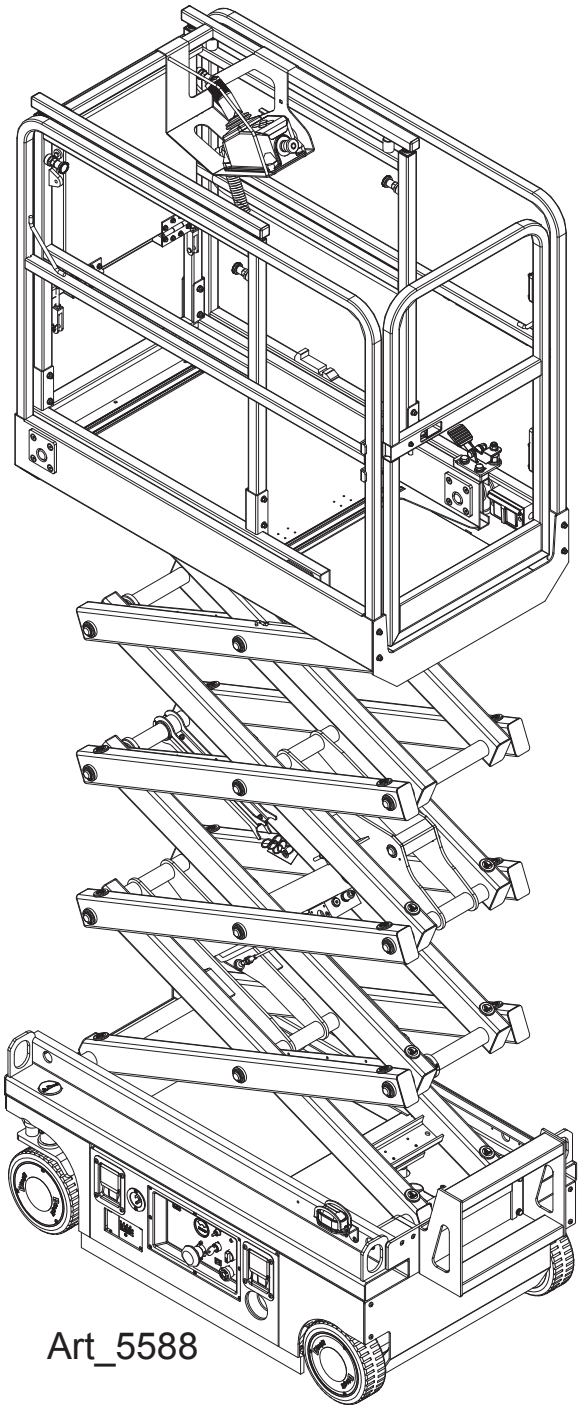
Service & Parts Manual

Micro13-XD



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Serial Number Range
1620000 - Up

Part # 43891
August 2023

Revision History

Date	Reason for Update
July 2020	New Release

MEC Aerial Work Platforms

1401 S. Madera Avenue, Kerman, CA 93630 USA
Toll Free: 1 - 877 - 632 - 5438
Phone: 1 - 559 - 842 - 1500
Fax: 1 - 559 - 842 - 1520
info@MECawp.com
www.MECawp.com

Table of Contents

Service Introduction

This Service section is designed to provide you, the customer, with the instructions needed to properly maintain the MEC self-propelled aerial work platform. When used in conjunction with the illustrated Parts section in this manual and the Operator's Manual (provided separately), this manual will assist you in making necessary adjustments and repairs, and identifying and ordering the correct replacement parts.

All parts represented here are manufactured and supplied in accordance with MEC quality standards. We recommend that you use genuine MEC parts to ensure proper operation and reliable performance.

To obtain maximum benefits from your MEC Aerial Work Platforms, always follow the proper operating and maintenance procedures. Only trained authorized personnel should be allowed to operate or service this machine. Service personnel should read and study the Operator's, and the Service and Parts Manuals in order to gain a thorough understanding of the unit prior to making any repairs.

MEC Operator Policy

Note: *The best method to protect yourself and others from injury or death is to use common sense. If you are unsure of any operation, **don't start** until you are satisfied that it is safe to proceed and have discussed the situation with your supervisor.*

Service personnel and machine operators must understand and comply with all warnings and instructional decals on the body of the machine, at the ground controls, and platform control console.

DANGER

MODIFICATIONS OF THIS MACHINE FROM THE ORIGINAL DESIGN AND SPECIFICATIONS WITHOUT WRITTEN PERMISSION FROM MEC ARE STRICTLY FORBIDDEN. A MODIFICATION MAY COMPROMISE THE SAFETY OF THE MACHINE, SUBJECTING OPERATOR(S) TO SERIOUS INJURY OR DEATH.

MEC's policies and procedures demonstrate our commitment to Quality and our relentless ongoing efforts towards Continuous Improvement, due to which product specifications are subject to change without notice.

Any procedures not found within this manual must be evaluated by the individual to assure oneself that they are "proper and safe."

Your MEC Aerial Work Platform has been designed, built, and tested to provide many years of safe, dependable service. Only trained, authorized personnel should be allowed to operate or service the machine.

MEC, as manufacturer, has no direct control over machine application and operation. Proper safety practices are the responsibility of the user and all operating personnel.

If there is a question on application and/or operation, contact MEC Aerial Work Platforms:

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Safety Symbols & General Safety Tips

MEC manuals and decals use symbols, colors and signal words to help you recognize important safety, operation and maintenance information.

DANGER	**RED and the word DANGER – Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.**
WARNING	**ORANGE and the word WARNING – Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**
CAUTION	**YELLOW with alert symbol and the word CAUTION – Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.**
CAUTION	**YELLOW without alert symbol and the word CAUTION – Indicates a potentially hazardous situation which, if not avoided, may result in property damage.**
NOTICE	**GREEN and the word NOTICE – Indicates operation or maintenance information.**

Regular inspection and constant maintenance is the key to efficient economical operation of your aerial work platform. It will help to assure that your equipment will perform satisfactorily with a minimum of service and repair.

The actual operating environment of the machine governs the inspection schedule. Correct lubrication is an essential part of the preventative maintenance to minimize wear on working parts and ensure against premature failure. By maintaining correct lubrication, the possibility of mechanical failure and resulting downtime is reduced to a minimum.

- Never leave hydraulic components or hoses open. They must be protected from contamination (including rain) at all times.
- Never open a hydraulic system when there are contaminants in the air.
- Always clean the surrounding area before opening hydraulic systems.
- Use only recommended lubricants. Improper lubricants or incompatible lubricants may be as harmful as no lubrication.
- Watch for makeshift “fixes” which can jeopardize safety as well as lead to more costly repair.

Specifications

Working Height*	Indoor	19 ft	5.7 m
	Outdoor	16 ft	4.8 m
Maximum Platform Height	Indoor	13 ft	3.9 m
	Outdoor	10 ft	3 m
Maximum Drive Height	Indoor	13 ft	3.9 m
	Outdoor	10 ft	3 m
Stowed Height	Top Guardrail	78 in	1.98 m
	Platform Floor	35 in	0.9 m
Guardrail Height		43.3 in	1.1 m
Toeboard Height		6 in	15 cm
Machine Weight** (Unloaded)		2,050 lbs	930 kg
Maximum Lift Capacity		500 lbs	227 kg
Deck Extension Capacity		1 Person / 250 lbs (113 kg)	
Xtra Deck Capacity		1 Person / 250 lbs (113 kg)	
Maximum Occupants	Indoor	1	
	Outdoor	1	
Manual Force	Indoor	45 lbs	200 N
	Outdoor	45 lbs	200 N
Length-Stowed (Overall)		58 in	1.5 m
Length-Stowed (Ladder Removed)		51 in	1.3 m
Platform Length (Extended)		75 in	1.9 m
Platform Length (Retracted)		51 in	1.3 m
Width (Overall)		30 in	76 cm
Platform Width (Outside)		27.5 in	70 cm
Wheel Base		41 in	1 m
Turning Radius - Inside		18 in	45 cm
Ground Clearance - Stowed		2.5 in	6 cm
Ground Clearance - Elevated		0.6 in	1.5 cm
Drive Speed (Proportional)	Stowed	0-2.5 mph	0-4.0 km/h
	Raised Or Extended	0-0.7 mph	0-1.1 km/h
Gradability		25%/14°	
Maximum Side Slope - Stowed		5°	
Ground Pressure/Wheel		112 psi	7.9 kg/cm^2
Maximum Wheel Load		760 lbs	345 kg
Occupied Floor Pressure		234 psf	1,138 kg/m^2
Maximum Operating Wind Speed		28 mph / 12.5 m/sec (45 km/h)	
Tire Size		9 × 3 inch / 230 × 80mm	
Lug Nut Torque		19 Ft-lbs / 25.5 N-m, secured with cotter pin	
Hydraulic Pressure		2,250 psi / 155 bar	
Power System Voltage		24 Volt DC	
Battery Charger	Input	110-230 V AC, 50-60 Hz	
	Output	24 Volt DC	
Batteries		Two 12-Volt deep cycle; 85Ah	
Chassis Inclination		1.5 Side	3.0 Inline

Meets applicable requirements of ANSI A92.20-2018.
*Working Height adds 6 feet (2 m) to platform height.
**Weight may increase with certain options.

Bolt Torque Specification - American Standard

Fasteners

Use the following values to apply torque unless a specific torque value is called out for the part being used.

American Standard Cap Screws								
SAE Grade	**5**				**8**			
Cap Screw Size (inches)								
	Torque				**Torque**			
	Ft.	**Lbs**	**Nm**		**Ft.**	**Lbs**	**Nm**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
1/4 - 20	6.25	7.25	8.5	10	8.25	9.5	11	13
1/4 - 28	8	9	11	12	10.5	12	14	16
5/16 - 18	14	15	19	20	18.5	20	25	27
5/16 - 24	17.5	19	12	26	23	25	31	34
3/8 - 16	26	28	35	38	35	37	47.5	50
3/8 - 24	31	34	42	46	41	45	55.5	61
7/16- 14	41	45	55.5	61	55	60	74.5	81
7/16 - 20	51	55	69	74.5	68	75	92	102
1/2 - 13	65	72	88	97.5	86	96	116	130
1/2 - 20	76	84	103	114	102	112	138	152
9/16 - 12	95	105	129	142	127	140	172	190
9/16 - 18	111	123	150	167	148	164	200	222
5/8 - 11	126	139	171	188	168	185	228	251
5/8 - 18	152	168	206	228	203	224	275	304
3/4 - 10	238	262	322	255	318	350	431	474
3/4 - 16	274	302	371	409	365	402	495	544
7/8 - 9	350	386	474	523	466	515	631	698
7/8 - 14	407	448	551	607	543	597	736	809
1- 8	537	592	728	802	716	790	970	1070
1 - 14	670	740	908	1003	894	987	1211	1137

Torque values apply to fasteners as received from the supplier, dry or when lubricated with normal engine oil.

If special graphite grease, molydisulphide grease, or other extreme pressure lubricants are used, these torque values do not apply.

Bolt Torque Specification - Metric Standard

Fasteners

Use the following values to apply torque unless a specific torque value is called out for the part being used

Metric Cap Screws								
Metric Grade	**8.8**				**10.9**			
Cap Screw Size (Millimeters)								
	Torque				**Torque**			
	Ft. Lbs		**Nm**		**Ft. Lbs**		**Nm**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
M6 × 1.00	6	8	8	11	9	11	12	15
M8 × 1.25	16	20	21.5	27	23	27	31	36.5
M10 × 1.50	29	35	39	47	42	52	57	70
M12 × 1.75	52	62	70	84	75	91	102	123
M14 × 2.00	85	103	115	139	120	146	163	198
M16 × 2.50	130	158	176	214	176	216	238	293
M18 × 2.50	172	210	233	284	240	294	325	398
M20 × 2.50	247	301	335	408	343	426	465	577
M22 × 2.50	332	404	450	547	472	576	639	780
M24 × 3.00	423	517	573	700	599	732	812	992
M27 × 3.00	637	779	863	1055	898	1098	1217	1488
M30 × 3.00	872	1066	1181	1444	1224	1496	1658	2027

Torque values apply to fasteners as received from the supplier, dry or when lubricated with normal engine oil.

If special graphite grease, molydisulphide grease, or other extreme pressure lubricants are used, these torque values do not apply.

Hydraulic Components Torque Table

Note: Always lubricate threads with clean hydraulic fluid prior to installation.

Use the following values to torque hydraulic components when a specific value is not available. Always check for torque values in the following places before relying on the Hydraulic Components Torque Table.

- Parts drawings and service instructions in this manual.
- Packaging and instruction sheets provided with new parts.
- Instruction manuals provided by the manufacturer of the component being serviced.

Type: SAE Port Series	Cartridge Poppet		Fittings		Hoses	
	Ft. lbs	Nm	Ft. lbs	Nm	In. lbs	Nm
#4	N/A	N/A	N/A	N/A	135 - 145	15 - 16
#6	N/A	N/A	10 - 20	14 - 27	215 - 245	24 - 28
#8	25 - 30	31 - 41	25 - 30	34 - 41	430 - 470	49 - 53
#10	35 - 40	47 - 54	35 - 40	47 - 54	680 - 750	77 - 85
#12	85 - 90	115 - 122	85 - 90	115 - 122	950 - 1050	107 - 119
#16	130 - 140	176 - 190	130 - 140	176 - 190	1300 - 1368	147 - 155

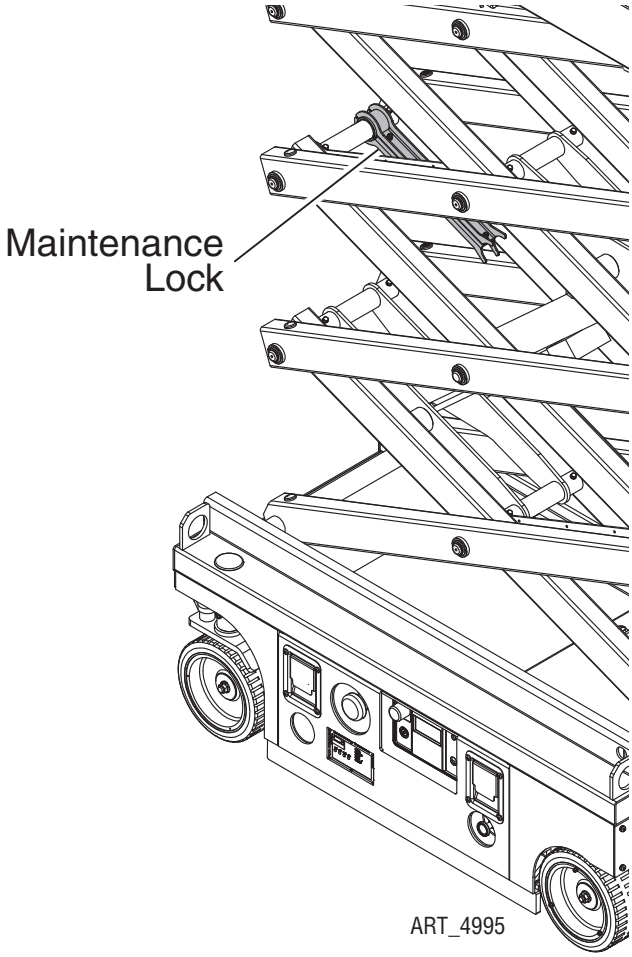
Maintenance Lock

DEATH OR SERIOUS INJURY HAZARD!

WARNING

NEVER PERFORM WORK OR INSPECTION ON THE MACHINE WITH THE PLATFORM ELEVATED WITHOUT FIRST BLOCKING THE SCISSOR ASSEMBLY WITH THE MAINTENANCE LOCK.

1. Raise the platform approximately 7.2 ft / 2.2 m from the ground.
2. Rotate the Maintenance Lock away from the machine and let it hang down.
3. Lower the platform until the Maintenance Lock rests securely on the link. Keep clear of the Maintenance Lock when lowering the platform.



Hydraulic, Electrical and Total System

Hydraulic System

WARNING

HYDRAULIC FLUID UNDER PRESSURE CAN PENETRATE AND BURN SKIN, DAMAGE EYES, AND MAY CAUSE SERIOUS INJURY, BLINDNESS, AND EVEN DEATH.

CORRECT LEAKS IMMEDIATELY.

CAUTION

Hydraulic fluid leaks under pressure may not always be visible. Check for pin hole leaks with a piece of cardboard, not your hand.

Electrical System

CAUTION

Prevent damage to battery and/or electrical system;

- **Always disconnect the negative battery cable first.**
- **Always connect the positive battery cable first.**

When the negative cable is installed, a spark will occur if contact is made between the positive side of the battery and a metal surface on the machine. This can cause damage to the electrical system, battery explosion, and personal injury.

Total System

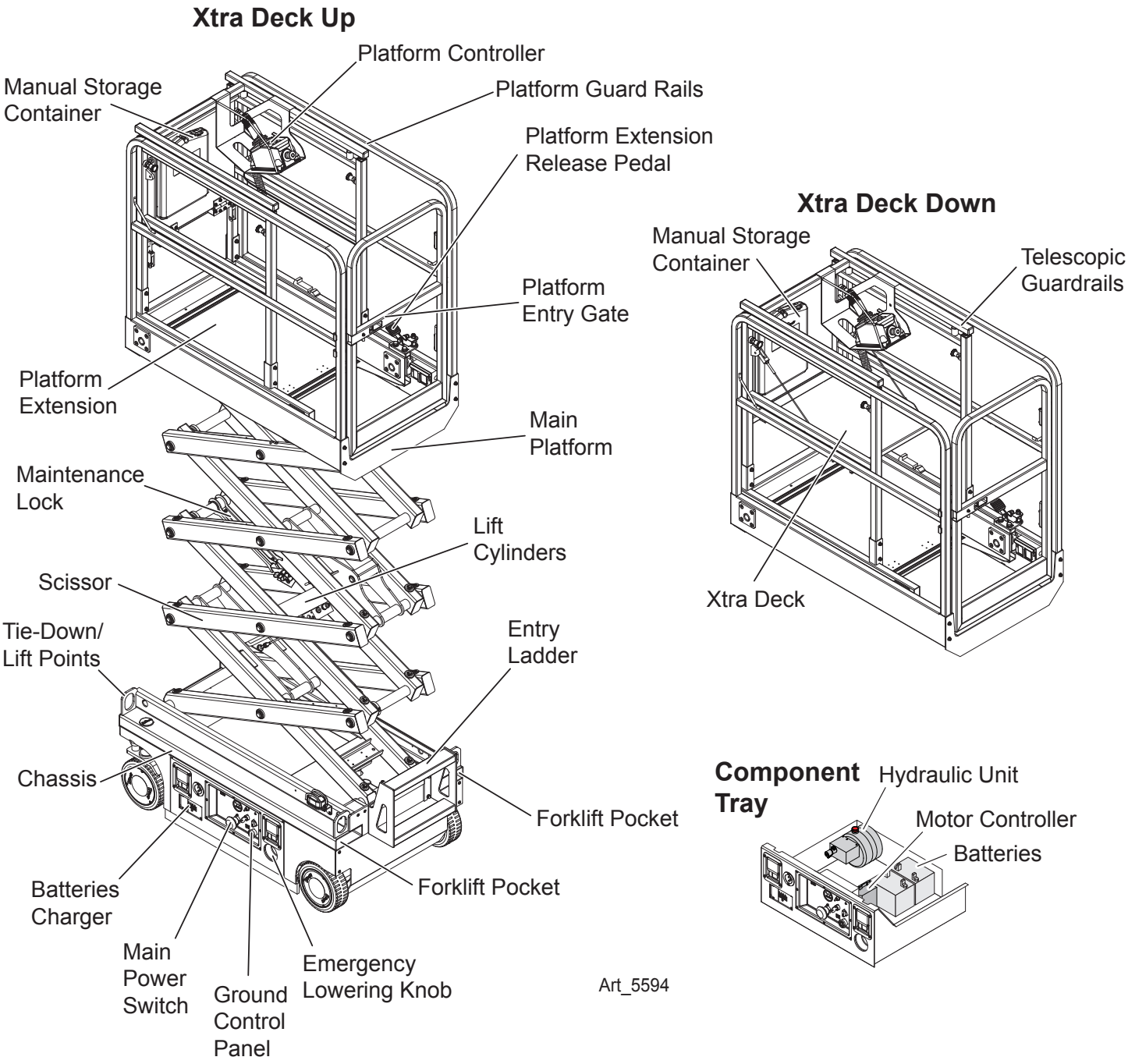
WARNING

FAILURE TO PERFORM PREVENTIVE MAINTENANCE AT RECOMMENDED INTERVALS MAY RESULT IN THE UNIT BEING OPERATED WITH A DEFECT THAT COULD RESULT IN INJURY OR DEATH OF THE OPERATOR.

IMMEDIATELY REPORT TO YOUR SUPERVISOR ANY DEFECT OR MALFUNCTION. ANY DEFECT SHALL BE REPAIRED PRIOR TO CONTINUED USE OF THE AERIAL WORK PLATFORM.

INSPECTION AND MAINTENANCE SHOULD BE PERFORMED BY QUALIFIED PERSONNEL FAMILIAR WITH THE EQUIPMENT.

Primary Machine Components



Emergency Systems and Procedures

WARNING

IF THE CONTROL SYSTEM FAILS WHILE THE PLATFORM IS ELEVATED, HAVE AN EXPERIENCED OPERATOR USE THE EMERGENCY LOWERING PROCEDURE TO SAFELY LOWER THE PLATFORM.

DO NOT ATTEMPT TO CLIMB DOWN ELEVATING ASSEMBLY.

Emergency Stop

ART_3353

The machine is equipped with an EMERGENCY STOP switch at the base controls and the platform control box.

- Press the EMERGENCY STOP switch at any time to stop all machine functions.
- Pull switch to reset.
- Either switch will stop all machine functions.
- Both switches must be reset or machine will not operate.

Emergency Lowering

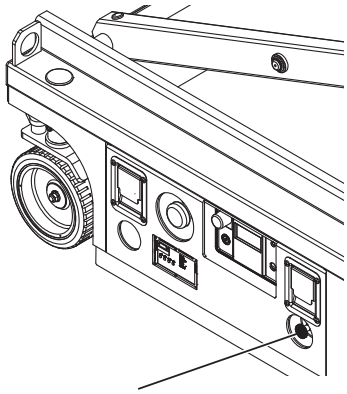
WARNING

IF THE CONTROL SYSTEM FAILS WHILE THE PLATFORM IS ELEVATED, USE THE EMERGENCY LOWERING PROCEDURE TO SAFELY LOWER THE PLATFORM.

DO NOT CLIMB DOWN THE ELEVATING ASSEMBLY OR EXIT THE PLATFORM.

The Emergency Lowering System is used to lower the platform in case of power failure.

To lower the platform, pull the Emergency Lowering Knob, located near the Base Control panel.



ART_4986

Free-Wheel Configuration for Winching or Towing

RUNAWAY HAZARD!

DANGER

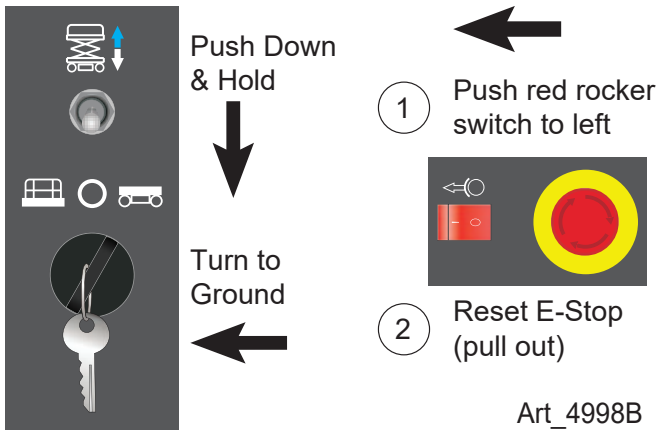
AFTER RELEASING THE BRAKES THERE IS NOTHING TO STOP MACHINE TRAVEL. MACHINE WILL ROLL FREELY ON SLOPES.

ALWAYS CHOCK THE WHEELS BEFORE MANUALLY RELEASING THE BRAKES.

The machine can be winched or towed short distances at speeds not to exceed 2.5 MPH (4 km/h). Before towing or winching the machine, it is necessary to release the brakes. Reset the brakes after towing or winching.

Disengage Brakes Before Towing Or Winching

1. Chock the wheels.
2. Turn the Key Switch to the OFF position.
3. Turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
4. At the Ground Controls panel, push red rocker switch to the left & Push Down and Hold The Lift/Lower Switch to the Lower Position
5. Pull or turn the Red Emergency Stop button clockwise to the ON position at the ground controls. An alarm will sound, signaling that the brakes have been released.



Resetting Brakes

Press the Emergency Stop button, then push the Brake Release Switch to the right to reset the brake.

WARNING

BE SURE THAT THE BRAKES ARE ENGAGED BEFORE REMOVING THE WHEEL CHOCKS.

Lift and Support the Machine

DANGER

DEATH OR SERIOUS PERSONAL INJURY MAY RESULT FROM THE USE OF SUBSTANDARD LIFTING DEVICES AND/OR JACK STANDS. ENSURE THAT ALL LIFTING DEVICES AND JACK STANDS ARE OF ADEQUATE CAPACITY AND IN GOOD WORKING CONDITION BEFORE USE.

The following are needed to safely lift and support the machine;

- A jack with a lifting capacity of two (2) tons or more.
- Jack stands with a rating of two (2) tons or more.

To Raise The Machine

1. Move machine to a firm level surface capable of supporting the weight of the machine.
2. Chock tires on one end of machine and raise the other end of machine.
3. Position a jack at the end of the machine to be lifted, under a solid lifting point in the center of the frame.
4. Raise the machine and place two (2) suitable jack stands under solid support points at the outer ends of the frame.
5. Lower the machine to rest on the jack stands and inspect for stability.

To Lower The Machine

1. Raise machine slightly and remove jack stands.
2. Lower the machine and remove the jack.
3. Remove chocks.

General Machine Maintenance

Instructions in this portion of the manual are to be used in conjunction with the Pre-Start, Frequent and Annual Inspection checklists found in this machine's Operator's Manual.

IMPORTANT: Scheduled maintenance inspection checklists are included in the Operator's Manual for use only by qualified service technicians. Only qualified service technicians may perform repairs to the machine. After repairs are completed, the operator must perform a Pre-Start Inspection before proceeding to the Functions Test.

DANGER

HYDRAULIC FLUID UNDER PRESSURE CAN PENETRATE AND BURN SKIN, DAMAGE EYES, AND MAY CAUSE SERIOUS INJURY, BLINDNESS, AND DEATH. REPAIR LEAKS IMMEDIATELY. FLUID LEAKS UNDER PRESSURE MAY NOT ALWAYS BE VISIBLE. CHECK FOR PIN HOLE LEAKS WITH A PIECE OF CARDBOARD, NOT YOUR HAND.

WARNING

NEVER PERFORM WORK OR INSPECTION ON THE MACHINE WITH THE PLATFORM ELEVATED WITHOUT FIRST BLOCKING THE SCISSOR ASSEMBLY WITH THE MAINTENANCE LOCK (SEE THE INTRODUCTION PORTION OF THIS MANUAL).

PERFORM SCHEDULED MAINTENANCE AT RECOMMENDED INTERVALS. FAILURE TO PERFORM SCHEDULED MAINTENANCE AT RECOMMENDED INTERVALS MAY RESULT IN A DEFECTIVE OR MALFUNCTIONING MACHINE AND MAY RESULT IN INJURY OR DEATH OF THE OPERATOR. KEEP MAINTENANCE RECORDS CURRENT AND ACCURATE.

IMMEDIATELY REPORT ANY DAMAGE, DEFECT, UNAUTHORIZED MODIFICATION OR MALFUNCTION TO YOUR SUPERVISOR. ANY DEFECT MUST BE REPAIRED PRIOR TO CONTINUED USE. DO NOT USE A DAMAGED, MODIFIED OR MALFUNCTIONING MACHINE.

CAUTION

Never leave hydraulic components or hoses open. Plug all hoses and fitting immediately after disassembly to protect the system from outside contamination (including rain).

Never open a hydraulic system when there are contaminants in the air.

Always clean the surrounding area before opening hydraulic systems.

Use only recommended lubricants. Improper lubricants or incompatible lubricants may cause as much damage as no lubrication.

Watch for makeshift "fixes" which can jeopardize safety as well as lead to more costly repair.

Inspection and maintenance should be performed by qualified personnel familiar with the equipment.

Pre-Start Inspection Checklist

Items on this checklist should be inspected before each work shift. Refer to the Operator's Manual.

The operator must conduct a Pre-Start Inspection of the machine before each work shift.

DO NOT use a damaged or malfunctioning machine.

Initial	Description
_____	Be sure that the operator's manual are complete, legible and in the storage container located in the platform.
_____	Be sure that all decals are legible and in place. See Decals section.
_____	Check for hydraulic oil leaks.
_____	Check for battery fluid leaks.

Check the following components or areas for damage, improperly installed or missing parts and unauthorized modifications:

_____ Electrical components, wiring and electrical cables
_____ Battery connections
_____ Hydraulic hoses, fittings, cylinders and manifolds
_____ Battery pack and connections
_____ Drive motors
_____ Tires and wheels
_____ Ground strap
_____ Limit switches, alarm and beacon
_____ Nuts, bolts and other fasteners
_____ Platform entry gate
_____ Safety arm
_____ Platform extension
_____ Scissor pins and retaining fasteners
_____ Platform control joystick

Check entire machine for:

_____ Cracks in welds or structural components
_____ Dents or damage to machine
_____ Be sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened
_____ Be sure that the Component Tray is closed and latched and the batteries are properly connected.

WARNING

NEVER perform work or inspection on the machine with the platform elevated without first blocking the scissor assembly with the Maintenance Lock. See page 8 for instructions.

30-Day Service

The 30 day maintenance procedure is a one-time procedure to be performed after the first 30 days or 40 hours of usage. This procedure is normally performed every 150 hours or quarterly, whichever comes first.

Maintaining the tires and wheels in good condition is essential to safe operation and good performance. Tire and/or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

1. Check the tire surface and sidewalls for cuts, cracks, punctures and unusual wear.
2. Check each wheel for damage, bends and cracks.
3. Remove the wheel covers and check each center lock nut for proper torque.

Castle Nut Torque, Dry	19 ft-lbs / 26 Nm
Castle Nut Torque, Lubricated	14 ft-lbs / 20 Nm

Frequent Inspection Checklist

WARNING

THIS CHECKLIST MUST BE USED AT 3-MONTH INTERVALS OR EVERY 150 HOURS OF MACHINE USE, WHICHEVER OCCURS FIRST. FAILURE TO DO SO COULD RESULT IN DEATH OR SERIOUS INJURY.

Frequent Maintenance Inspections should be conducted by qualified service technicians only. Photocopy the Frequent Inspection Checklist page from the Operator's Manual to keep record of this inspection. Keep inspections records up to date. Record and report all discrepancies to your supervisor.

Perform all checks listed on Pre-Start Inspection, then proceed with the following checks.

Hydraulic Fluid

Inspect the condition of hydraulic fluid in the reservoir.

Oil should be a clear and amber in color.

Batteries

Proper battery condition is essential to good machine performance and operational safety. Improper or damaged cables and connections can result in component damage and hazardous conditions.

WARNING

ELECTROCUTION / BURN HAZARD. CONTACT WITH ELECTRICALLY CHARGED CIRCUITS COULD RESULT IN DEATH OR SERIOUS INJURY.

REMOVE ALL RINGS, WATCHES AND OTHER JEWELRY.

WARNING

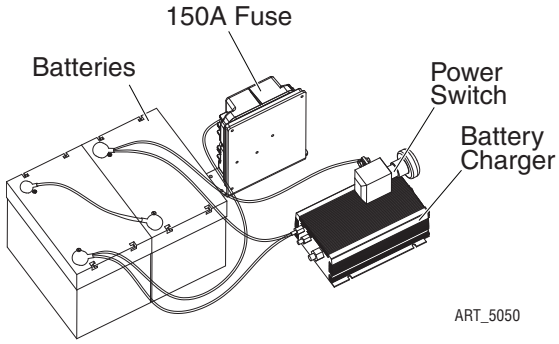
BODILY INJURY HAZARD. BATTERIES CONTAIN ACID. AVOID SPILLING OR CONTACTING BATTERY ACID. NEUTRALIZE BATTERY ACID SPILLS WITH BAKING SODA AND WATER.

1. Put on protective clothing and eye wear.
2. Slide out the component tray from the chassis.
3. Be sure that the battery cable connections are free of corrosion.

NOTE: Adding terminal protectors and a corrosion preventative sealant will help eliminate corrosion on the battery terminals and cables.

4. Be sure that the battery retainers and cable connections are tight.
5. Fully charge the batteries. Allow the batteries to rest 24 hours before performing this procedure to allow the battery cells to equalize.

6. Check each battery pack and verify that the batteries are wired correctly.
7. Inspect the battery charger plug and pigtail for damage or excessive insulation wear. Replace as required.
8. Connect the battery charger to a properly grounded 110 - 230V / 50 - 60 Hz single phase AC power supply.



- **Result:** The charger should operate and begin charging the batteries.
- **Result:** If, simultaneously, the charger alarm sounds and the LEDs blink, correct the charger connections at the fuse and battery. The charger will then operate correctly and begin charging the batteries.

NOTE: For best results, use an extension cord of adequate size with a length no longer than 50 ft / 15 m.

If you have any further questions regarding the battery charger operation, please contact the MEC Customer Service.

Electrical Wiring

Maintaining electrical wiring in good condition is essential to safe operation and good machine performance. Failure to find and replace burnt, chafed, corroded or pinched wires could result in unsafe operating conditions and may cause component damage.

WARNING

ELECTROCUTION / BURN HAZARD. CONTACT WITH ELECTRICALLY CHARGED CIRCUITS COULD RESULT IN DEATH OR SERIOUS INJURY.

REMOVE ALL RINGS, WATCHES AND OTHER JEWELRY.

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1. Inspect the following areas for burnt, chafed, corroded and loose wires:
   - Ground control panel
   - Hydraulic power unit module tray
   - Platform controls
1. Turn the key switch to ground control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls
2. Raise the platform approximately 7.2 ft / 2.2 m from the ground.
3. Lift the safety arm, move it to the center of the scissor arm and rotate up to a vertical position.
4. Lower the platform onto the safety arm.

WARNING

CRUSHING HAZARD. KEEP HANDS CLEAR OF THE SAFETY ARM WHEN LOWERING THE PLATFORM.

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6. Inspect the center chassis area and scissor arms for burnt, chafed and pinched cables.

7. Inspect the following areas for burnt, chafed, corroded, pinched and loose wires:
   - Scissor arms
   - ECU to platform controls
   - Power to platform wiring
8. Inspect for a liberal coating of dielectric grease in the following locations:
   - Between the ECU and platform controls
   - All wire harness connectors Level sensor
9. Raise the platform and return the safety arm to the stowed position.
10. Lower the platform to the stowed position and turn the machine off.

Tires & Wheels

Maintaining the tires and wheels in good condition is essential to safe operation and good performance. Tire and/or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

1. Check the tire surface and sidewalls for cuts, cracks, punctures and unusual wear.
2. Check each wheel for damage, bends and cracks.
3. Remove the wheel covers and check each center lock nut for proper torque.

Castle Nut Torque, Dry	19 ft-lbs / 26 Nm
Castle Nut Torque, Lubricated	14 ft-lbs / 20 Nm

Emergency Stop

A properly functioning Emergency Stop system is essential for safe machine operation. An improperly operating red Emergency Stop button will fail to shut off power and stop all machine functions, resulting in a hazardous situation.

As a safety feature, selecting and operating from the ground controls will override all platform controls except the platform red Emergency Stop button.

1. Turn the key switch to ground control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
2. Push in the red Emergency Stop button at the ground controls to the off position.
   - **Result:** No machine functions should operate.
3. Turn the key switch to platform control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
4. Push in the red Emergency Stop button at the platform controls to the off position.
   - **Result:** No machine functions should operate.

NOTE: The red Emergency Stop button at the ground controls will stop all machine operation, even if the key switch is switched to platform control.

Key Switch

Proper key switch action and response is essential to safe machine operation. The machine can be operated from the ground or platform controls and the activation of one or the other is accomplished with the key switch. Failure of the key switch to activate the appropriate control panel could cause a

hazardous operating situation.

Perform this procedure from the ground using the platform controls. Do not stand in the platform.

1. Turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
2. Turn the key switch to platform control.
3. Check the platform up/down function from the ground controls.
   - **Result:** The machine functions should not operate.
4. Turn the key switch to ground control.
5. Check the machine functions from the platform controls.
   - **Result:** The machine functions should not operate.
6. Turn the key switch to the off position.
   - **Result:** No function should operate.

Horn

The horn is activated at the platform controls and sounds at the ground as a warning to ground personnel. An improperly functioning horn will prevent the operator from alerting ground personnel of hazards or unsafe conditions.

1. Turn the key switch to platform control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
2. Push down the horn button at the platform controls.
   - **Result:** The horn should sound.

Drive Brakes

Proper brake action is essential to safe machine operation. The drive brake function should operate smoothly, free of hesitation, jerking and unusual noise. Hydraulically released individual wheel brakes can appear to operate normally when not fully operational.

Perform this procedure with the machine on a firm level surface that is free of obstructions, with the platform extension deck fully retracted and the platform in the stowed position.

1. Mark a test line on the ground for reference.
2. Turn the key switch to platform control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
3. Press the drive function select button.
4. Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the test line.
5. Bring the machine to top drive speed before reaching the test line. Release the function enable switch or the joystick when your reference point on the machine crosses the test line.
6. Measure the distance between the test line and your machine reference point.
   - **Result:** The machine stops within the specified braking distance. No action required.
   - **Result:** The machine does not stop within the specified braking distance.

NOTE: The brakes must be able to hold the machine on any slope it is able to climb.

7. Replace the brakes and repeat this procedure beginning with step 1.

Maximum Braking Distance	
High Speed on paved surface	24 in ± 11.8 in
	61 cm ±30 cm

Drive Speed - Stowed

Proper drive functions are essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

Perform this procedure with the machine on a firm, level surface that is free of obstructions.

1. Create start and finish lines by marking two lines on the ground 40 ft /12.2 m apart.
2. Turn the key switch to platform control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
3. Lower the platform to the stowed position.
4. Press the drive function select button.
5. Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.
6. Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.
7. Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time should be 9-11 sec.

Drive Speed - Raised

Proper drive functions are essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

Perform this procedure with the machine on a firm, level surface that is free of obstructions.

1. Create start and finish lines by marking two lines on the ground 40 ft /12.2 m apart.
2. Turn the key switch to platform control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
3. Press the lift function select button.
4. Press and hold the function enable switch on the joystick.
5. Raise the platform approximately 4 ft /1.2 m from the ground.
6. Press the drive function select button.
7. Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.
8. Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.
9. Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time should be 35-40 sec.

Drive Speed - Slow

Proper drive functions are essential to safe machine operation. The drive function should respond

quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

Perform this procedure with the machine on a firm, level surface that is free of obstructions.

1. Create start and finish lines by marking two lines on the ground 40 ft /12.2 m apart.
2. Turn the key switch to platform control and turn the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
3. Lower the platform to the stowed position.
4. Press the slow speed select button.
5. Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.
6. Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.
7. Continue at full speed and note the time when your reference point on the machine passes over the finish line. The time should be 18-22 sec.

Hydraulic Oil Analysis

Replacement or testing of the hydraulic oil is essential for good machine performance and service life. Dirty oil may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more often.

Before replacing the hydraulic oil, the oil may be tested by an oil distributor for specific levels of contamination to verify that changing the oil is necessary.

Hydraulic oil should be tested yearly and replaced if it fails. If the hydraulic oil is not\ replaced at the Annual Inspection, test the oil quarterly. Replace the oil when it fails the test.

Tank Venting System

A free-breathing hydraulic tank cap is essential for good machine performance and service life. A dirty or clogged cap may cause the machine to perform poorly. Extremely dirty conditions may require that the cap be inspected more often.

1. Remove the breather cap from the hydraulic tank.
2. Check for proper venting.
   - **Result:** Air passes through the breather cap.
   - **Result:** If air does not pass through the cap, clean or replace the cap. Proceed to step 3.

NOTE: When checking for positive tank cap venting, air should pass freely through the cap.

3. Using a mild solvent, carefully wash the cap venting system. Dry using low pressure compressed air. Repeat step 2.
4. Install the breather cap onto the hydraulic tank.

Annual Inspection Checklist

WARNING

THIS CHECKLIST MUST BE USED AT 12-MONTH INTERVALS OR EVERY 600 HOURS OF MACHINE USE, WHICHEVER OCCURS FIRST. FAILURE TO DO SO COULD RESULT IN DEATH OR SERIOUS INJURY.

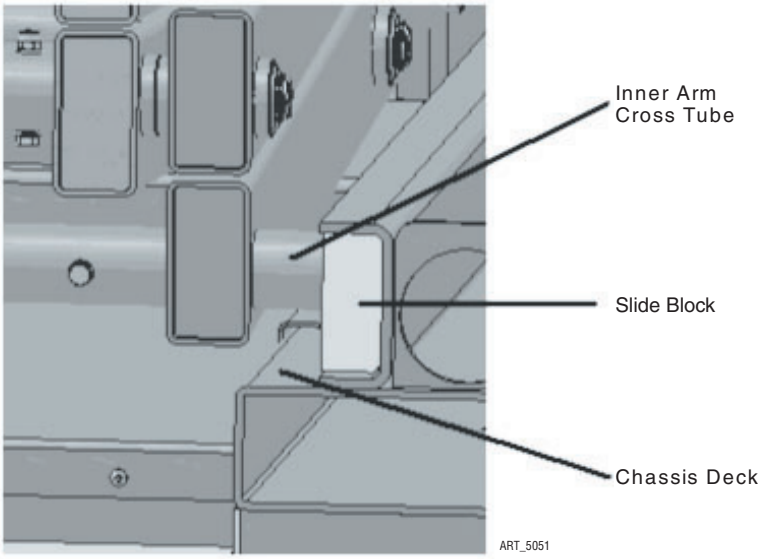
Annual Maintenance Inspections should be conducted by qualified service technicians only. Photocopy the Annual Inspection Checklist page from the Operator's Manual to keep record of this inspection. Keep inspections records up to date. Record and report all discrepancies to your supervisor.

Perform all checks listed on Pre-Start Inspection and the Frequent Inspection, then check all items listed on the Annual Inspection Report. See specific instructions below.

Scissor Slide Blocks

Maintaining the condition of the scissor arm slide blocks is essential to safe machine operation. Continued use of worn out wear pads may result in component damage and unsafe operating conditions.

Perform this procedure with the platform in the stowed position.



1. Measure the distance between the number one inner arm cross tube and the chassis deck at the ground controls side of the non-steer end of the machine.
   - **Result:** The measurement is 1.18 in / 30 mm or more. Proceed to step 2.
   - **Result:** The measurement is less than 1.18 in / 30 mm. Replace both wear pads.
2. Measure the distance between the number one inner arm cross tube and the chassis deck at the battery pack side of the non-steer end of the machine.
   - **Result:** The measurement is 1.18 in / 30 mm or more. Proceed to step 3.
   - **Result:** The measurement is less than 30mm. Replace both wear pads.
3. Apply a thin layer of dry film lubricant to the area of the chassis where the scissor arm wear pads make contact.

Hydraulic Tank Breather Cap

The hydraulic tank is a vented-type tank. The breather cap has an internal air filter that can become clogged or, over time, can deteriorate. If the breather cap is faulty or improperly installed, impurities can enter the hydraulic system which may cause component damage. Extremely dirty conditions may require that the cap be inspected more often.

1. Remove and discard the hydraulic tank breather cap.
2. Install a new cap onto the tank.

Hydraulic Oil Inspection

Replacement or testing of the hydraulic oil is essential for good machine performance and service life. Dirty oil may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more often.

Before replacing the hydraulic oil, the oil may be tested by an oil distributor for specific levels of contamination to verify that changing the oil is necessary.

Hydraulic oil should be tested yearly and replaced if it fails. If the hydraulic oil is not replaced at the Annual Inspection, test the oil quarterly. Replace the oil when it fails the test.

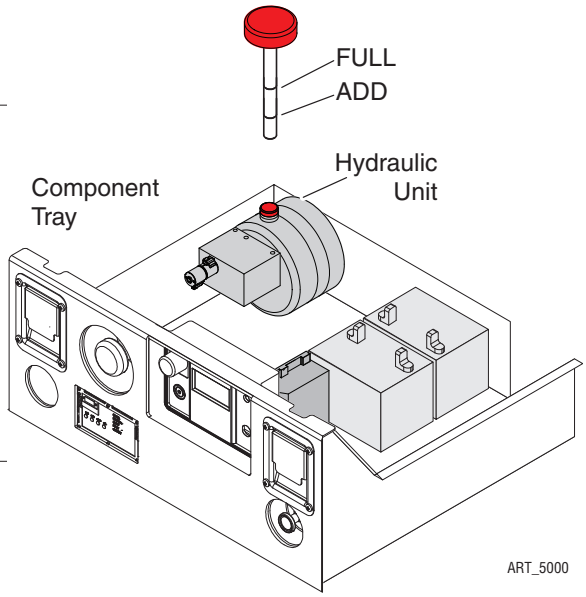
NOTE: Perform this procedure with the platform in the stowed position.

1. Slide out the Component Tray.
2. Disconnect the battery pack from the machine.

WARNING

ELECTROCUTION / BURN HAZARD. CONTACT WITH ELECTRICALLY CHARGED CIRCUITS COULD RESULT IN DEATH OR SERIOUS INJURY.

REMOVE ALL RINGS, WATCHES AND OTHER JEWELRY.



3. Tag and disconnect the hydraulic pump outlet line and remove the line from the pump. Cap the fitting on the pump.
4. Loosen the bolts and remove the hydraulic power pack form the tray.
5. Open the oil plug of tank. Drain all of the oil into a suitable container.
6. Loosen and remove the bolts and separate the tank from the pump body.

WARNING

BODILY INJURY HAZARD. SPRAYING HYDRAULIC OIL CAN PENETRATE AND BURN SKIN. LOOSEN HYDRAULIC CONNECTIONS VERY SLOWLY TO ALLOW THE OIL PRESSURE TO DISSIPATE GRADUALLY. DO NOT ALLOW OIL TO SQUIRT OR SPRAY.

7. Clean up any oil that may have spilled. Properly discard the used oil.
8. Clean the inside of the hydraulic tank using a mild solvent. Allow the tank to dry completely.
9. Install the hydraulic tank and install and tighten the hydraulic tank retaining fasteners.

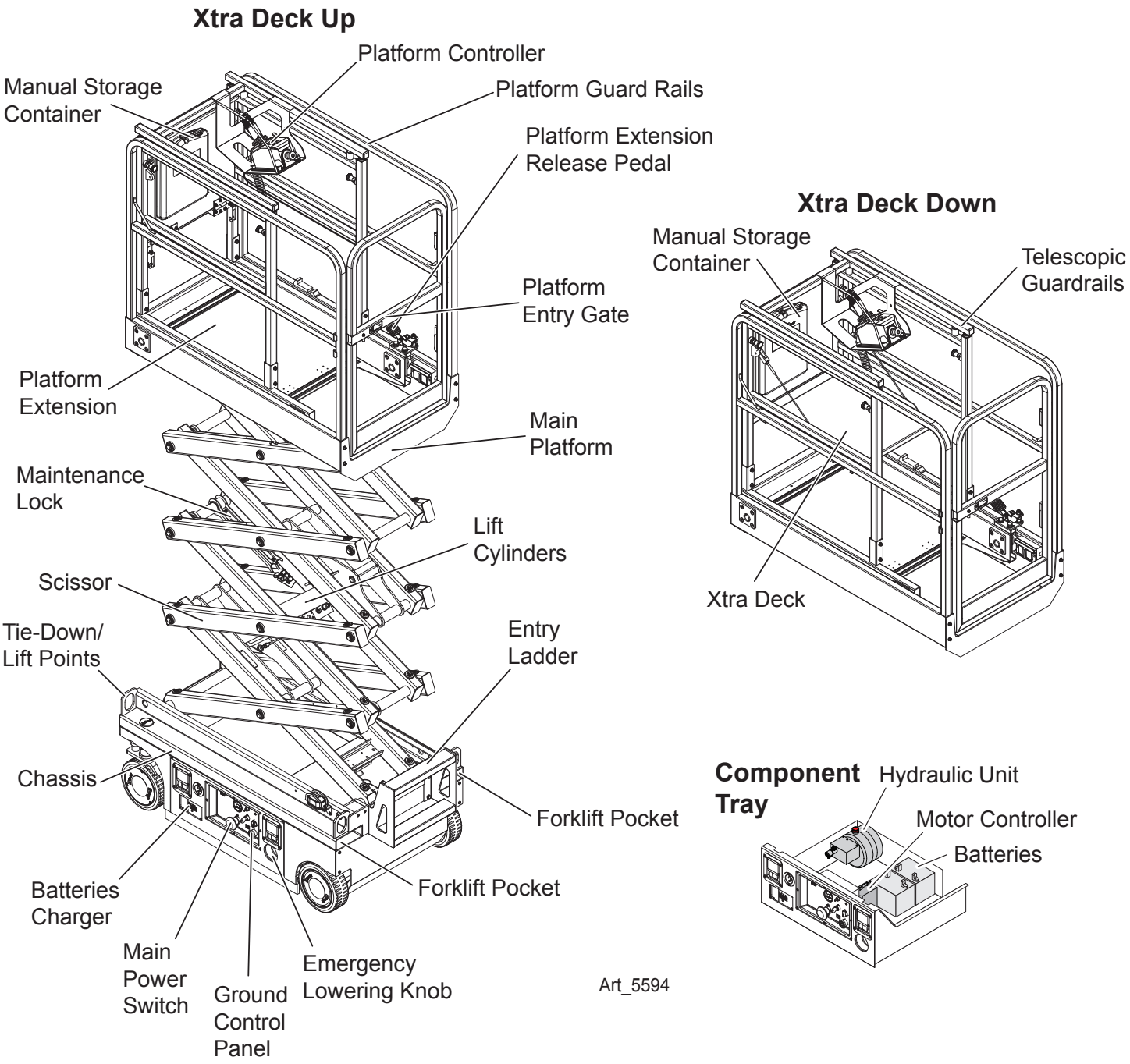
Hydraulic Tank Retaining Fasteners, Dry	35 in-lbs / 4 Nm
Hydraulic Tank Drain Plug, Lubricated	26 in-lbs / 3 Nm

10. Install the hydraulic power pack into the component tray. Install the fitting and hydraulic hoses onto the hydraulic power pack and torque.
11. Fill the tank with hydraulic oil to the middle of the dipstick. Do not overfill.
12. Activate the pump to fill the hydraulic system with oil and bleed the system of air.

WARNING

COMPONENT DAMAGE HAZARD. THE PUMP CAN BE DAMAGED IF OPERATED WITHOUT OIL. BE CAREFUL NOT TO EMPTY THE HYDRAULIC TANK WHILE IN THE PROCESS OF FILLING THE HYDRAULIC SYSTEM. DO NOT ALLOW THE PUMP TO CAVITATE.

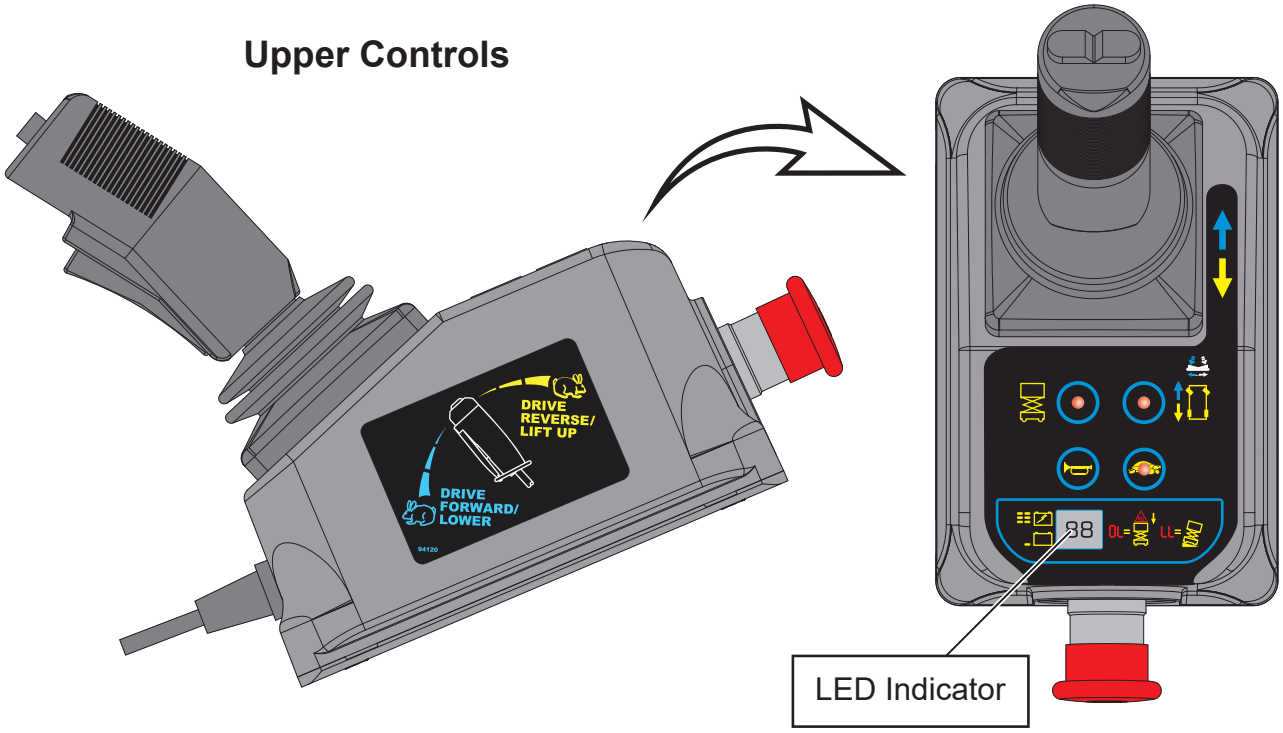
Control Component Locations



Fault Codes

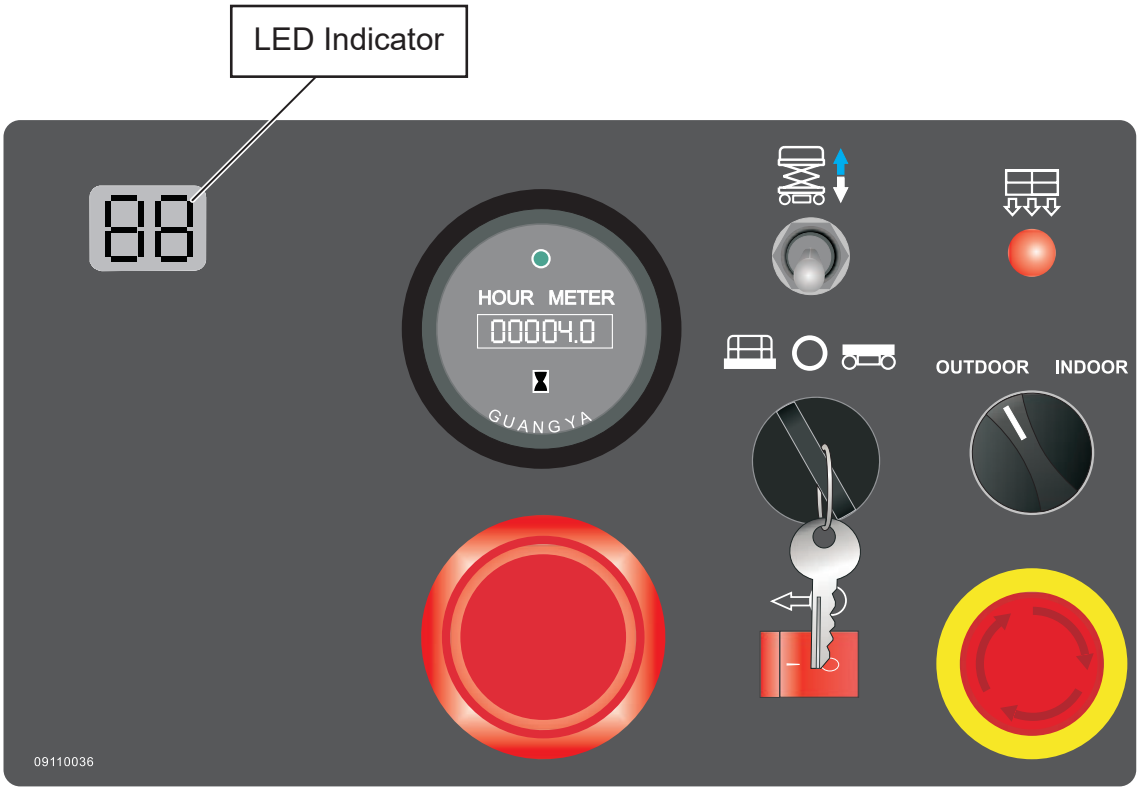
Fault Codes, when present, appear on the LED Indicator at the Upper Controls station and on the LED Screen at the Lower Controls station.

Upper Controls



Lower Controls

Art_5592B



Error Indicator Readout

Art_5533

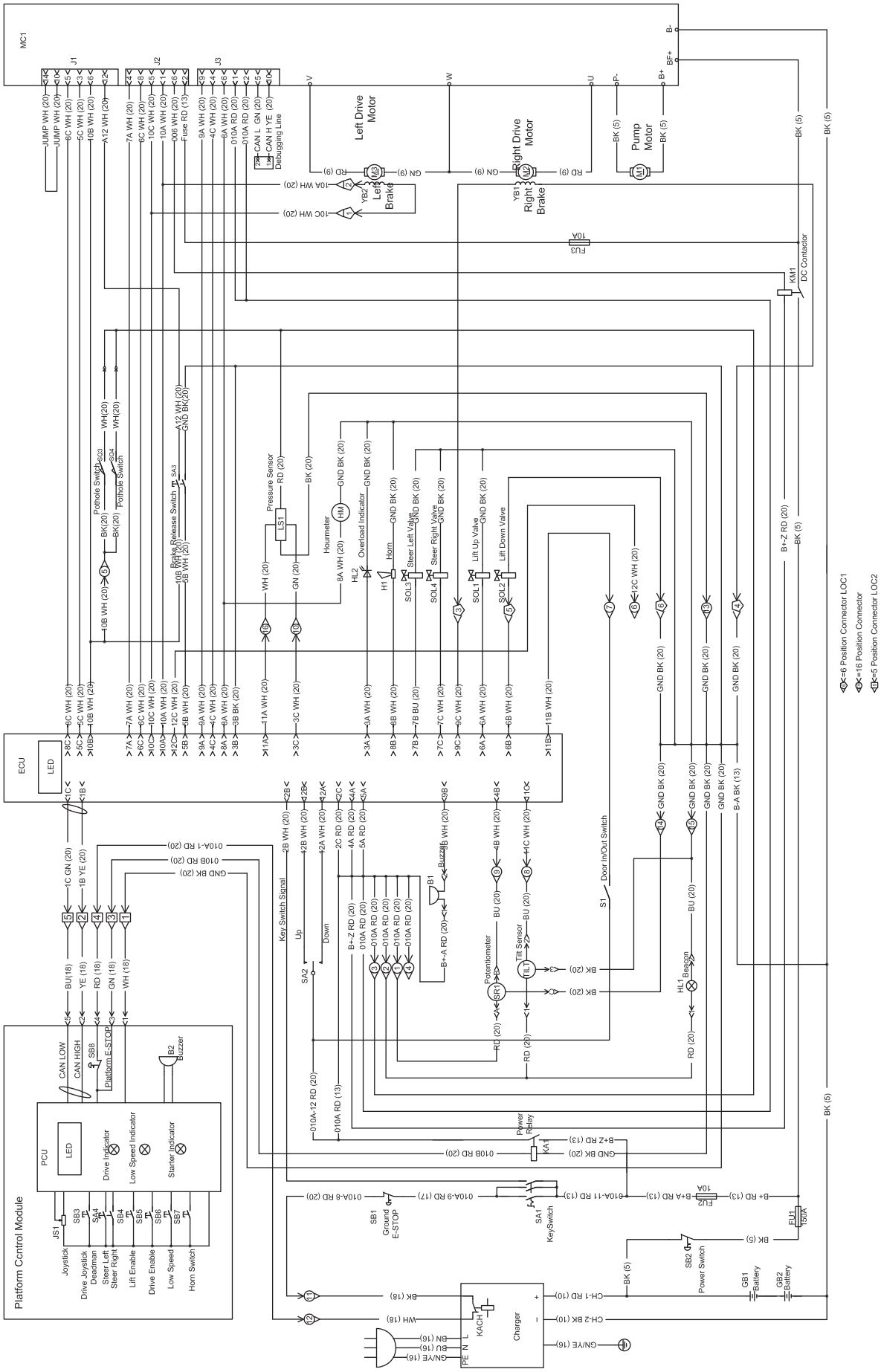
If the LED diagnostic readout displays an error code, such as LL, push in and turn the red Emergency Stop button to reset the system.

Fault	Description	Models	Solutions
01/10	System Initialization Fault	All Models	Check the ECU.
02/20	System Communication Fault	All Models	Check the platform control, wiring on platform connector, ECU, battery, and relay on ground control.
03	Invalid Option Setting	All Models	Reset the option code. See Service manual for instructions.
12	Chassis Up or Down Switch ON at power-up Fault	All Models	Check the wiring on toggle switch, and the toggle switch.
18	Pothole Guard Fault	All Models	Check the pothole board and switches. If stowed, check limit switch.
31	Pressure Sensor Fault	Micro 19	Check option code. See Service manual for instructions.
32	Angle Sensor Fault	All Models > 2020 With Overload	Check wiring to angle sensor for normal voltage range < 2020, 1.9-3.8V, then check the option code.
42	Left turn switch ON at power-up	All Models	Check the left steer button, and the platform controller.
43	Right Turn Switch ON at power-up	All Models	Check the right steer button, and the platform controller.
46	Joystick Enable Switch ON at power-up	All Models	Wait several seconds when turning on the lift, then check the joystick dead-man switch.
47	Joystick not in neutral at power-up	All Models	Check the joystick, and the platform controller.
52	Drive Forward Coil Fault	All Models	Check the option code. See Service manual for instructions.
53	Drive Reverse Coil Fault	All Models	Check the option code. See Service manual for instructions.
54	Lift Up Coil Fault	All Models	Check the lift solenoid and wiring.
55	Lift Down Coil fault	All Models	Check the down solenoid and wiring, and the scissor harness for crushed or pinched wires.
56	Right Turn Coil Fault	All Models	Check the right steering solenoid and wiring.
57	Left Turn Coil Fault	All Models	Check the left steering solenoid and wiring.
58	General Brake Coil Fault - Brakes about 46 ohms	All Models	Check the brake module and wiring, brakes and wiring, and the battery voltage.
60	Motor Controller Fault	All Models	Replace the motor controller.
61	Motor Controller Sensor Fault	All Models	Check the drive motor and wiring, and the drive motor controller and wiring.
62	Motor Controller Hardware Failsafe Fault	All Models	Cycle power, then replace the Motor Controller.
63	Motor Controller Output Fault	All Models	Check the drive motor and wiring for shorts, and the drive motor controller and wiring.

64	Motor Controller SRO Fault	All Models	Replace motor controller
65	Motor Controller Throttle Fault	All Models	Replace motor controller
66	Motor Controller Emergency Reverse Fault	All Models	Replace motor controller
67	Motor Controller HPD Fault	All Models	Replace motor controller, check contactor, replace ECU.
68	Low Voltage Fault	All Models	Check battery voltage and charge batteries if necessary, check battery connections, connection from ECU to PCU, then the voltage to the ECU and PCU.
69	High Neutral Current Fault	All Models	Motor seized - This message comes just before other faults but should be ignored in those cases.
70	Steer Input Out of Range	All Models	Check for loose wires on motor controller, replace motor controller.
71	Motor Controller Main Contactor Fault	All Models	Check wiring to contactor, white and black wire could be off, check drive motor and wiring, and motor controller and wiring. Replace contractor.
72	Motor Controller Over Voltage Fault	All Models	Check battery voltage with battery charger off, cycle power to machine, replace motor controller.
73	Motor Controller Thermal Cutback Fault	All Models	Drive/Lift Motor may be overheating so let motor cool down, cycle power to reset Motor controller, replace motor controller.
74	Motor Controller Motor Fault	All Models	Check connections at motors “motor open”, cycle power to the lift, and replace motor controller.
75	Motor Controller Pump Motor Fault	All Models	Check connections to the Pump Motor, cycle power to the lift, and replace motor controller.
76	Motor Controller Left Drive Motor Fault	All Models	Check connections to the motors, cycle power to the lift, and replace motor controller.
77	Motor Controller Right Drive Motor Fault	All Models	Check connections to the motors, cycle power to the lift, and replace motor controller.
78	Pump Motor Short Fault: 0.8-1.4 ohms	All Models	Check connections to the pump motor, cycle power to the lift, and replace motor controller.
79	Left Drive Motor Short Fault	1930SE Only	Check the left drive motor and wiring, and the ZAPI drive controller and wiring.
	(Should be 0.5-2.0 ohms)	Micro 19	Swap wires on drive motors: if code changes it’s in wiring or motor and if code doesn’t change it’s in motor controller.
80	Over 80% Load Warning	All Models	Platform is getting close to limit of weight. > 2020 with overload
81	Right Drive Motor Short	1930SE/Micro	Check the right drive motor and wiring, and motor controller and wiring.
82	Right Brake Coil - Brakes about 46 ohms	1930SE/Micro	Check battery voltage, contactor, wiring to brakes, wiring to drive motors, motor controller and wiring.
		All Models	Check battery voltage, right motor brake and wiring, brake module and wiring, and contactor.
83	Left Brake Coil - Brakes about 46 ohms	1930SE/Micro	Check battery voltage, contactor, wiring on brakes, wiring to drive motors, motor controller and wiring.
		All Models	Check battery voltage, left motor brake and wiring, brake module and wiring, and contactor.

85	Brake Release Switch Closed	1930SE/Micro	Turn brake release switch off. Replace brake release switch.
86	Raised Brake Release Fault	1930SE Only	Brake release switch engaged.
87	Brake Release Switch Fault	1930SE Only	Brake release switch open.
89	Drive Motor Field Open	All Models	Check wiring on motors and motor controller.
91	Left Drive Motor Short	All Models	Check wiring to motor and motor controller.
92	Right Drive Motor Short	All Models	Check wiring to motor and motor controller.
99	Over 99% Load Warning	All Models	Platform has reached its weight capacity.
OL	Platform Overloaded	All Models	Remove the excess load immediately. > 2020 with overload.
LL	Machine Tilted Beyond Safe Limits Fault	All Models	Check to see if machine is tilted, then check wiring to tilt sensor and the tilt sensor.
CH	NOT A FAULT CODE	All Models	Indicates that key switch is in base controls.

Electrical Schematic



Hydraulic Schematic

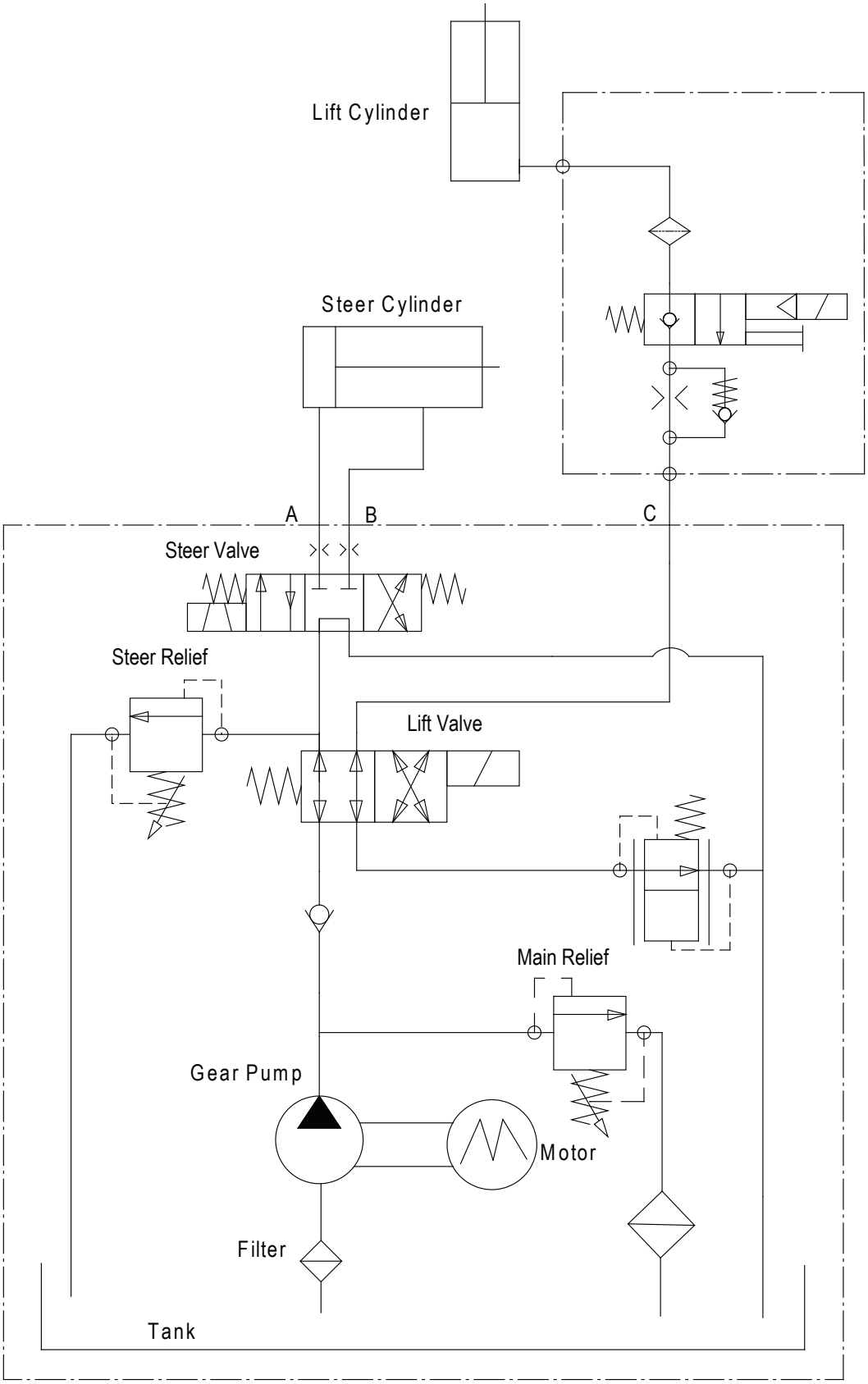


ILLUSTRATION No.
ART_5053

1330SE HYDRAULIC SCHEMATIC

Hydraulic Unit

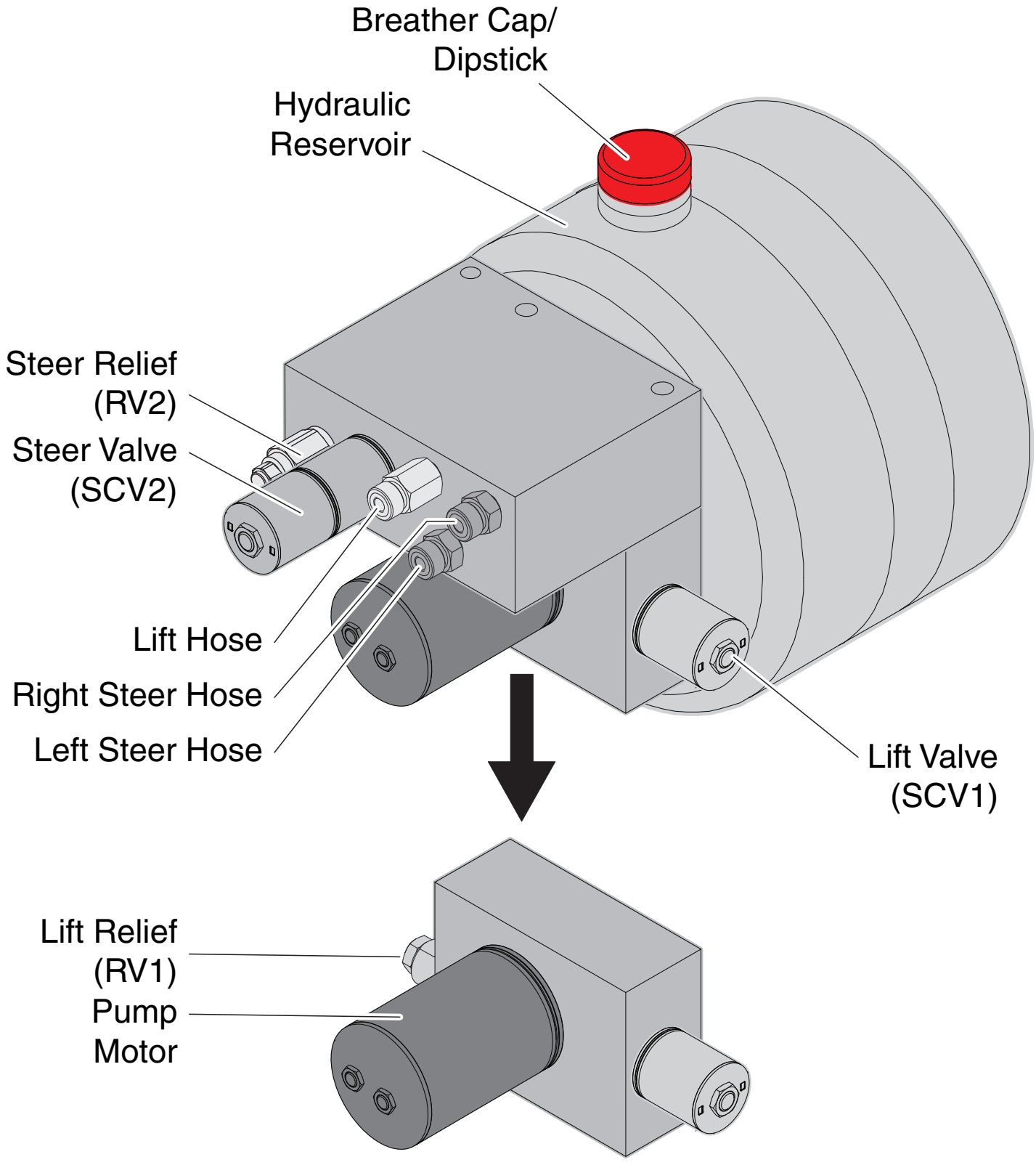


ILLUSTRATION No.
ART_5066

1330SE HYDRAULIC UNIT

Notes

Parts Introduction

This Parts sections consists of illustrated parts sections and is designed to provide you, the customer, with illustrations and the list of associated parts needed to properly maintain the MEC self-propelled aerial work platform. When used in conjunction with the Service section in this manual and the Operator's Manual (provided separately), this manual will assist you in making necessary adjustments and repairs, and identifying and ordering the correct replacement parts.

All parts represented here are manufactured and supplied in accordance with MEC quality standards.

We recommend that you use genuine MEC parts to ensure proper operation and reliable performance.

To obtain maximum benefits from your MEC Aerial Work Platforms, always follow the proper operating and maintenance procedures. Only trained authorized personnel should be allowed to operate or service this machine. Service personnel should read and study the Operator's, and the Service and Parts Manuals in order to gain a thorough understanding of the unit prior to making any repairs.

Steer Linkage and Wheels Assembly

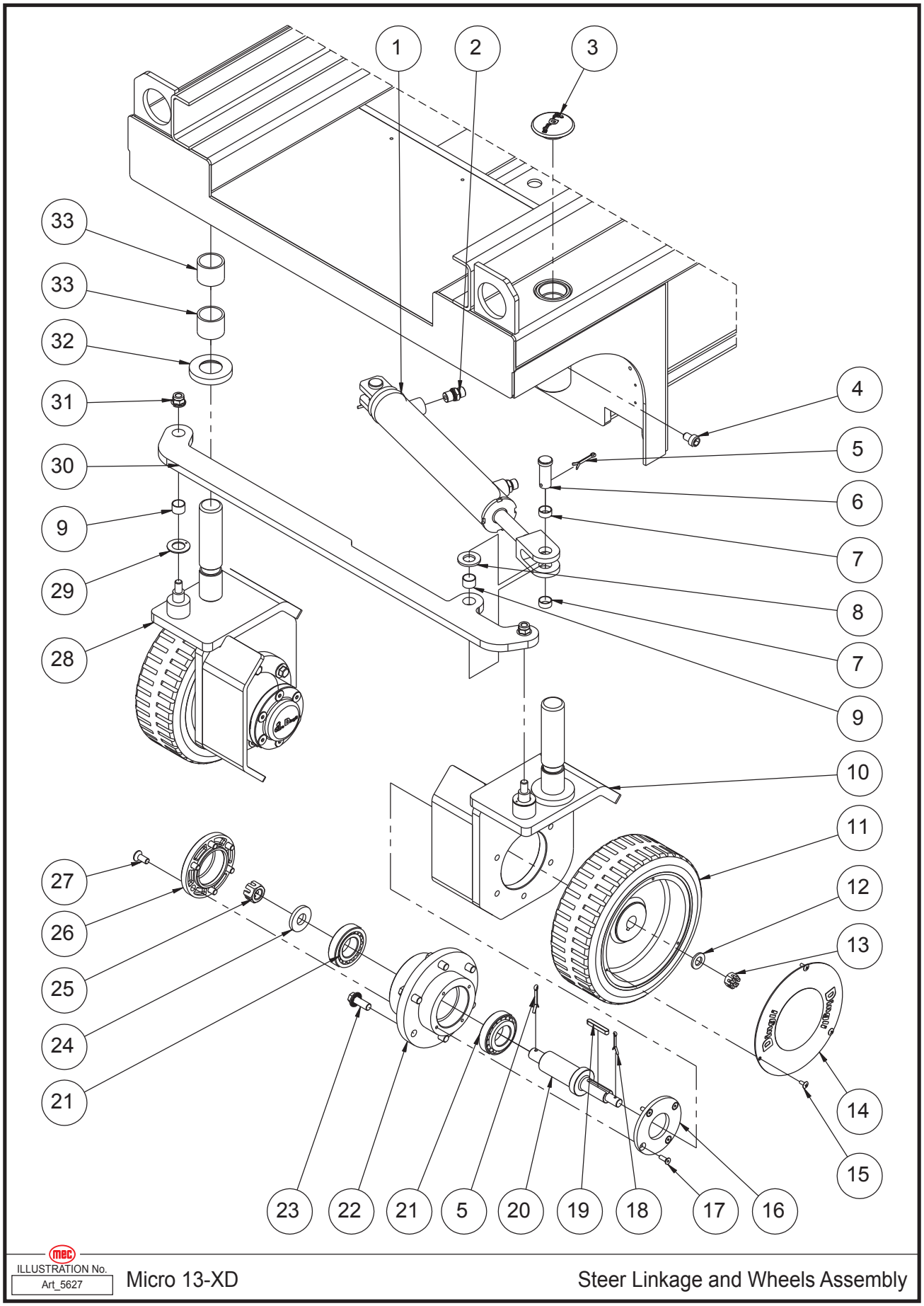


ILLUSTRATION No. Art_5627 Micro 13-XD Steer Linkage and Wheels Assembly

Item	Part Number	Description	Qty.
1	41223	Steer Cylinder Assembly	1
--	41594	Seal Kit	1
2	41298	Straight Fitting	2
3	41318	Cover	2
4	41794	Screw	2
5	41322	Cotter Pin	4
6	41321	Pin	2
7	41225	Bearing	4
8	43564	Washer	2
9	41210	Bearing	4
10	44043	Steer Yoke Weldment	1
11	41228	Wheel (To Serial #16200100-16201065)	2
	46737	Wheel (From Serial #16201066)	2
12	50003	WSHR M12 Standard Flat	2
13	53363	Castle Nut M12-1.75, Hex Thin Slotted	2
14	41323	Cover	2
15	53348	THMS M04-0.70 × 10	6
16	41230	Bearing Cover	2
17	53269	CSCS M05-0.80 × 16	8
18	41322	Cotter Pin	2
19	44029	Key	2
20	41233	Wheel Shaft	2
21	41024	Bearing	4
22	41234	Connection Plate	2
23	50429	HHCS M10-1.50 × 25 Serrated Flange	12
24	41327	Washer	2
25	53347	Castle Nut M16 × 1.50	2
26	41328	Cap	2
27	53282	CSCS M08-1.25 × 20	12
28	44042	Steer Yoke Weldment	1
29	41222	Bearing	2
30	41221	Tie Rod	1
31	50311	NNYL M10-1.50 Flange	2
32	41199	Washer	2
33	41202	Bearing	4

Drive Wheel Assembly

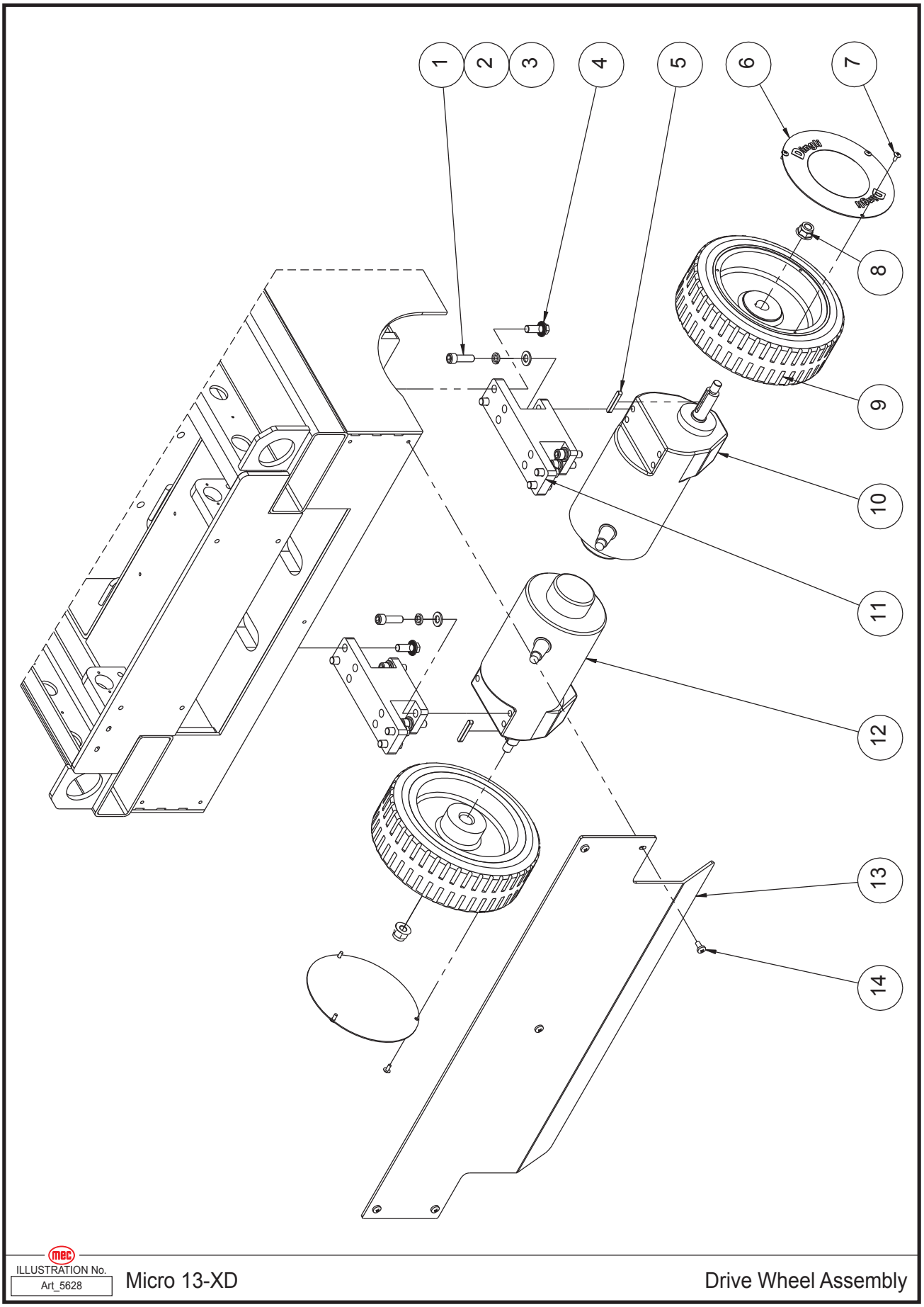


ILLUSTRATION No. Art_5628

Micro 13-XD

Drive Wheel Assembly

Item	Part Number	Description	Qty.
1	53315	SHCS 3/8-24 × 1 1/4	8
2	53054	WSHR M10 Spring Washer	8
3	50002	WSHR M10 Standard Flat	8
4	50429	HHCS M10-1.50 × 25 Serrated Flange	8
5	44029	Key	2
6	41323	Cover	2
7	53348	THMS M04-0.70 × 10	6
8	53261	NNYL M12-1.75 Flange	2
9	41228	Wheel (To Serial #16200100-16201065)	2
	46737	Wheel (From Serial #16201066)	2
10	41240	Right Drive Motor Assembly	1
--	43751	Right Motor	1
--	42515	Reducer (To Serial #16200100-16201065)	1
	46743	Reducer (From Serial #16201066)	1
--	44033	Brake	1
11	41239	Support	2
12	41240	Left Drive Motor Assembly	1
--	43752	Left Motor	1
--	42515	Reducer (To Serial #16200100-16201065)	1
	46743	Reducer (From Serial #16201066)	1
--	44033	Brake	1
13	44062	Plate	1
14	53318	PHMS M06-1.00 × 12	5
--	42883	Connector, Drive Motor	1

Pothole Protection Assembly

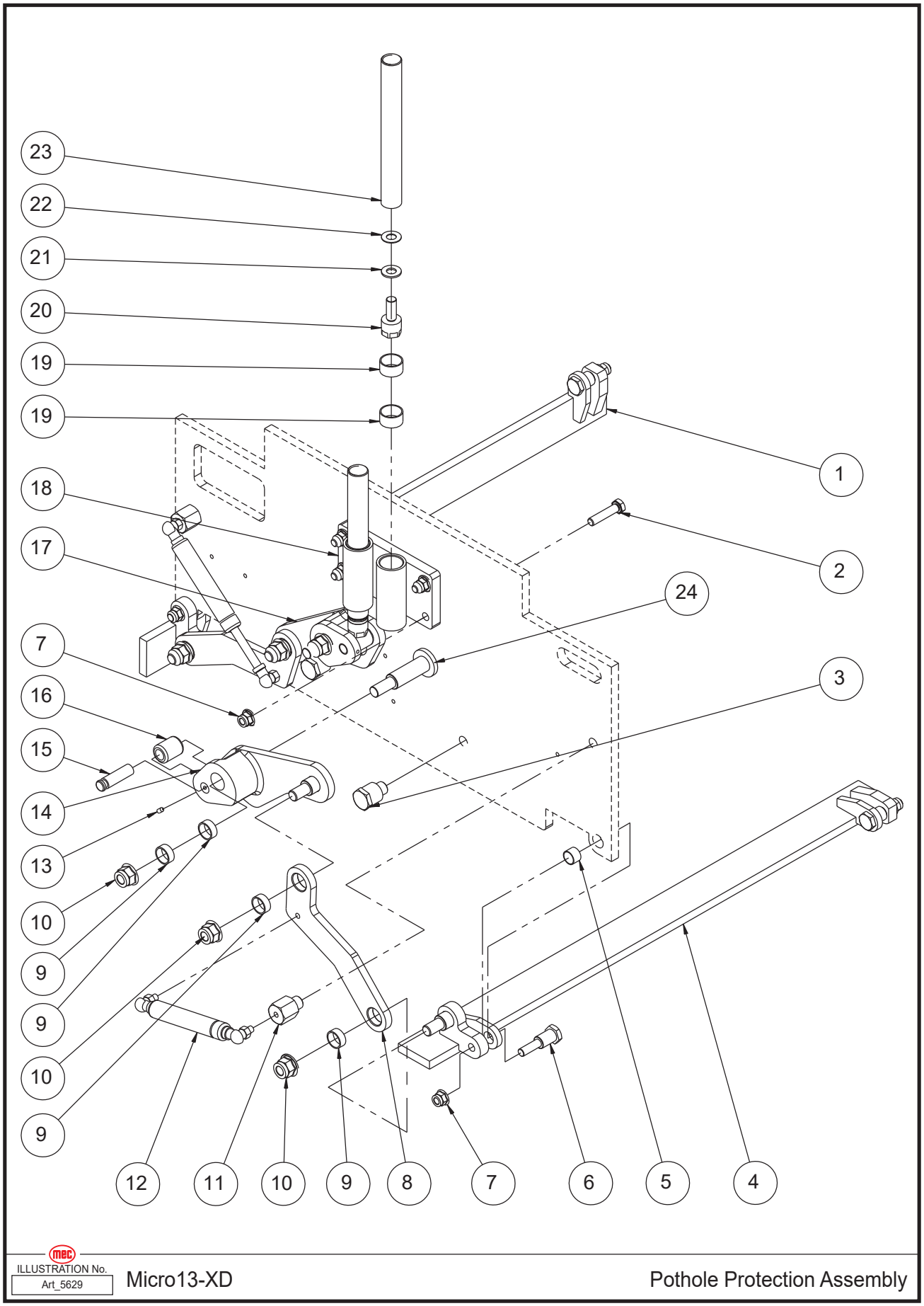


ILLUSTRATION No. Art_5629 Micro13-XD Pothole Protection Assembly

Item	Part Number	Description	Qty.
1	41207	Pothole Guard Weldment	1
2	50430	HHCS M10-1.50 × 45	4
3	41211	Pin	2
4	41208	Pothole Guard Weldment	1
5	41210	Bearing	4
6	41209	Pin	4
7	50311	NNYL M10-1.50 Flange	8
8	41213	Pothole Link Plate	2
9	41214	Bearing	8
10	53349	NNYL M14-2.00 Flange	6
11	41212	Gas Shock Strut	2
12	41215	Gas Shock	2
13	53283	Set Screw M05-0.80 × 10 Cone Point	2
14	41319	Linkage Weldment	1
15	41216	Pin	2
16	41217	Roller	2
17	41320	Linkage Weldment	1
18	41220	Pothole Guide	1
19	41203	Bearing	4
20	41204	Pothole Hole Pusher Pin	2
21	44007	Adjusting Washer 2	2
22	44008	Adjusting Washer 3	2
23	41205	Pothole Hole Pusher Rod	2
24	47376	Pivot Pin, Pothole Weld	1

Battery Pack Module

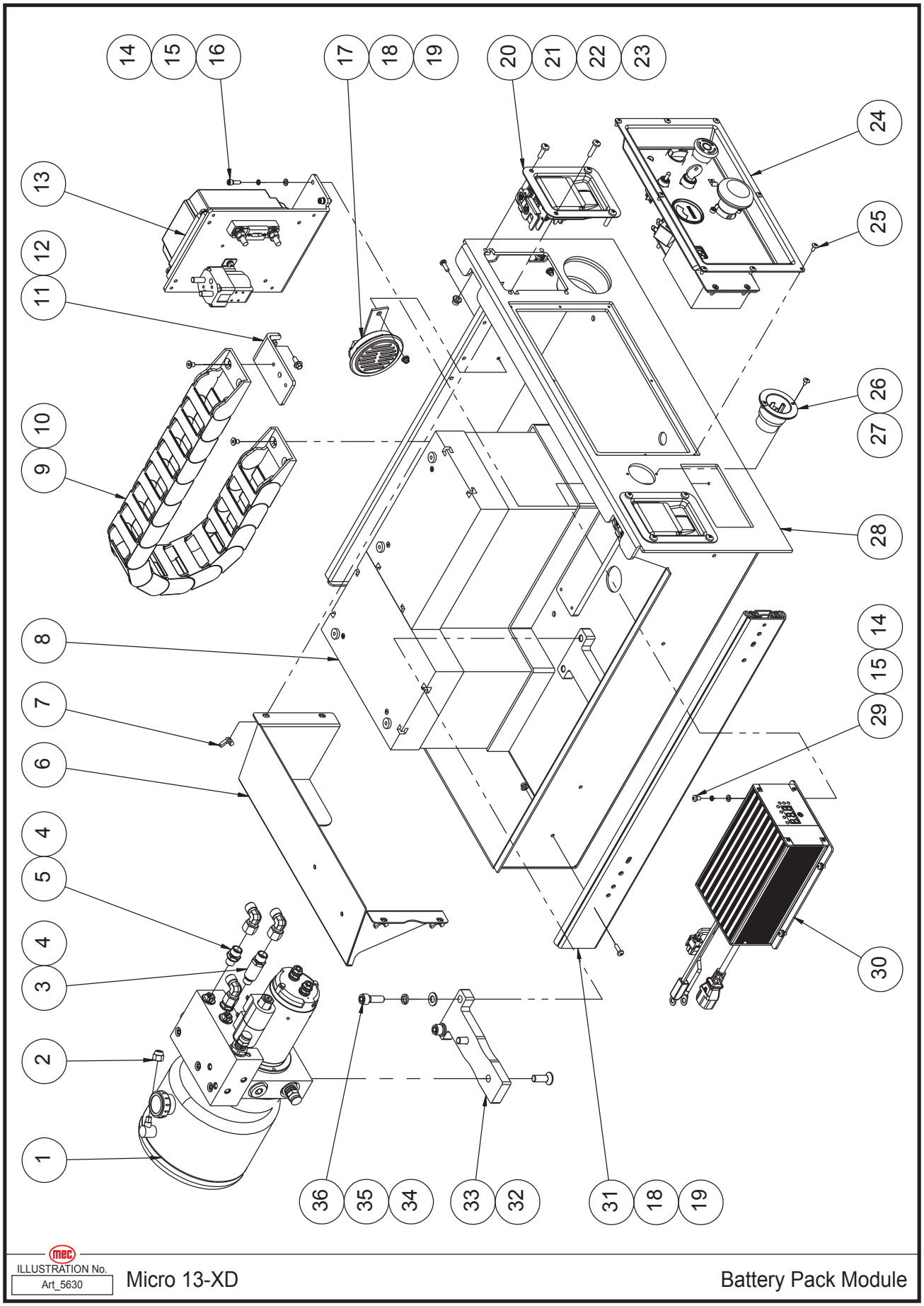


ILLUSTRATION No. Art_5630

Micro 13-XD

Battery Pack Module

Item	Part Number	Description	Qty.
1	41932	Hydraulic Power Unit (Refer To Page 44)	1
2	41413	Nut	1
3	41297	Straight Fitting	1
4	43639	Elbow	3
5	41296	Straight Fitting	2
6	44053	Protect Cover	1
7	53350	Wing Nut M06-1.00	4
8	41330	Battery	2
9	44039	Towline	1
10	53352	CSCS M06-1.00 × 10	4
11	44040	Towline Bracket	1
12	53273	HHCS M06-1.00 × 14 Serrated Flange	2
13	REF	Motor Controller Assembly (Refer To Page 46)	1
14	53038	WSHR M05 Standard Flat	8
15	53043	WSHR M05 Spring Washer	8
16	50359	SHCS M05-0.80 × 16	4
17	41075	Horn	1
18	53351	PHMS M05-0.80 × 16	8
19	53281	NNYL M05-0.80 Flange	8
20	43977	Latch	2
21	53264	PHMS M06-1.00 × 20	4
22	53353	PHMS M06-1.00 × 25	4
23	50568	NNYL M06-1.00 Flange	8
24	REF	Ground Control Assembly (Refer To Page 48)	1
25	53348	THMS M04-0.70 × 10	8
26	41575	Plug	1
27	53263	THMS M04-0.70 × 8	2
28	44051	Battery Tray Weldment	1
29	53222	PHMS M05-0.80 × 8	4
30	42904	Charger	1
31	41255	Glide Track	2
32	53225	CSCS M10-1.50 × 30	2
33	41337	Bracket	1
34	50002	WSHR M10 Standard Flat	2
35	53054	WSHR M10 Spring Washer	2
36	50127	SHCS M10-1.50 × 30	2

REF - Reference

Hydraulic Power Unit

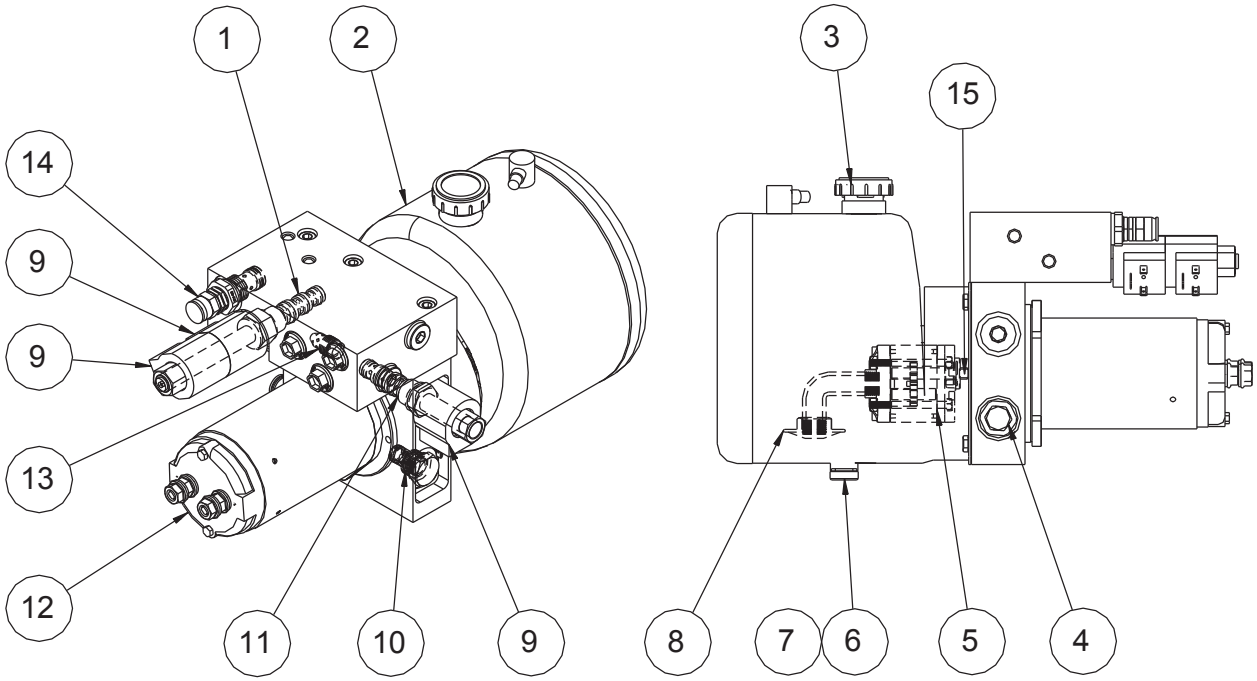


ILLUSTRATION No. Art_5631

Micro 13-XD

Hydraulic Power Unit

Item	Part Number	Description	Qty.
1	41246	Solenoid Valve Spool	1
2	41247	Tank	1
3	42901	Tank Cover	1
4	43807	Relief Valve	1
5	42524	Pump	1
6	43808	Plug	1
7	43777	Washer	1
8	43809	Filter Web	1
9	43810	Coil	3
10	43811	Check Valve	1
11	41245	Solenoid Valve Spool	1
12	41932	Motor	1
13	43812	Pressure Compensation Valve	1
14	43813	Relief Valve	1
15	42894	Coupler, Motor Pump	1

Motor Controller Assembly

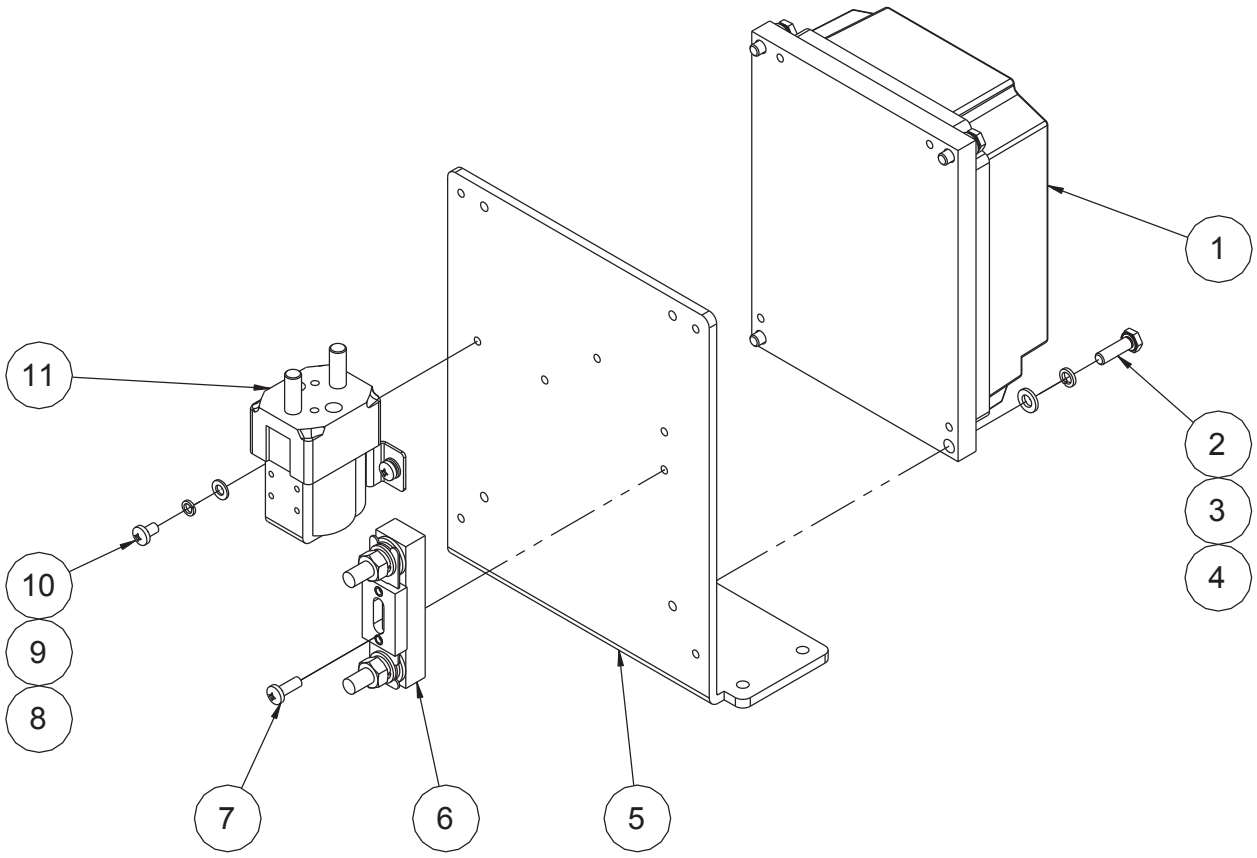


ILLUSTRATION No. Art_5632

Micro 13-XD

Motor Controller Assembly

Item	Part Number	Description	Qty.
1	41610	Motor Controller	1
2	50028	HHCS M06-1.00 × 20	4
3	53046	WSHR M06 Spring Washer	4
4	50000	WSHR M06 Standard Flat	4
5	41333	Mounting Plate	1
6	41251	150A Fuse Assembly	1
--	44031	150A Fuse	1
--	41092	Fuse Seat	1
7	53355	PHMS M05-0.80 × 14	2
8	53038	WSHR M05 Standard Flat	2
9	53043	WSHR M05 Spring Washer	2
10	53222	PHMS M05-0.80 × 8	2
11	41331	DC Contactor	1

Ground Control Assembly

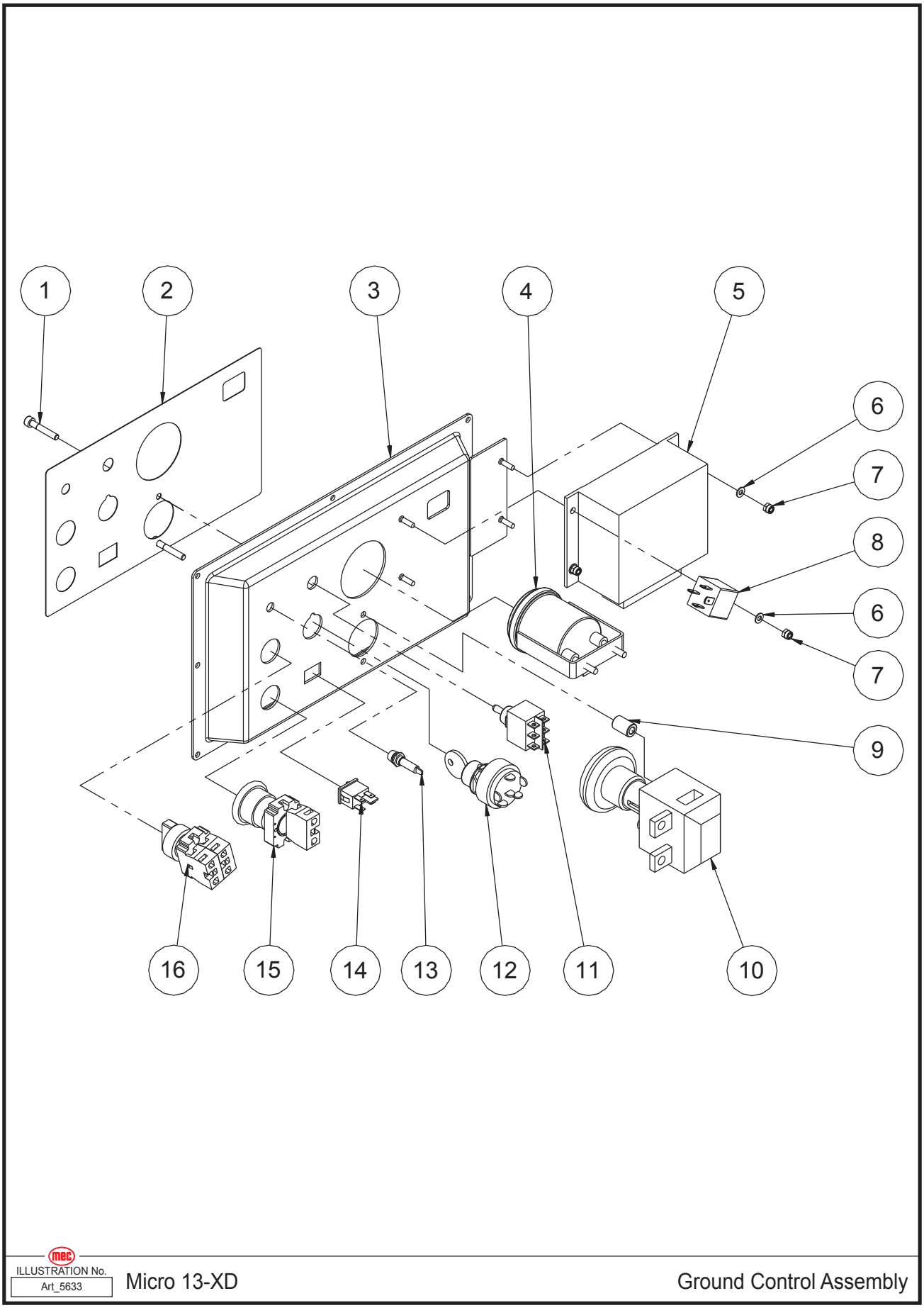


ILLUSTRATION No. Art_5633 Micro 13-XD Ground Control Assembly

Item	Part Number	Description	Qty.
1	53171	SHCS M05-0.80 × 30	2
2	43904	Decal, Ground Control Panel	1
3	44052	Ground Control Panel Weldment	1
4	41070	Hour Meter	1
5	44580	Controller	1
6	50284	WSHR M04 Standard Flat	4
7	50285	NNYL M04 × 0.70	4
8	41334	Relay	1
9	44054	Sleeve Pipe	2
10	42071	Emergency Switch	1
11	41419	Toggle Switch	1
12	41418	Key Switch	1
13	41421	Indicator	1
14	43991	Brake Release Switch	1
15	41422	Emergency Stop Switch	1
--	43098	Red Mushroom Head	1
--	43097	Base With 1 NC Contact	1
16	43992	Select Switch	1
--	43993	Select Switch Head	1
--	43994	Base With 1 NO Contact	1
--	43096	NC Contact	1

Ladder and Accessories

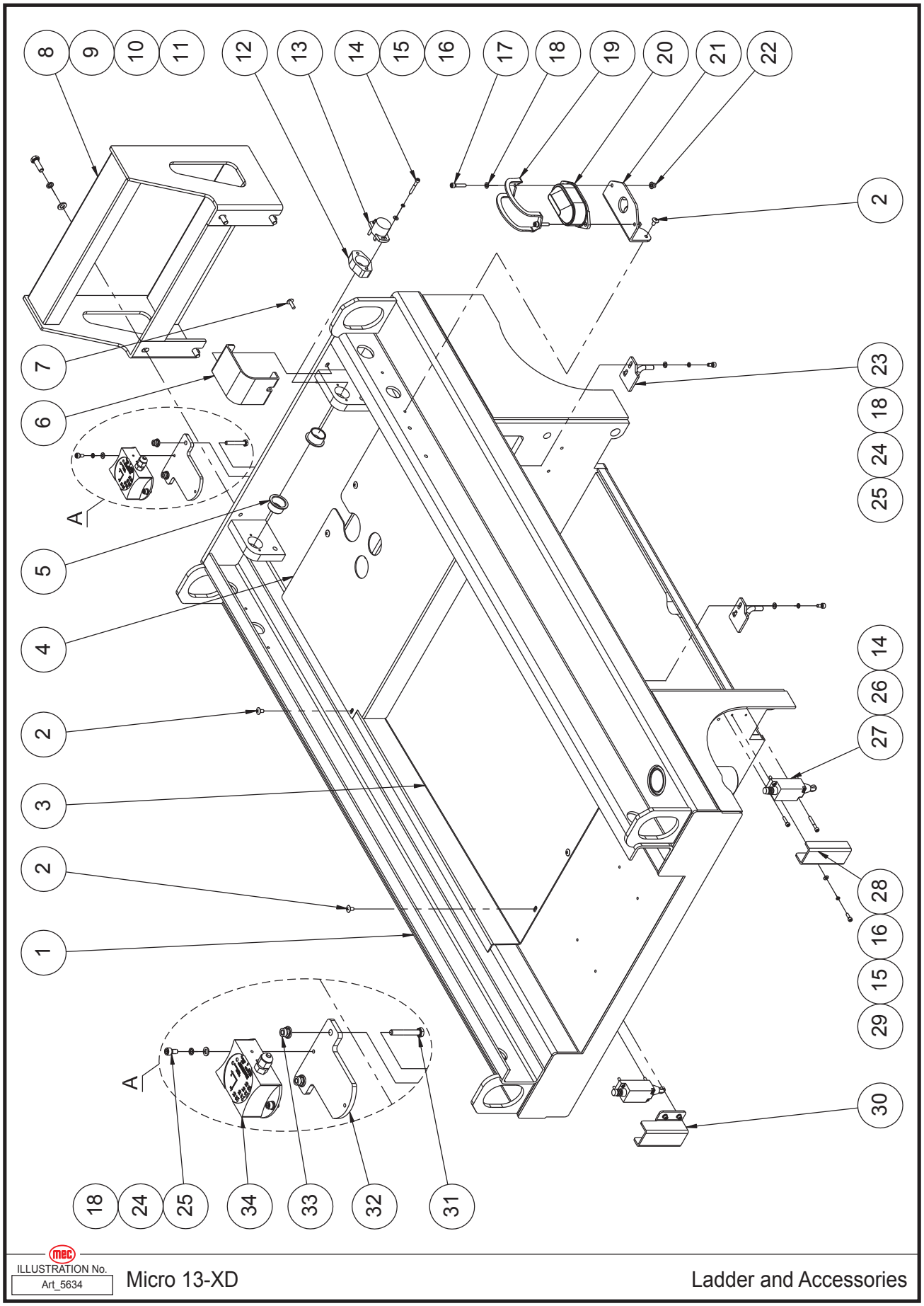


ILLUSTRATION No. Art_5634

Micro 13-XD

Ladder and Accessories

Item	Part Number	Description	Qty.
1	44041	Frame Weldment	1
2	53265	THMS M05-0.80 × 10	9
3	41308	Cover	1
4	41311	Cover	1
5	41257	Bearing	2
6	41312	Sensor Cover	1
7	53223	THMS M05-0.80 × 16	2
8	41193	Ladder	1
9	50031	HHCS M08-1.25 × 25	4
10	53055	WSHR M08 Spring Washer	4
11	50001	WSHR M08 Standard Flat	4
12	41194	Sensor Bracket	1
13	41195	Rotary Sensor	1
14	50284	WSHR M04 Standard Flat	6
15	53062	WSHR M04 Spring Washer	6
16	53065	SHCS M04-0.70 × 30	6
17	53356	SHCS M05-0.80 × 25	2
18	53038	WSHR M05 Standard Flat	8
19	41309	Beacon Cover	1
20	41310	Beacon	1
21	42406	Beacon Bracket	1
22	53281	NNYL M05-0.80 Flange	2
23	43978	Lock	2
24	53043	WSHR M05 Spring Washer	6
25	53173	SHCS M05-0.80 × 10	6
26	53113	SHCS M04-0.70 × 16	4
27	41197	Limit Switch	2
28	41315	Switch Cover	1
29	50423	SHCS M04-0.70 × 12	4
30	41198	Switch Cover	1
31	50289	HHCS M06-1.00 × 40	2
32	42403	Sensor Bracket	1
33	50568	NNYL M06-1.00 Flange	2
34	41098	Tilt Sensor	1

Scissor Assembly

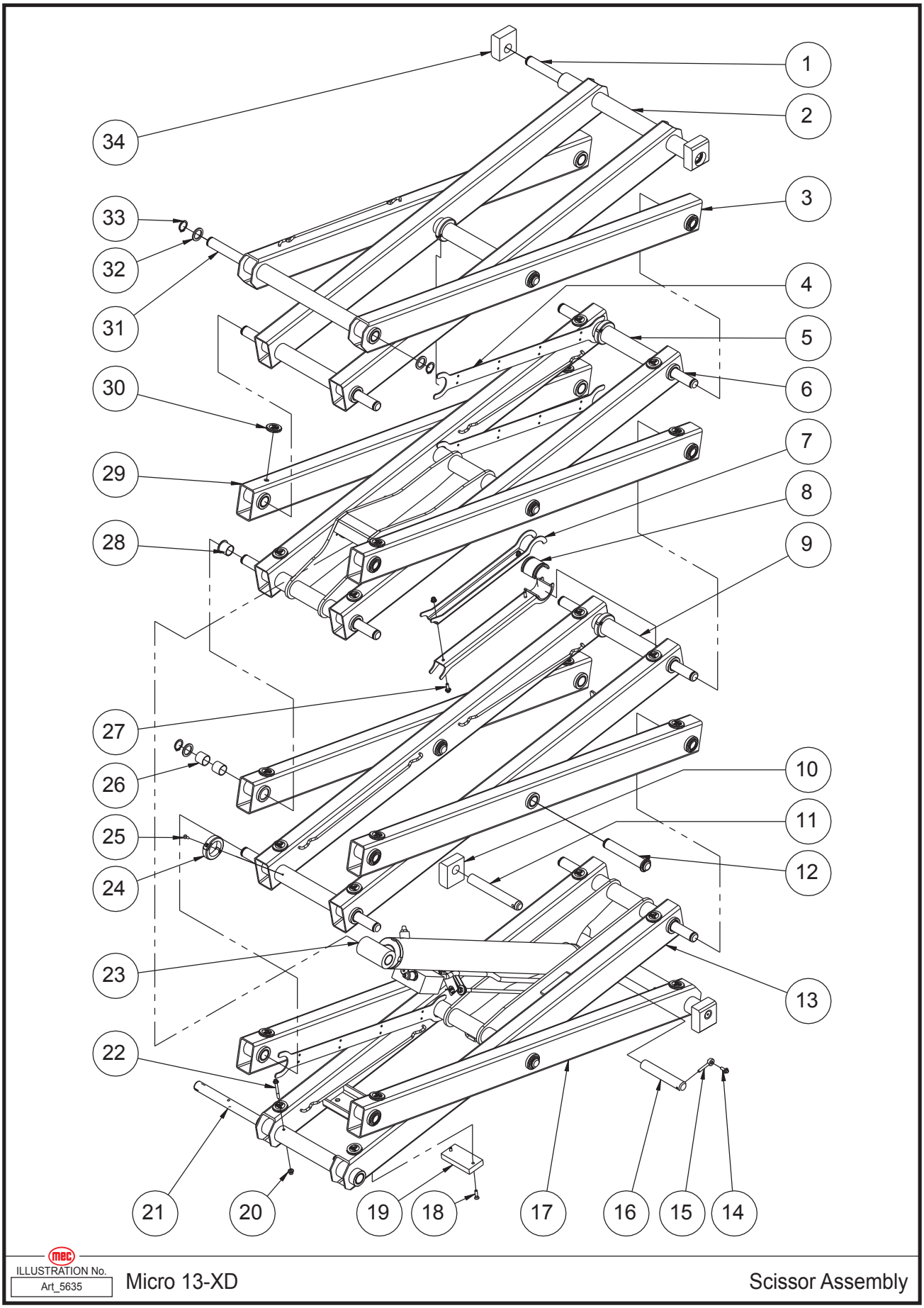


ILLUSTRATION No. Art_5635

Micro 13-XD

Scissor Assembly

Item	Part Number	Description	Qty.
1	41576	Pin	1
2	44047	Inner Arm 4	1
3	44049	Outer Arm 3	1
4	41352	Cable Bridge	3
5	44046	Inner Arm 3	1
6	41577	Pin	9
7	41263	Safety Arm	2
8	41262	Safety Arm Bushing	2
9	44045	Inner Arm 2	1
10	41256	Chassis Slider	2
11	41338	Pin	2
12	41349	Pin	2
13	44044	Inner Arm 1	1
14	53256	HHCS M06-1.00 × 16 Serrated Flange	2
15	42449	Pin	2
16	41345	Pin	2
17	44048	Outer Arm 1	1
18	50386	CSCS M06-1.00 × 25	2
19	41350	Pothole Pusher	1
20	50568	NNYL M06-1.00 Flange	6
21	41258	Pin	1
22	53357	HHCS M06-1.00 × 55 Flange	4
23	REF	Lift Cylinder Assembly (Refer To Page 66)	1
24	44050	Collar	4
25	53269	CSCS M05-0.80 × 16	4
26	41287	Bearing	44
27	53255	HHCS M06-1.00 × 20 Serrated Flange	2
28	42446	Bearing	26
29	41343	Outer Arm 2	4
30	41114	Block	24
31	42457	Pin	1
32	41354	Washer	26
33	42437	Circlips	26
34	41256	Platform Slider	2

REF - Reference

Main Platform Assembly

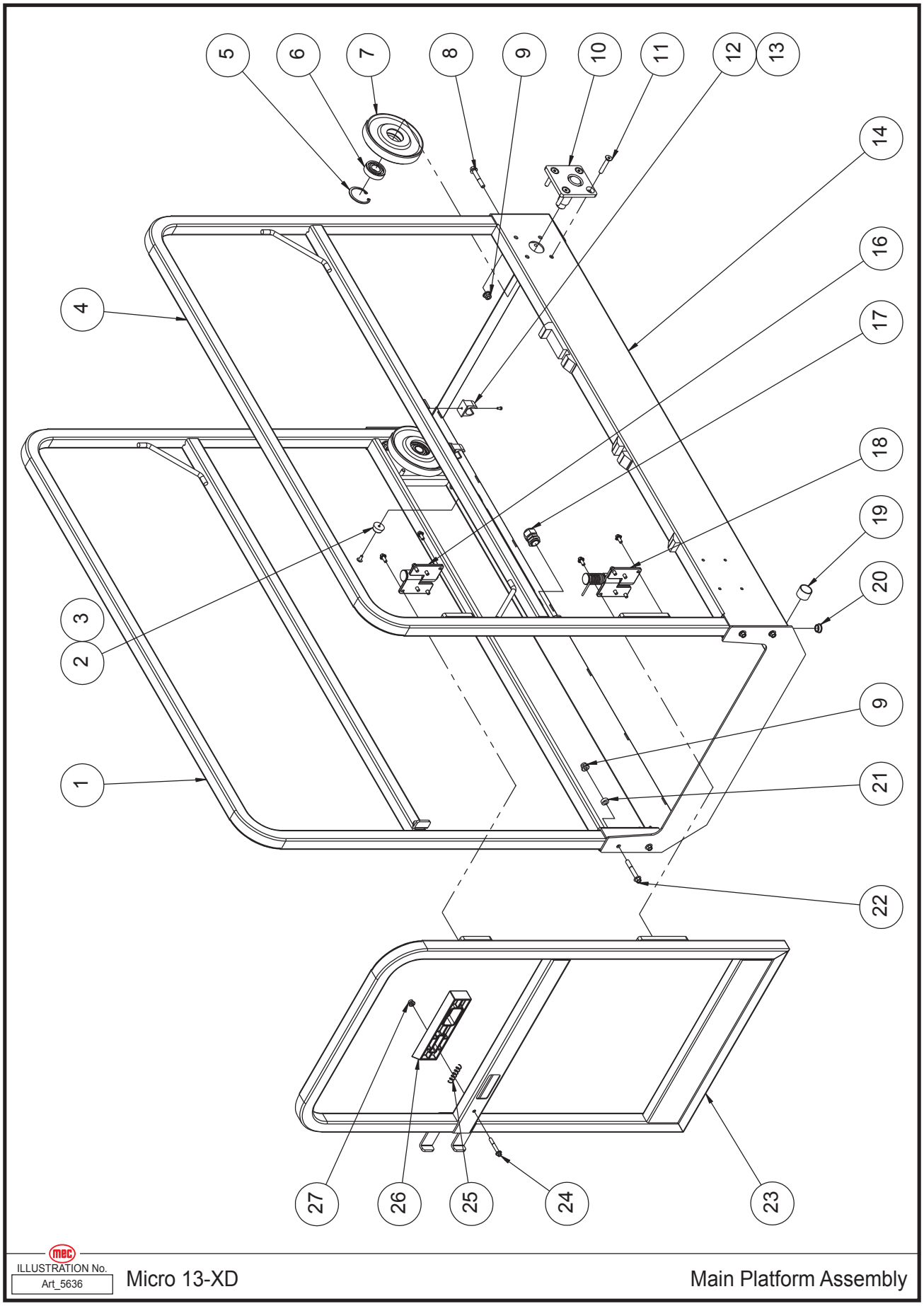


ILLUSTRATION No. Art_5636

Micro 13-XD

Main Platform Assembly

Item	Part Number	Description	Qty.
1	44582	Left Main Rail	1
2	41120	Bumper	1
3	53224	THMS M05-0.80 × 12	1
4	44583	Right Main Rail	1
5	43618	Circlips	2
6	41131	Bearing	2
7	41269	Roller	2
8	53358	HHCS M08-1.25 × 50 Flange	4
9	50313	NNYL M08-1.25 Flange	8
10	41360	Roller Bracket	2
11	53275	CSCS M08-1.25 × 45	8
12	41134	Clip	2
13	53276	PHMS M04-0.70 × 8	2
14	41272	Main Deck Weldment	1
15	53273	HHCS M06-1.00 × 14 Serrated Flange	12
16	41127	Hinge A	1
17	41273	Water-Proof Joint	1
18	41128	Hinge B	1
19	41046	Bearing	2
20	41275	Sheath	1
21	42462	Washer	4
22	53359	HHCS M08-1.25 × 55 Flange	4
23	44584	Entry Gate	1
24	53360	HHCS M06-1.00 × 45 Flange	1
25	41277	Spring	1
26	41278	Latch Handle	1
27	50568	NNYL M06-1.00 Flange	1

Platform Extension Assembly

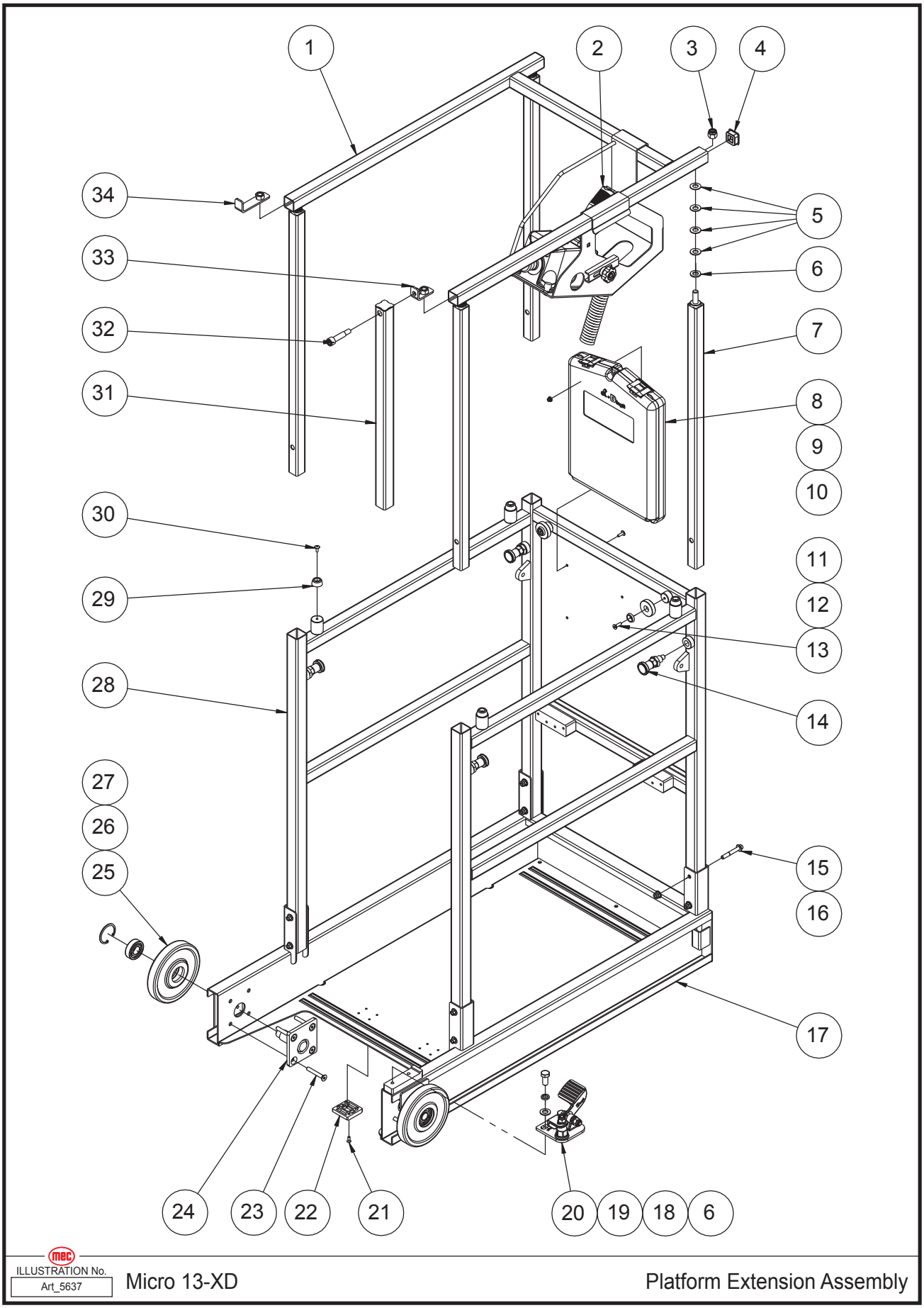


ILLUSTRATION No. Art_5637

Micro 13-XD

Platform Extension Assembly

Item	Part Number	Description	Qty.
1	44140	Upper Extension Rail	1
2	REF	Platform Control Assembly (Refer To Page 58)	1
3	50050	NNYL M12 × 1.75	2
4	93216	1.25” x .075/.083” Square Tube Cap	2
5	53307	WSHR Belleville 1.00 OD X 0.5 ID	16
6	50003	WSHR M12 Standard Flat	6
7	44176	Telescopic Rail	4
8	43319	Manual Box	1
9	53223	THMS M05-0.80 × 16	4
10	53281	NNYL M05-0.80 Flange	4
11	94981	Encased Magnetic Disc	2
12	95321	Nylon Plastic Countersunk Washer	2
13	50561	CSCS M06-1.00 × 20	2
14	44016	Lock Pin	4
15	53359	HHCS M08-1.25 × 55 Flange	8
16	50313	NNYL M08-1.25 Flange	8
17	44586	Extension Deck Weldment	1
18	53148	WSHR M12 Spring Washer	2
19	50038	HHCS M12-1.50 × 25	2
20	41140	Platform Locking Device Assembly (Refer To Page 62)	1
21	53279	CSCS M05-0.80 × 12	8
22	41284	Slide Pad	2
23	53280	CSCS M08-1.25 × 55	8
24	41360	Roller Bracket	2
25	41141	Roller 2	2
26	41131	Bearing	2
27	43618	Circlips	2
28	44585	MICRO13-XD Lower Guardrail	1
29	41120	Bumper	4
30	53224	THMS M05-0.80 × 12	4
31	44244	Rear Extension Rail	1
32	53337	SHSS 12 SHLDR DIA X 40 SHLDR LG X M10 SS	1
33	44227	Deck Guard Hinge Bracket	1
34	44237	Deck Guard Latch Rest	1

REF - Reference

Platform Control Assembly

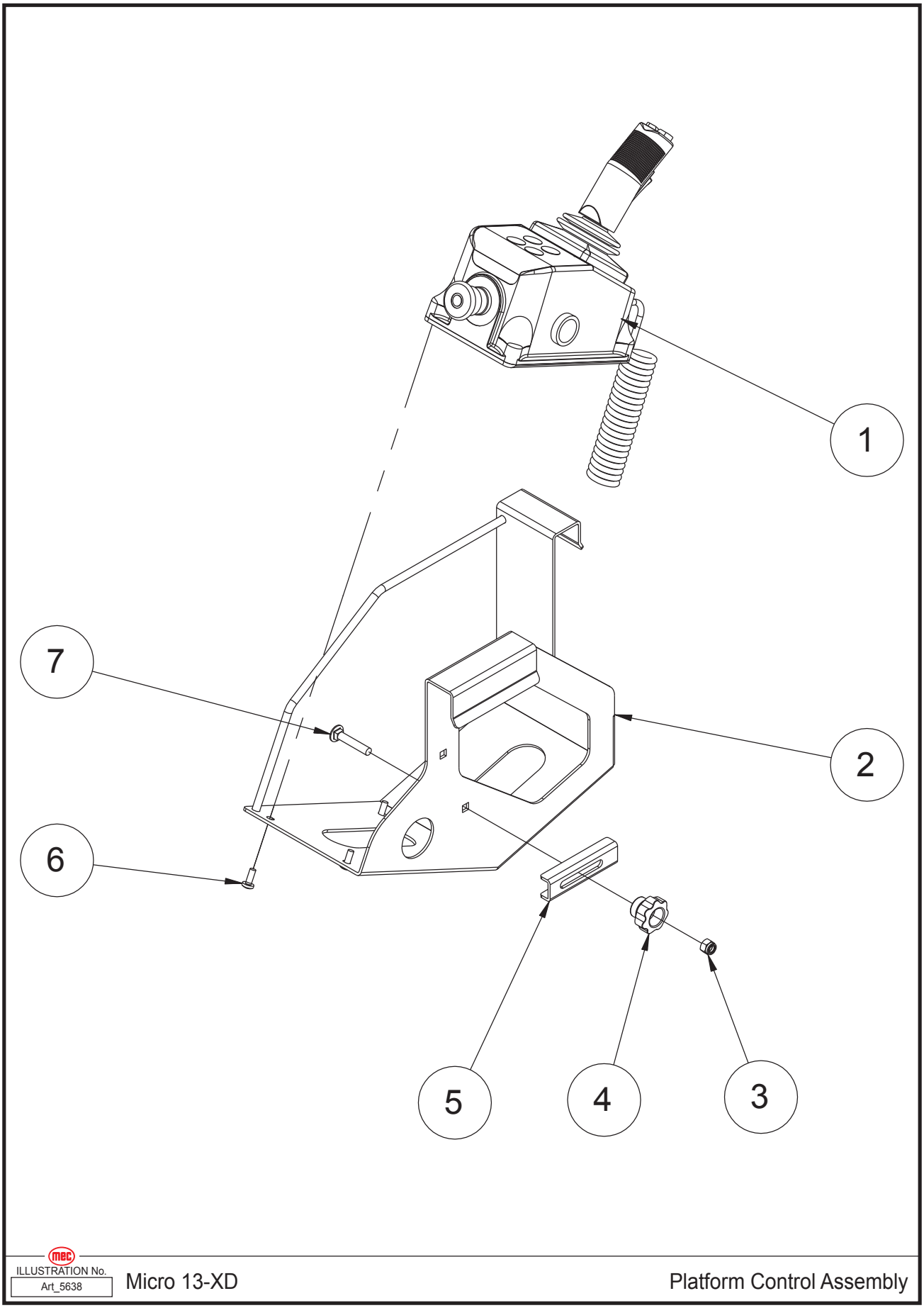


ILLUSTRATION No. Art_5638 Micro 13-XD Platform Control Assembly

Item	Part Number	Description	Qty.
1	41137	Platform Control Box Assembly (Refer To Page 60)	1
2	42499	Platform Control Box Mount Bracket	1
3	50048	NNYL M08 × 1.25	1
4	42501	Handle	1
5	42500	Locating Plate	1
6	53231	PHMS M06-1.00 × 16	4
7	53248	CARB M08-1.25 × 45	1

Platform Control Box Assembly

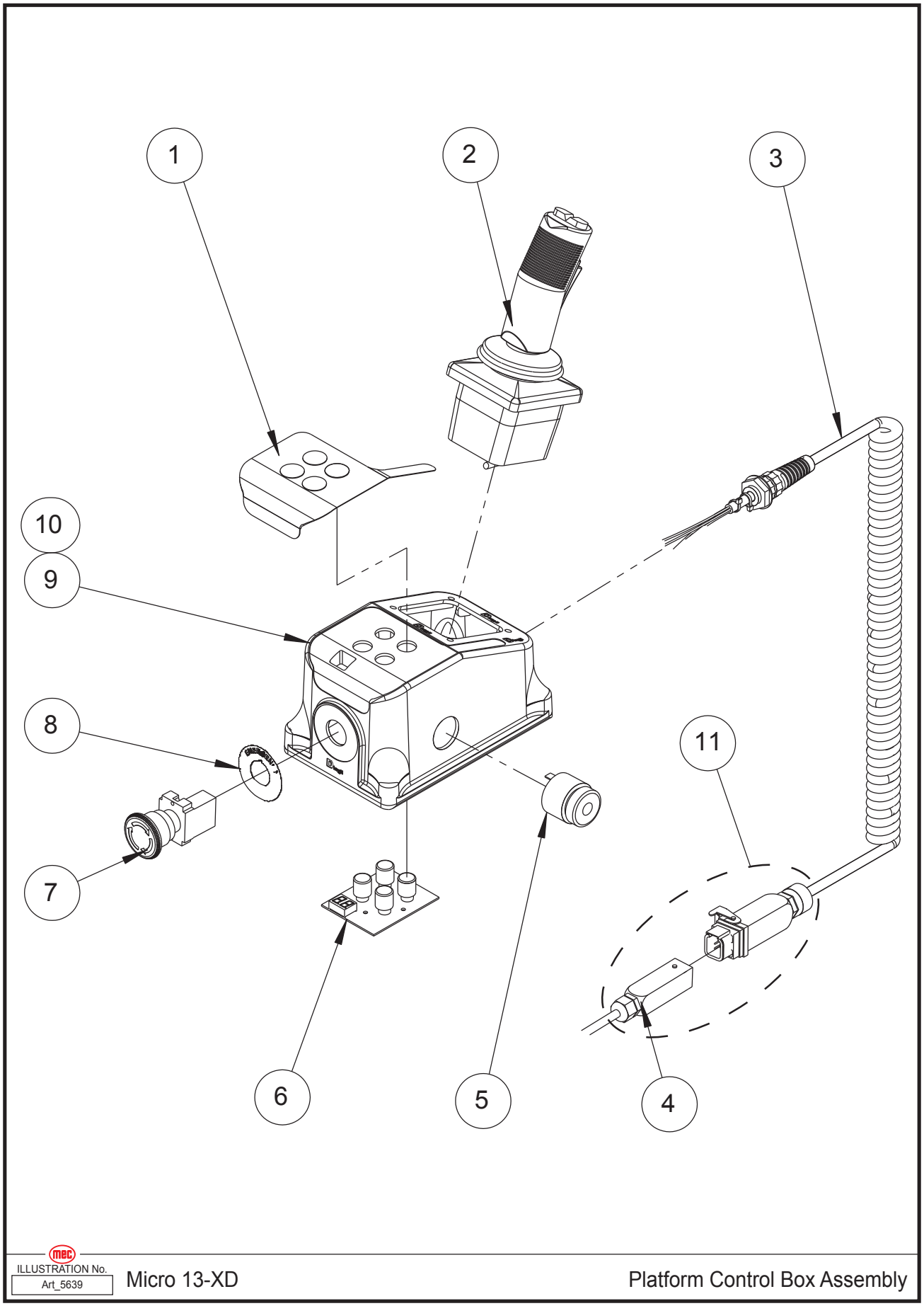


ILLUSTRATION No. Art_5639 Micro 13-XD Platform Control Box Assembly

Item	Part Number	Description	Qty.
1	44038	Decal, Platform Control Panel	1
2	41149	Joystick	1
--	43621	Function Enable Switch	1
--	41150	Joystick Cover	1
--	43622	Joystick Steer Switch	1
--	43623	Switch Boot	1
3	41152	Coil Cord	1
--	43624	Housing	1
--	43625	Male Insert	1
--	43626	Male Contacts	5
--	43627	Cable Gland	1
4	43999	Platform Control Box Harness	1
--	43628	Hood	1
--	43629	Female Insert	1
--	43630	Female Contacts	5
--	43627	Cable Gland	1
5	41568	Alarm	1
--	43631	Alarm Nut	1
6	41156	Main Board	1
--	41155	Button	4
7	41157	Emergency Stop Switch	1
--	43632	Red Mushroom Head	1
--	43633	Base With 1 NC Contact	1
8	42915	Decal, Emergency Stop Panel	1
9	43634	Enclosure	1
10	43635	Cover Bottom	1
11	42596	Replacement Connector, Orange	1
--	41271	Replacement Connector, Gray	1

Platform Locking Device Assembly

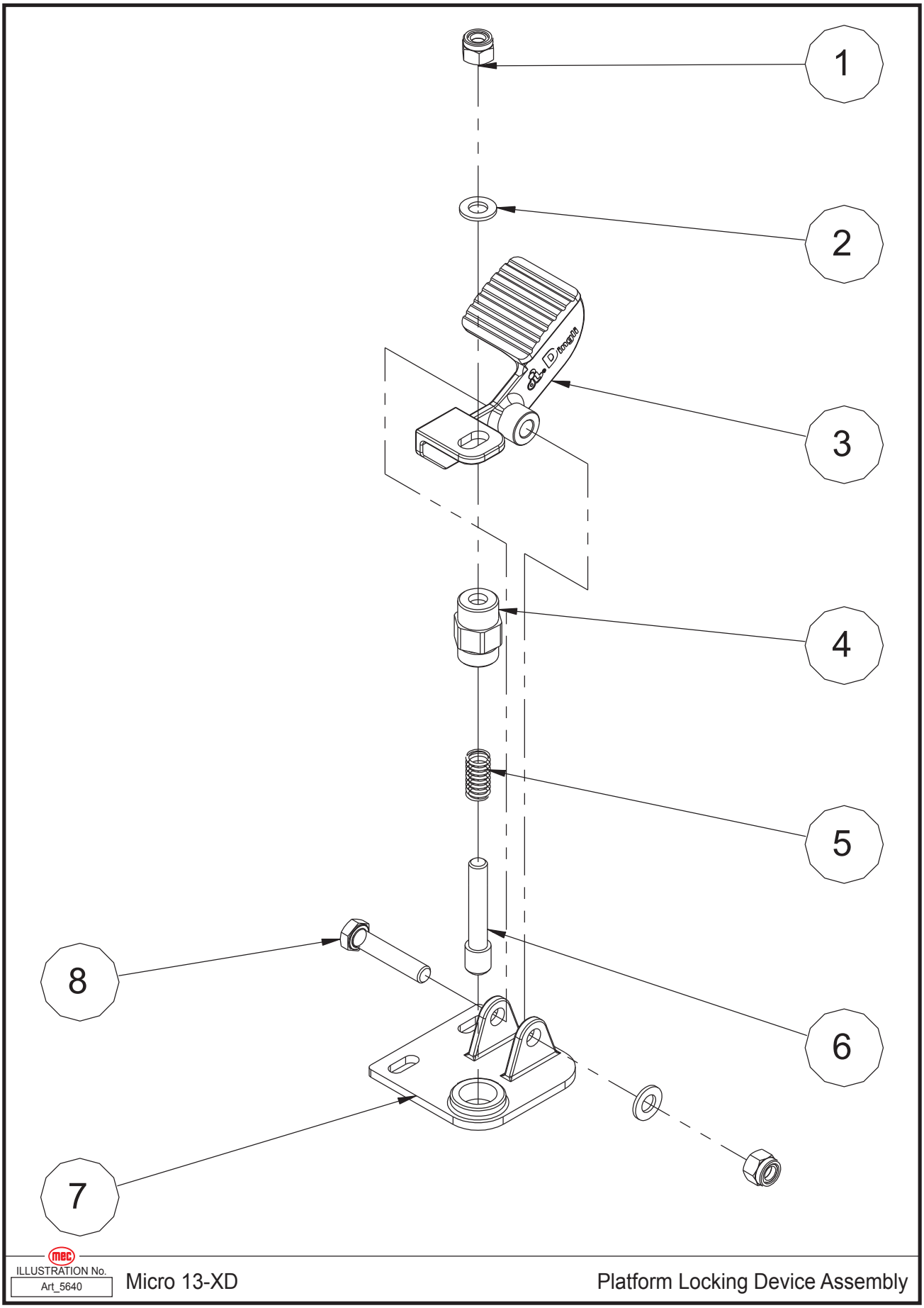


ILLUSTRATION No. Art_5640 Micro 13-XD Platform Locking Device Assembly

Item	Part Number	Description	Qty.
1	50049	NNYL M10 × 1.50	2
2	50002	WSHR M10 Standard Flat	2
3	41143	Foot Pedal	1
4	41144	Lock Pin Housing	1
5	41145	Spring	1
6	41146	Lock Pin	1
7	41147	Bracket	1
8	50020	HHCS M10-1.50 × 50	1

Step Installation

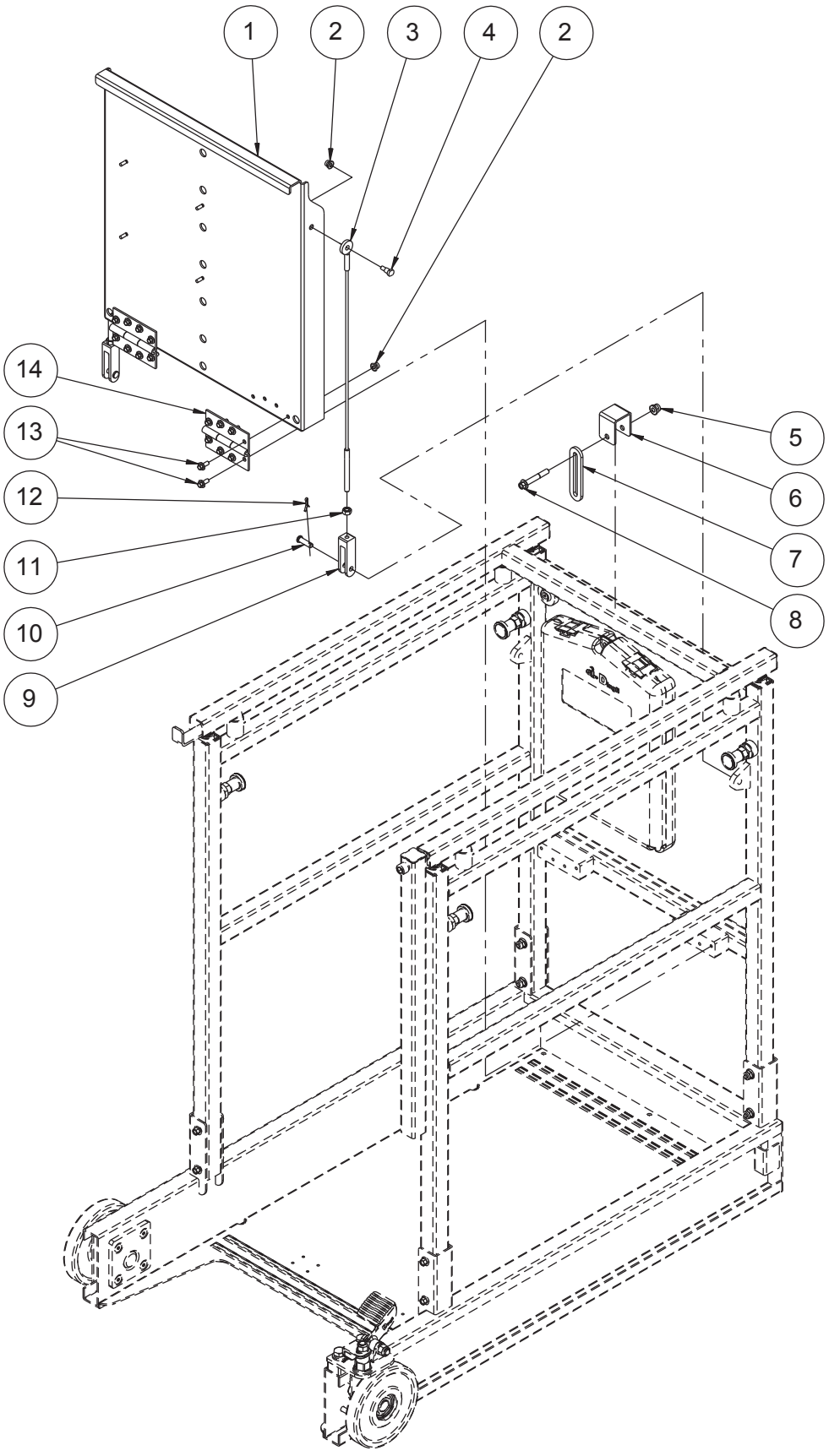


ILLUSTRATION No. Art_5641 Micro 13-XD Step Installation

Item	Part Number	Description	Qty.
1	44163	Step Weldment	1
2	50568	NNYL M06-1.00 Flange	10
3	95172	Wire Rope	2
4	53364	RHSS SCREW M6 X 10 LG ZP	2
5	50313	NNYL M08-1.25 Flange	1
6	44224	Step Sliding Latch Clamp	1
7	44223	Step Sliding Latch	1
8	53359	HHCS M08-1.25 × 55 Flange	1
9	95402	Adjustment Joint	2
10	95404	Pin	2
11	53014	NHEX M08-1.25	2
12	95403	Cotter Pin	2
13	53273	HHCS M06-1.00 × 14 Serrated Flange	16
14	95405	Hinge	2

Lift Cylinder Assembly

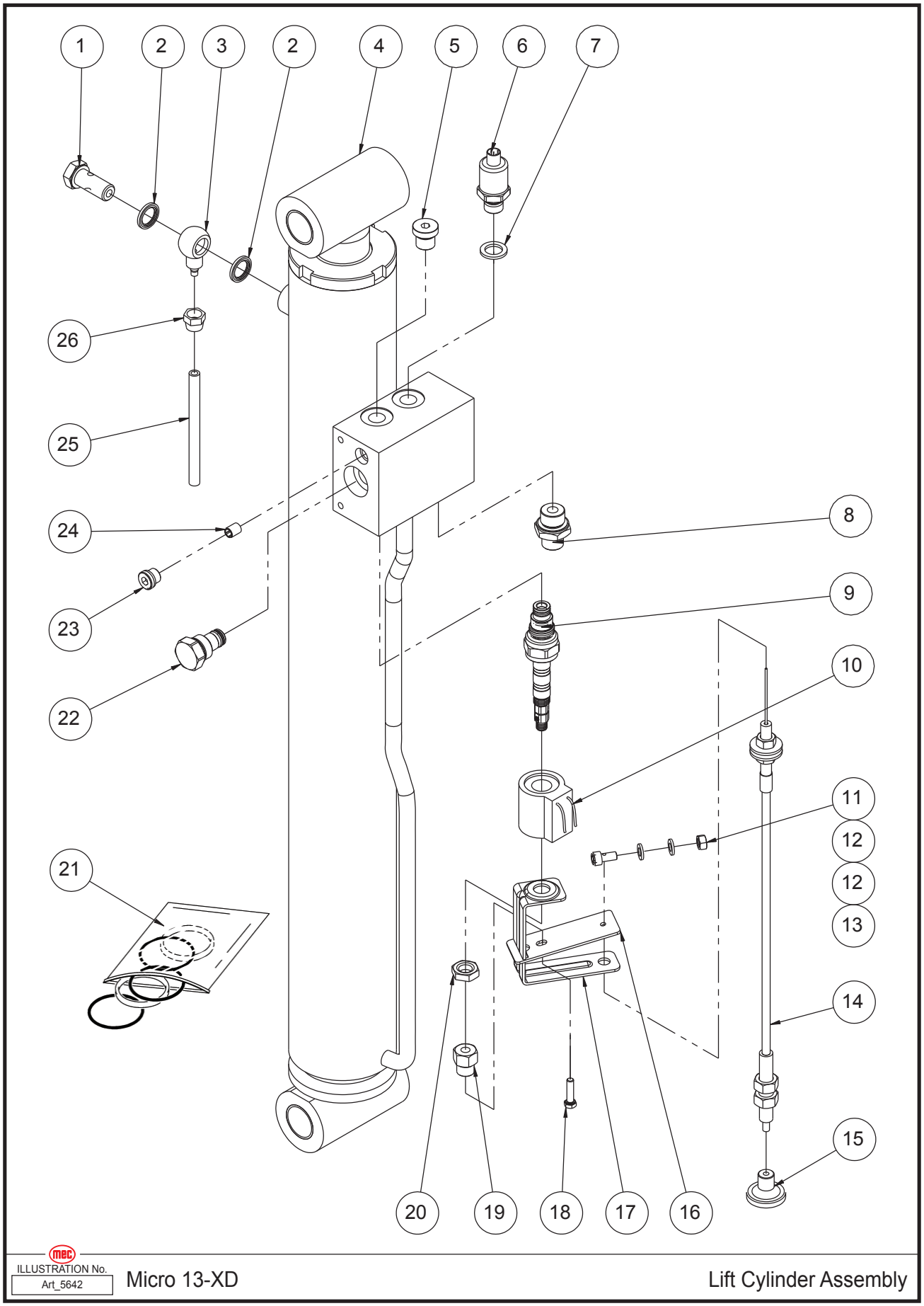


ILLUSTRATION No. Art_5642 Micro 13-XD Lift Cylinder Assembly

Item	Part Number	Description	Qty.
1	41166	Fitting	1
2	43361	Washer	2
3	41167	Fitting	1
4	41290	Lift Cylinder	1
5	42480	Plug	1
6	41288	Pressure Sensor	1
7	44002	Washer	1
8	43638	Straight Fitting	1
9	44003	Solenoid Valve Spool	1
10	41747	Coil	1
11	53361	NHEX M06-1.00	1
12	50000	WSHR M06 Standard Flat	2
13	42466	Screw	1
14	41252	Emergency Down Cable Assembly	1
15	41162	Lowering Knob	1
16	41291	Plate	1
17	41292	Support	1
18	53179	HHCS M05-0.80 × 20	1
19	44004	Cable Connector	1
20	53362	NHEX 1/2-20 UNF	1
21	41295	Seal Kit	1
22	43369	Check Valve	1
23	42821	Plug	1
24	43370	Orifice	1
25	42553	Hose	1
26	41413	Nut	1

Hydraulic Hoses and Fittings

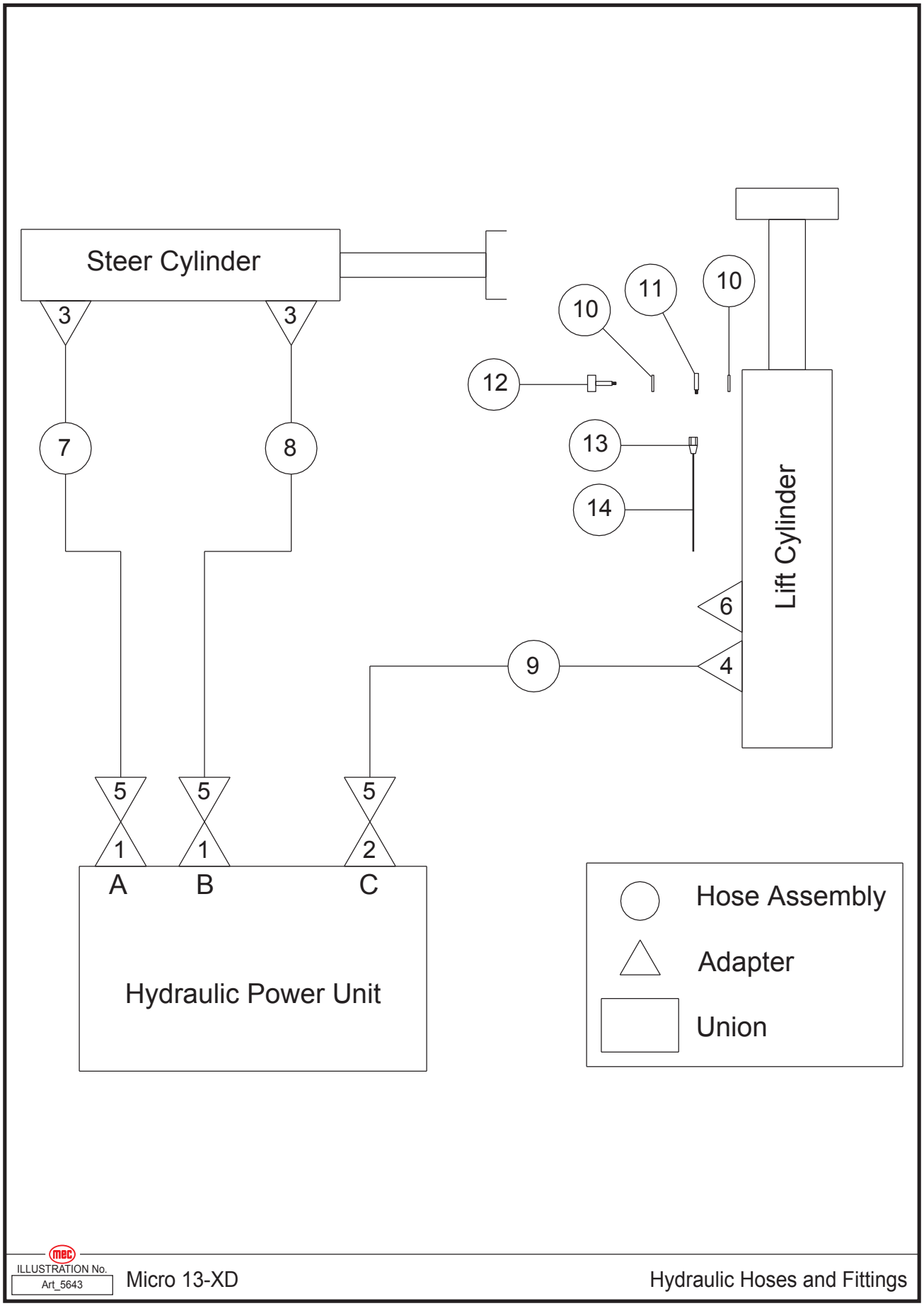
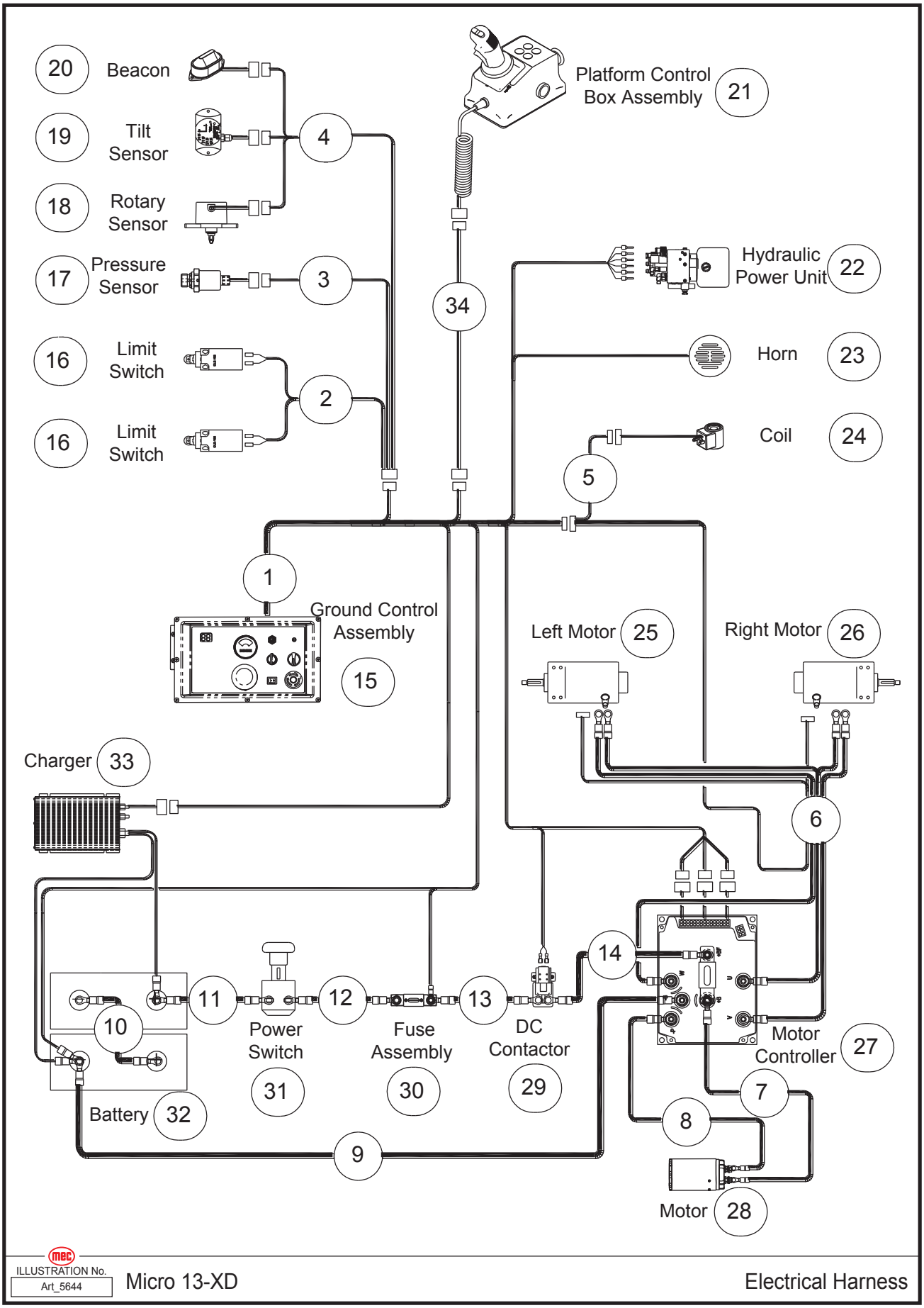


ILLUSTRATION No. Art_5643 Micro 13-XD Hydraulic Hoses and Fittings

Item	Part Number	Description	Qty.
1	41296	Straight Fitting	2
2	41297	Straight Fitting	1
3	41298	Straight Fitting	2
4	43638	Straight Fitting	1
5	43639	Elbow	3
6	42480	Plug	1
7	42477	Hose Assembly	1
8	41366	Hose Assembly	1
9	44030	Hose Assembly	1
10	43361	Washer Seal	2
11	43104	Fitting, Banjo	1
12	42552	Bolt, Banjo	1
13	43103	Nut	2
14	42553	Hose	1

Electrical Harness



Item	Part Number	Description	Qty.
1	42481	ECU Harness	1
2	44035	Limit Switch Harness, Pothole	1
3	44032	Pressure Sensor Harness	1
4	44037	Sensor Harness	1
5	44036	Lowering Valve Harness	1
6	42484	Drive Motor Harness	1
7	41921	Pump Motor Positive Harness	1
8	44055	Pump Motor Negative Harness	1
9	42489	Battery Negative Harness	1
10	41920	Battery Harness	1
11	44056	Battery Positive Harness	1
12	41918	Fuse Harness	1
13	44057	DC Contactor Harness	1
14	41917	Motor Controller Harness	1
15	REF	Ground Control Assembly (Refer To Page 48)	1
16	REF	Limit Switch, Pothole (Refer To Page 50)	2
17	REF	Pressure Sensor (Refer To Page 66)	1
18	REF	Rotary Sensor (Refer To Page 50)	1
19	REF	Tilt Sensor (Refer To Page 50)	1
20	REF	Beacon (Refer To Page 50)	1
21	REF	Platform Control Box Assembly (Refer To Page 60)	1
22	REF	Hydraulic Power Unit (Refer To Page 44)	1
23	REF	Horn (Refer To Page 42)	1
24	REF	Coil (Refer To Page 66)	1
25	REF	Left Motor (Refer To Page 38)	1
26	REF	Right Motor (Refer To Page 38)	1
27	REF	Motor Controller (Refer To Page 46)	1
28	REF	Motor (Refer To Page 44)	1
29	REF	DC Contactor (Refer To Page 46)	1
30	REF	150A Fuse Assembly (Refer To Page 46)	1
31	REF	Power Switch(Refer To Page 48)	1
32	REF	Battery (Refer To Page 42)	2
33	REF	Charger (Refer To Page 42)	1
34	41922	Harness, Platform Control Box	1

REF - Reference

Power to Platform

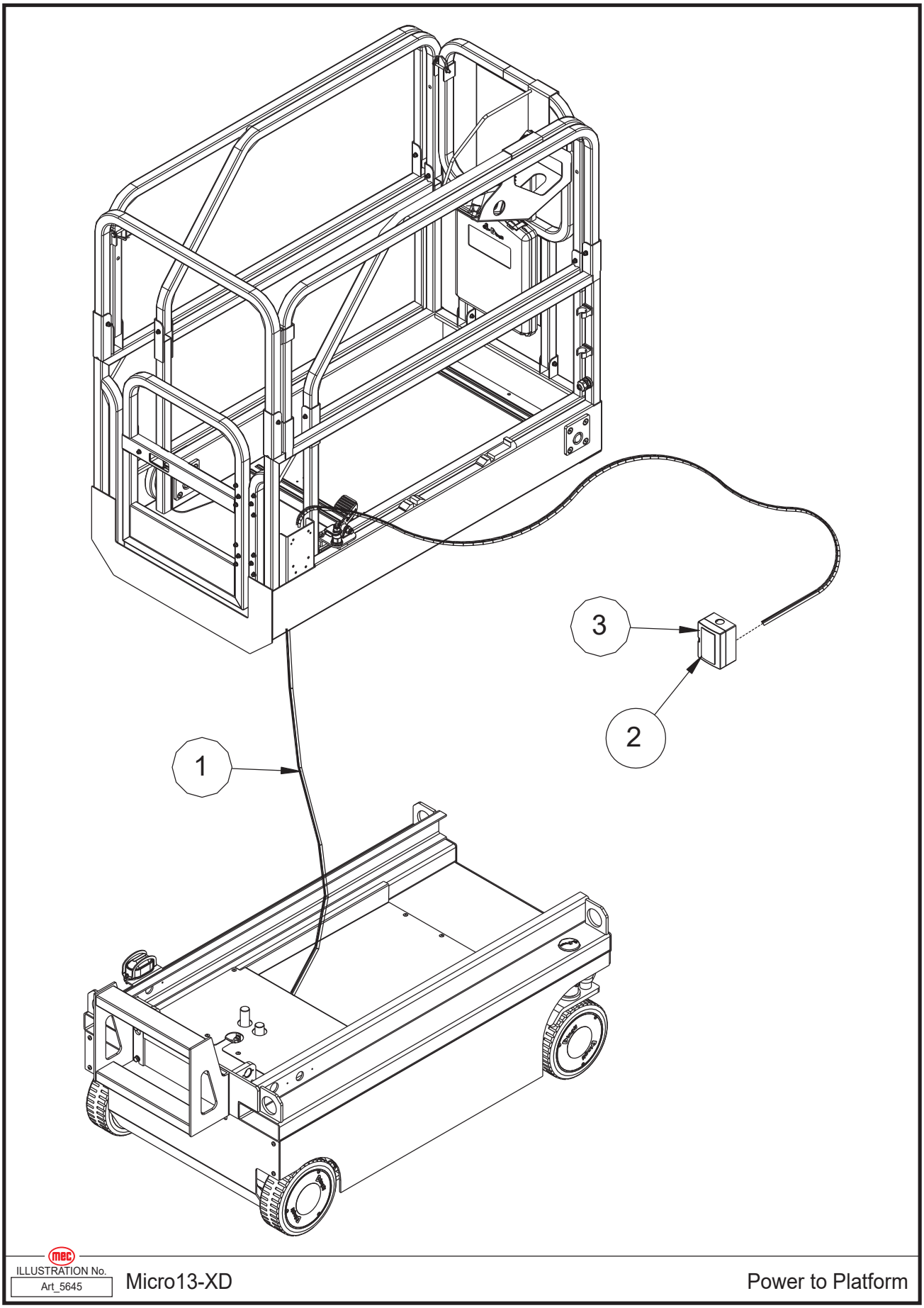


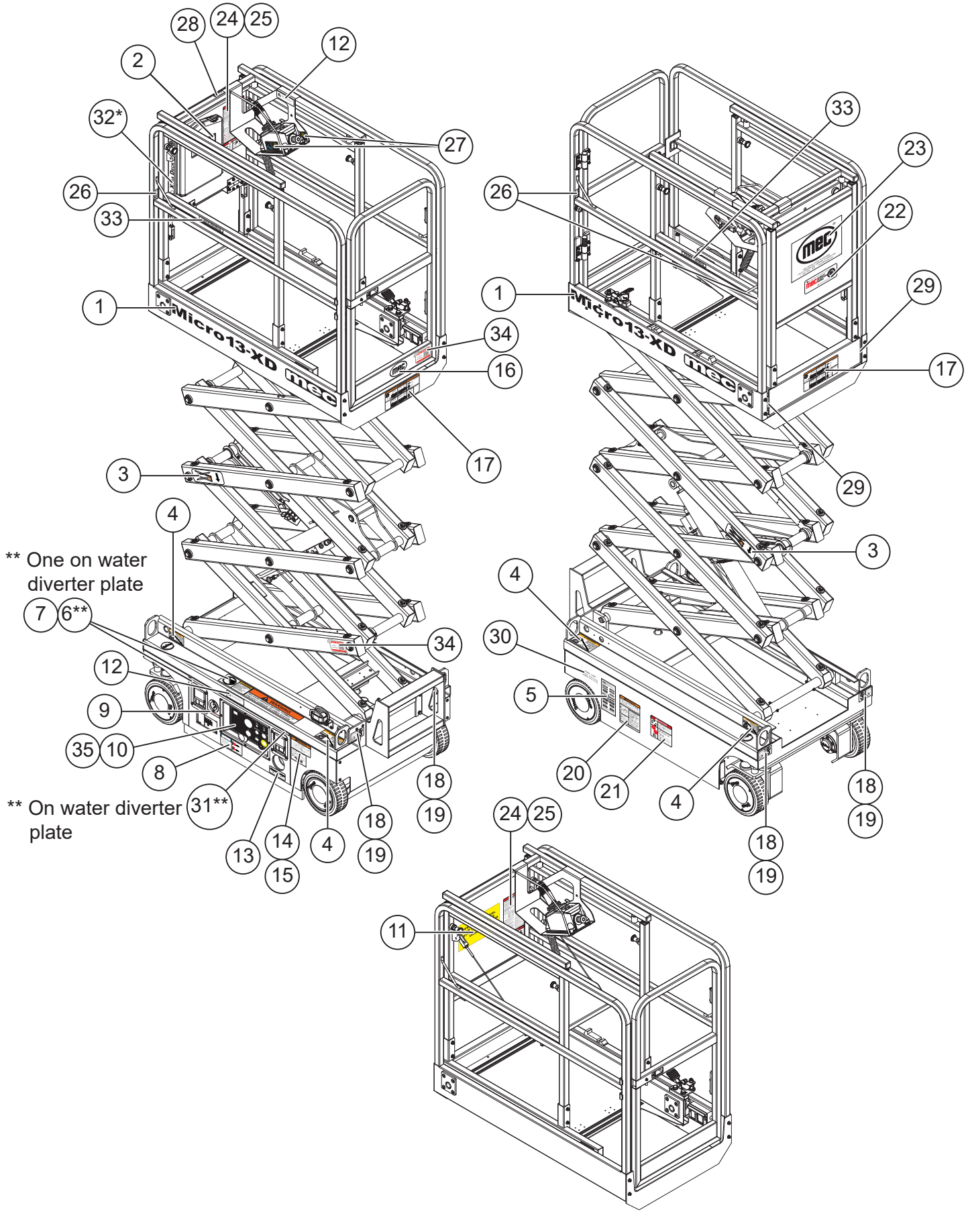
ILLUSTRATION No. Art_5645

Micro13-XD

Power to Platform

Item	Part Number	Description	Qty.
1	44034	Wire Cable, Platform AC Power	1
2	41575	AC Socket	1
3	92007	Outlet, 15A 120V GFCI	1

Decal Locations



** On water diverter plate

1 Micro13-XD mec 95187 Qty. - 2	2 XTRA DECK INSTRUCTIONS • MAXIMUM CAPACITY 250lbs (113Kg) 1 PERSON. • EXTEND TELESCOPIC GUARDRAILS UNTIL THE PINS SNAP INTO HOLES WHEN THE GUARDRAILS REACH THE EXTENDED POSITION. • FOLD DOWN THE XTRA DECK. • LIFT-UP AND ENGAGE THE SWINGING TUBE GUARDRAIL ACROSS THE XTRA DECK GUARDRAIL ENTRANCE. • TO STOW, FIRST FOLD-UP THE XTRA DECK. • PULL THE PLUNGER PINS, THEN LOWER THE GUARDRAILS TO THE STOWED POSITION. 250lbs (113Kg) 1 PERSON 95208 Qty. - 1	3 9313011 41638 Qty. - 2	4 ⚠ WARNING MAXIMUM TIE-DOWN ANGLE 30° 30° 94362 Qty. - 4	5 95215 Qty. - 1
6 ⚠ WARNING DO NOT POWERWASH OR SPRAY ELECTRONIC COMPONENTS OR CONNECTORS. MOISTURE MAY CAUSE DAMAGE AND/OR ERRATIC OPERATION 90732 Qty. - 2	7 ⚠ WARNING RELEASE BRAKES BEFORE TOWING TO PREVENT DAMAGE TO DRIVE SYSTEM 42534 42534 Qty. - 1	8 NOTICE Cut off the power when the machine is repaired or not used for long period. ON OFF 43910 Qty. - 1	9 BATTERY CHARGER AND POWER TO PLATFORM 94659 Qty. - 1	10 43904 Qty. - 1
11 OPERATOR'S MANUAL AND SAFE WORKING INSTRUCTIONS LOCATED UNDER STEP 95389 95389 Qty. - 1	12 Refer the operator to the instructions for use. 9314013 41639 Qty. - 2	13 EMERGENCY LOWER Pull knob to lower platform 9311017 41636 Qty. - 1	14 ⚠ WARNING Tip-over Hazard Do not use batteries that weigh less than the original equipment. Batteries are used as counterweight and are critical to machine stability. Each battery must weigh 53 lbs / 25 kg. The batteries must weigh a minimum of 110 lbs / 50 kg. 41645 Qty. - 1	15 94846 Qty. - 1
16 mec 95301 Qty. - 1	17 ⚠ WARNING ⚠ WARNING 43886 Qty. - 2	18 9311015 41635 Qty. - 4	19 9311013 41634 Qty. - 4	20 ⚠ WARNING 41649 Qty. - 1
21 ⚠ DANGER Explosion/Burn Hazard Read Manuals DO NOT OPERATE equipment if you do not understand the information in the manuals. 41641 Qty. - 1	22 mec DIRECT ELECTRIC DRIVE 94423 Qty. - 1	23 mec MEC AERIAL WORK PLATFORMS 90719 Qty. - 1	24 ⚠ DANGER 43885 Qty. - 2	25 ⚠ DANGER Tip-over Hazard 41647 Qty. - 2
26 Restraint only 1 Occurrence 9414123UM 41648 Qty. - 3	27 DRIVE REVERSE/ LIFT UP DRIVE FORWARD/ LOWER 94120 Qty. - 2	28 Platform controller normal position. 9314015 41640 Qty. - 1	29 91850 Qty. - 2	30 WHEEL LOAD MINIMUM 83 PSI / 572 KPa MAXIMUM 112 PSI / 772 KPa 94571 Qty. - 1
31 43879 Qty. - 1	32 XTRA DECK 95188 Qty. - 2	33 Patent Pending 94865 Qty. - 2	34 MEC - Model Info Text Micro13XD to 1 (844) 483-4669 Manuals Brochures Warranty & More 95251 Qty. - 2	35 OUTDOOR INDOOR 95303 95303 Qty. - 1

Notes

Notes

MEC Parts Order Form

Phone: 559-842-1523
Fax: 559-400-6723
Email: Parts@mecawp.com

Please fill out completely

Date: _____

Account: _____

Bill to: _____

_____

_____

_____

Ordered By: _____

Your Fax No.: _____

Ship to: _____

_____

_____

_____

Purchase Order Number _____
** All orders MUST have a Purchase Order Number

Ship VIA _____
**Fed Ex shipments require Fed Ex account number

Part Number	Description	Quantity	Price

All back-ordered parts will be shipped when available via the same ship method as original order unless noted below:

___ Ship complete order only - No Backorders
___ Ship all available parts and contact customer on disposition of back-ordered parts
___ Other (Please specify)

_____

Limited Owner Warranty

MEC Aerial Platform Sales Corp. warrants its equipment to the original purchaser against defects in material and/or workmanship under normal use and service for one (1) year from date of registered sale or date the unit left the factory if not registered. MEC Aerial Platform Sales Corp. further warrants the structural weldments of the main frame and scissor arms to be free from defects in material or workmanship for five (5) years from date of registered sale or date unit left the factory if not registered. Excluded from such warranty is the battery(s) which carries a ninety (90) day warranty from described purchase date. Warranty claims within such warranty period shall be limited to repair or replacement, MEC Aerial Platform Sales Corp's option, of the defective part in question and labor to perform the necessary repair or replacement based on MEC Aerial Platform Sales Corp's then current flat rate, provided the defective part in question is shipped prepaid to MEC Aerial Platform Sales Corp. and is found upon inspection by MEC Aerial Platform Sales Corp. to be defective in material and/or workmanship. MEC Aerial Platform Sales Corp. shall not be liable for any consequential, incidental or contingent damages whatsoever. Use of other than factory authorized parts; misuse, improper maintenance, or modification of the equipment voids this warranty. The foregoing warranty is exclusive and in lieu of all other warranties, express or implied. All such other warranties, including implied warranties of merchantability and of fitness for a particular purpose, are hereby excluded. No Dealer, Sales Representative, or other person purporting to act on behalf of MEC Aerial Platform Sales Corp. is authorized to alter the terms of this warranty, or in any manner assume on behalf of MEC Aerial Platform Sales Corp. any liability or obligation which exceeds MEC Aerial Platform Sales Corp's obligations under this warranty.

MEC Aerial Work Platforms

1401 S. Madera Avenue, Kerman, CA 93630 USA
Toll Free: 1 - 877 - 632 - 5438
Phone: 1 - 559 - 842 - 1500
Fax: 1 - 559 - 842 - 1520
info@MECawp.com
www.MECawp.com