	05051507	DECAL,MONROE SNOWPLOW,12x5
2	1	05050681	DECAL,4” x2”,BONDED POWDER
3	1	05052311	DECAL,4” X 3” QUALITY CHECK
4	1	05052547	DECAL,WARNING SPRINGS UNDER TENSION
5	1	05052628	DECAL,WARNING,TIGHTEN FASTENERS



00152331 POLY KIT, PLOW ,11' FLEX PLOW			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00152330	SKIN,POLY,11',FLEX PLOW
2	13	05014044	BOLT .500-13 x 2.00 G5 CRG ZC
3	35	05020914	NUT .500-13 G8 NYLON LOCK ZC
4	22	05014042	BOLT .500-13 x 1.50 G5 CRG ZC
5	1	00152332	TOP ANGLE,11' FLEX PLOW

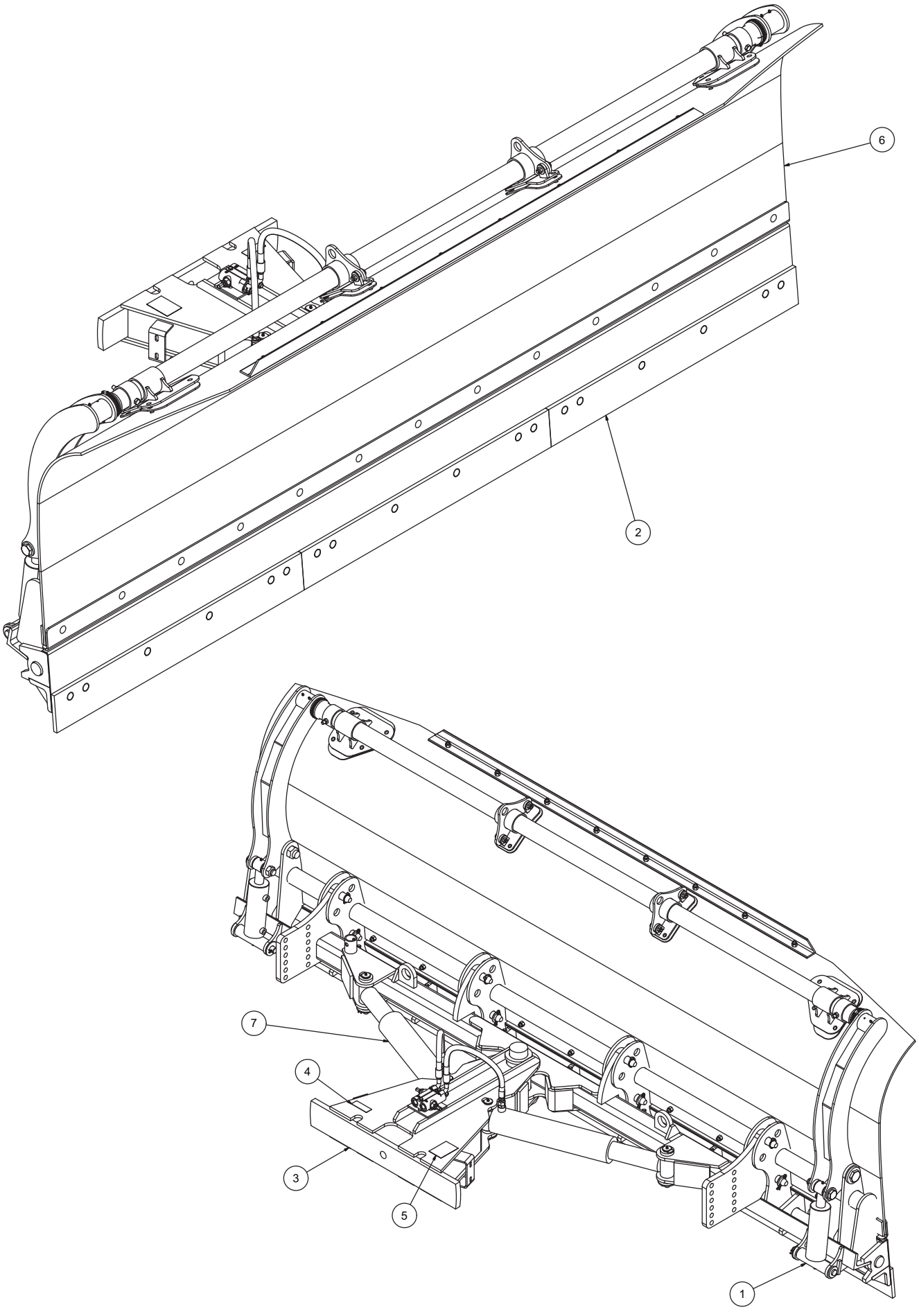


00153468 REVERSING KIT, PLOW, 3X16, (2) NIT. CYLINDERS			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	05003381	CYLINDER,3x16,SA,NIT
2	4	00153469	PIN,1.250 DIA x 6.375 GL
3	4	05021316	WASHER 1.25 FLAT ZC
4	4	05022240	PIN .313 x 2.000 COTTER ZC
5	1	05044229	VALVE,CUSHION,.875-14ORB,30GPM
6	2	00153739	HOSE ASSY,.5" ID,22.500"OA *See page 23*
7	4	05050288	GREASE ZERK,.250-28 STRAIGHT
8	2	05010624	BOLT .313-18 x 2.50 G8 HHCS ZC
9	2	05020909	NUT .313-18 GC TOPLOCK C&W
10	2	05038677	HYD FITTING,ADAPTER,.875"JICx
11	2	6400-10	HYD FITTING, 7/8" JIC X 7/8"

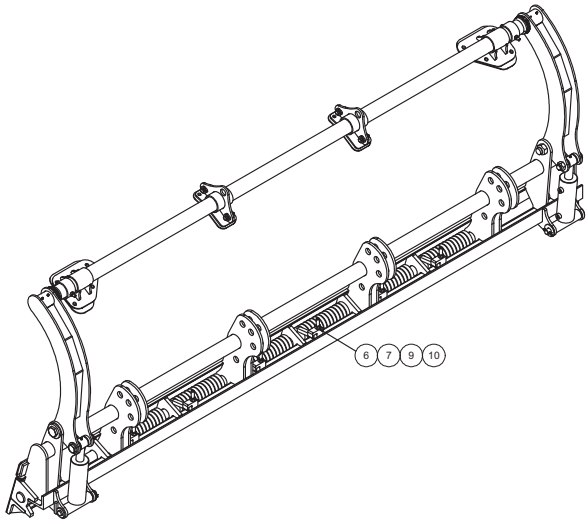


00153739 HOSE ASSY, .5" ID, 22.5" OAL			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00096264	HOSE,.500x20.000, 8M3K-MTF
2	1	05038659	HYD FITTING, .5" HOSE, .875" JIC
3	1	8G-10FJX	FITTING, 1/2 HOSE, 7/8 JIC

00153455 MPP3451R12-TT FLEX PLOW



00153455 PLOW, MPP3451R12-TT, FLEX			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00153458	MLDBD ASSY,MPP3451R12-TT,FLEX *See page 26*
2	1	00153470	CE KIT,12',.75x6.00 TPCS *See page 27*
3	1	00151061	PUSHFRAME KIT,RVS,MPP-FLEX *See page 18*
4	1	05050095	TAG,SERIAL NUMBER, STANDARD
5	1	00055962	DECAL KIT,PLOW/WING *See page 20*
6	1	00153465	POLY KIT,PLOW,12' FLEX PLOW *See page 30*
7	1	00153468	REVERSING KIT,PLOW,3x16,(2)CYL *See page 22*
8	1	05090730	MANUAL,PLOW,MPP3451,FLEX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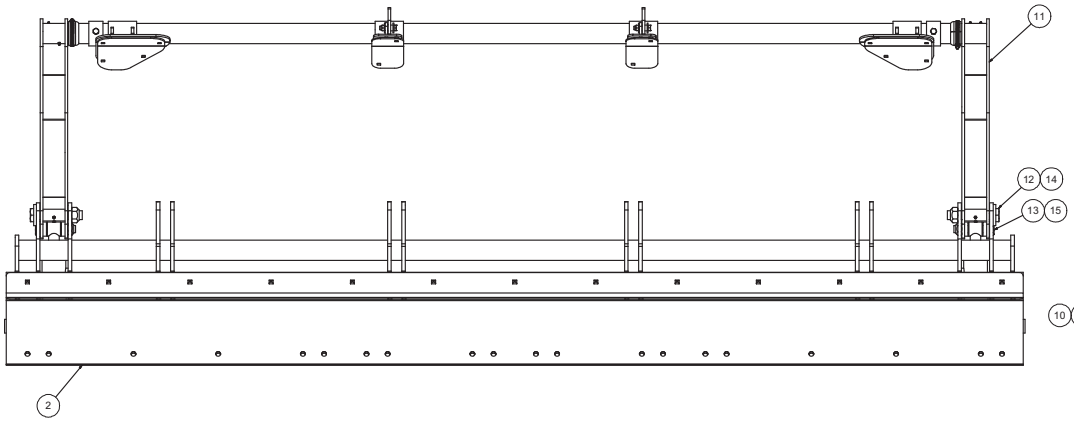
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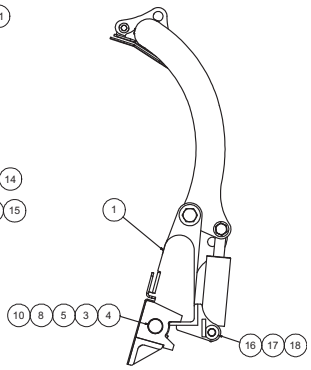
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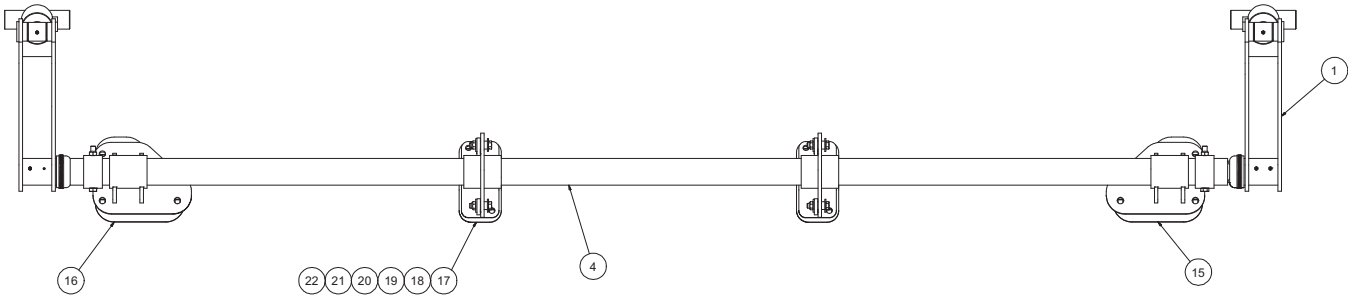
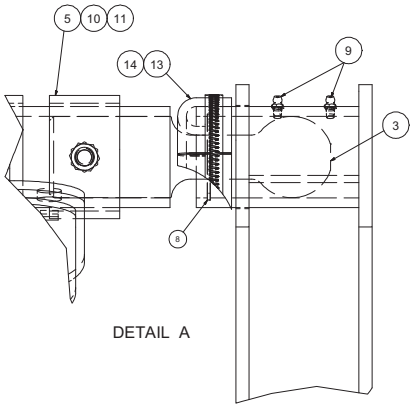
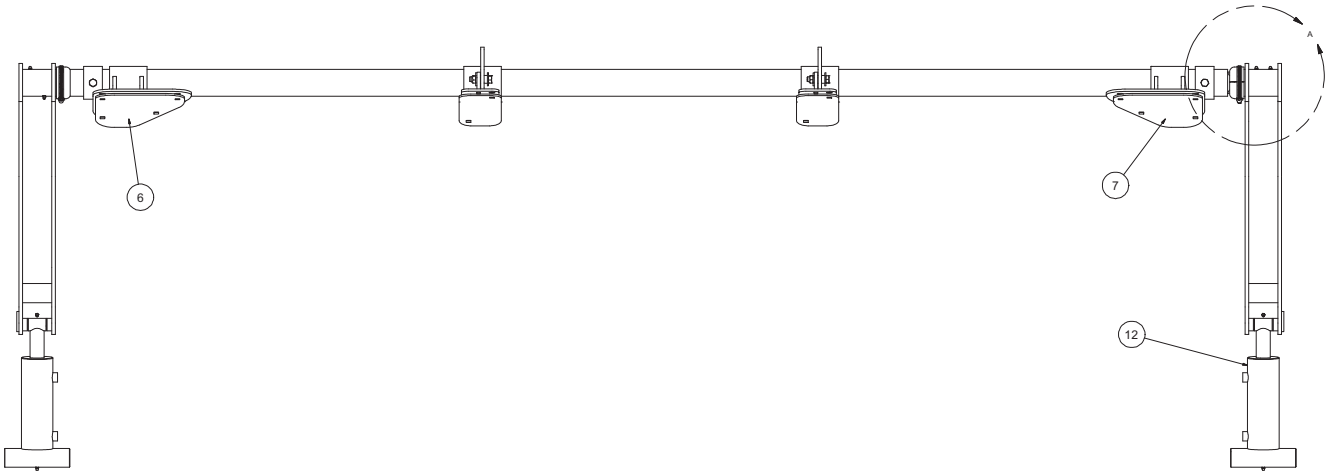
00153458 MOLDBOARD ASSY, MPP3451R12-TT, FLEX PLOW			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00153459	MLDBD WLDMT,PLOW,MPP3451R12-TT
2	1	00017646	TRIP EDGE WLDMT,PLOW,12'
3	6	00031115-B	BUSHING,HITCH,HUSTING,MS
4	1	00111187	HINGE,PLOW,MPPJ,12'
5	2	00111188	COLLAR,HINGE,PLOW,MPPJ,IA
6	6	00061481	CLAMP,SPRING,PLOW,MPPJ,SQUARE
7	6	05035110	SPRING,TORSION,.750 SQ WIRE
8	2	05010745	BOLT .625-11 x 3.50 G8 HHCS ZC
9	6	05016109	BOLT .625-11 x 5.50 G8 HHCS ZC
10	8	05020837	NUT .625-11 GC TOPLOCK C&W
11	1	00153460	MTG KIT,POLY,MPP3451R12-FLEX *See page 28*
12	2	00151065	BOLT MOD,1.25-7x6.5
13	2	00151064	BOLT MOD,1.00-8x5.0
14	2	05020835	NUT 1.25-7 GC TOPLOCK C&W
15	2	05020834	NUT 1.00-8 GC TOPLOCK C&W
16	2	00040466	PIN WLDMT,1.00 DIA x 8.75 GL
17	2	05022189	PIN .250 x 1.500 COTTER
18	2	05021314	WASHER 1.00 FLAT ZC

00153470 CUTTING EDGE KIT, 12', .75x6.00 TPCS			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	18	05014551	BOLT .625-11 x 2.50 DH PLN
2	18	05021383	WASHER .625 LOCK HVY ZC
3	18	05020270	NUT .625-11 G8 HEX ZC
4	3	05031253	CUTTING EDGE,.75x6x4',TPCS

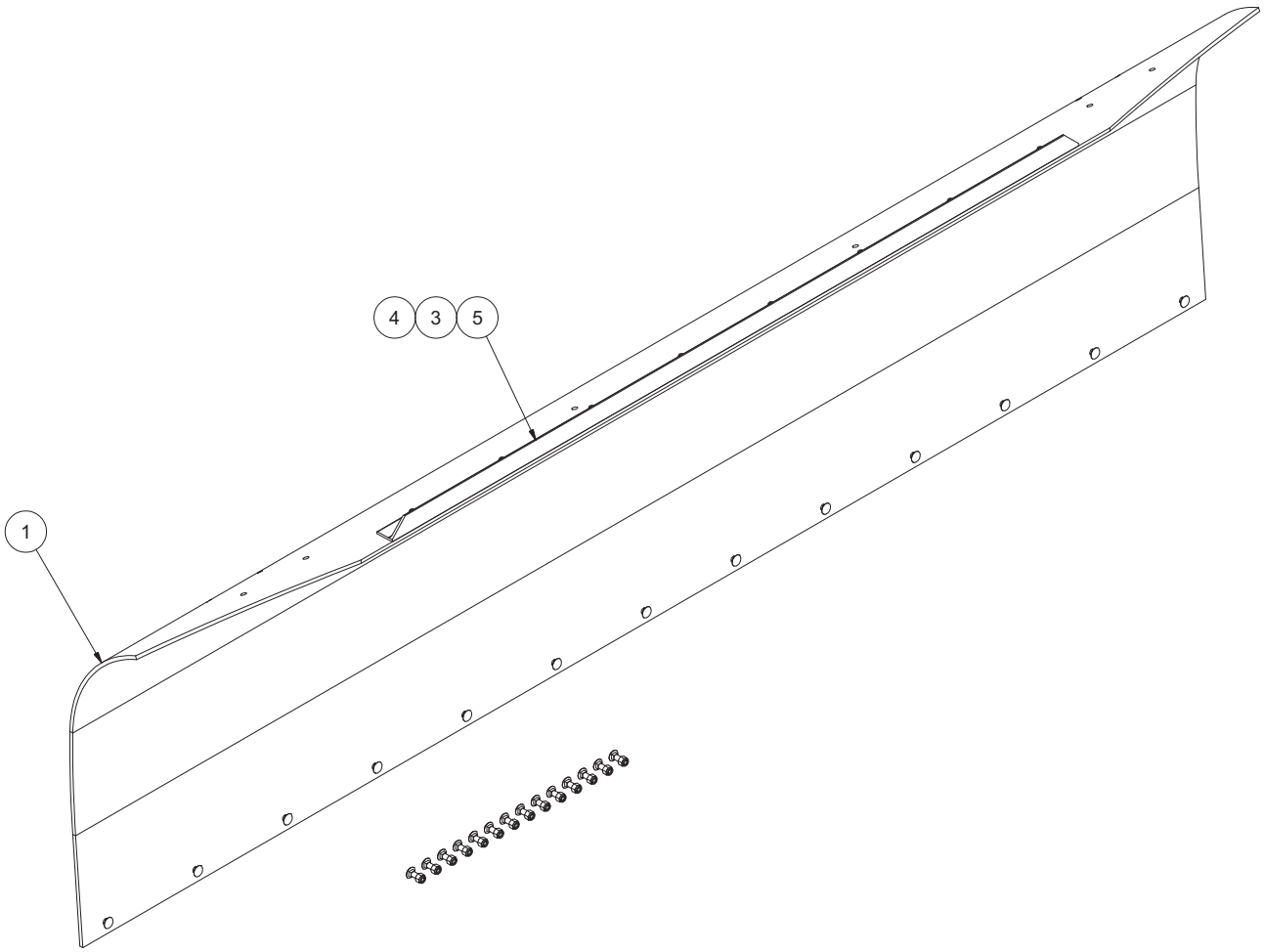




DETAIL A



00153460 MOUNTING KIT, POLY, MPP3451R12-FLEX			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151043	ARM WLDMT,LH,MPP3451-FLEX
2	1	00151044	ARM WLDMT,RH,MPP3451-FLEX
3	2	00151049	PIVOT BALL,MPP-FLEX,PLOW
4	1	00153461	CROSS TUBE,PLOW,MPP-FLEX-R12
5	2	00151053	COLLAR,PAD,PLOW,MPP-FLEX
6	1	00151057	PAD WLDMT,LH,PLOW,MPP-FLEX
7	1	00151058	PAD WLDMT,RH,PLOW,MPP-FLEX
8	2	05053259	SNAP RING INTERNAL
9	10	05050288	GREASE ZERK,.250-28 STRAIGHT
10	2	05010702	BOLT .500-13 x 4.50 G8 HHCS ZC
11	6	05020847	NUT .500-13 GC TOPLOCK C&W
12	2	05002630	CYLINDER,3x5,DA,CAP"T"SEAL,EXT
13	2	05053297	SEAL,SHAFT,1.25"ID-2.88"ID
14	2	05044278	CLAMP,HOSE,3.50,SST
15	1	00154849	DOUBLER PL,LH,MPP-FLEX
16	1	00154850	DOUBLER PL,RH,MPP-FLEX
17	2	00154862	DOUBLER PL,CNTR,NAR,MPP-FLEX
18	2	00154879	PAD WLDMT,CNTR,PLOW,MPP-FLEX
19	2	00154861	RETAINER WLDMT,CNTR,PLOW
20	4	00154863	PIPE,SS,.500xSCH80x.750
21	8	05021309	WASHER .500 FLAT ZC
22	4	05010693	BOLT .500-13 x 2.00 G8 HHCS ZC



00153465 POLY KIT, PLOW, 12' FLEX PLOW			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00153466	SKIN,POLY,12' FLEX PLOW
2	13	05014044	BOLT .500-13 x 2.00 G5 CRG ZC
3	35	05020914	NUT .500-13 G8 NYLON LOCK ZC
4	22	05014042	BOLT .500-13 x 1.50 G5 CRG ZC
5	1	00153467	TOP ANGLE,12' FLEX PLOW

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.

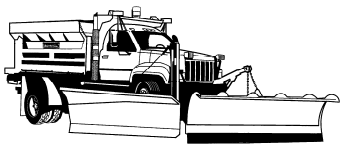
MTE will not under any circumstances be liable for any incidental or consequential damages whether in tort, contract, or otherwise, for any bodily injury, death, property damage, loss of use, or loss of income resulting from or in any way arising out of any goods provided by MTE, or their sale, use,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



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

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 October 11, 2012