



Parts & Service Manual for MS4500 Scraper



Monroe Snow & Ice Control
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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 Snow & Ice Warranty>Returns at 608-329-8544.

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

Safety Instructions

- Read all safety, installation and maintenance instructions completely before operating this equipment.
- Keep all personnel clear of moving parts while equipment 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 the 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.
- When installing a scraper, be sure to use a hoist with a proper load rating.

Scraper Weights:

MS4510	2050 lbs.
MS4511	2100 lbs.
MS4512	2150 lbs.

- **Before installation of this scraper, or before performing maintenance to the scraper, be sure to set the parking brake, chock the rear wheels and remove the key from the ignition switch.**

Cylinder Operating Safety Procedures

- Down pressure relief is required on all Monroe Underbody Scrapers. A 500 PSI relief can be incorporated into the truck hydraulic system or a down pressure relief valve can be purchased with the underbody scraper. The relief valve must be installed to prevent premature failure of the actuating cylinders and/or the underbody scraper.
- System pressure should not exceed 1,850 PSI for the power reverse cylinder(s) or 1,850 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, cause possible injury, and will void the warranty.**



! DANGER

AVOID HIGH-PRESSURE FLUIDS

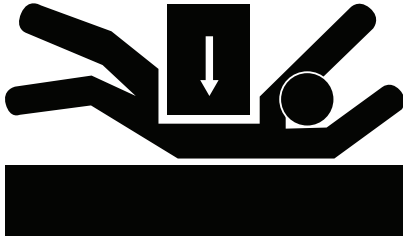
Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

Maintenance Instructions



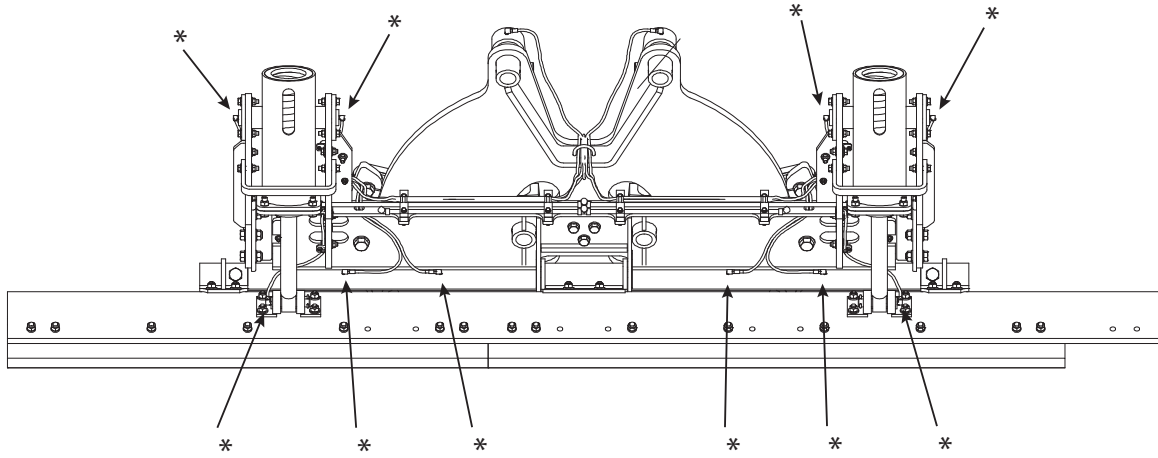
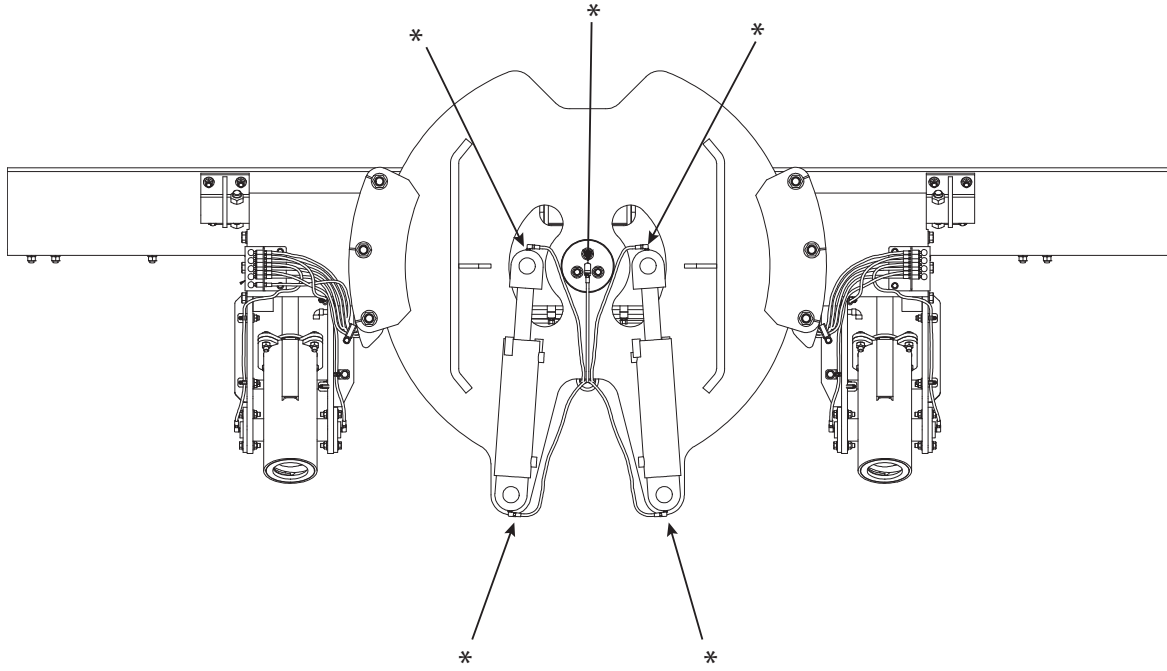
WARNING: Before working under the vehicle or around the scraper, lower the moldboard to the ground, shut off the truck engine and remove the keys from the ignition. Prevent accidental startup and operation of the scraper to avoid personal injury.

In Season:

- Re-torque all fasteners after the first 8 hours of use.
- Check for loose, damaged and missing fasteners before each use.
- Inspect and re-torque all fasteners at the beginning of each plowing season.
- Lubricate grease fittings every 10 hours during normal use and more often during heavy use. See page 5 for grease fitting locations.
- Tighten all hydraulic fittings after the first 8 hours of use.
- Inspect hydraulic fittings for leaks every week and tighten as required. If a hydraulic fitting continues to leak after being tightened, replace the fitting as soon as possible.
- Check the cutting edge for wear after each use. Replace the cutting edge when it wears to within $\frac{1}{2}$ " of the moldboard.
- Check the operation of the scraper before each use:
 - Verify that the moldboard has full up and down travel.
 - Verify that the hydraulic down pressure for the moldboard relieves at 400-500 PSI. The down pressure on the moldboard must not be able to unload the front or rear axle to an unsafe degree.
 - Verify that the moldboard rotates freely from stop to stop. Check for broken stops that could allow the moldboard to over-travel and make contact with tire.
 - If the hydraulic valves are operated by cables, verify that the lever(s) and cables operate smoothly and easily and that the lever(s) snap back to center when released.
- Inspect the hydraulic hoses and any electrical wiring for wear or damage every month. Check hoses and wiring attached to moving components closely.
- At the end of each storm event, pressure-wash the underside of the chassis and the horizontal surfaces of the scraper. Removing salt and other chemicals regularly will prolong the life of all components.
- Due to the harsh operating conditions of an underbody scraper, regular inspection and maintenance is critical to safe operation and durability of the scraper. The owner or end user of the scraper must create and enforce the use of an inspection and maintenance schedule.

Maintenance Instructions (Continued)

Grease Fitting Locations

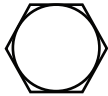

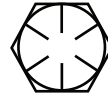


Maintenance Instructions *(Continued)*

Off Season:

- If the scraper will not be used during the summer, the moldboard can be removed and stored.
- Before disconnecting the hydraulic hoses, raise the moldboard and chain it in the up position. If the moldboard drops unexpectedly, it can cause severe injury to feet and hands.
- When quick-disconnects are separated, cover and cap the ends to prevent the entry of contaminants into the hydraulic system and possible impact damage to the ends.
- The exposed areas on hydraulic cylinder rams should be covered with grease during the storage period. Remove the grease before returning the scraper to service.
- If possible, store the scraper indoors to reduce rusting and UV damage to the hoses.
- Inspect the moldboard and the mounting components on the truck. Make any required repairs immediately so that the scraper is ready to be reinstalled and used at the start of the next winter season.
- When reinstalling the scraper, replace any damaged fasteners and follow the fastener torquing guidelines for in-season use.
- If the scraper is used for shoulder work during the summer season, continue to follow the inspection and maintenance guidelines given for the in-season period.

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

Installation Diagram

Figure 1

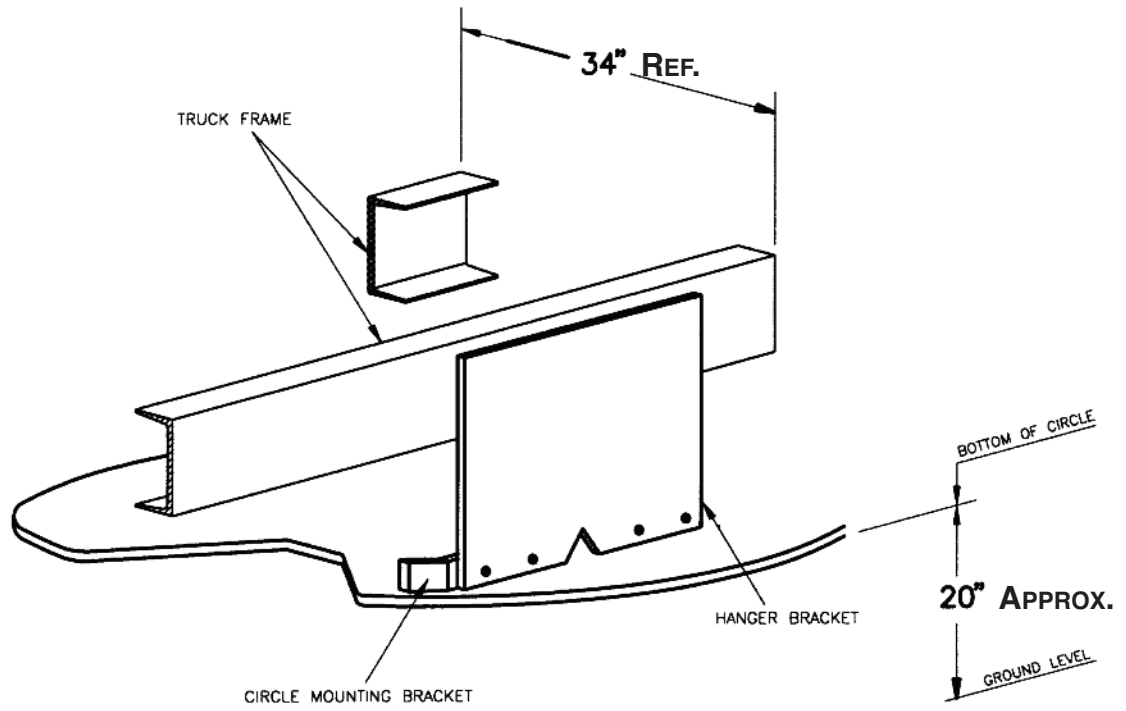
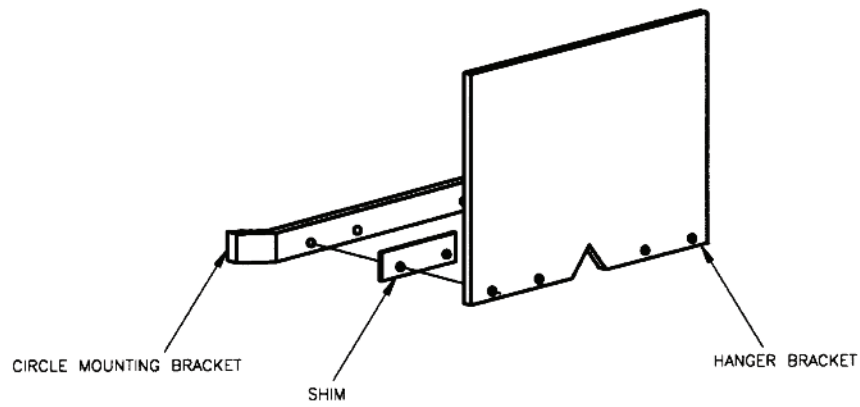


Figure 2



Installation Diagram

Figure 3

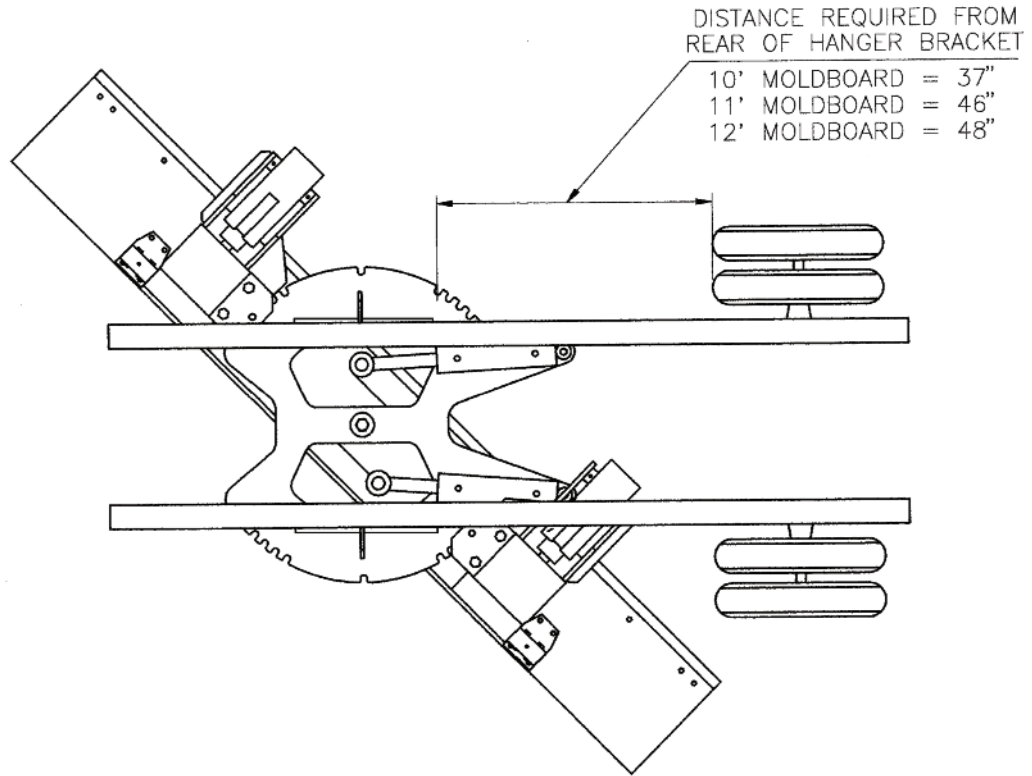
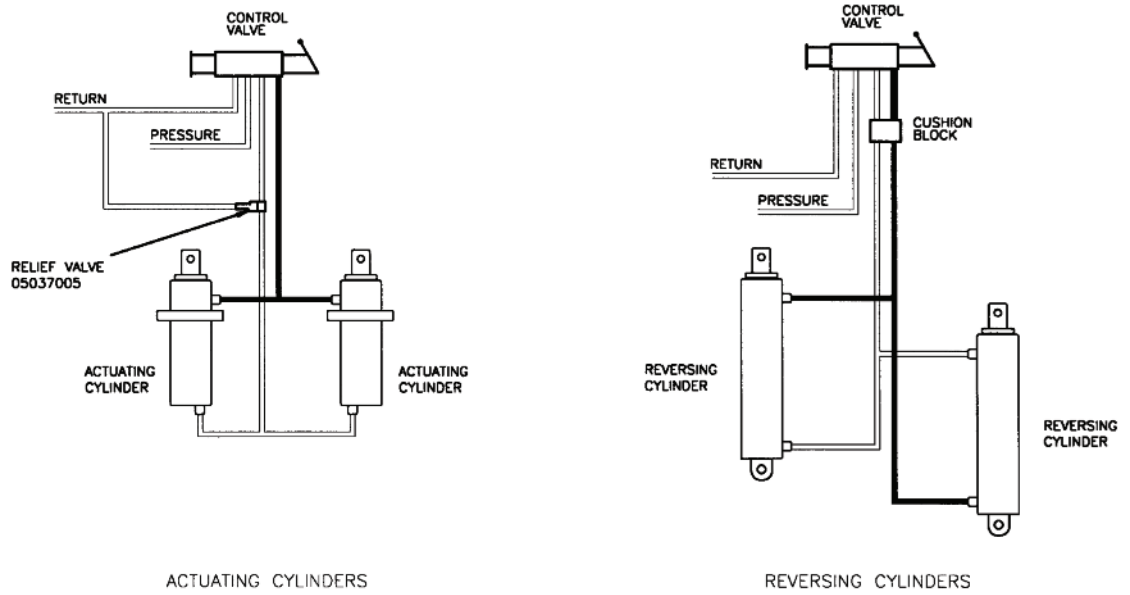
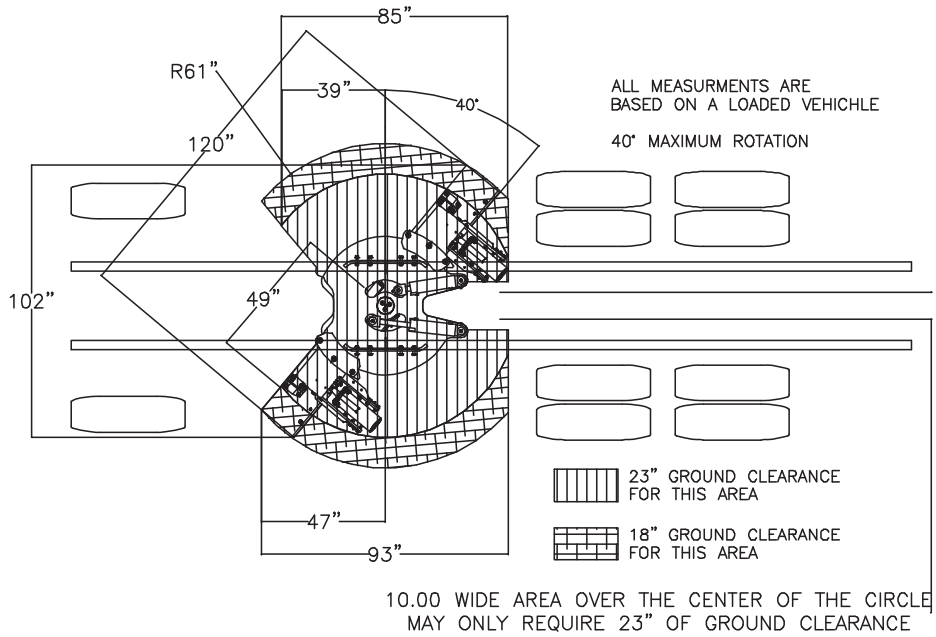


Figure 4

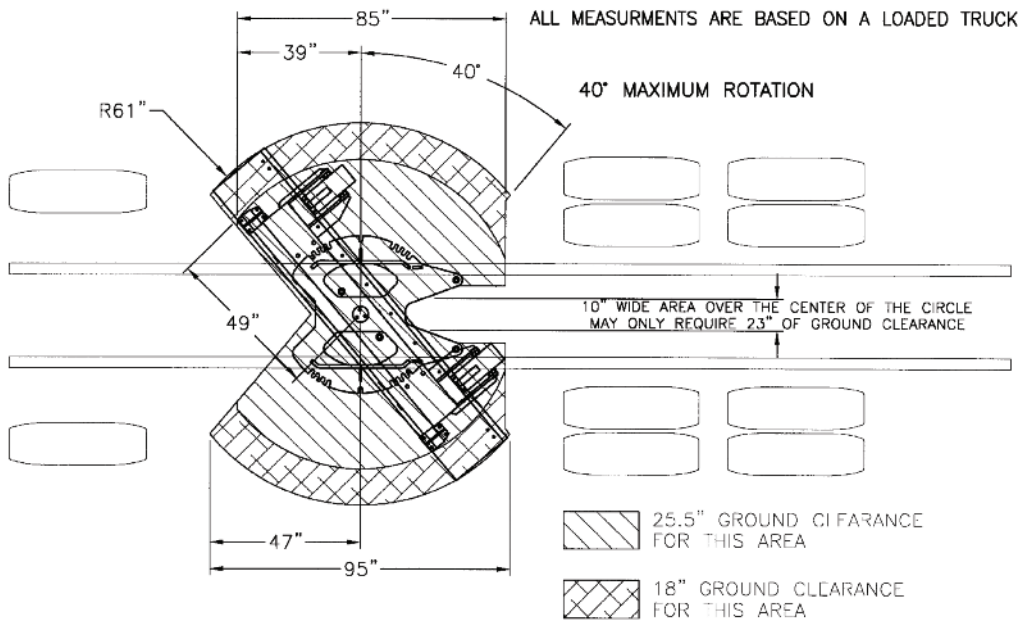


Scraper Dimensions

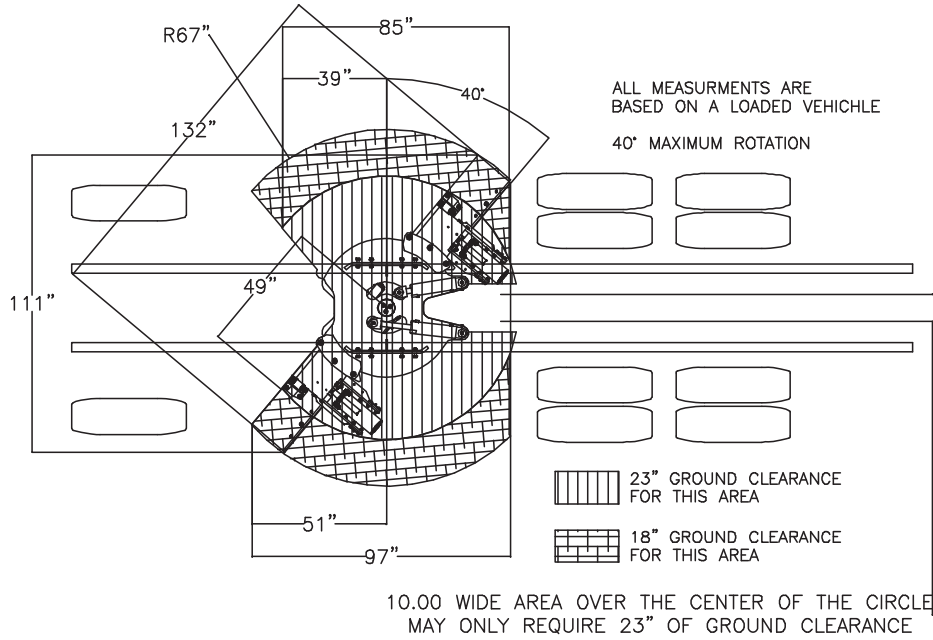
Scraper, MS4510, 1x15



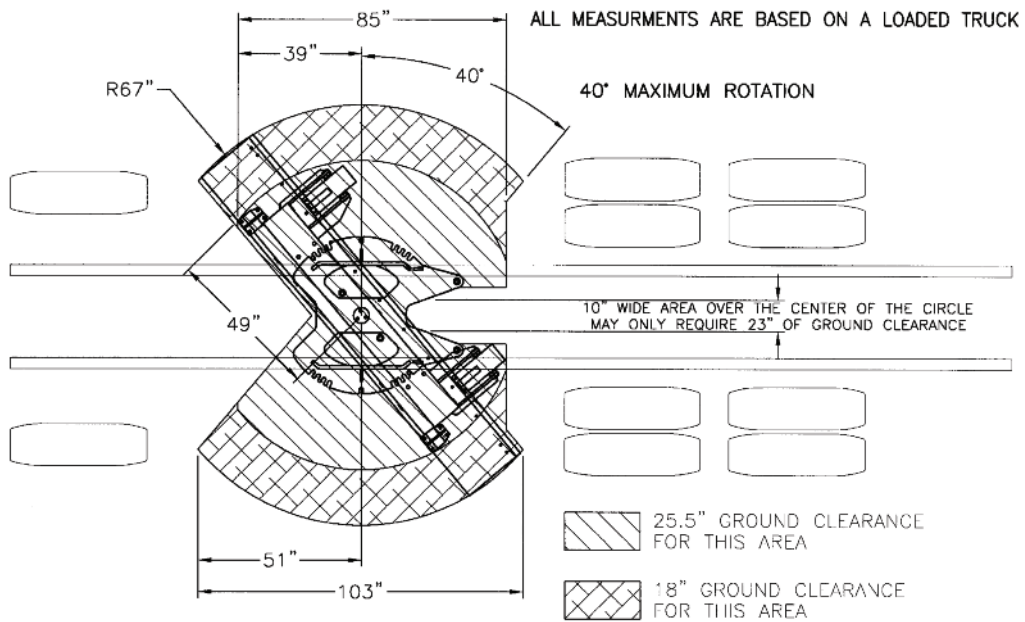
Scraper, MS4510, 1x20



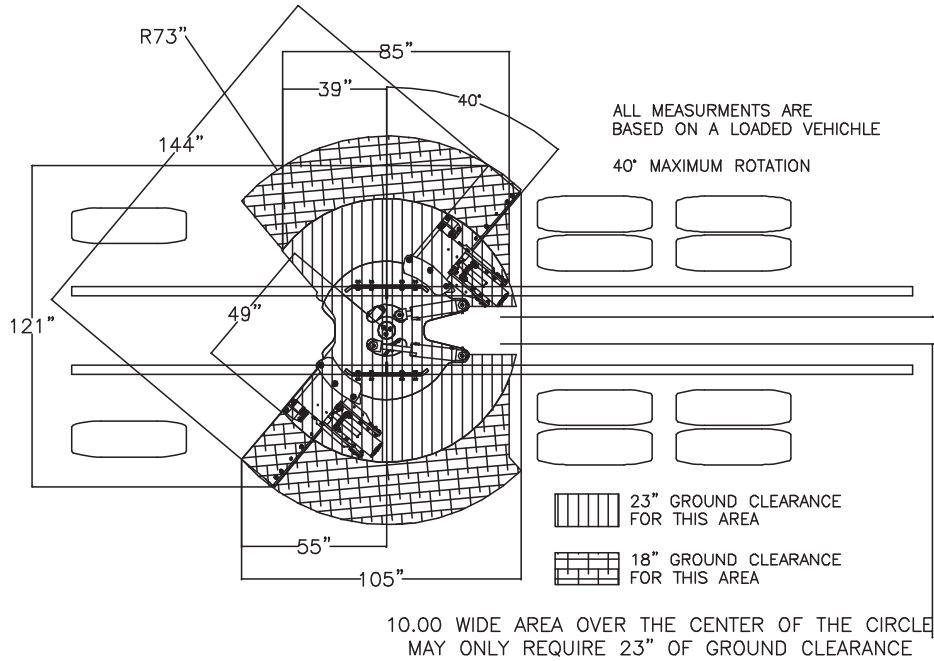
Scraper, MS4511, 1x15



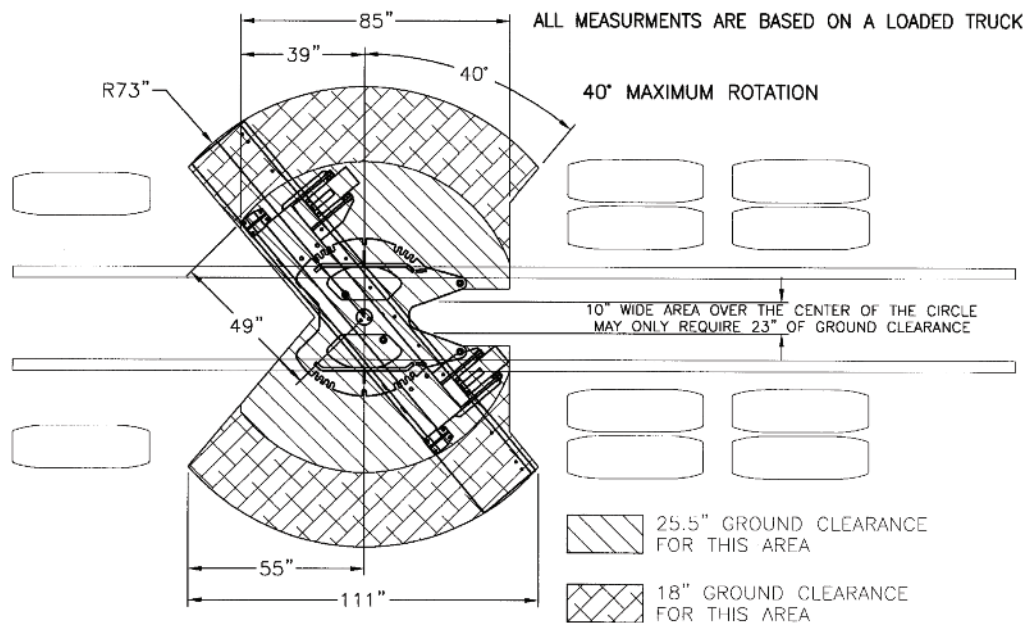
Scraper, MS4511, 1x20



Scraper, MS4511, 1x15



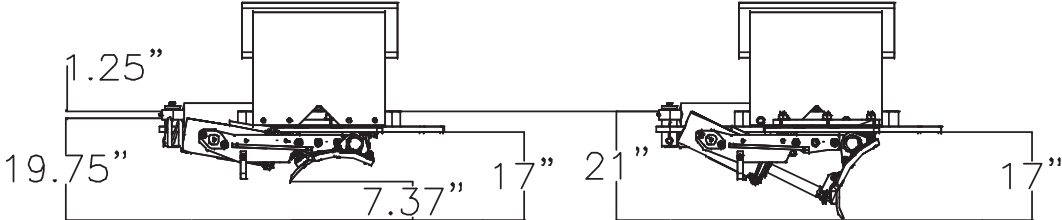
Scraper, MS4512, 1x20



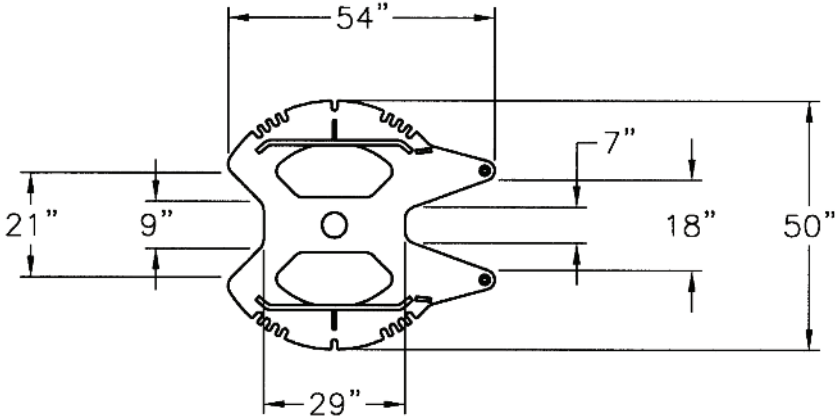
Installation Diagram

Figure 8--Side Clearance

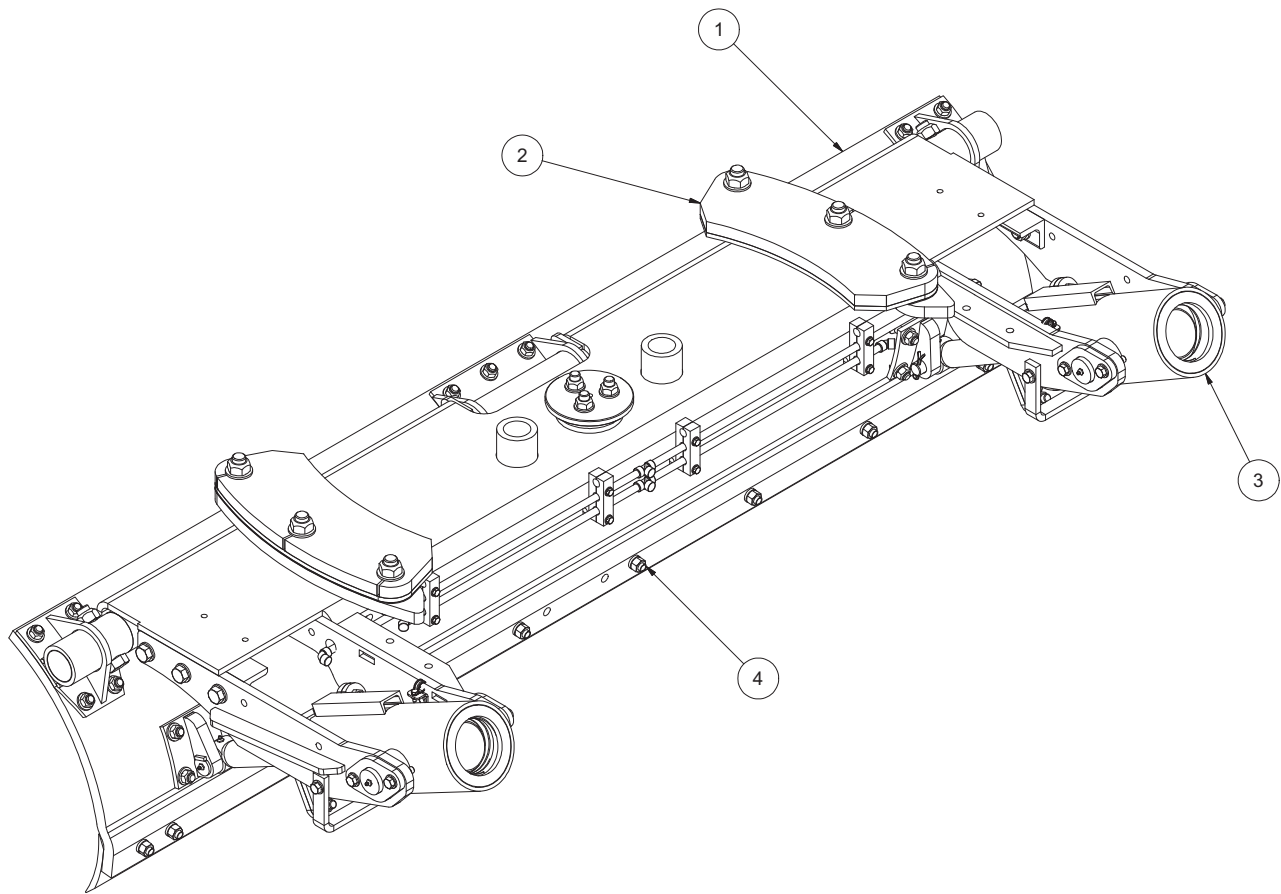
NOTE: CANISTER WILL SWING UP AS MOLDBOARD IS ACTIVATED



SCPR,MS4512,1x15,MS,NIT,.5x6 DBC
00160370

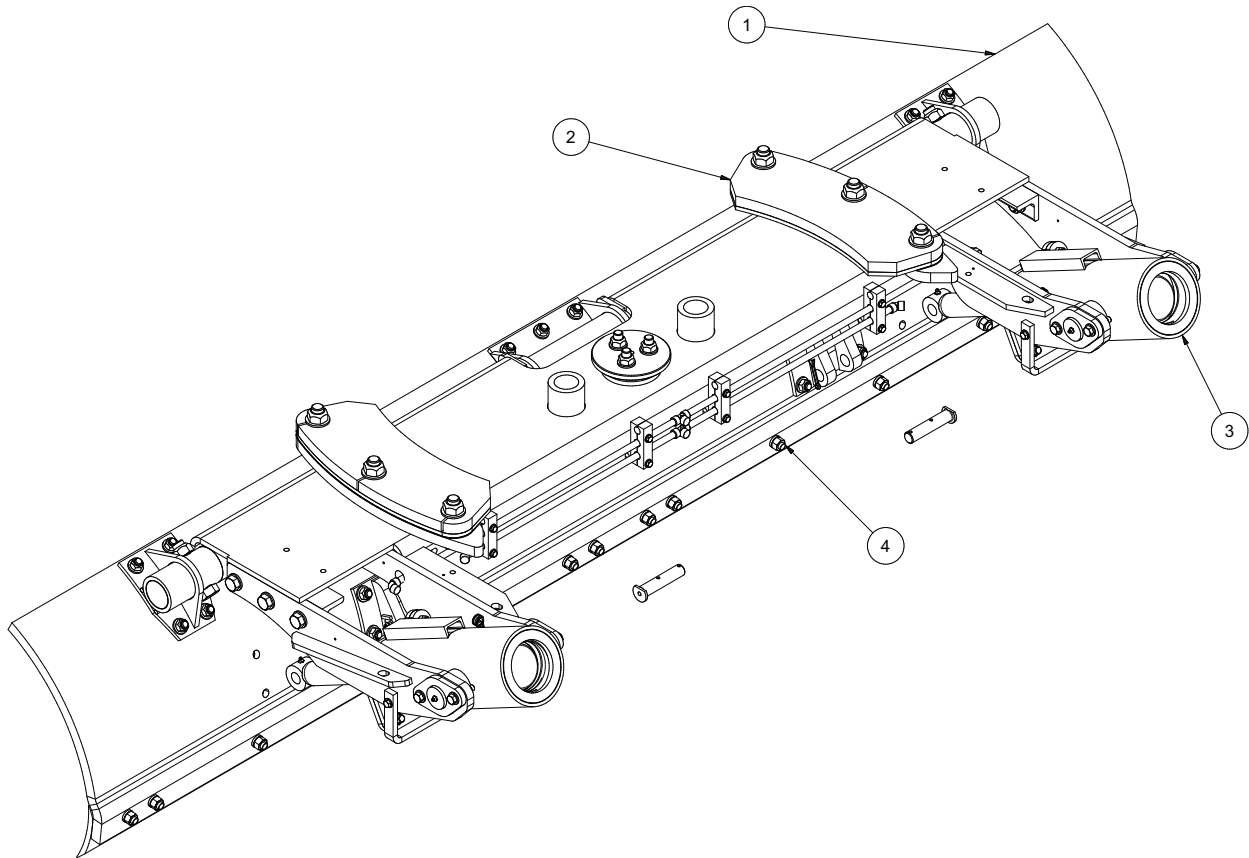


ALL MEASUREMENTS ARE BASED ON A LOADED TRUCK



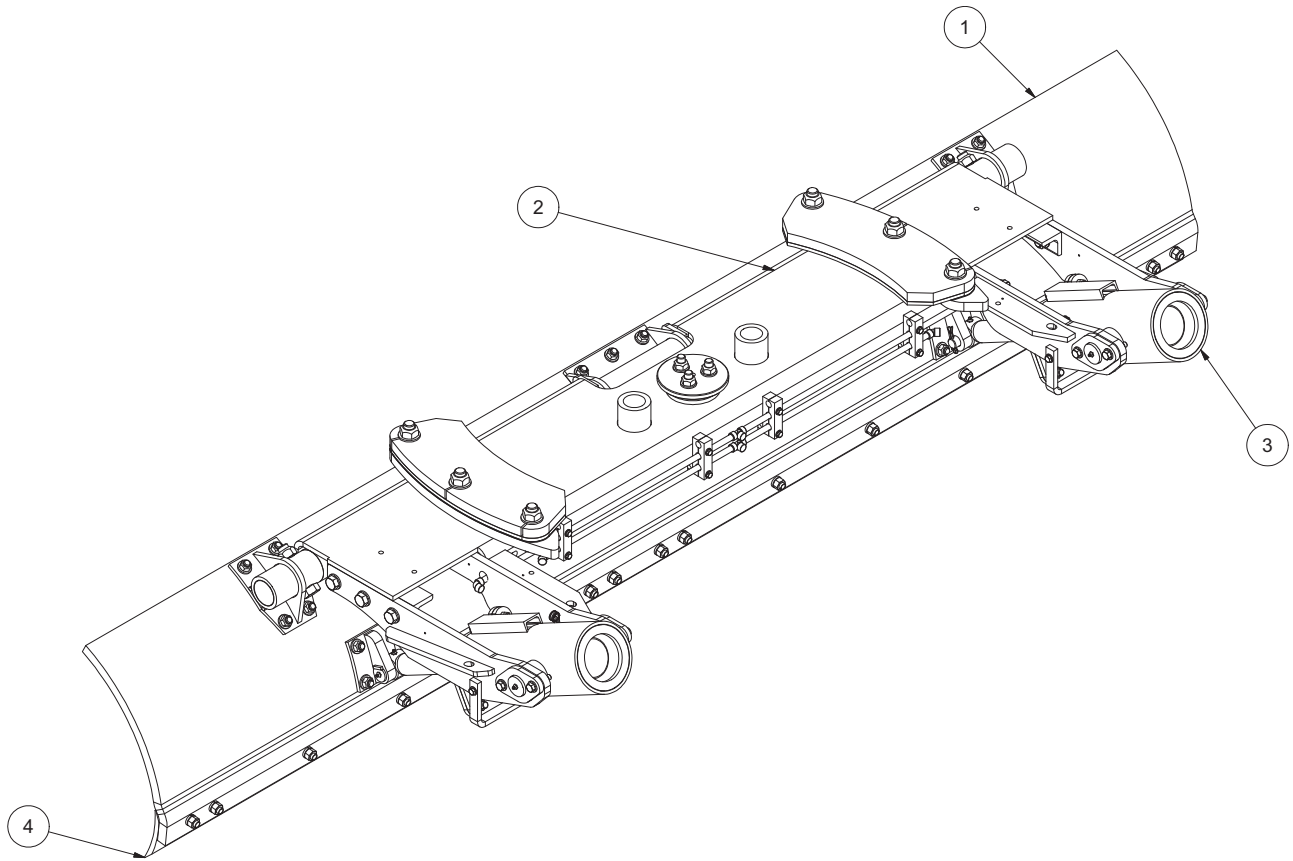
00160869 HANGERBOARD MOLDBOARD ASSEMBLY, M4508, 1 X 20

Item	Qty	Part Number	Description	See Pg
1	1	00075990	MOLDBOARD MOD, SCRAPER, MS3508 1 X 20 X 8	
2	1	00151717	HANGERBOARD KIT, MS4500, 1 X 20	20
3	2	00151723	CANISTER ASSEMBLY, SCRAPER, 3.5 X 10	22
4	1	00071031	CUTTING EDGE KIT, 8', .625 X 6, DBC	25
5	1	05050095	TAG, SERIAL NUMBER, STANDARD	



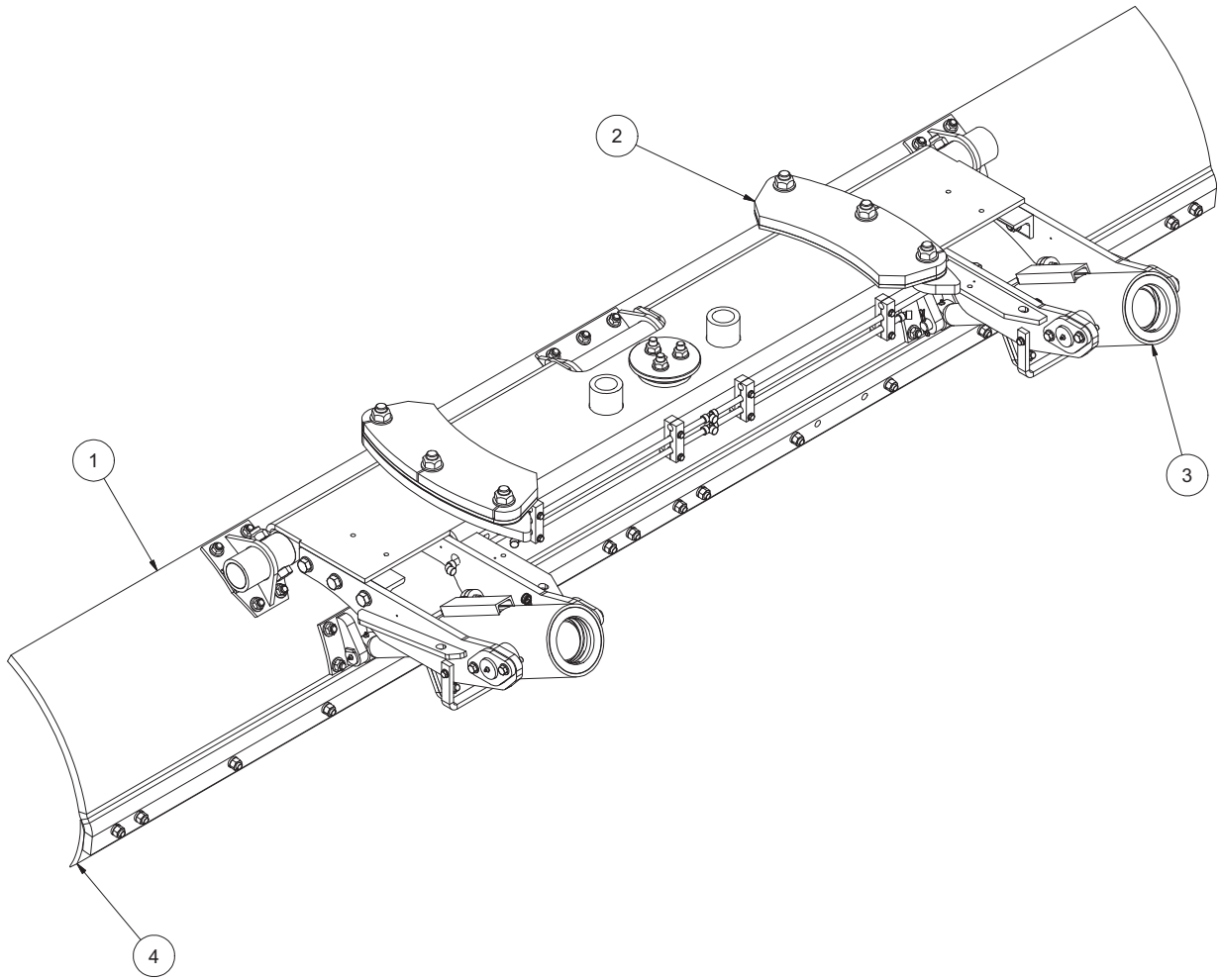
00151738 HANGERBOARD/MOLDBOARD ASSEMBLY, MS4500, 1X20

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05032044	MLDBD,SCPR,MS3510,1x20 A572-50 See page 19
2	1	00151717	HGRBD KIT,MS4500,1x20 See page 20
3	2	00151723	CANISTER ASSY,SCPR,3.5x10,NIT See page 22
4	1	00041822	CE KIT,10',.5x6,DBC See page 25
5	1	05050095	TAG,SERIAL NUMBER, STANDARD



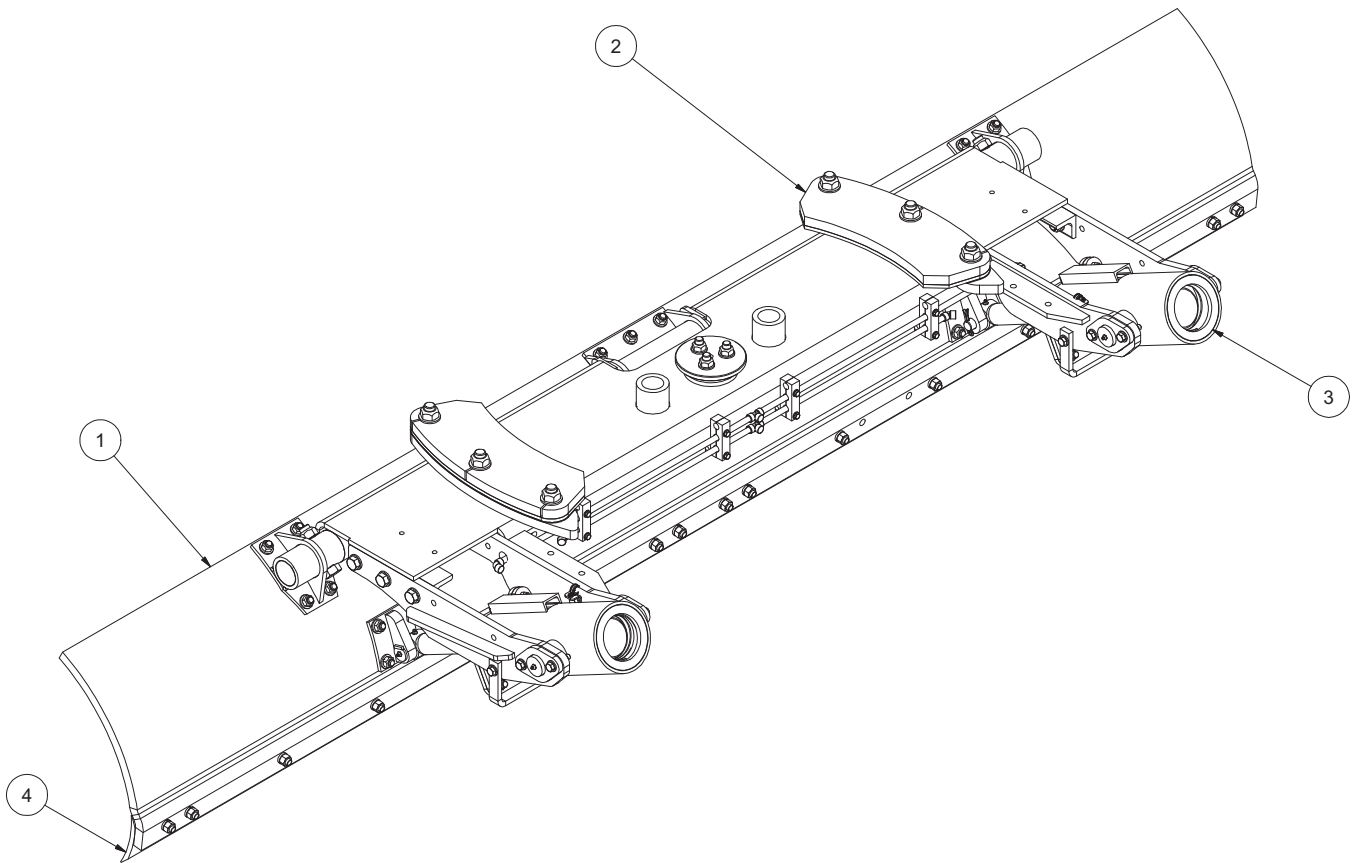
00151788 HANGERBOARD/MOLDBOARD ASSEMBLY, MS4511, 1X20

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05032043	MLDBD,SCPR,MS3511,1x20 A572-50 See page 19
2	1	00151717	HGRBD KIT,MS4500,1x20 See page 20
3	2	00151723	CANISTER ASSY,SCPR,3.5x10,NIT See page 22
4	1	00041823	CE KIT,11',.5x6,DBC See page 25
5	1	05050095	TAG,SERIAL NUMBER, STANDARD



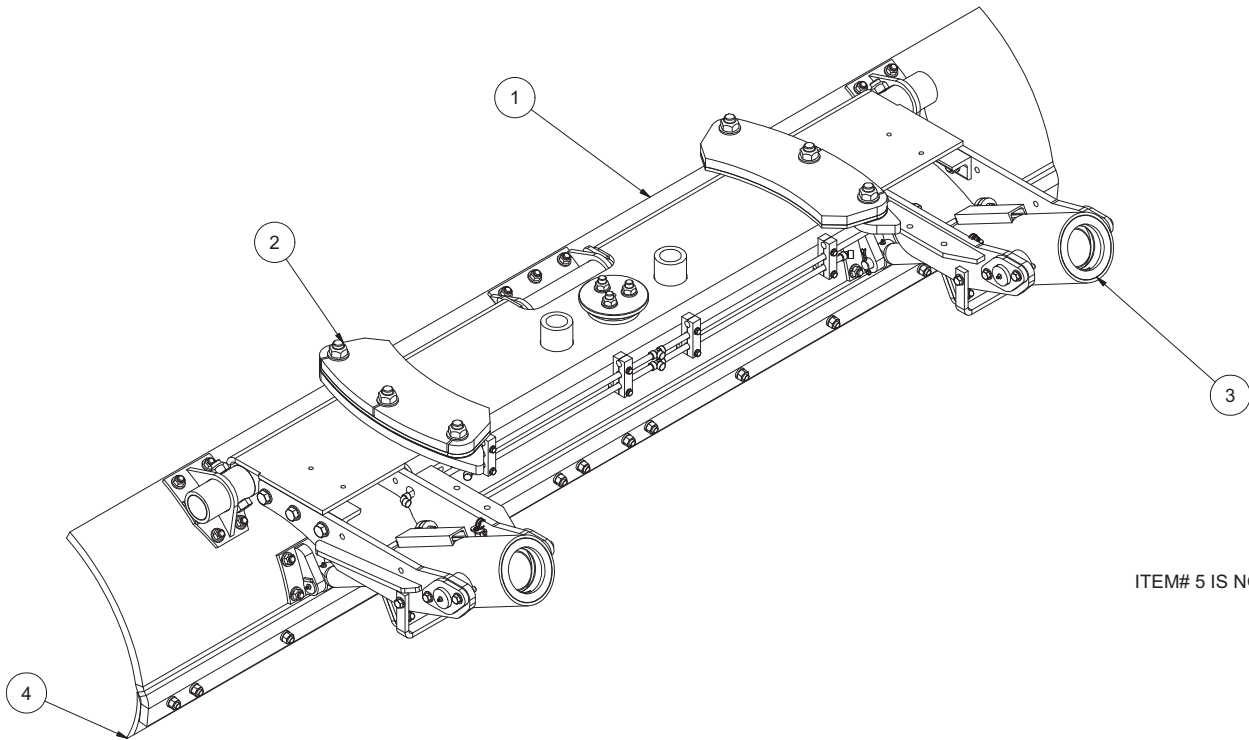
00151716 HANGERBOARD/MOLDBOARD ASSEMBLY, MS4512, 1X20

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05032042	MLDBD,SCPR,MS3512,1x20 A572-50 <small>See page 19</small>
2	1	00151717	HGRBD KIT,MS4500,1x20 <small>See page 20</small>
3	2	00151723	CANISTER ASSY,SCPR,3.5x10,NIT <small>See page 22</small>
4	1	00041824	CE KIT,12',.5x6,DBC <small>See page 25</small>
5	1	05050095	TAG,SERIAL NUMBER, STANDARD



00151782 HANGERBOARD MOLDBOARD ASSEMBLY, MS4512, 1 X 20

Item	Qty.	Part Number	Description
1	1	05032042	MLDBD,SCPR,MS3512,1x20 A572-50 See page ???
2	1	00151717	HGRBD KIT,MS4500,1x20 See page 20
3	2	00151781	CANISTER ASSY,SCPR,3.5x10 See page 23
4	1	00041824	CE KIT,12',.5x6,DBC See page 25
5	1	05050095	TAG,SERIAL NUMBER, STANDARD



ITEM# 5 IS NOT SHOWN

00157129 HANGERBOARD MOLDBOARD ASSEMBLY, MS4510, 1 X 20 HD SPRINGS

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05032044	MLDBD,SCPR,MS3510,1x20,A572-50 See page 19
2	1	00151717	HGRBD KIT,MS4500,1x20 See page 20
3	2	00154359	CANISTER ASSY,SCPR,3.5x10 See page 22
4	1	00041822	CE KIT,10',.5x6,DBC See page 25
5	1	05050095	TAG,SERIAL NUMBER, STANDARD

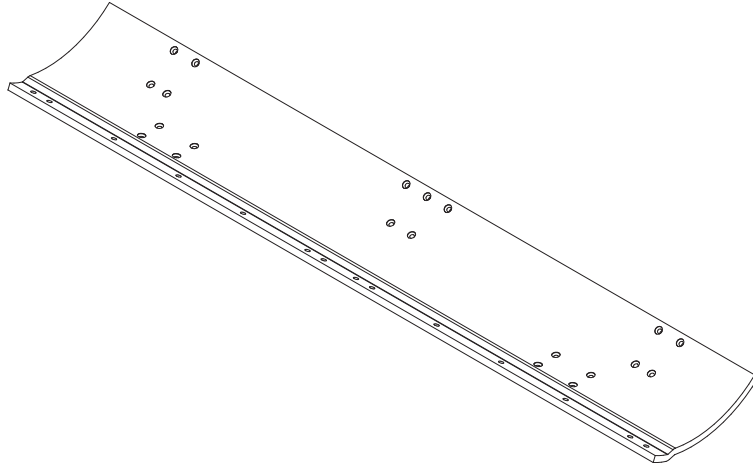
00157128 HANGERBOARD MOLDBOARD ASSEMBLY, MS4511, 1 X20, HD SPRINGS

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05032043	MLDBD,SCPR,MS3511,1x20,A572-50 See page 19
2	1	00151717	HGRBD KIT,MS4500,1x20 See page 20
3	2	00154359	CANISTER ASSY,SCPR,3.5x10 See page 22
4	1	00041823	CE KIT,11',.5x6,DBC See page 25
5	1	05050095	TAG,SERIAL NUMBER, STANDARD

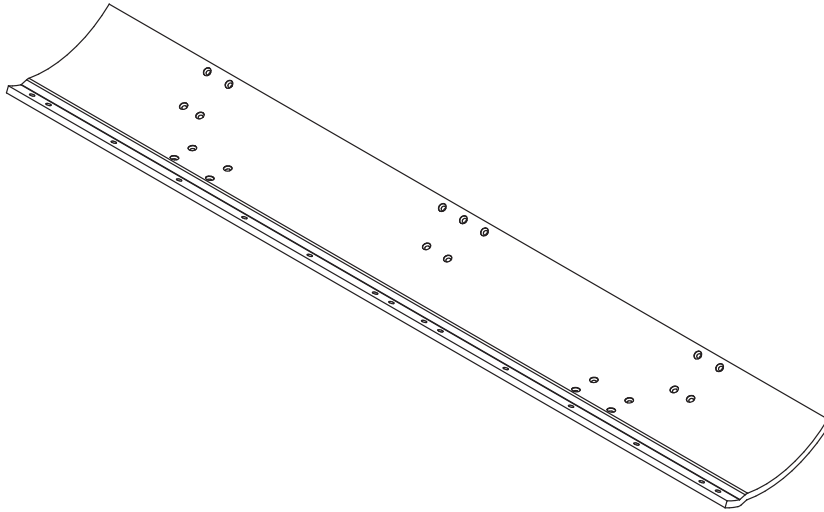
00157127 HANGERBOARD MOLDBOARD ASSEMBLY, MS4512, 1 X20, HD SPRINGS

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	05032042	MLDBD,SCPR,MS3512,1x20,A572-50 See page 19
2	1	00151717	HGRBD KIT,MS4500,1x20 See page 20
3	2	00154359	CANISTER ASSY,SCPR,3.5x10 See page 22
4	1	00041824	CE KIT,12',.5x6,DBC See page 25
5	1	05050095	TAG,SERIAL NUMBER, STANDARD

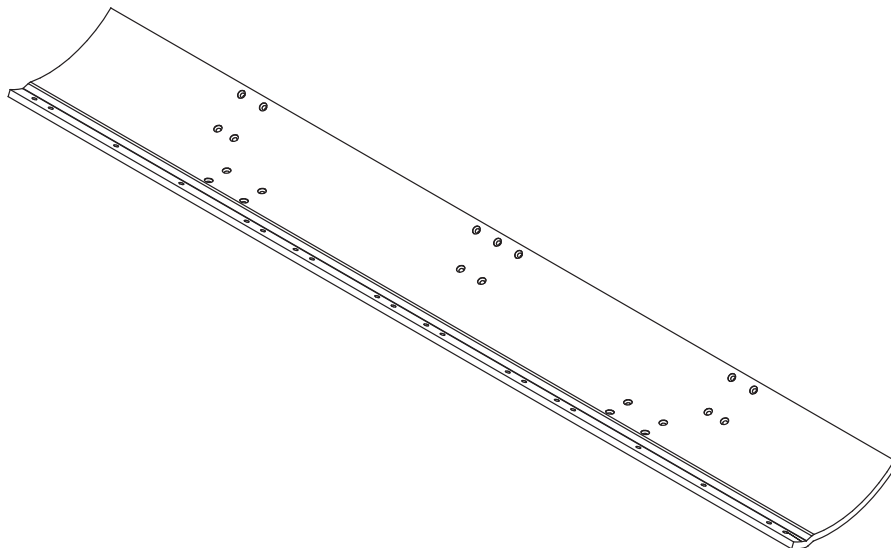
05032044 MOLDBOARD, 1 X 20 X 10'

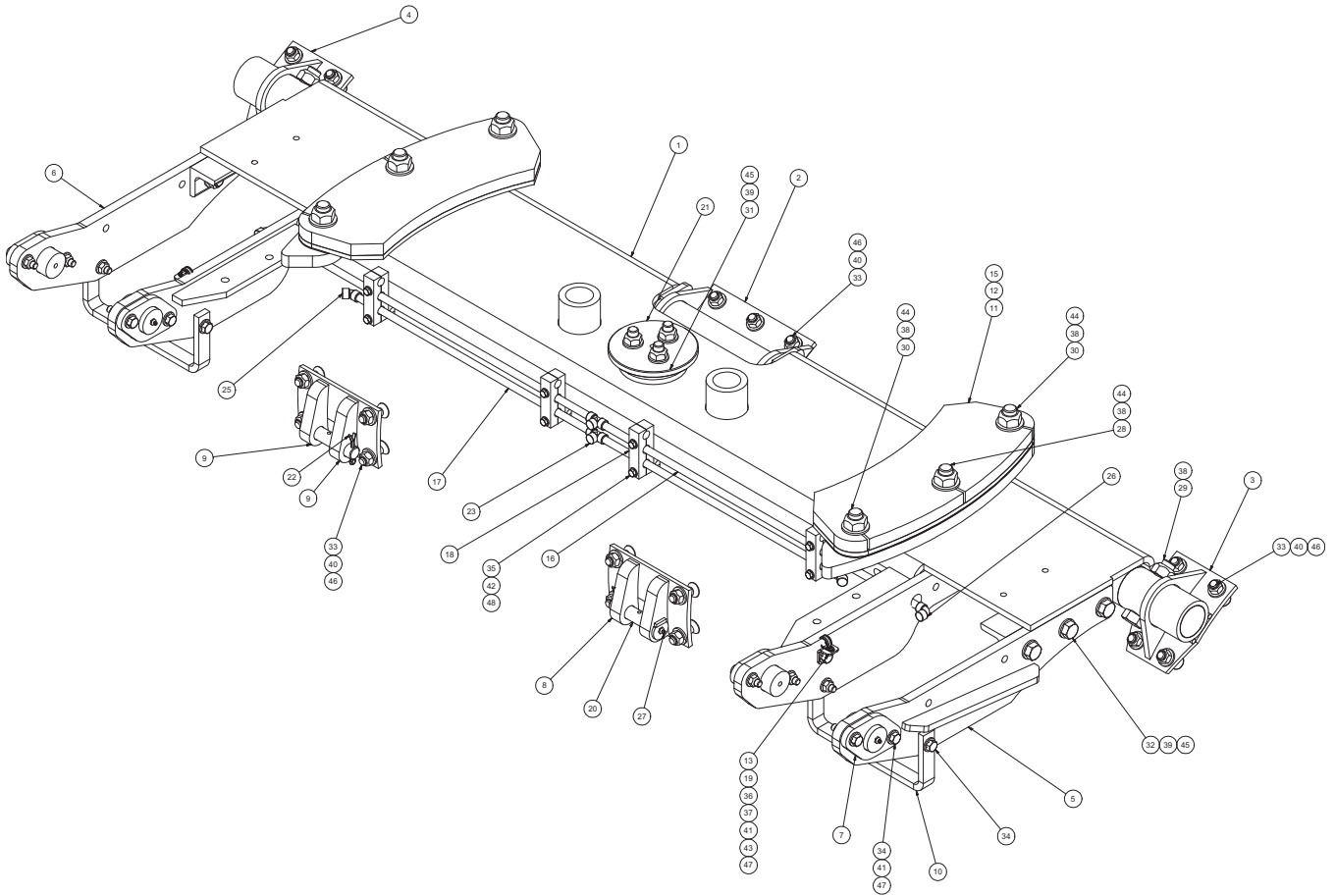


05032043 MOLDBOARD, 1 X 20 X 11'



05032042 MOLDBOARD, 1 X 20 X 12'



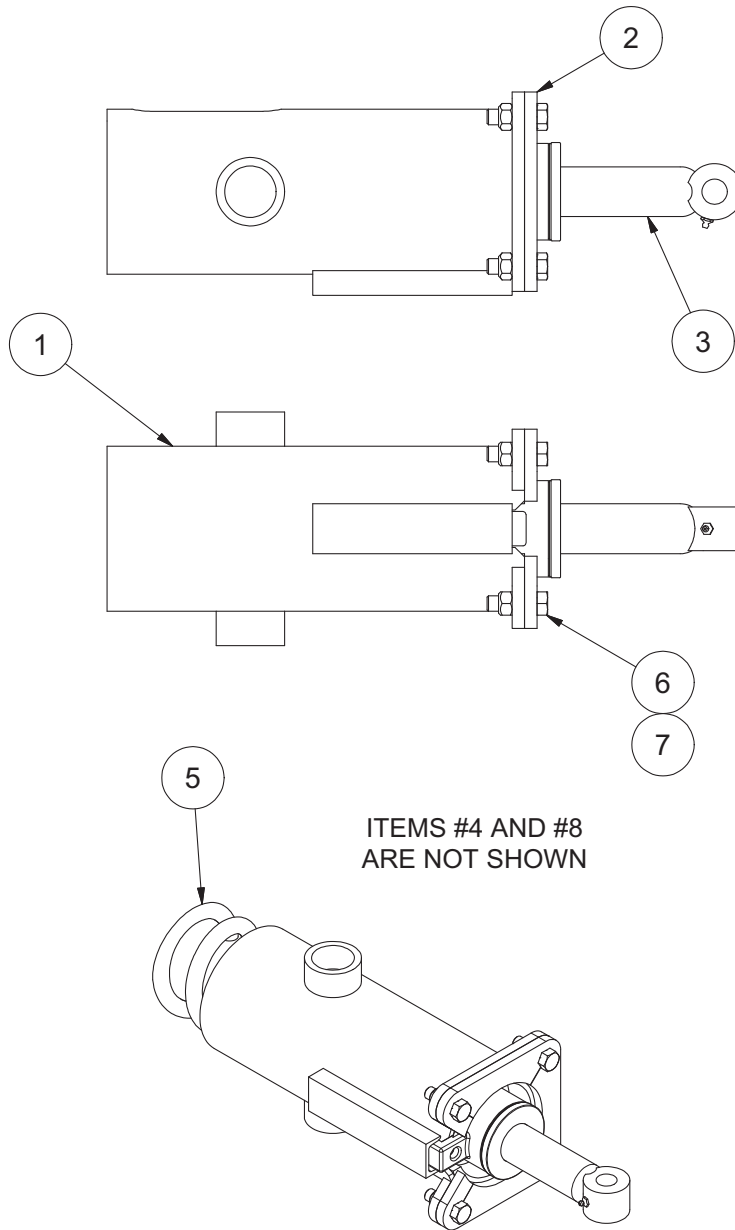


00151717 HANGERBOARD KIT, MS4500, 1 X 20

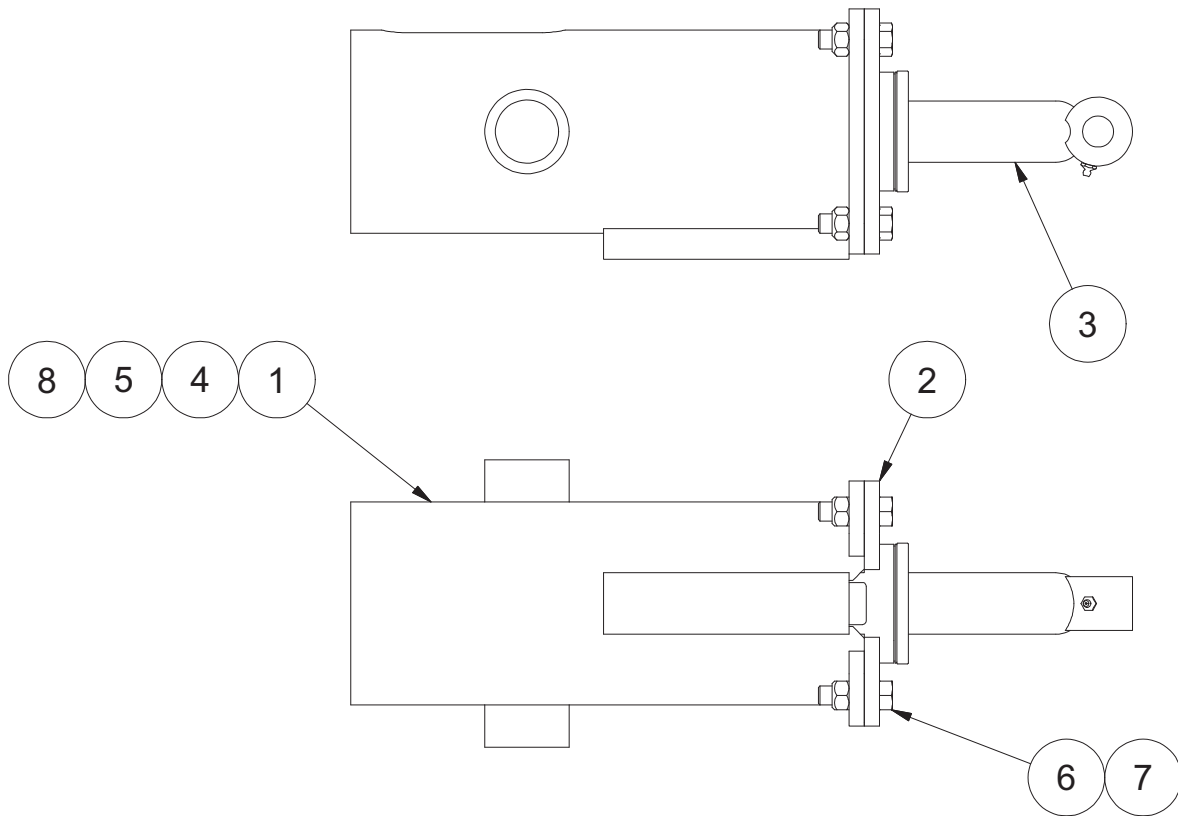
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151718	HGRBD WLDMT,MS4500,1x15/20
2	1	00031251	HINGE WLDMT,CENTER
3	1	00060033	HINGE WLDMT,END,RH
4	1	00027041	HINGE WLDMT,END,LH
5	1	00151719	ARM WLDMT,OUTER CSTR,RH,SCPR
6	1	00151720	ARM WLDMT,OUTER CSTR,LH,SCPR
7	4	00151713	PIN WLDMT,2.00x1.75GL
8	1	00151725	HINGE WLDMT,CURL,SCPR,RH
9	1	00151736	HINGE WLDMT,CURL,SCPR,LH
10	1	00060031	SHAFT,HINGE,2.5"O.D.x 96"

00151717 HANGERBOARD KIT, MS4500, 1X20

Item	Qty.	Part Number	Description
11	2	00153631	SUPPORT,CANISTER ARM,SCPR
12	2	00031246	RETAINER,CIRCLE
13	2	00037305	SPACER,RETAINER,CIRCLE
14	2	00153093	TAB,SCPR,CLAMP,GREASE LINE KIT
15	2	05037073	HOSE ASSY,.375"ID,22"OAL,2-WR,
16	2	00031245	SHIM,RETAINER,CIRCLE
17	2	05050086	PIPE,HYD CROSS,.375"x32",XH,
18	2	05050087	PIPE,HYD CROSS,.375x23.5",XH,
19	4	05050008	CLAMP,2-PC,UHMW,1x1.5x4,HYD
20	2	05050417	CLAMP,.75",CUSHIONED SST,#12
21	2	05022239	PIN 1.000 DIA x 4.266 GL
22	1	05053262	PIN,CENTER,SCPR,4500,4.938"W
23	2	05022006	PIN .250 x 2.000 COTTER
24	2	05037158	TEE ADAPTER,.375"FEMALE,ALL 3
25	2	05038092	FITTING,PLUG,.375"NPT,BLK PIPE
26	2	05037075	FITTING,45-DEG SWIVEL,.375FNPT
27	2	05037074	FITTING,90-DEG SWIVEL,.375FNPT
28	2	05050003	GREASE ZERK,.125 NPT STR
29	2	05010820	BOLT 1.00-8 x 5.00 G8 HHCS ZC
30	2	05010819	BOLT 1.00-8 x 4.50 G8 HHCS ZC
31	4	05010818	BOLT 1.00-8 x 4.00 G8 HHCS ZC
32	3	05016919	BOLT .750-10 x 4.00 G8 HHCS ZC
33	6	05010765	BOLT .750-10 x 2.25 G8 HHCS ZC
34	21	05014702	BOLT .625-11 x 2.25 FSHCS ZC
35	12	05010694	BOLT .500-13 x 2.25 G8 HHCS ZC
36	8	05010624	BOLT .313-18 x 2.50 G8 HHCS ZC
37	2	05010692	BOLT .500-13 x 1.75 G8 HHCS ZC
38	2	05010591	BOLT .250-20 x .750 G8 HHCS ZC
39	8	05020834	NUT 1.00-8 GC TOPLOCK C&W
40	9	05020849	NUT .750-10 GC TOPLOCK C&W
41	21	05020837	NUT .625-11 GC TOPLOCK C&W
42	14	05020847	NUT .500-13 GC TOPLOCK C&W
43	8	05020909	NUT .313-18 GC TOPLOCK C&W
44	2	05020899	NUT .250-20 GC TOPLOCK C&W
45	12	05021020	WASHER 1.000 FLAT MIL-CARB SAE
46	18	05021018	WASHER .750 FLAT MIL-CARB SAE
47	21	05021017	WASHER .625 FLAT MIL-CARB SAE
48	28	05021005	WASHER .500 FLAT MIL-CARB SAE
49	16	05021012	WASHER .313 FLAT MIL-CARB SAE

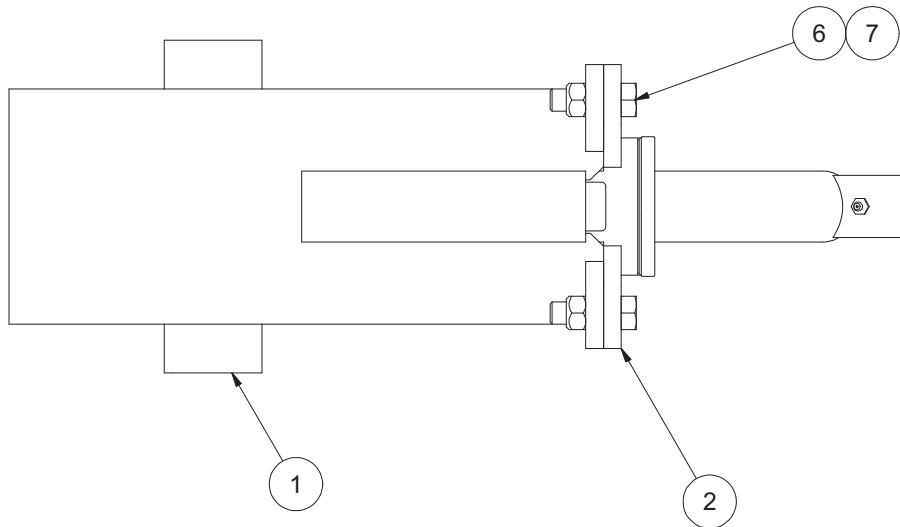
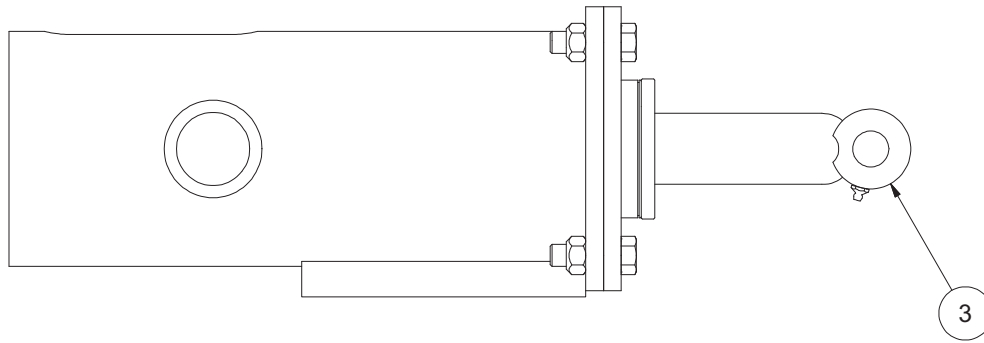


00151723 CANISTER ASSY, SCRAPER, 3.5 X 10, SOCATRI			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151724	CANISTER WLDMT,SCPR,MS4500
2	1	00022512	FLANGE WLDMT,CANISTER,SCPR
3	1	05003372	CYLINDER,3.5x10,DA,SOCATRI, <small>See page 37</small>
4	1	05030506	HOSE ASSY,.375"ID,36"OAL,2WIRE
5	1	05035065	SPRING,COMP,5.75"OD,18.5"OAL
6	4	05010739	BOLT .625-11 x 2.00 G8 HHCS ZC
7	4	05020837	NUT .625-11 GC TOPLOCK C&W
8	1	05052547	DECAL,WARNING SPRINGS UNDER



00151781 CANISTER ASSEMBLY, SCRAPER, 3.5X10

Item	Qty.	Part Number	Description
1	1	00151724	CANISTER WLDMT,SCPR,MS4500
2	1	00022512	FLANGE WLDMT,CANISTER,SCPR
3	1	05003372	CYLINDER,3.5x10,DA,SOCATRI, See page 37
4	1	05030506	HOSE ASSY, .375"ID,36"OAL,2WIRE
5	1	05035065	SPRING,COMP,5.75"OD,18.5"OAL
6	4	05010739	BOLT .625-11 x 2.00 G8 HHCS ZC
7	4	05020837	NUT .625-11 GC TOPLOCK C&W
8	1	05052547	DECAL,WARNING SPRINGS UNDER



NOTE:

ITEMS 4, 5, & 8 ARE NOT SHOWN.

00154359 CANISTER ASSEMBLY, SPCR, 3.5 X 10, SOCATRI, HD SPRINGS

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	00151724	CANISTER WLDMT,SCPR,MS4500
2	1	00022512	FLANGE WLDMT,CANISTER,SCPR
3	1	05003372	CYLINDER,3.5x10,DA,SOCATRI, See page 37
4	1	05030506	HOSE ASSY,.375"ID,36"OAL,2WIRE
5	1	05035001	SPRING,COMP,5.75"OD,18.5"OAL,
6	4	05010739	BOLT .625-11 x 2.00 G8 HHCS ZC
7	4	05020837	NUT .625-11 GC TOPLOCK C&W
8	1	05052547	DECAL,WARNING SPRINGS UNDER

00071031 CUTTING EDGE KIT, 8', .625 X 6, DC

Item	Qty	Part Number	Description
1	1	05031146	Cutting Edge, .5 x 6 x 5', DBC, 1084
2	10	05014551	Bolt, .625-11 x 2.5, G8, DH, Plain
3	10	05020270	Nut, .625-11, G8, Hex, Zinc
4	10	05021383	Washer, .625, Lock, Heavy, Zinc

00041822 CUTTING EDGE KIT, .5 X 6 X 10', DBC

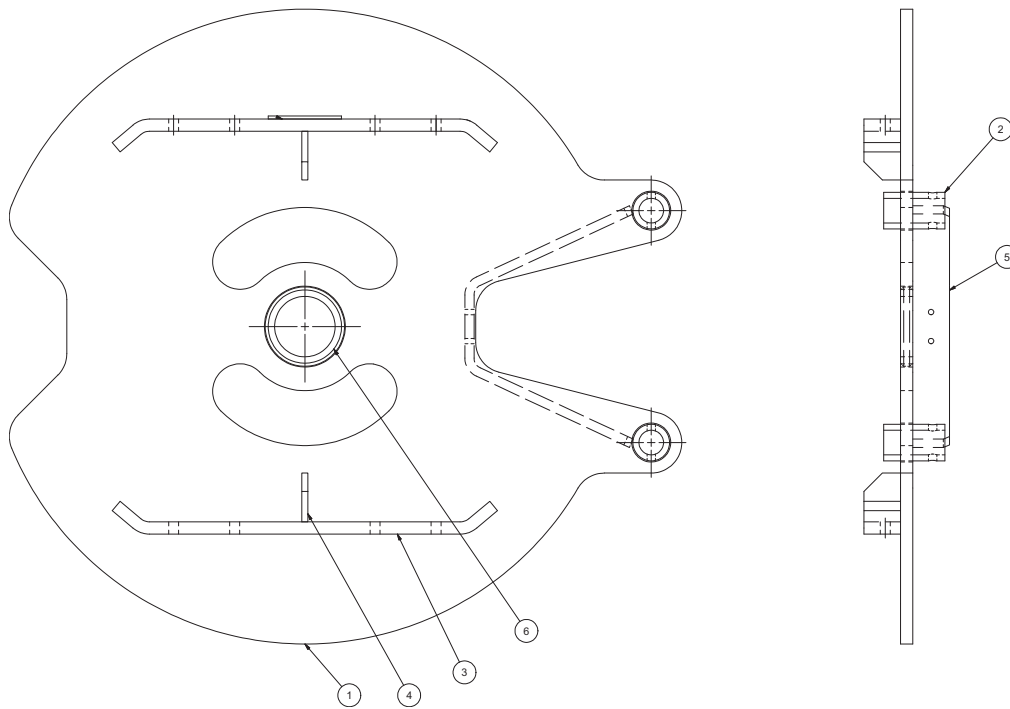
Item	Qty	Part Number	Description
1	2	05031113	Cutting Edge, .5 x 6 x 5', DBC, 1084
2	14	05014551	Bolt, .625-11 x 2.5, G8, DH, Plain
3	14	05020270	Nut, .625-11, G8, Hex, Zinc
4	14	05021383	Washer, .625, Lock, Heavy, Zinc

00041823 CUTTING EDGE KIT, .5 X 6 X 11', DBC

Item	Qty	Part Number	Description
1	1	05031113	Cutting Edge, .5 x 6 x 5', DBC, 1084
2	1	05031114	Cutting Edge, .5 x 6 x 6', DBC, 1084
3	15	05014551	Bolt, .625-11 x 2.5, G8, DH, Plain
4	15	05020270	Nut, .625-11, G8, Hex, Zinc
5	15	05021383	Washer, .625, Lock, Heavy, Zinc

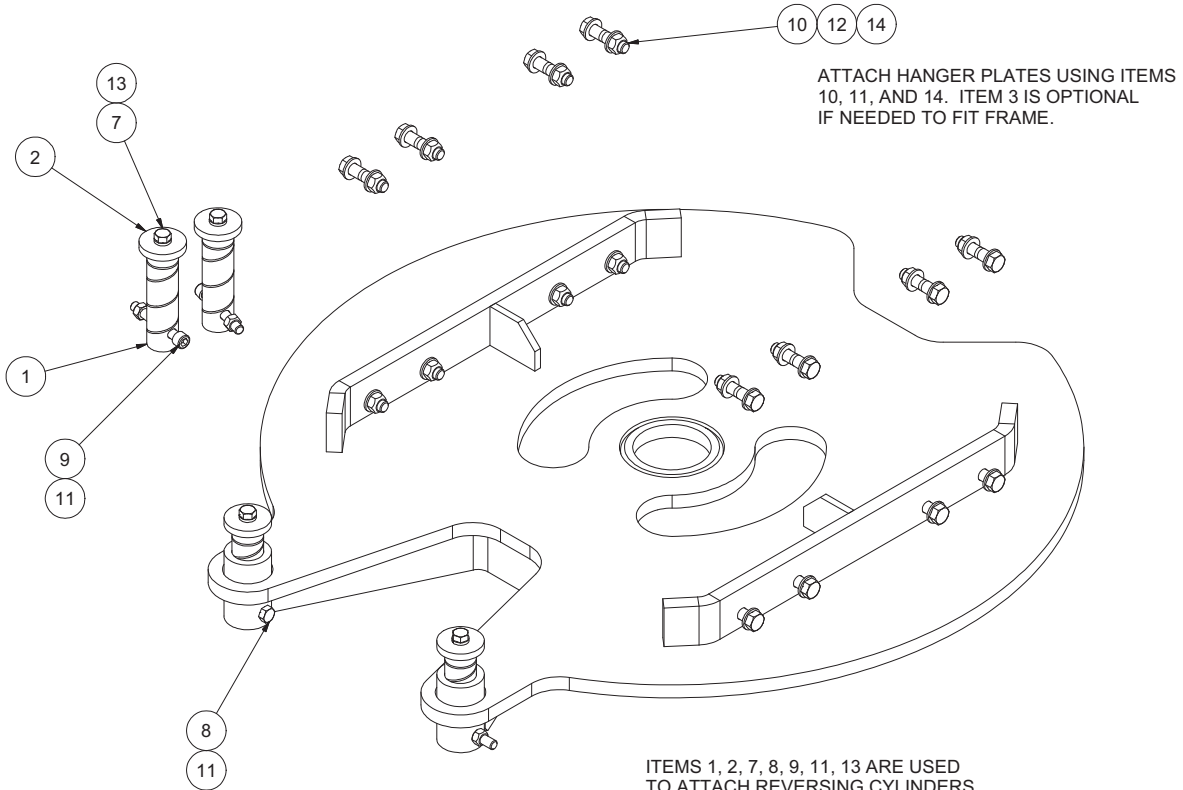
00041824 CUTTING EDGE KIT, .5 X 6 X 12', DBC

Item	Qty	Part Number	Description
1	2	05031114	Cutting Edge, .5 x 6 x 6', DBC, 1084
2	16	05014551	Bolt, .625-11 x 2.5, G8, DH, Plain
3	16	05020270	Nut, .625-11, G8, Hex, Zinc
4	16	05021383	Washer, .625, Lock, Heavy, Zinc



00128412 CIRCLE WELDMENT, 1 X 52, DOUBLE EAR, 5.0 0 SLOTS

Item	Qty.	Part Number	Description
1	1	00031250-A	CIRCLE, 1.0 X 52, DOUBLE, 5.0, MS
2	2	00031241	MOUNT, REVERSING CYLINDER
3	2	00128413	STIFFENER, CIRCLE
4	2	00060859	SUPPORT, CIRCLE
5	1	00151734	STIFFENER, CIRCLE
6	1	00071058	BUSHING, CENTER, CIRCLE




00151751 MOUNTING BOX, SCRAPER, MS4500, 1.0SCX2, POLY

ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	00131692	PIN,REV CYLINDER,MS3500,2.0DIA
2	4	00031243	RETAINER,REVERSING CYLINDER
3	4	00060258	SHIM,HANGER
4	1	05090644	MANUAL,SCPR,MS4500
5	1	05043066	VALVE,CUSHION,.875-14ORB,30GPM
6	1	05051395	CARDBOARD,BOX,12"x8"x7" FOL
7	4	05010737	BOLT .625-11 x 1.50 G8 HHCS ZC
8	2	05010748	BOLT .625-11 x 4.50 G8 HHCS ZC
9	2	05017014	BOLT .625-11 x 4.50 SHCS ZC
10	16	05010768	BOLT .750-10 x 3.00 G8 HHCS ZC
11	4	05020837	NUT .625-11 GC TOPLOCK C&W
12	16	05020849	NUT .750-10 GC TOPLOCK C&W
13	4	05021383	WASHER .625 LOCK HVY ZC
14	32	05021018	WASHER .750 FLAT MIL-CARB SAE
15	1	00053218	DECAL KIT,SCPR See page 28

00053218 DECAL KIT

Item	Qty	Part Number	Description
1	1	05052547	Decal, Warning Springs Under Tension
2	1	05052311	Decal, Quality Check
3	1	05052628	Decal, Warning, Tighten Fastener



⚠ WARNING

Springs under tension!
If spring releases while performing maintenance, serious injury or death could result. Use caution when working in area.

IF DEFACED - ORDER PART NO. 05052547

⚠ WARNING


Possible serious injury and equipment damage from loosening of equipment fasteners.

Fasteners on snow and ice removal equipment may loosen due to vibration and repetitive movements.

Retighten all equipment mounting fasteners after the first 8 hours of use, then check tightness weekly after that. Use a torque wrench when specific torque values are given in the installation manual.

If fasteners need to be replaced, be certain to use the correct size, grade and type to prevent failure.

05052628

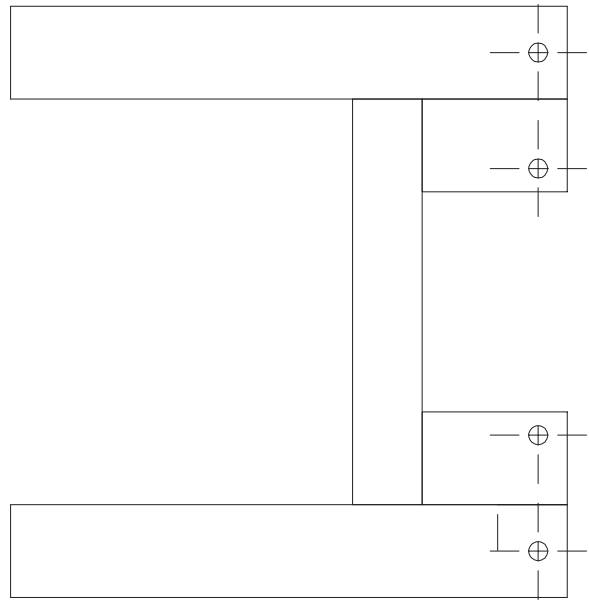


QUALITY CHECK

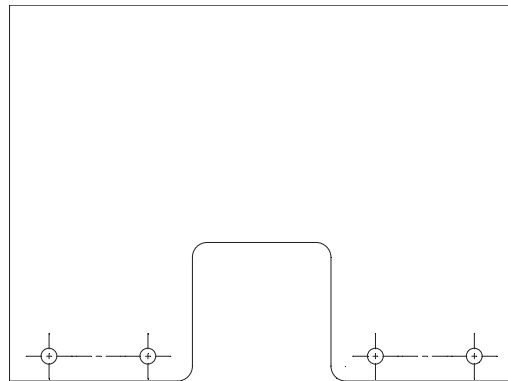
Inspected by:

05052311

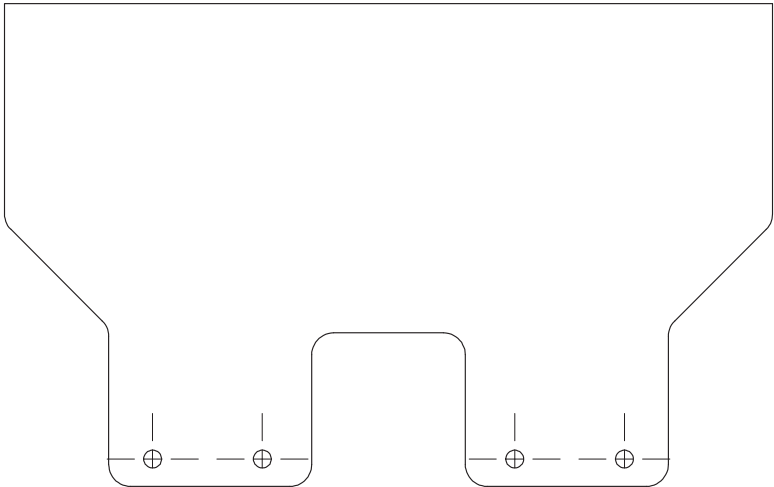
00153750 PAIR 1" X 4" BAR STOCK HANGER BRACKET



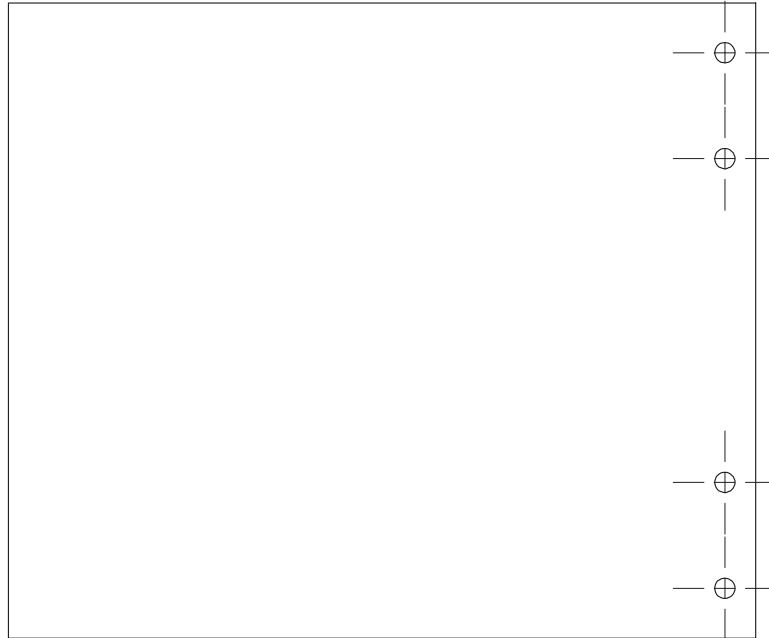
00140078 PAIR .75" X 22" X 26" SOLID PLATE HANGER BRACKET

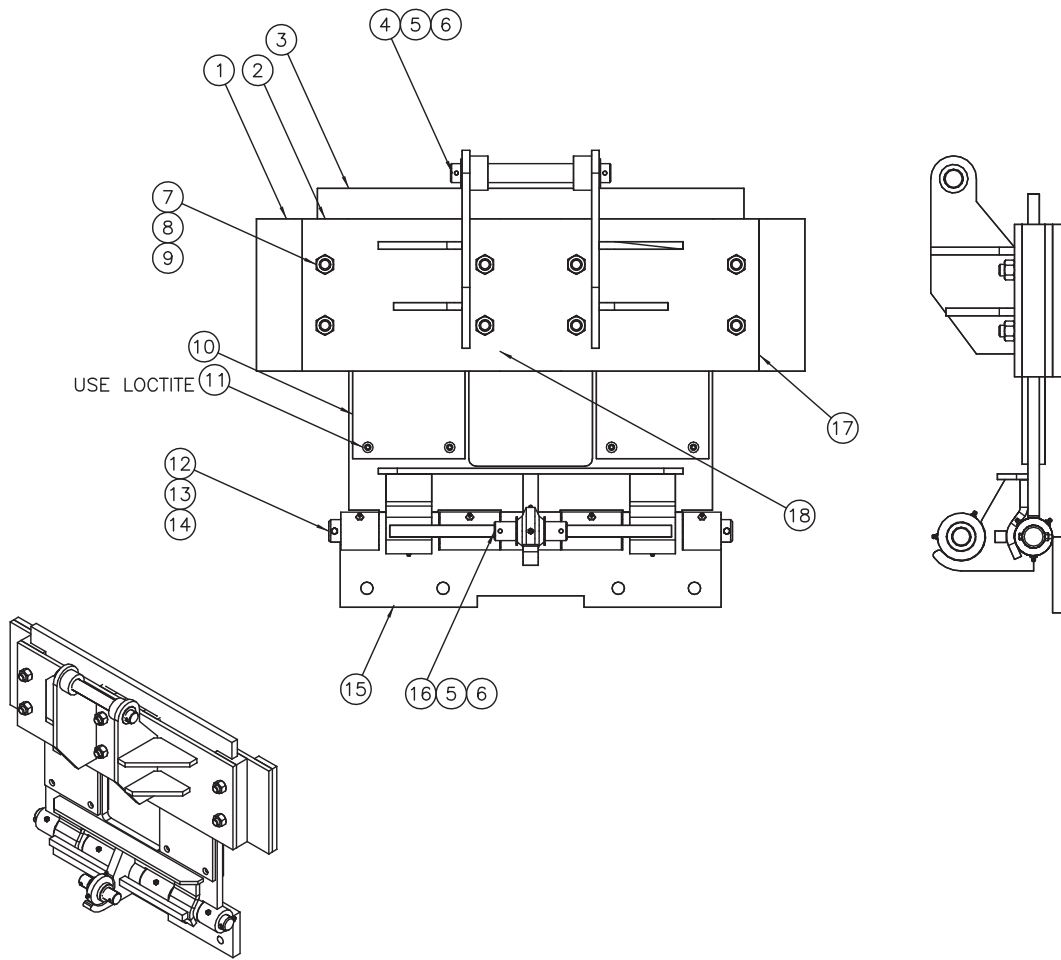


00150978 PAIR .75" CUSTOM TAPERED SOLID HANGER PLATE



00153747 EXTENDED SIDE PLATE, 50" HIGH FRAME

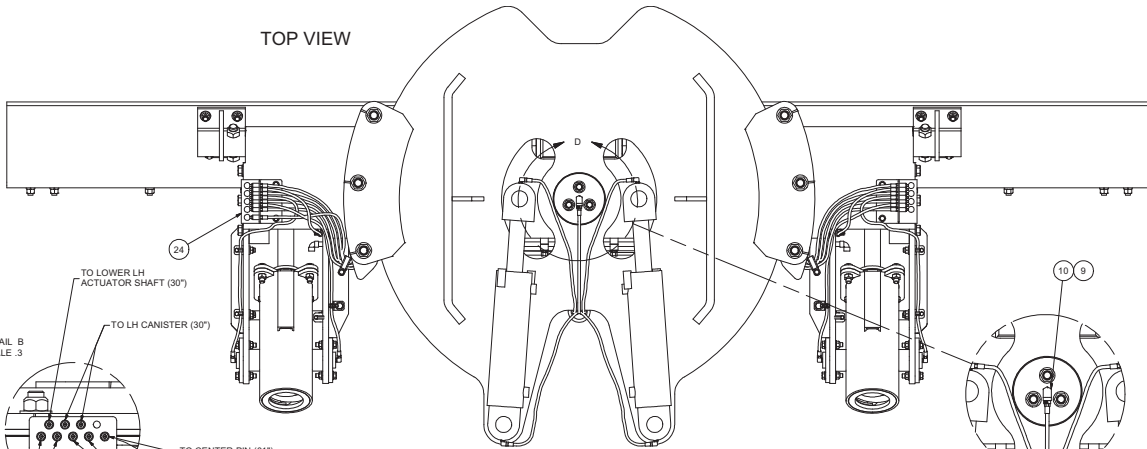




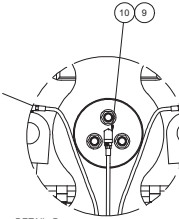
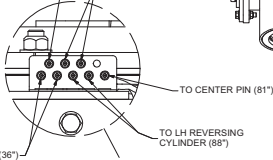
00153753 HANGER ASSEMBLY, SCRAPER, OSCG, MS4500

Item	Qty.	Part Number	Description
1	1	00011233	HANGER WLDMT,SCPR,OSCG,INNER
2	1	00011228	HANGER BRKT WLDMT,OUTER
3	1	00011213	SIDE PL ASSY,SCPR,MS2000,OSCG
4	1	00022507	PIN 1.25 X 10.50
5	4	05022007	PIN .250 x 2.50 COTTER ZC
6	4	05021191	BUSHING,MACH,1.88x1.25x14GA,ZC
7	8	05010772	BOLT .750-10 x 4.00 G8 HHCS ZC
8	8	05020271	NUT .750-10 G8 HEX ZC
9	8	05021384	WASHER .750 LOCK HVY ZC
10	4	00011221	INSERT,OSCG HANGER BRKT,SCPR
11	24	05017027	SCREW .313-18 x .50 FSHC
12	1	00011220	PIN 1.500 DIA x 26.500
13	2	05010597	BOLT .250-20 x 2.00 G8 HHCS ZC
14	2	05020899	NUT .250-20 TOP LOCK ZC
15	1	00153752	HINGE WLDMT,SCPR,OSCG,HANGER MS4500
16	1	00022506	PIN 1.25 X 4.75
17	2	00125223	SHIM,SPACER,3x10
18	2	00125224	SHIM,SPACER,2x10

TOP VIEW

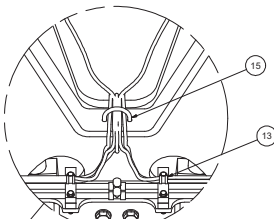
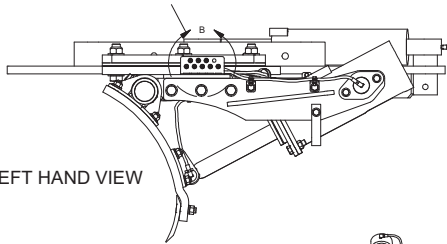


DETAIL B
SCALE .3

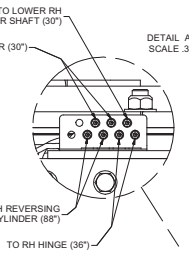
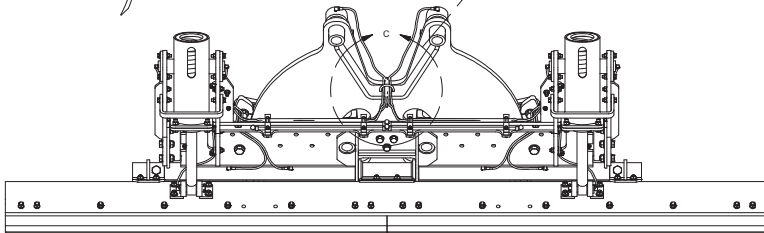


DETAIL D
SCALE .2

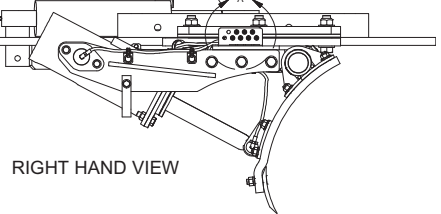
LEFT HAND VIEW



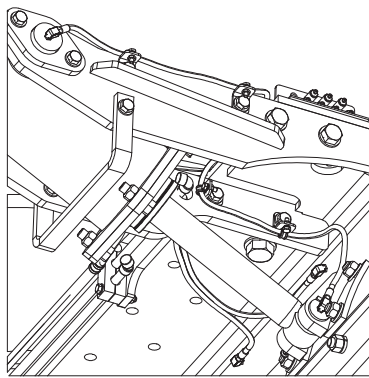
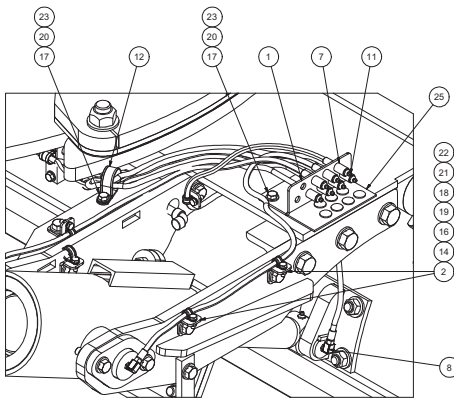
DETAIL C
SCALE .2



DETAIL A
SCALE .3



RIGHT HAND VIEW



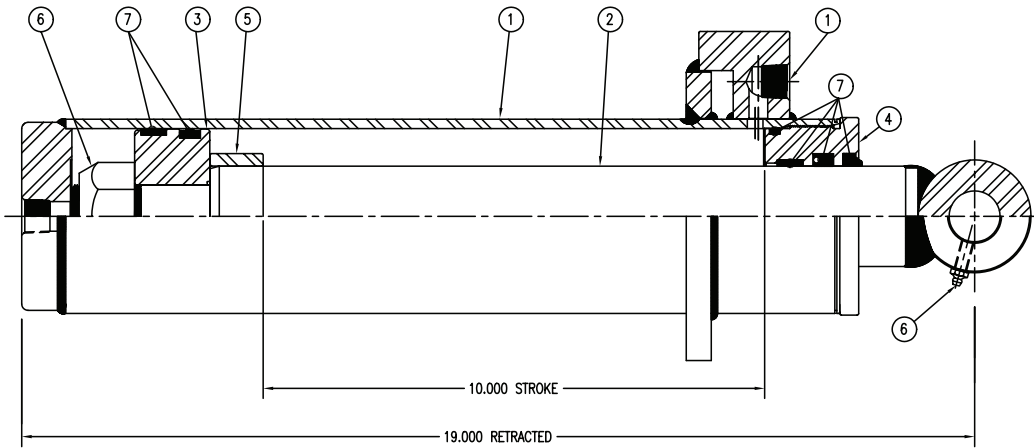
00150977 GREASE LINE KIT, MS4500

Item	Qty.	Part Number	Description
1	2	00151732	FORMED ANGLE,GREASE LINE
2	10	00153093	TAB,SCPR,CLAMP,GREASE LINE KIT
3	1	00086230	HOSE ASSY,81,GREASE LINE,SCPR
4	4	00129655	HOSE ASSY,.125"ID,88"OAL
5	4	00059368	HOSE ASSY,.125"ID,36"OAL
6	6	00151733	HOSE ASSY,.125"ID,30"OAL
7	15	05037660	FITTING,COUPLING,.125"FNPT
8	14	05038319	FITTING,90DEG,BRASS,.125"MNPTx
9	1	05044251	FITTING,RDCR,.250MNPT x
10	1	05044252	FITTING,90-DEG,SWIVEL,.125MNPT
11	15	05050003	GREASE ZERK,.125 NPT STR
12	2	05050420	CLAMP,1.5",CUSHIONED METAL,#24
13	4	05051786	CLAMP,.625,CUSHIONED METAL
14	10	05052475	CLAMP,.375",CUSHIONED METAL,#6
15	1	05053227	U-BOLT,.375 x 2.000 x 2.625
16	10	05010692	BOLT .500-13 x 1.75 G8 HHCS ZC
17	6	05010644	BOLT .375-16 x 1.25 G8 HHCS ZC
18	10	05010591	BOLT .250-20 X .750
19	10	05020847	NUT .500-13 GC TOPLOCK C&W
20	6	05020898	NUT .375-16 GC TOPLOCK C&W
21	10	05020899	NUT .250-20, TOP LOCK, ZINC
22	20	05021005	WASHER .500 FLAT MIL-CARB SAE
23	12	05021013	WASHER .375 FLAT MIL-CARB SAE
24	1	05053267	DECAL,5.50"X2.50",GREASE EXT
25	1	05053268	DECAL,5.50"X2.50",GREASE EXT

Cylinders

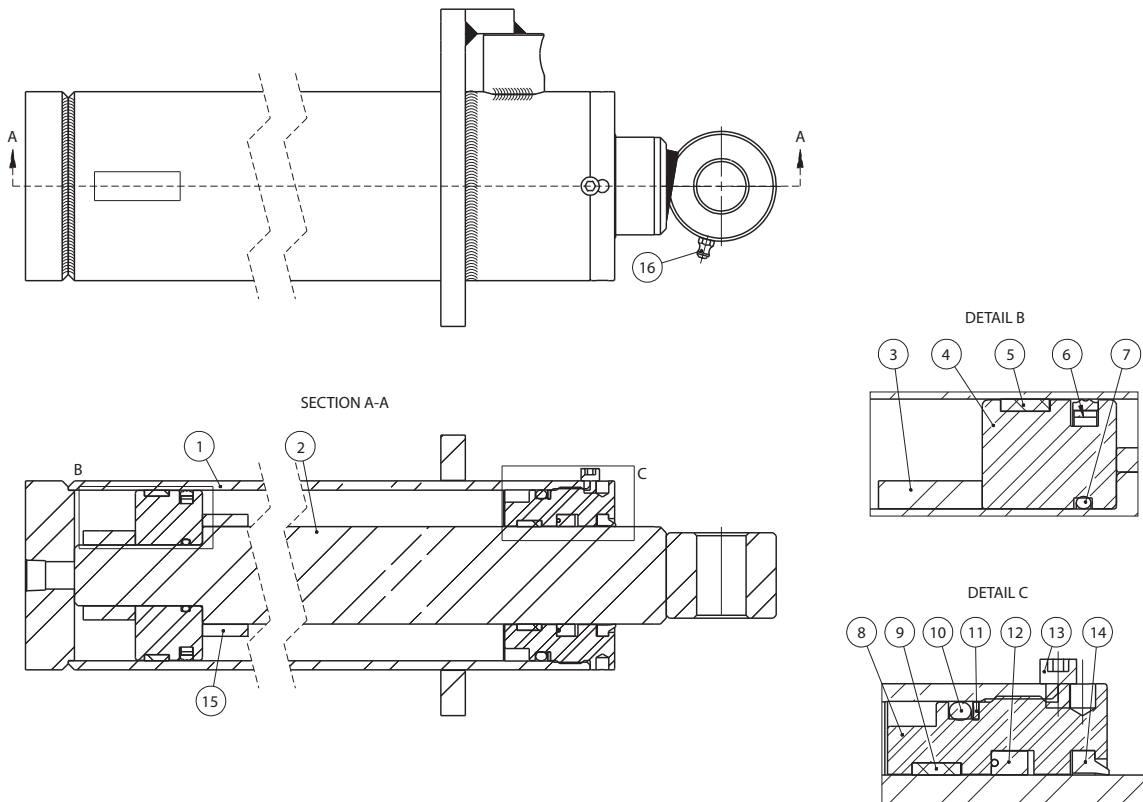
05003372 CYLINDER, 3.5 X 10, DA, SOCATRI

<i>DIREKT FORCE</i>	ITEM	QTY	PART #	DESCRIPTION
	1	1	---	BODY SUB-ASSEMBLY
	2	1	---	ROD SUB-ASSEMBLY
	3	1	05003256	PISTON
	4	1	05003255	GLAND
	5	1	05003388	STROKE LIMITER
	6	1	---	HARDWARE KIT
	7	1	05003266	SEAL KIT



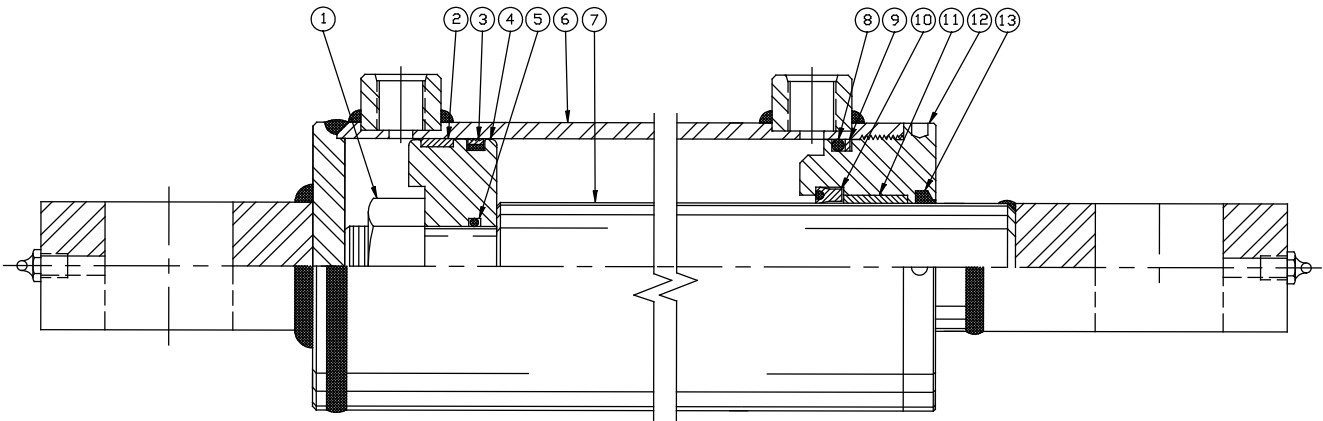
05003372 CYLINDER, 3.5 X 10, DA, SOCATRI

<u>BEST METAL</u>	ITEM	QTY	PART #	DESCRIPTION
	1	1	---	JACKET SUBASSEMBLY
	2	1	---	ROD SUBASSEMBLY
	3	1	---	NUT, STOVER
	4	1	05003375	WEAR RING, PSP, PISTON
	5	1	---	WEAR RING, TIGHT TOLERANCE
	6	1	---	DYNAMIC SEAL, PSP
	7	1	---	STATIC SEAL
	8	1	05003377	HEADSTOCK
	9	1	---	WEAR RING, TIGHT TOLERANCE
	10	1	---	STATIC SEAL, O-RING
	11	1	---	STATIC SEAL, BACK-UP RING
	12	1	---	DYNAMIC SEAL, POLY PAK
	13	1	---	CAP SCREW
	14	1	---	ROD WIPER
	15	1	05003378	STOP TUBE
	16	1	---	ZERK
		1	05003376	SEAL KIT

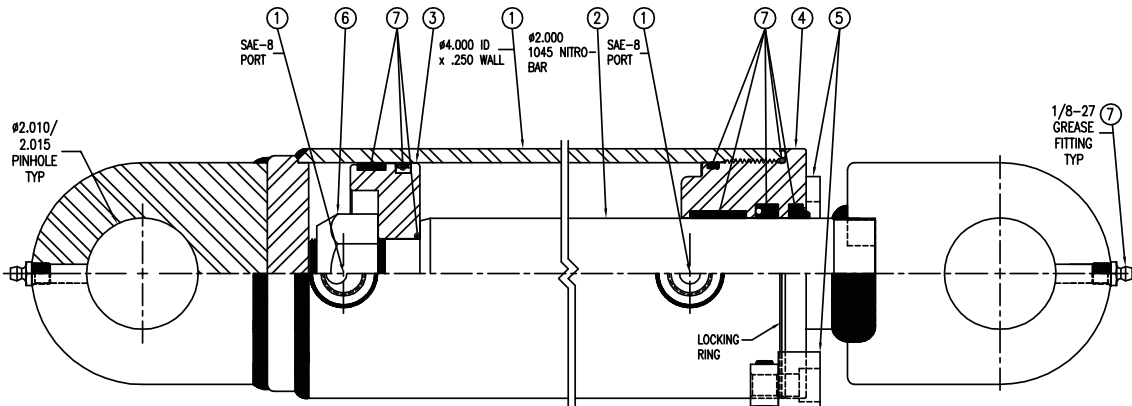


05002841 CYLINDER, 4x12, DA, NIT SCRAPER, POLY PAK

Vendor #33285		ITEM	QTY	PART #	DESCRIPTION
	1	1	N/A		CASTLE NUT
	2	1	05002955		WEAR RING
	3	1	05002956		PSP SEAL
	4	1	05002856		PISTON (STEEL)
	5	1	05002957		O-RING
	6	1	N/A		JACKET ASSEMBLY
	7	1	N/A		PISTON ROD
	8	1	05002958		O-RING
	9	1	05002959		BACKUP WASHER
	10	1	05002525		POLY PAK, TYPE B
	11	1	N/A		BRONZE LINER
	12	1	05002930		HEADSTOCK
	13	1	05002527		ROD WIPER
			05002855		SEAL KIT (Includes items 2,3,5,8,9,10 & 13)

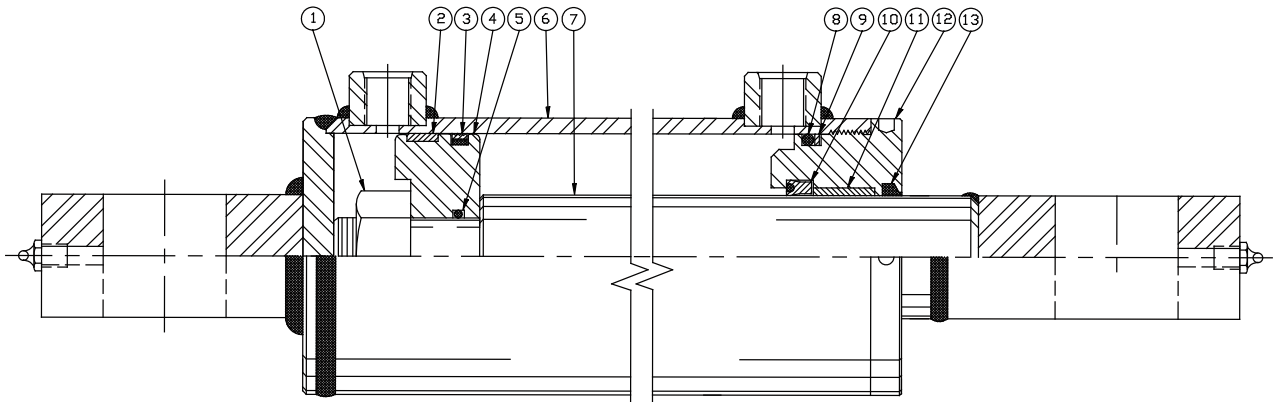


Vendor #73115		ITEM	QTY	PART #	DESCRIPTION
	1	1	---		BODY SUB ASSEMBLY
	2	1	---		ROD ASSEMBLY
	3	1	05003364		PISTON
	4	1	05003240		GLAND
	5	1	05003365		GLAND LOCK
	6	1	---		HARDWARE KIT
	7	1	05003265		SEAL KIT, 4.0 BORE, 2.0 ROD

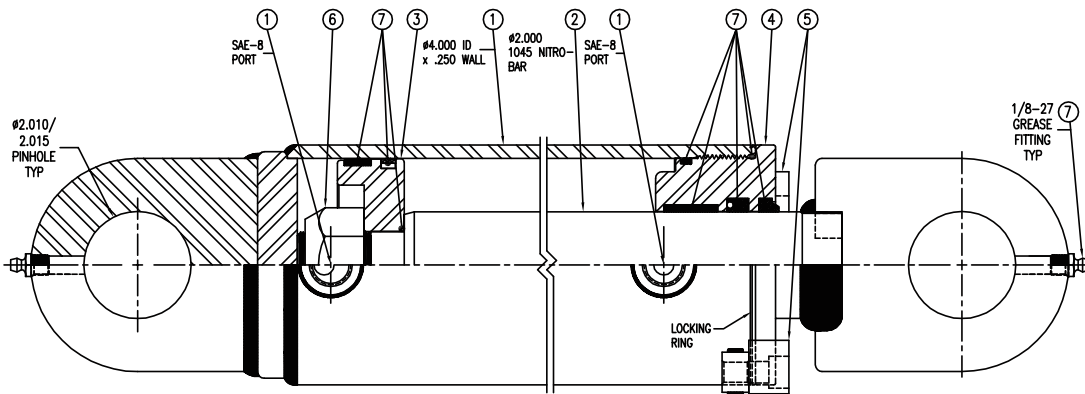


05002875 CYLINDER, 4X12, DA, SOCATRI, REVERSE, SCRAPER

Vendor #33285	ITEM	QTY	PART #	DESCRIPTION
	1	1	---	CASTLE NUT
	2	1	05002955	WEAR RING
	3	1	05002956	PSP SEAL
	4	1	05002856	PISTON (STEEL)
	5	1	05002957	O-RING
	6	1	---	JACKET ASSEMBLY
	7	1	---	PISTON ROD
	8	1	05002958	O-RING
	9	1	05002959	BACKUP WASHER
	10	1	05002525	POLY PAK, TYPE B
	11	1	---	BRONZE LINER
	12	1	05002930	HEADSTOCK
	13	1	05002527	ROD WIPER
			05002855	SEAL KIT (Includes items 2,3,5,8,9,10 & 13)



Vendor #73115	ITEM	QTY	PART #	DESCRIPTION
	1	1	---	BODY SUB ASSEMBLY
	2	1	---	ROD ASSEMBLY
	3	1	05003364	PISTON
	4	1	05003240	GLAND
	5	1	05003365	GLAND LOCK
	6	1	---	HARDWARE KIT
	7	1	05003265	SEAL KIT, 4.0 BORE, 2.0 ROD



Snow & Ice Control Product Warranty



1051 W. 7th Street • Monroe, WI 53566
800-880-0109 • 608-329-8105 • FAX 608-328-8390
E-mail: snowandicecontrol@monroetruck.com • Website: www.monroetruck.com

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 with **ONE YEAR** of the original installation, and is returned to us with 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, Inc.** 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.



Reversible & One-way Snowplows • Airport Snowplow • Heavy Duty Patrol Wing
Heavy Duty Benching Wing • Monroe Underbody Scraper • Heavy Duty V-box Spreader
Under Tailgate Spreader • Pickup V-box Spreader • Replacement Tailgate Spreader
Anti-Icing/De-icing & Vegetation Sprayer • Construction Attachments



Uninstalled Parts & Equipment 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 SOLUTIONS
ARMORED VEHICLES ~ SPORT TRUCK CONVERSIONS
MUNICIPAL SNOW & ICE CONTROL ~ FIRE APPARATUS
PICKUP TRUCK ACCESSORIES ~ TRUCK EQUIPMENT/MODIFICATIONS



Uninstalled Parts & Equipment Warranty



**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

