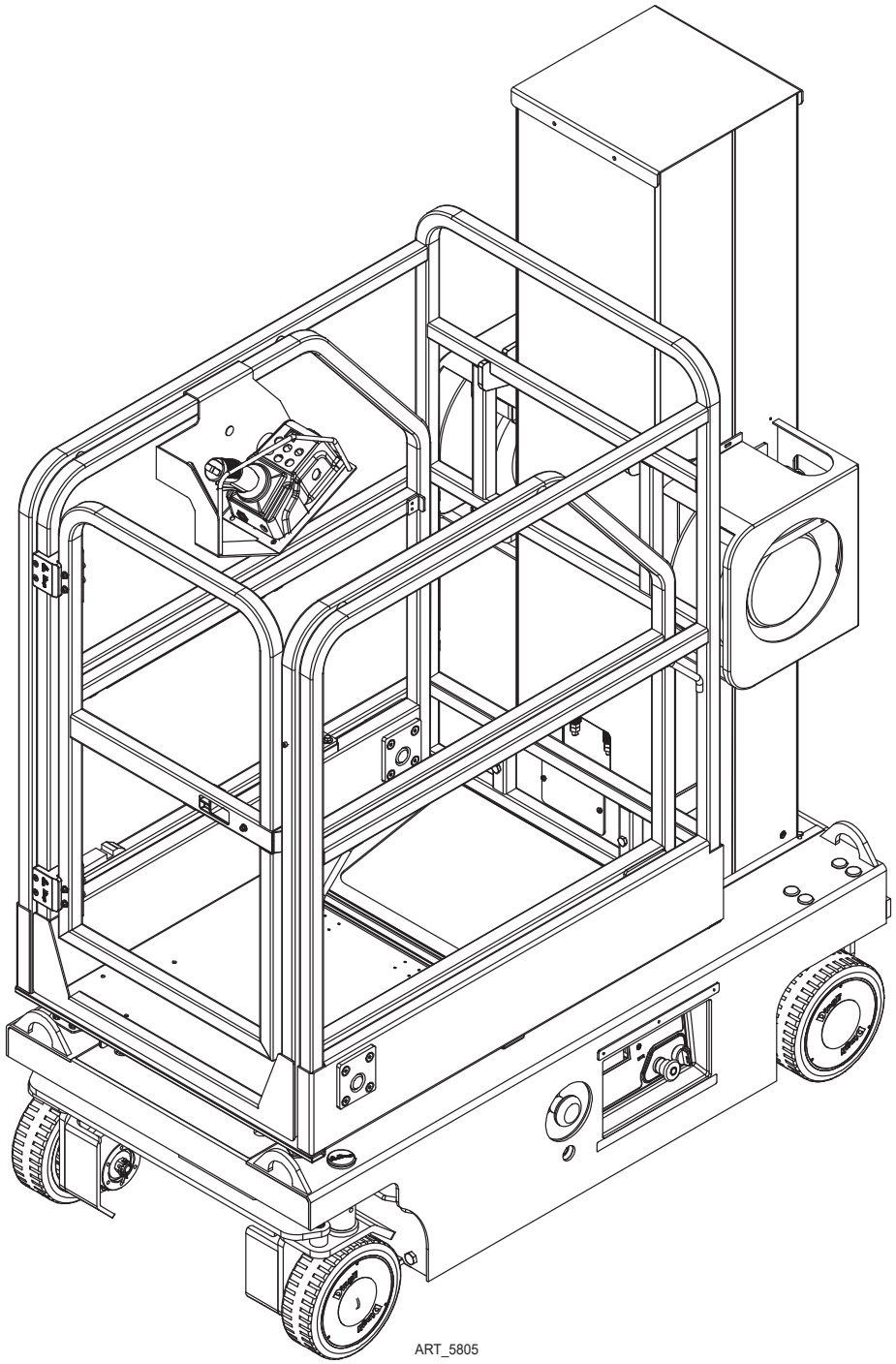
Service & Parts Manual

MMAE16



Meets requirements of ANSI A92.20-2020 and CSA B354.6-2019.

Serial Number Range 17400000 - Up

Part # 95811
June 2025

Revision History

Date	Reason for Update
April 2022	New Release
October 2024	Corrected 44793 to 46315
January 2025	Updated Motor Controllers on page 54
March 2025	Update description for 44653 and 44661 on page 48.
June 2025	Added Calibration Section starting on page 29. Electrical Schematic updated on page 42. Quantity of 44791 increased from 1 to 3 on page 92. Quantity of 42074 increased from 1 to 3 on page 92.

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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.

RED and the word DANGER – Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

ORANGE and the word WARNING – Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

YELLOW with alert symbol and the word CAUTION – Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

YELLOW without alert symbol and the word CAUTION – Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

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.

- 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.

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.

Specifications

Height, Working Maximum[1]	Indoor	22ft	6.7m
	Outdoor	18ft	5.5m
Height, Platform Maximum	Indoor	16ft	4.9m
	Outdoor	12ft	3.7m
Height	Stowed Maximum	78.3in	2m
	Guard Rails	43.3in	1.1m
Maximum Personnel	Indoor	1 Person	
	Outdoor	1 Person	
Manual Force	Indoor	45lbs	200N
	Outdoor	45lbs	200N
Width		30in	0.76m
Length, Stowed		57in	1.45m
Platform Dimensions (Length × Width)		40 × 30in	1.02 × 0.76m
Platform Extension Length		20in	0.5m
Maximum Load Capacity		500lbs	227kg
Platform Extension Load Capacity		250lbs	113kg
Maximum Wind Speed		28mph	12.5 m/s (45 km/h)
Wheelbase		47.6in	1.21m
Turning Radius	Outside	70.8in	1.8m
	Inside	23.6in	0.6m
Pothole Ground Clearance	Pothole Retracted	2.5in	6.4cm
	Pothole Deployed	0.55in	1.4cm
Weight[2]		2,170lbs	985kg
Maximum Wheel Load		800lbs	363kg
Controls		Proportional	
AC Outlet In Platform		Standard	
Power Source		2×12V 115Ah AGM	
System Voltage		24 V	
Tire Size		9×3.1in	230×80mm
Maximum Slope Rating, Stowed Position[3]		25%	
Maximum Side Slope Rating, Stowed Position[3]		10%	
Warning Slope		X-1.5°, Y-3°	
Drive Speeds			
Stowed, Maximum		2.5mph	4.0km/h
Platform Raised, Maximum		0.5mph	0.8km/h
Floor Loading Information			
Tire Load, Maximum		800lbs	363kg
Tire Contact Pressure	Loaded	148psi	10.4kg/cm^2 (1,020kPa)
	Unloaded	120psi	8.5kg/cm^2 (834kPa)
Occupied Floor Pressure[4]		225psf	0.11kg/cm^2 (10.8kPa)

Meets requirements of ANSI A92.20-2020 and CSA B354.6-2019.
[1] Working Height adds 6 feet (2 meters) to platform height.
[2] Weight may increase with certain options.
[3] Slope rating is subject to ground conditions and adequate traction.
[4] Occupied floor pressure with deck extended is 168 psf - 0.08kg/m^2 (8 kPa).

Machine Systems

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

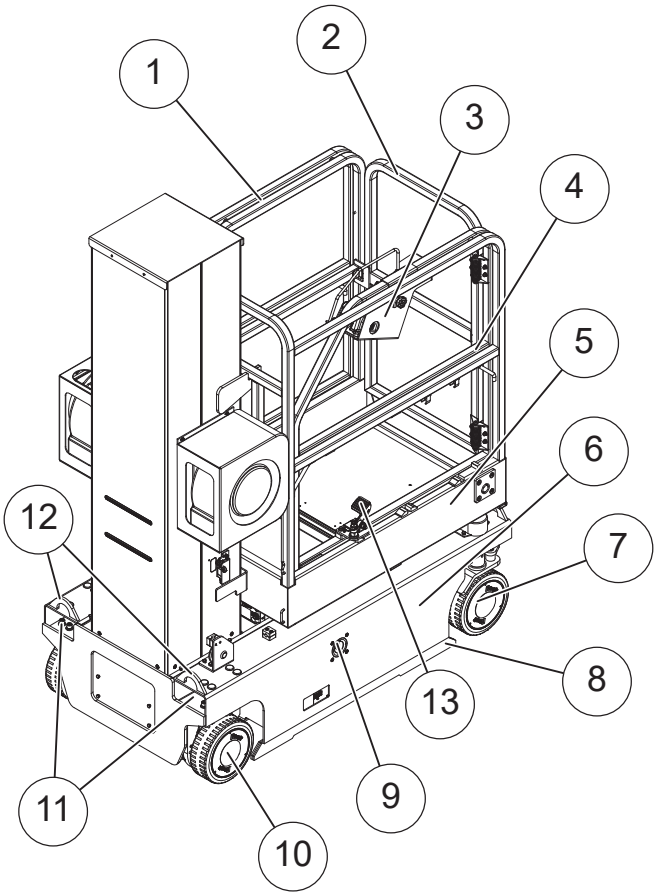
WARNING

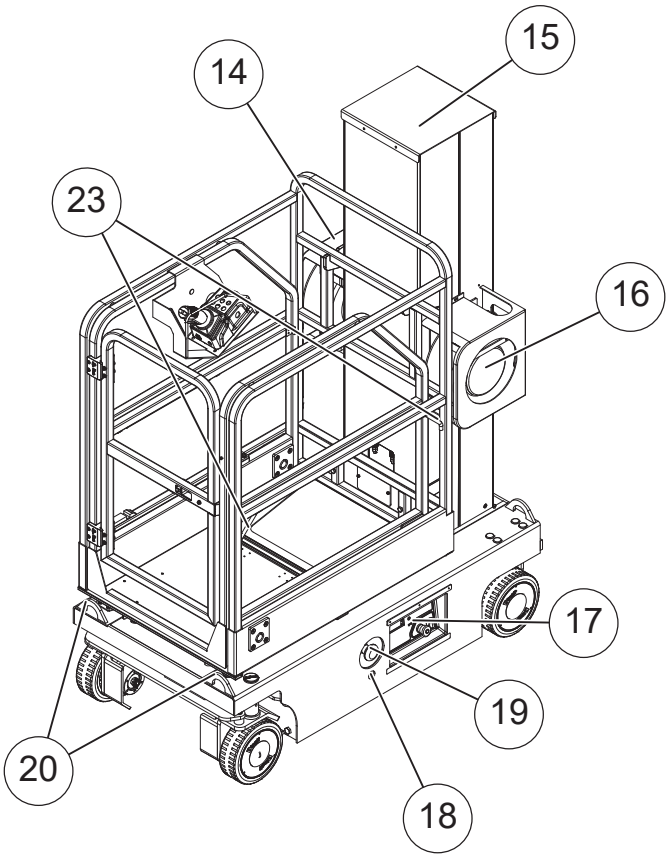
FAILURE TO PERFORM PREVENTIVE MAINTENANCE AT RECOMMENDED INTERVALS MAY RESULT IN THE UNIT BEING OPERATED WITH A DEFECT THAT COULD RESULT IN INJURY OR DEATH OF THE OPERATOR.

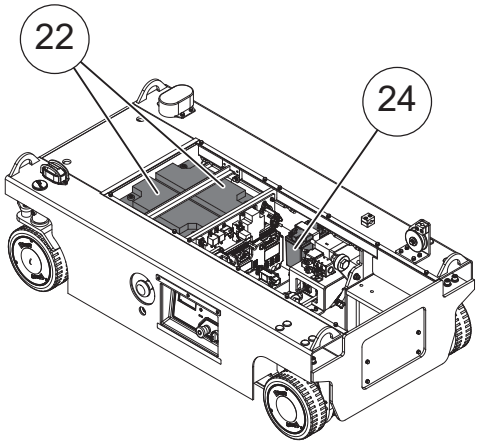
IMMEDIATELY REPORT TO YOUR SUPERVISOR ANY DEFECT OR MALFUNCTION. ANY DEFECT SHALL BE REPAIRED PRIOR TO CONTINUED USE OF THE AERIAL WORK PLATFORM.

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

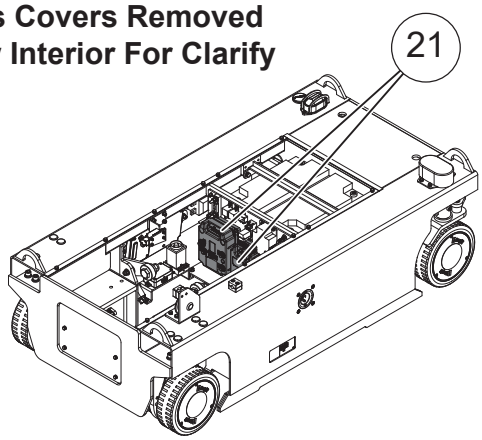
Machine Components







Chassis Covers Removed To Show Interior For Clarify



1) Platform Guard Rails
2) Platform Entry Gate
3) Platform Controller
4) Platform Extension
5) Main Platform
6) Chassis
7) Front Wheel
8) Pothole Protection Device
9) Batteries Charger
10) Rear Wheel
11) Forklift Pockets
12) Lifting Points
13) Platform Extension Release Pedal
14) Comms Cable
15) Mast Assembly
16) Power To Platform Cable
17) Ground Control Panel
18) Emergency Lowering Button
19) Main Power Switch
20) Lifting Points
21) Motor Controllers
22) Batteries
23) Lanyard Anchorage
24) Emergency Down Battery *(If Equipped)*

ILLUSTRATION No.
ART_5805

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

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.

ART_3353

Emergency Lowering

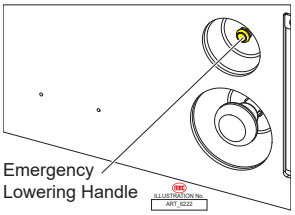
WARNING

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.

Emergency Lowering

Push the emergency lowering button located on the ground controls side of the machine next to the Main Power Switch. It has a yellow decal border.



Transport and Lifting Instructions

Safety Information

This section is provided for reference and does not supersede any government or company policy regarding the loading, transport or lifting of MEC machinery.

WARNING

Truck drivers are responsible for loading and securing machines, and should be properly trained and authorized to operate MEC machinery. Drivers are also responsible for selecting the correct and appropriate trailer according to government regulations and company policy. Drivers must ensure that the vehicle and chains are strong enough to hold the weight of the machine (see the serial number plate for machine weight).

While loading and unloading, the transport vehicle must be parked on a level surface and secured to prevent rolling.

Loading: 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 2.5mph (4km/h). Before towing or winching the machine, it is necessary to release the brakes. Reset the brakes after towing or winching.

Brake Release Operation

1. Chock the wheels to prevent the machine from rolling.
2. Pull out the platform and emergency red Emergency Stop button to the On position (pulled out)
3. Turn the key switch to the “ground” position while pressing and holding down the “Menu Enter Button” button on the ECU panel to enter the password input screen .
4. Press the “Menu Enter Button” 4 times to enter the Menu screen .
5. Press either the “Menu Up Button” or “Menu Down Button” button to switch to the Special mode (“ 4. Special Mode “)
6. Press the “Menu Enter Button” button to display the Special mode. Press either the “Menu Up Button” or “Menu Down Button” button to switch to the manual push menu (“ 1. Brake Release “)
7. Press “Menu Enter Button” button to display “long press to confirm release of brake”. Press and hold down the “Menu Enter Button” button to show “Brake Released!” The horn will sound signaling that all brakes have been released.
8. To reset the brakes, push in the emergency stop switch.

Driving or Winching onto or off of a Transport Vehicle

WARNING

Always attach the machine to a winch when loading or unloading from a truck or trailer by driving.

Read and understand all safety, control, and operating information found on the machine and in this manual before operating the machine.

Before loading or unloading the machine, check that:
- The controls and component trays are secure.
- The platform is fully lowered.
- All loose items have been removed.

Before driving or winching the machine:
- Attach the machine to a winch.
- Remove all machine tie downs. Remove wheel chocks.

Driving
- Turn the Base Key Switch to Platform. Check that the Emergency Stop button is reset by pulling the button out to the On position (pulled out).
- Enter the platform and reset the Platform Emergency Stop Switch.
- Test platform control functions.
- Select slow drive speed mode. Carefully drive the machine off the transport vehicle with the winch attached.

Note: The brakes are automatically released for driving and will automatically apply when the machine stops.

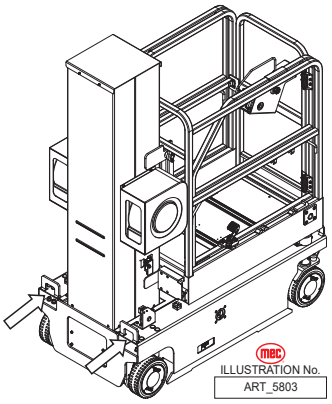
Winching
- Disengage brakes (see Free-wheel configuration for Winching or Towing on page 10).
- Carefully operate the winch to lower the machine down the ramp.
- Chock the wheels and engage the brakes.

CAUTION

Lifting the machine from the side may result in component damage.

Lifting the machine with a Forklift

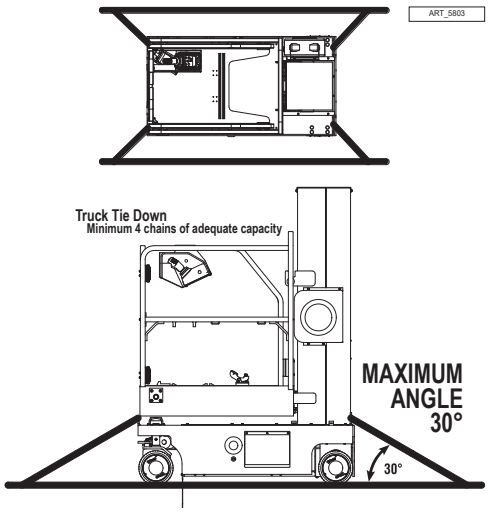
- Position the forklift forks in line with the forklift pockets.
- Drive forward to the full extent of the forks.
- Raise the machine 6 inches (15 centimeters) and then tilt the forks back slightly to keep the machine secure.
- Be sure the machine is level when lowering the forks.



CAUTION

Ensure that angle of each hold-down chain or strap does not exceed 30° relative to the trailer deck.

Securing to truck or trailer for Transport



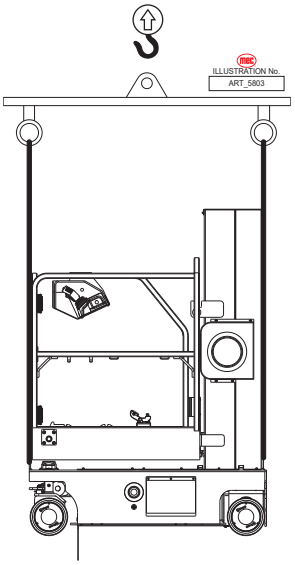
- Turn the Key Switch to off and remove the key before transport.
- Inspect the entire machine for loose or unsecured items.
- Chock the wheels
- Use the tie-down points on the chassis for anchoring down to the transport surface.
- Use chains or straps of ample load capacity.
- Use a minimum of four (4) chains or straps.
- Adjust the rigging to prevent damage to the chains and the machine.

Lifting Instructions

Only qualified riggers should rig and lift the machine.

WARNING

Ensure that the crane, loading surfaces, spreader bars, cables, chains and straps are of sufficient capacity to withstand the machine weight. See the serial plate for the machine weight.

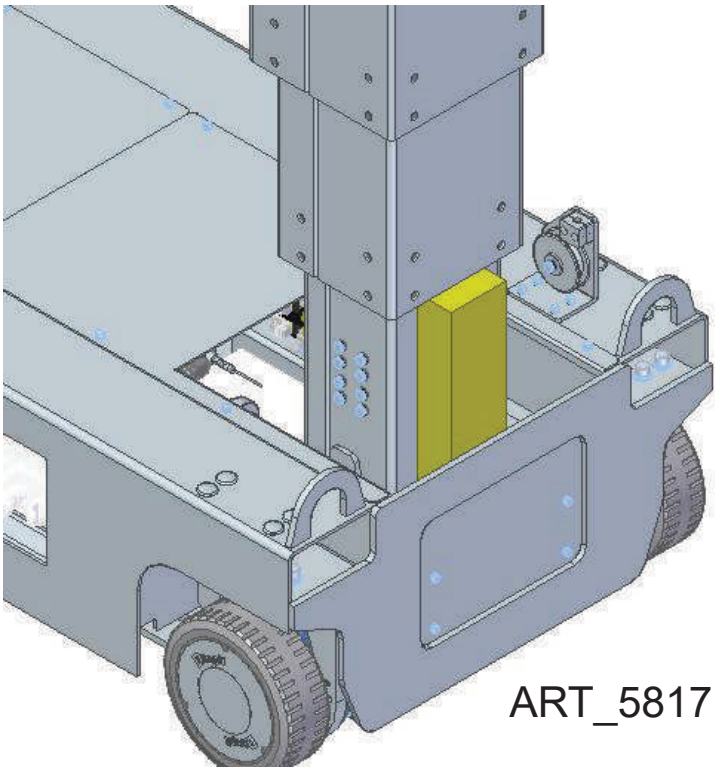


- Fully lower the platform. Be sure the deck extension is retracted and the controls and component trays are closed and secure. Remove all loose items from the machine.
- Determine the center of gravity of the machine.
- Attach rigging to the designated lift points only.
- Adjust the rigging to prevent damage to the machine and to keep the machine level.

Maintenance Safety

WARNING **Make sure that a chock is used during when working under an elevated platform.**

NEVER perform work on the machine with the platform elevated without first using a 2×4 inch (35×90 millimeter) piece of wood to support the mast section as is shown below. Alternatively the platform can be supported with either a forklift or a crane.



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Pre-Start Inspection Checklist

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

DO NOT use a damaged or malfunctioning machine.

	Be sure that the operator's manual is complete and legible.
	Be sure that all decals are legible and in place. See Decals section.
	Check for battery fluid leaks. (Sealed AGM-type batteries don't require maintenance.)

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

	Electrical components, wiring and electrical cables
	Battery and connections
	Drive motors
	Wear pads
	Wheels
	Mast chains and idler wheels
	Mast and mast braces
	Limit switches, alarms and horn
	Nuts, bolts and other fasteners
	Platform entry gate
	Alarms and beacons (if equipped)
	Platform Control Panel
	Pothole guard

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

WARNING

NEVER perform work on the machine with the platform elevated without first using a 2×4 inch (35×90 millimeter) piece of wood to support the mast section as the image on page 13 shows. Alternatively the platform can be supported with either a forklift or a crane.

Maintenance Inspection Report

MMAE Series (All Electric Mast Lifts)

Fleet Equipment Number _____ Date _____

Inspector Name _____ Inspector Co. _____

Model Number _____ Address _____

Serial Number _____

Hour Meter _____ Signature _____

Machine Owner & address _____

Maintain all service records in accordance with ANSI A92.24-2019

* If an inspection receives an “N”, remove from service. Once repaired, place an “R” in the box.
* Refer to the proper service manual for specific information, settings and torque specifications.

Key **Y** = Yes, Acceptable **N** = No, Remove from Service **R** = Repaired **0** = Not Applicable

☐ **QUARTERLY** - Inspect only those marked “Q” ☐ **ANNUAL** - Inspect all items

	Q/A	Y/N/O	R
DECALS:			
Legible - undamaged/readable	Q		
Capacity decal correct for model	Q		
RAILS:			
Not damaged, all in place	Q		
All rail fasteners secure	Q		
Entry gate secure, closes properly	Q		
Manual box in good condition	Q		
Operators Manual in manual box	Q		
PLATFORM EXTENSION:			
Rolls in and out freely	Q		
Lock holds deck in place	Q		
Release Pin moves freely, retains platform	Q		
ELEVATING ASSEMBLY:			
Mast Slide Blocks, lubed	Q		
Mast structures: Straight, no cracks	Q		
Welds: secure, no cracks	Q		
Cables tensioned correctly	Q		
Chains secure, not stretched	A		
Lift Actuator no visible damage	A		
ELECTRICAL:			
GFCI operates correctly	Q		
Wire harnesses good cond, secure	A		
Comm cable no damage, secure	A		
Retractile Cord Reel operational	Q		
Emergency stop, stops power/operation	Q		

	Q/A	Y/N/O	R
WHEELS:			
Tire, damage, excessive wear	Q		
Lug nuts (Wheel mounting) torqued correctly	Q		
King Pins lubed	A		
COMPONENT AREA (Under Cover):			
Motor Controller - cables tight, no corrosion	Q		
Wires not damaged - Plugs tight	Q		
Limit Switches - adjustment, operation, lubed	Q		
Cleanliness - All debris, excessive dirt removed	Q		
Batteries properly filled and cables clean	Q		
Battery switch cuts battery feed	Q		
Cover Doors secure, locks operate correctly	Q		
Fasteners present and tight	Q		
BASE			
Fasteners present and tight	Q		
Cover panels secure	Q		
Welds	A		
OPERATIONAL INSPECTION:			
All functions, operate smooth and quiet	Q		
All functions, speeds correct	Q		
Upper control box, operates correctly	Q		
Emergency Down, operates correctly	Q		
Limit switches slows drive when elevated	Q		
Indoor/outdoor limit switch set test	Q		
Pothole switch test	Q		
Battery Charger operation	Q		

Daily Maintenance

The following maintenance should be done daily.

1) Inspect the Manuals and Decals

Keeping the operator's manual in good condition is essential to safe machine operation. A operator's manual is included with each machine. An illegible or missing manual will not provide safety and operational information necessary for a safe operating condition.

In addition, maintaining all of the safety and instructional decals in good condition is mandatory for safe machine operation. Decals alert operators and personnel to the many possible hazards associated with using this machine. They also provide users with operation and maintenance information. An illegible decal will fail to alert personnel of a procedure or hazard and could result in unsafe operating conditions.

1. Check to make sure that the operator's manual is present and complete in the storage container on the platform.
2. Examine the pages of the manual to be sure that they are legible and in good condition.
   - **Result:** The operator's manual is appropriate for the machine and the manual is legible and in good condition.
   - **Result:** The operator's manual is not appropriate for the machine or the manual is not in good condition or is illegible. Remove the machine from service until the manual is replaced.
3. Open the operator's manual to the decals inspection section. Carefully and thoroughly inspect all decals on the machine for legibility and damage.
   - **Result:** The machine is equipped with all required decals, and all decals are legible and in good condition.
   - **Result:** The machine is not equipped with all required decals, or one or more decals are illegible or in poor condition. Remove the machine from service until the decals are replaced.
4. Always return the manual to the storage container after use.

2) Perform Pre-operation Inspection

Completing a Pre-operation Inspection is essential to safe machine operation. The Pre-operation Inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests. The Pre-operation Inspection also serves to determine if routine maintenance procedures are required.

Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual for your machine.

3) Perform Function Tests

Completing the function tests is essential to safe machine operation. Function tests are designed to discover any malfunctions before the machine is put into service. A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service.

Complete information to perform this procedure is available in the appropriate operator's manual.

Refer to the Operator's Manual for your machine.

4) Perform 30 Day Service

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.

The 30 day maintenance procedure is a one time procedure to be performed after the first 30 days or 40 hours of usage. After this interval, refer to the rest of the maintenance section for continued scheduled maintenance.

1. Perform the following Quarterly Maintenance procedures:
   - Inspect the Tires, Wheels and Castle Nut Torque (See page 19).

Quarterly Maintenance

The following maintenance should be done every 3 months or 250 hours of operation, which ever comes first.

1) Inspect the Batteries

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.

Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels 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. Raise the platform to approximately 6.5 feet (2 meters).
3. Remove the cover on the top of batteries.
4. 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.

5. Be sure that the battery retainers and cable connections are tight.
6. 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 of adequate size with a length no longer than 49.2 feet (15 meters).

7. The following must be measured and recorded once the battery has been fully charged, after a waiting time of at least 12 hours:
   - Total voltage
   - Individual voltage of the block battery
8. Install the cover back.

If significant changes to previous measurements or differences between the block batteries are

identified, then customer service must be contacted for further testing or repairs.

2) Inspect the Electrical Wiring

- Tools will be required to perform this procedure.

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.**

1. Inspect the following areas for burnt, chafed, corroded and loose wires:
   - Turning electric cylinder
   - Platform controls
2. Raise the platform to approximately 6.5 feet (2 meters).
3. Remove the chassis covers.
4. Inspect the following areas for burnt, chafed, corroded and loose wires:
   - Ground controls
   - In the center chassis area
   - Raising electric cylinder
   - Driving motor
5. Install the covers back.
6. Raise and then lower the platform. Inspect the following areas for burnt, chafed, corroded and loose wires:
   - Auto hose reel
7. Inspect the following areas for burnt, chafed, corroded and loose wires:
   - Auto hose reel to platform wiring
   - Platform wiring harness connector
8. Turn off the machine.

3) Inspect the Tires and Wheels (Including Castle Nut Torque)

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.

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. Check each nut for proper torque.
   - Nut Torque, Dry: 39.8 ft-lbs (54 Nm)
   - Nut Torque, Lubricated: 28.8 ft-lbs (39 Nm)

4) Test the Emergency Stop

A properly functioning Emergency Stop 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 the ground controls will override the platform controls, except the platform red Emergency Stop button.

1. Turn the key switch to ground control. Pull out both red Emergency Stop button to the On position (pulled out).
2. Push in the red Emergency Stop button at the ground controls to the Off position (pushed in).
   - **Result:** No machine functions should operate.
3. Turn the key switch to platform control. Pull out both red Emergency Stop button to the On position (pulled out).
4. Push down the red Emergency Stop button at the platform controls to the Off position (pushed in).
   - **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.

5) Clean and Lubricate the Columns

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.
- Dealer service will be required to perform this procedure.
- Use calcium-sulfonate grease like CRC SL 35615 or equivalent.

Clean and properly lubricated columns are essential to good machine performance and safe operation. Extremely dirty conditions may require that the columns be cleaned and lubricated more often.

1. Raise the platform to the maximum height.
2. Remove the mast cover.
3. Visually inspect the inner and outer channels of the columns for debris or foreign material. If necessary, use a mild cleaning solvent to clean the columns.
4. The bearing between chain wheel with the shaft is lubricated with the calcium-sulfonate base grease while raising.
5. Lubricate the place between chain wheel with a grease gun.
6. Lubricate the lead rail with the calcium-sulfonate base grease while raising.

WARNING

This procedure will require the use of additional access equipment. Do not place ladders or scaffold on or against any part of the machine. Performing this procedure without the proper skills and tools may result in death or serious injury. Dealer service is strongly recommended.

6) Test the 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.

1. Pull out both red Emergency Stop button to the On position (pulled out).
2. Turn the key switch to platform control.
3. Check the machine functions 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 (pushed in).
7. Test the machine functions from the ground and platform controls.
   - **Result:** No function should operate.

7) Test the 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. Pull out both red Emergency Stop button to the On position (pulled out).
2. Push down the horn button at the platform controls.
   - **Result:** The horn should sound.

8) Test the Drive Brakes

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.

Proper brake action is essential to safe machine operation. The drive brake function should operate smoothly, free of hesitation, jerking and unusual noise. 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. Pull out both red Emergency Stop button to the On position (pulled out).
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 test line.
6. 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.

7. 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.

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

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

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

9) Test the Drive Speed - Stowed Position

- Tools will be required to perform this procedure.

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 feet (12.2 meters) apart.
2. Turn the key switch to platform control. Pull out both red Emergency Stop button to the On position (pulled out).
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. Refer to specifications.

10) Test the Drive Speed - Raised Position

- Tools will be required to perform this procedure.

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 feet (12.2 meters) apart.
2. Turn the key switch to platform control. Pull out both red Emergency Stop button to the On position (pulled out).
3. Press the lift function select button.
4. Press and hold the function enable switch on the joystick.
5. Raise the platform approximately 6.5 feet (2 meters) 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. Refer to specifications.

11) Test the Slow Drive Speed

- Tools will be required to perform this procedure.

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 feet (12.2 meters) apart.
2. Turn the key switch to platform control. Pull out both red Emergency Stop buttons to the On position (pulled out).
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 is less than 88 sec.

12) Test the pothole limit switches and the level Sensor

- Tools will be required to perform this procedure.

Maintaining the limit switches is essential to safe operation and good machine performance. Operating the machine with a faulty limit switch could result in reduced machine performance and a potentially unsafe operating condition.

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

Level sensor

1. Remove the platform controls from the platform.
2. Turn the key switch to platform control. Pull out both red Emergency Stop buttons to the On position (pulled out).
3. Press the drive function select button
4. Move the machine onto a grade which exceeds the rating of the level sensor. Refer to the serial label on the machine.
5. Press the lift function select button. Standing on the up-hill side of the machine, attempt to raise the platform to approximately 2.1 feet (0.65 meters).
   - **Result:** The LED readout screen shows code LL, an alarm sounds, and the machine stops lifting after the pothole guards are deployed. The machine is functioning properly.

- **Result:** The LED readout screen does not show code LL, the alarm does not sound and the machine will continue to lift the platform after the pothole guards are deployed. Adjust or replace the level sensor.

6. Press the drive function select button. Standing on the up-hill side of the machine, attempt to steer and drive the machine.
   - **Result:** The LED readout screen shows code LL, an alarm sounds, and the machine will not steer or drive. The machine is functioning properly.
   - **Result:** The LED readout screen does not show code LL, the alarm does not sound and the steer and drive functions operate. Adjust or replace the level sensor.

Pothole Limit Switches

1. Lower the platform to the stowed position. Move the machine onto a firm, level surface.
2. Place a wooden block approximately 1.9 inches (5 centimeters) tall under the right pothole guard.
3. Press the lift function select button. Attempt to raise the platform approximately 2.1 feet (0.65 meters).
   - **Result:** The pothole guard contacts the block and does not fully deploy, the LED readout screen shows code 18, an alarm sounds and the platform will lift to 2.1 feet (0.65 meters) or beyond. The machine is functioning properly.
   - **Result:** The pothole guard contacts the block and does not fully deploy, the LED readout screen does not show code 18, the alarm does not sound and the machine will continue to lift the platform after the pothole guards are deployed. Adjust or replace the pothole limit switch.
4. Press the drive function select button. Attempt to steer or drive the machine.
   - **Result:** The LED readout screen shows code 18, an alarm sounds, and the machine will not steer or drive. The machine is functioning properly.
   - **Result:** The LED readout screen does not show code 18, the alarm does not sound and the steer and drive functions operate. Adjust or replace the down limit switch.
11. Lower the platform to the stowed position and remove the block under the right pothole guard.
12. Repeat this procedure beginning with step 8 for the left pothole guard.
13. Lower the platform to the stowed position, remove the block under the left pothole guard.
14. Turn off the machine.

13) Tension the Lifting Chains

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.
- Dealer service will be required to perform this procedure.

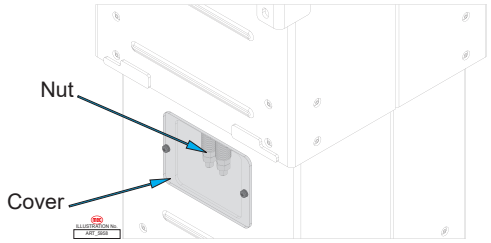
Tension chains are essential to good machine performance and safe operation.

The direct result of wearing the transmission chain is to stretch the total length of the chain. Measure the stretching rate of the used transmission chain by eye every three months. The mast connected to the elongated chain would be lower in position so that the top of each mast is obviously uneven in ‘stored’ position. It may lead to damage on guide roller if the problem is serious.

WARNING **When slack chain or broken chain, please stop using the Mobile Elevating Work Platform (MEWP) and contact MEC immediately!**

NOTICE **Every link of the transmission chain is associated with three links of the masts.**

1. When regulating the length of the chain, please raise the platform to completely reveal the window, and then remove the transparent cover. Regulating the nut tightly makes the last link of the mast move upwards. The dual nuts should be connected with each other tightly after regulating the length of the chain.



2. The same link of the mast is pulled by two chains and endures the raised weight loads at the same time. If one of the chains loses efficacy, the other will play an important safety role; therefore, try to make both chains as loose or tight as consistent each other when regulating the length of the chain. The methods of judge at site are as follows: Press the two chains by hands to compare their tautness under lifting status.

WARNING **Make sure the chock is in place during maintenance. Refer to page 13.**

WARNING **For routine servicing purposes, a captive chock shall be used to enable the extending structure to be held in the required position to prevent work platform.**

14) Inspection of the condition of the chains

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.
- Dealer service will be required to perform this procedure.

You will need:

- Standard tool kit
- Protective goggles
- Gloves
- Place barriers around the perimeter of the work area

Preliminary operation

The disassembly should only be carried out when the chains are completely disconnected and must be done by people who have the necessary training.

All the precautions must be done before working on and near the machine. After completion of work, all the covers and safety devices must be positioned back completely and operational.

Lubrication

Lubricant must be applied with a brush to the external chains at least every 250 hours or every 6 months. The frequency of application depends on surrounding conditions and conditions of use. The

frequency of application must ensure that a sufficient quantity of fluid oil is present in the chain links.

If the chain has been exposed to corrosive fluids, clean the chain immediately and apply lubricant.

Note: Telescoping operations may be necessary to access elements.

Before applying new lubricant, remove any foreign particles from the chain. When cleaning chains, follow regulations concerning the environment.

Check the condition of the chains

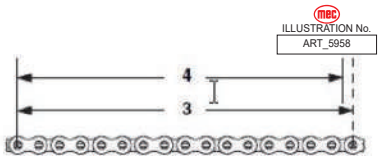
To carry out the following operations, perform a complete telescoping.

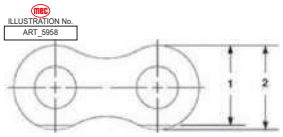
- Check that the lifting chains and safety chains are clean.
- Check that there are no foreign particles on the chains and guide.
- Check that there are no signs of corrosion on chain elements.

Chains with any of the defects described below must be replaced.

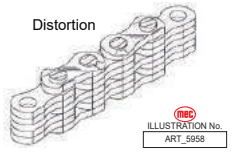
- Check for elongation wear:
- Elongation of up to 2%, over 12 segments, of the original chain length is permitted.
- Measure the value of (3) using an appropriate method. Compare with the value of 4 indicated in the table below.

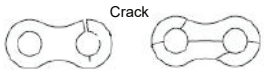
Link width (2)	Length of 12 links (4)
0.47 inches 12.08 millimeters	6.0 inches 152.40 millimeters

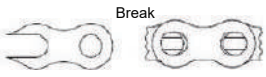


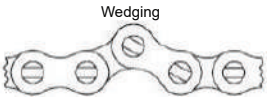


- Check for external wear on rollers and links
- External wear must not measure more than 2% from the section of the original link (2), see table above.
- Measure the value of (1) using an appropriate method.
- Check that no line or element is damaged or missing.
- Check that links are not distorted, deformed or broken.

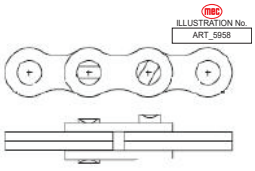








- Check the connection points of links (the lines must be parallel).



Replacing the chains

The chains must be changed every 7 years.

Semi-annual Maintenance

The following maintenance should be done every 6 months or 500 hours of operation, which ever comes first.

1) Test the Platform Overload System

Testing the platform overload system regularly is essential to safe machine operation. Continued use of an improperly operating platform overload system could result in the system not sensing an overloaded platform condition. Machine stability could be compromised resulting in the machine tipping over.

WARNING **Perform this procedure with the machine on a firm, level surface.**

---

1. Turn the key switch to platform control. Pull out both red Emergency Stop buttons to the On position (pulled out).
2. Determine the maximum platform capacity.
3. Using a suitable lifting device, place an appropriate test weight equal to the maximum platform capacity in the center of the platform floor.
   - **Result:** The overload alarm at the platform controls should not sound, indicating a normal condition.
   - **Result:** The overload alarm at the platform controls sounds. Calibrate the platform overload system.
4. Add an additional weight to the platform not to exceed 25% of the maximum rated load.
   - **Result:** The overload alarm at the platform controls sounds, indicating a normal condition.
   - **Result:** The overload alarm at the platform controls does not sound. Calibrate the platform overload system.
5. Test all machine functions from the platform controls.
   - **Result:** All platform control functions should not operate.
6. Turn the key switch to ground control.
7. Test all machine functions from the ground controls
   - **Result:** All ground control functions should not operate.
8. Lift the test weight off the platform floor using a suitable lifting device.
   - **Result:** The overload alarm at the platform controls should not sound, indicating a normal condition.
   - **Result:** The overload alarm at the platform controls sounds. Calibrate the platform overload system.
9. Test all machine functions from the ground controls.
   - **Result:** All ground control functions should operate.
10. Turn the key switch to platform control.
11. Test all machine functions from the platform controls.
    - **Result:** All platform control functions should operate.

Yearly Maintenance

The following maintenance should be done every year or 1,000 hours of operation, which ever comes first.

1) Inspection of the Condition of the Electric Cylinder

- Tools will be required to perform this procedure.
- New parts will be required to perform this procedure.
- Dealer service will be required to perform this procedure.

The Electric Cylinder in good condition is essential to machine performance and service life. The Electric Cylinder which is not lubricated fully will influence machine performance, and with continued use, spare parts can be damaged. This operation should be carried out more frequently under severe working conditions

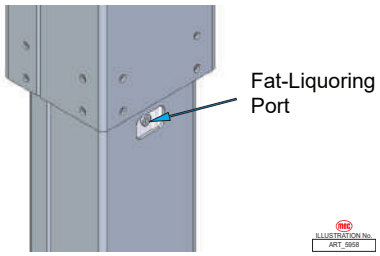
If the Electric Cylinder sends out abnormal sound, please add the lubricating grease promptly.

If the lubricating grease is not replaced at the two year inspection, test the grease quarterly. Replace the grease when it fails the test.

1. Raise the platform to the position where the fat-liquoring port exposes completely.
2. Disconnect the battery pack from the machine, and let the machine stand for a hour at last.

WARNING **Electrocution / burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.**

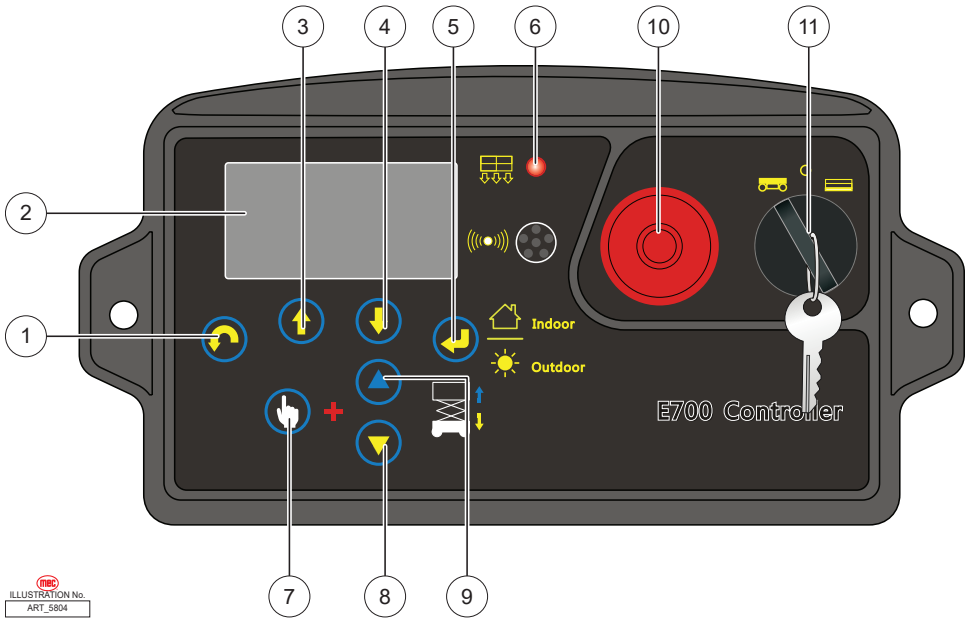
3. Remove the plug from the fat-liquoring port.
4. Add a moderate amount of lubricating grease. (Lubricating Grease Type - Mobil SHC220)
5. Clean any spilled lubricating grease.
6. Install the battery pack, then raise and descend the platform a few times. Inspect the condition of the machine.



WARNING **Electrocution / burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.**

Calibrations

ECU Overview



Control		Description	
1	Menu Escape Button	Press this button to exit the Menu screen.	
2	LED Readout Screen	Diagnostic readout and battery charge indicator.	
3	Menu Up Button	Press this button to go up the Menu items.	
4	Menu Down Button	Press this button to go down the Menu items.	
5	Menu Enter Button	Press this button to enter the Menu screen	
6	Overload Indicator Light	Light on indicates when platform is overloaded.	
7	Function Enable Button	Press and hold this button along with either the Platform Down Button (#8) or the Platform Up Button (#9) to activate selected function.	
8	Platform Down Button	Press and hold the Function Enable Button (#7) and this button then the platform with lower.	
9	Platform Up Button	Press and hold the Function Enable Button (#7) and this button then the platform with rise.	
10	Emergency Stop Switch	Press the Emergency Stop switch at any time to stop all machine functions. Pull the button out to the On position to operate the machine.	
11	Key Switch	PLATFORM	Turn the key switch to the platform position and the platform controls will be selected.
		OFF	Turn the key switch to the Off position and the machine will be off.
		BASE	Turn the key switch to the base position and the ground controls will be selected.

Selecting Indoor/Outdoor Mode:

To select the Indoor/Outdoor Mode, press and hold the Menu Enter Button (#5) for a few seconds to switch to Indoor or Outdoor.

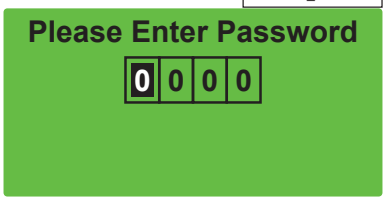
- **INDOOR**
  - Select to allow unrestricted height when not exposed to wind.
- **OUTDOOR**
  - Select to limit the maximum height when exposed to wind.

ECU Setting and Calibrations

ECU Setting and Calibrations

To enter the ECU setting interface, pull out the emergency stop buttons on lower and upper controls. Press & hold the “Enter” button on lower controls and turn the key switch to the ground controls. The Password screen will appear

ILLUSTRATION No.
ART_6019



Enter password “0000” by repeatedly pressing the Enter button.

ECU Setting Table

Main Menu	Items	Value
1. Set Speed	1. Max Fast Speed (Drive)	Current value is: 80 Edit value is: ___
	2. Max Raised Speed (Drive)	Current value is: 16 Edit value is: ___
	3. Max Liftup Speed	Current value is: 80 Edit value is: ___
	4. Max Slow Speed	Current value is: 22 Edit value is: ___
2. Set Option	1. Foot Pedal	Enable/Disable
	2. Pothole Guard	Enable/Disable
	3. Motion Alarm	Enable/Disable
	4. Load Sensing	Enable/Disable
	5. Joystick Direction	Push for Up/Pull for Up
	6. Enable Indoor/Outdoor Mode	Indoor Mode/Outdoor Mode
	7. Battery Drain Alarm	Enable/Disable
	8. Test Mode	USE WITH CAUTION!
	9. Drain Alarm Time (After 15 minutes of no operation, alarm will sound.)	Current value is: 015 Edit value is ___
	10. Drain Shut Time (After 30 minutes of no operation, the hibernation state is entered.)	Current value is 030 Edit value is ___
	11. Battery Low Level	Current value is: 016 Edit value is: ___
	12. Enable Priority	Disable/Enable
	13. Enable 10 second delay	Disable/Enable
	14. OL allowed descent	Disable/Enable

3. Calibration	1. No load sensing	Platform empty
	2. Full load sensing	500 lbs (227 kg) in the platform
	3. Tilt sensor	Must be on flat, level surface
	4. Steer left sensor	Steer fully to the left. (Steer possible in calibration mode)
	5. Steer right sensor	Steer fully to the right (Steer is possible in calibration mode)
4. Special Mode	1. Brake release	Secure against uncontrolled movement first
5. Fault History	NO. 1 ErrID: xxx Time: *** Info: ***	
	NO. 2 ErrID: xxx Time: *** Info: ***	
	...	
6.Other	1. Date & Time	
	2. Language	1. English
		2. Chinese
		3. Japanese
		4. French
	3. Revision	ECU: A5 SW-E700-DL-1_M HMI : A5 SW-E700-DL-1_O
	4. Hour Meter Reset	
	5. Fault History Reset	
	6. PC Link	

Calibration

The chart below shows what calibration steps that need to be redone after replacing parts!

	Replaced Part					
Calibration	**ECU**	**PCU**	**ZAPI (Pump)**	**ZAPI (Drive)**	**Steer Sensor**	**Load Sensor**
Model Selection	√					
Load Sensing	√					√
Tilt Sensor	√					
Steer Sensor Reset	√				√	
O/L Descent Height	√					

Requirements after replacing ECU:

- After the new ECU is installed, you need to select the Model & set the number of cylinders first. (See 2.1. “Machine Type” & 2.10. “Lowering Cylinder” under “Set Options”)
- Then perform Calibrations in the following order:
  7. No Load Sensing
  8. Full Load Sensing
  9. Tilt Sensing
  10. Left and Right Steering Sensor
  11. O/L Descent Height.

Calibration Instructions

No-Load Calibration

1. With the platform empty, machine on flat level surface, elevate the platform 12” (305mm)
2. Enter the “ECU Settings”. (See page 30.)
3. Press the yellow Down arrow to Select “3. Calibration”
4. Go to “1. No Load Sensing.” Press and hold the “Enter“ button for 5 seconds.
5. The Overload Indicator light turns on then goes out indicating that the calibration is complete.

Full-Load Calibration

Note: Load used for calibration needs to be slightly higher than rated load. Place 510 lbs (231kg) in the platform for Loaded Calibration.

1. With the platform loaded, machine on a flat level surface, elevate platform 12” (305mm)
2. Enter the “ECU Settings”. (See page 30.)
3. Select “3. Calibration”
4. Select “2. Full Load Sensing.” Press and hold the “Enter“ button for 5 seconds.
5. The machine calibrates automatically. The Overload indicator light turns on and then goes out indicating that the calibration is complete.

Tilt Sensing

1. Park the platform on a flat level surface.
2. Enter the “ECU Settings”. (See page 30.)
3. Select “3. Calibration”
4. Select “3. Tilt Sensor.” Press and hold the “Enter“ button for 5 seconds.
5. The machine starts to calibrate automatically. The Overload indicator light turns on and then goes out indicating that the calibration is complete.

Left Steer Sensor

1. Park the machine in the stowed state on a flat level surface
2. Enter the “ECU Settings”. (See page 30.)
3. Select “3. Calibration”
4. Select “4. Steering Left Limit.” Steer Left until movement stops using the PCU Joystick.
5. Press and hold the “ENTER” button. The Overload indicator light turns on and then goes out indicating that the calibration is complete.

Right Steer Sensor

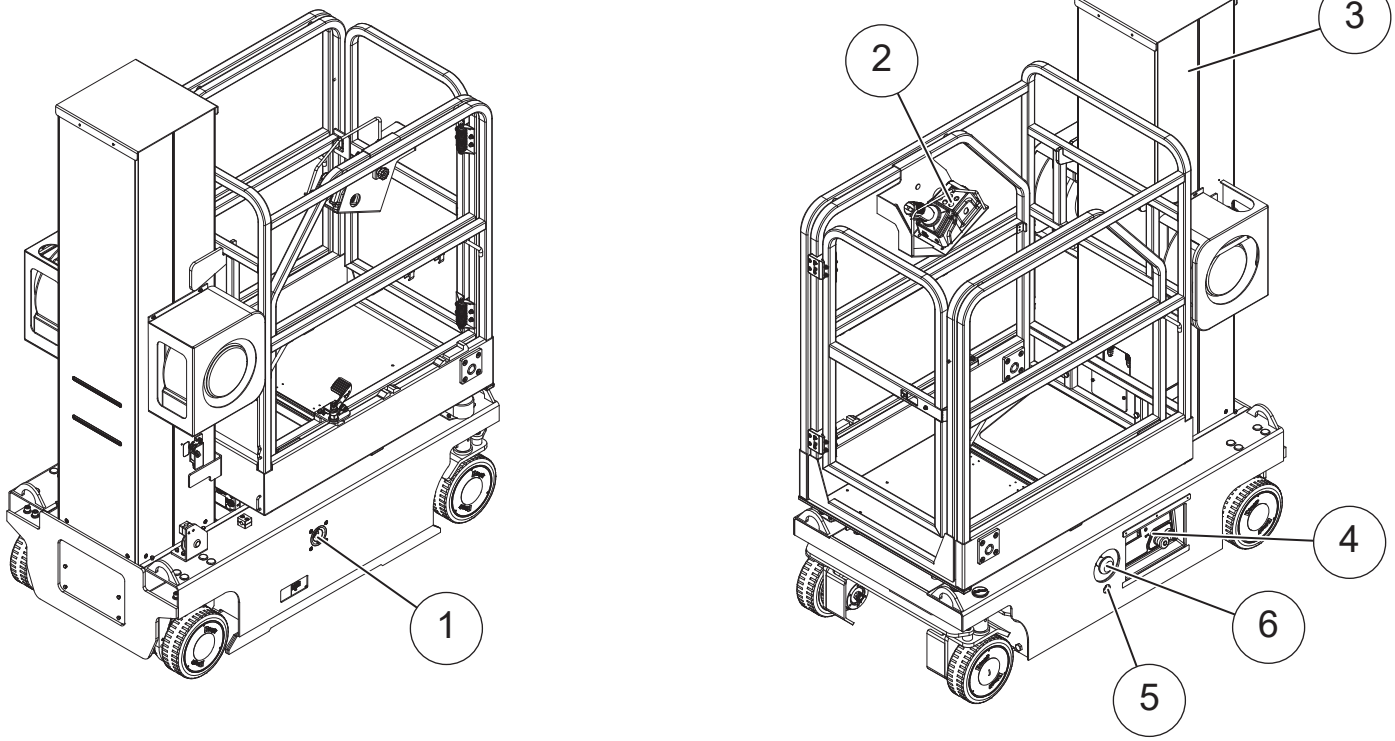
1. Park the machine in the stowed state on a flat level surface
2. Enter the “ECU Settings”. (See page 30.)
3. Select “3. Calibration”
4. Select “5. Steering Right Limit.” Steer Right until movement stops using the PCU Joystick.
5. Press and hold the “ENTER” button. The Overload indicator light turns on and then goes out indicating that the calibration is complete.

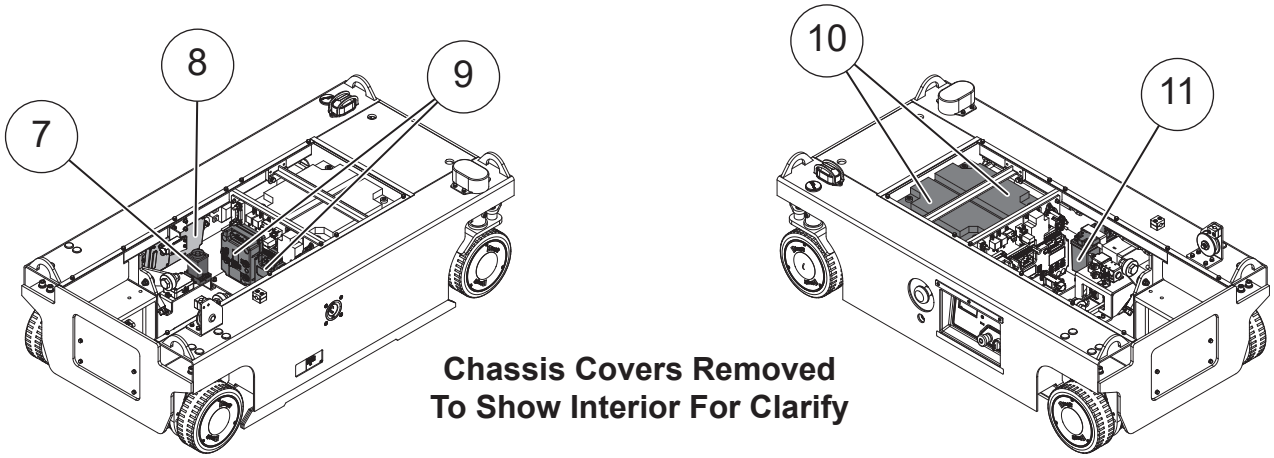
OL Descent High

Height at which the machine can be lowered when overloaded. Normally, the platform cannot be lowered by controls when overloaded. The emergency lowering cable must be used.

1. Select the “5. OL Descent High.”
2. Lift platform proximately 5 feet (1.5m).
3. Press the “Enter“ button to save the current valve.

Control Component Locations





Chassis Covers Removed To Show Interior For Clarify

1) Battery Charger
2) Platform Controls / PCU
3) Mast Assembly
4) Ground Control Panel
5) Emergency Lowering Button
6) Main Power Switch
7) Hour Meter
8) ECU
9) Motor Controllers
10) Batteries
11) Emergency Down Battery *(If Equipped)*

ILLUSTRATION No.
ART_5805

Fault Codes

The LED readout screen displays fault codes that provide information about the machine operating status and about malfunctions. The fault codes listed in the following charts describe malfunctions and can aid in troubleshooting the machine by pinpointing the area or component affected.

Fault	Description
01	System Initialization Fault
02	System Communication Fault
03	Invalid Option Setting
04	Calibration Fault
08	Key Switch Error
10	MC Communication Fault
12	Chassis Up or Down Switch ON at power-up Fault
18	Pothole Guard Fault
31	Pressure Sensor Fault
32	Angle Sensor Fault
35	Pressure Sensor 2 Fault
36	Battery Drain Alarm
42	Left turn switch ON at power-up
43	Right Turn Switch ON at power-up
46	Joystick Enable Switch ON at power-up
47	Joystick not in neutral at power-up
52	Drive Forward Coil Fault
53	Drive Reverse Coil Fault
54	Lift Up Coil Fault
55	Lift Down Coil fault
56	Right Turn Coil Fault
57	Left Turn Coil Fault
68	Low Voltage Fault
80	Over 80% Load Warning
90	Platform Load is over 90%
99	Over 99% Load Warning
OL	Platform Overloaded
LL	Machine Tilted Beyond Safe Limits Fault
CH	NOT A FAULT CODE
UP	Platform up limit position
102	Restore Parameters to Default
103	Battery is draining
104	Motor Controller Fault

Motor Controller Fault Codes

E700 receives the fault code sent by the motor controller and displays it, but it does not perform any protection actions or record it in the log.

The fault codes of the motor controller are as follows:

- 1xxx represents the left drive motor controller
- 2xxx represents the right drive motor controller
- 3xxx represents the lift motor controller

Fault Code	Fault Name
1018, 2018, 3018	LOGIC FAILURE #2
1019, 2019, 3019	LOGIC FAILURE #1
1028, 2028, 3028	PUMP VMN LOW
1029, 2029, 3029	PUMP VMN HIGH
1030, 2030, 3030	VMN LOW
1031, 2031, 3031	VMN HIGH
1037, 2037, 3037	CONTACTOR CLOSED
1038, 2038, 3038	CONTACTOR OPEN
1052, 2052, 3052	PUMP I=0 EVER
1053, 2053, 3053	STBY I HIGH
1060, 2060, 3060	CAPACITOR CHARGE
1062, 2062, 3062	TH. PROTECTION
1065, 2065, 3065	MOTOR TEMPERAT.
1066, 2066, 3066	BATTERY LOW
1074, 2074, 3074	DRIVER SHORTED
1075, 2075, 3075	CONTACTOR DRIVER
1078, 2078, 3078	VACC NOT OK
1079, 2079, 3079	INCORRECT START
1080, 2080, 3080	FORW + BACK
1086, 2086, 3086	PEDAL WIRE KO
1152, 2152, 3152	IIC BUS ERROR
1153, 2153, 3153	ENCODER ERROR XX
1154, 2154, 3154	OUT MISMATCHXX
1155, 2155, 3155	SP MISMATCHXX
1157, 2157, 3157	INPUT MISMATCHXX
1158, 2158, 3158	NOT RDY DRV.POW.
1159, 2159, 3159	HVIL FAIL
1160, 2160, 3160	SENS BAT TEMP KO
1161, 2161, 3161	RPM HIGH
1162, 2162, 3162	BUMPER STOP
1163, 2163, 3163	ED SLIP MISMATCH
1164, 2164, 3164	PWM ACQ. ERROR
1168, 2168, 3168	SIN/COS D.ERR XX
1169, 2169, 3169	ENCODER D.ERR XX
1170, 2170, 3170	WRONG KEY VOLT.
1171, 2171, 3171	ACQUIRING A.S.
1172, 2172, 3172	ACQUIRE ABORT
1173, 2173, 3173	ACQUIRE END
1174, 2174, 3174	OFFSET SPD.SENS.
1175, 2175, 3175	SPEED FB. ERROR

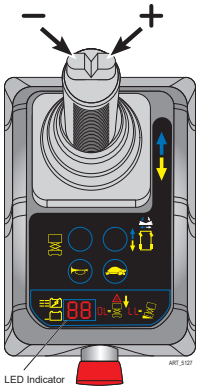
Fault Code	Fault Name
1176, 2176, 3176	HOME SENS.ERR XX
1177, 2177, 3177	COIL SHOR. EB.
1178, 2178, 3178	MOTOR TEMP. STOP
1179, 2179, 3179	STEER SENSOR KO
1180, 2180, 3180	OVERLOAD
1181, 2181, 3181	WRONG ENC SET
1185, 2185, 3185	TILLER ERROR
1186, 2186, 3186	WAIT MOT.P STILL
1187, 2187, 3187	LIFT+LOWER
1188, 2188, 3188	INT. CANBUSKO
1189, 2189, 3189	PUMP INC START
1190, 2190, 3190	PUMP VMN NOT OK
1191, 2191, 3191	PUMP VACC NOT OK
1192, 2192, 3192	PUMP VACC RANGE
1193, 2193, 3193	SMARTDRIVER KO
1194, 2194, 3194	AUX BATT. SHORT.
1195, 2195, 3195	POS. EB. SHORTED
1196, 2196, 3196	MOT.PHASE SH.
1197, 2197, 3197	WRONG SLAVE VER.
1198, 2198, 3198	M/S PAR CHK MISM
1199, 2199, 3199	PARAM TRANSFER
1200, 2200, 3200	VDC OFF SHORTED
1201, 2201, 3201	TORQUE PROFILE
1202, 2202, 3202	VDC LINK OVERV.
1204, 2204, 3204	BRAKE RUN OUT
1205, 2205, 3205	EPS RELAY OPEN
1206, 2206, 3206	INIT VMN HIGH
1207, 2207, 3207	INIT VMN LOW
1208, 2208, 3208	EEPROM KO
1209, 2209, 3209	PARAM RESTORE
1210, 2210, 3210	WRONG RAM MEM.
1211, 2211, 3211	STALL ROTOR
1212, 2212, 3212	POWER MISMATCH
1213, 2213, 3213	POSITIVE LC OPEN
1214, 2214, 3214	EVP COIL OPEN
1215, 2215, 3215	EVP DRIV. SHORT.
1216, 2216, 3216	EB. COIL OPEN
1217, 2217, 3217	PEB NOT OK
1218, 2218, 3218	SENS MOT TEMP KO
1220, 2220, 3220	VKEY OFF SHORTED
1221, 2221, 3221	HANDBRAKE
1223, 2223, 3223	COIL SHOR.MC
1224, 2224, 3224	WAITING FOR NODE
1224, 2224, 3224	WAITING FOR NODE

Fault Code	Fault Name
1224, 2224, 3224	WAITING FOR NODE
1226, 2226, 3226	VACC OUT RANGE
1227, 2227, 3227	HW FAULT
1228, 2228, 3228	TILLER OPEN
1229, 2229, 3229	Hardware? HW FAULT EB.
1230, 2230, 3230	Line Contactor LC COIL OPEN Stuck contact
1231, 2231, 3231	PUMP I NO ZERO
1232, 2232, 3232	CONT. DRV. EV
1233, 2233, 3233	POWERMOS SHORTED
1234, 2234, 3234	DRV. SHOR. EV
1235, 2235, 3235	CTRAP THRESHOLD
1236, 2236, 3236	CURRENT GAIN
1237, 2237, 3237	ANALOG INPUT
1238, 2238, 3238	HW FAULT EV.
1239, 2239, 3239	CONTROLLER MISM.
1240, 2240, 3240	EVP DRIVER OPEN
1241, 2241, 3241	COIL SHOR. EVAUX
1242, 2242, 3242	OPEN COIL EV.
1243, 2243, 3243	THROTTLE PROG.
1244, 2244, 3244	WARNING SLAVE
1245, 2245, 3245	IQMISMATCHED
1246, 2246, 3246	EB. DRIV.OPEN
1247, 2247, 3247	DATA ACQUISITION
1248, 2248, 3248	NO CAN MSG.
1249, 2249, 3249	CHECK UP NEEDED
1250, 2250, 3250	THERMIC SENS. KO
1251, 2251, 3251	WRONG SET BAT.
1253, 2253, 3253	FIELD ORIENT. KO
1254, 2254, 3254	EB. DRIV.SHRT.

Parameter Adjustment

WARNING

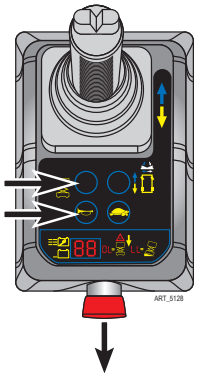
PARAMETERS SHOULD BE ADJUSTED ONLY IF THE FUNCTION IS OPERATING OUTSIDE OF MACHINE SPECIFICATIONS, OR IF WRITTEN APPROVAL IS OBTAINED FROM MEC PRIOR TO MAKING THE CHANGE.



The following adjustments are made at the Platform Controls station using the LED Indicator to display the current settings. Follow the instructions to reach the desired setting.

Change the setting by using the Steer Buttons on top of the control handle. The right button increases the setting. The left button decreases the setting.

Number represent a percentage. 99 means 99%. 9°9 (dot between the digits) means 100%.



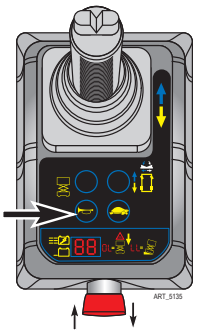
Speed Adjustment State

1. Set the key switch at the Base Controls to PLATFORM. Twist the Base Emergency Stop Switch out to the On position (pulled out).
2. Push the Platform Controls Emergency Stop Button in to the Off position (pushed in).
3. Press and hold the HORN and LIFT buttons, then twist the Platform Emergency Stop Switch to the On position (pulled out).

4. “PS” and the current Lift Speed setting will alternate on the LED Indicator.

Refer to the following pages for individual operating adjustments.

Saving New Values

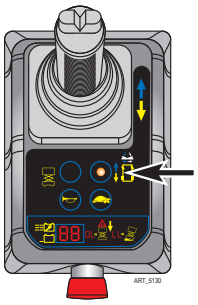


New values must be saved immediately after adjustment.

To save new values, press and hold the Horn button for 3 seconds.

To operate the machine with new values, press the Emergency Stop button, then rotate it to return to the On position (pulled out).

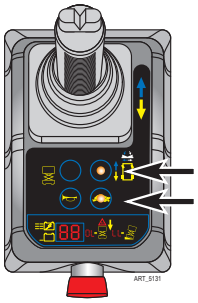
High Drive Speed



This parameter controls high speed drive when the platform is in the stowed position.

1. Press the Drive Mode Select button. The button will light up, indicating this mode is active, and the LED Indicator will show the present setting.
2. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
3. High Drive Speed may be changed from 00 to 9°9. Factory setting is 9°9.
4. Save the new setting (See page 39 for “Saving New Values”).

Low Speed Drive



This parameter controls low speed drive when the platform is in the stowed position and Low Speed is selected (turtle icon).

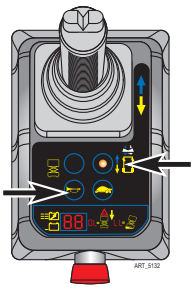
1. Press the Drive Mode Select button. The button will light up, indicating this mode is active.
2. Press and hold the Low Speed Mode Select button (turtle icon). The button will light up, and the LED Indicator will show the present setting.
3. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
4. Low Drive Speed can be set from 00 to 9°9, but must not be set higher than 50. Factory setting is 50.

DANGER **DO NOT ADJUST THE SETTING HIGHER THAN 50.**

---

5. Save the new setting (See page 39 for “Saving New Values”).

Elevated Drive Speed



This parameter controls drive speed when the platform is elevated.

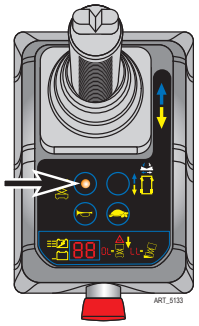
1. Press the Drive Mode Select button. The button will light up, indicating this mode is active.
2. Press and hold the Low Speed Mode Select button (turtle icon). The button will light up, indicating this mode is active.
3. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
4. Elevated Drive Speed can be set from 00 to 9°9, but must not be set higher than 50. Factory setting is 50.

DANGER **DO NOT ADJUST THE SETTING HIGHER THAN 50.**

---

5. Save the new setting (See page 39 for “Saving New Values”).

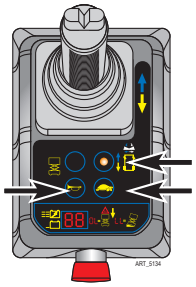
Lift Speed



This parameter controls the speed at which the platform elevates.

1. Press the Lift Mode Select button. The button will light up, indicating this mode is active.
2. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
3. Elevated Drive Speed can be set from 00 to 9°9. Factory setting is 9°9.
4. Save the new setting (See page 39 for “Saving New Values”).

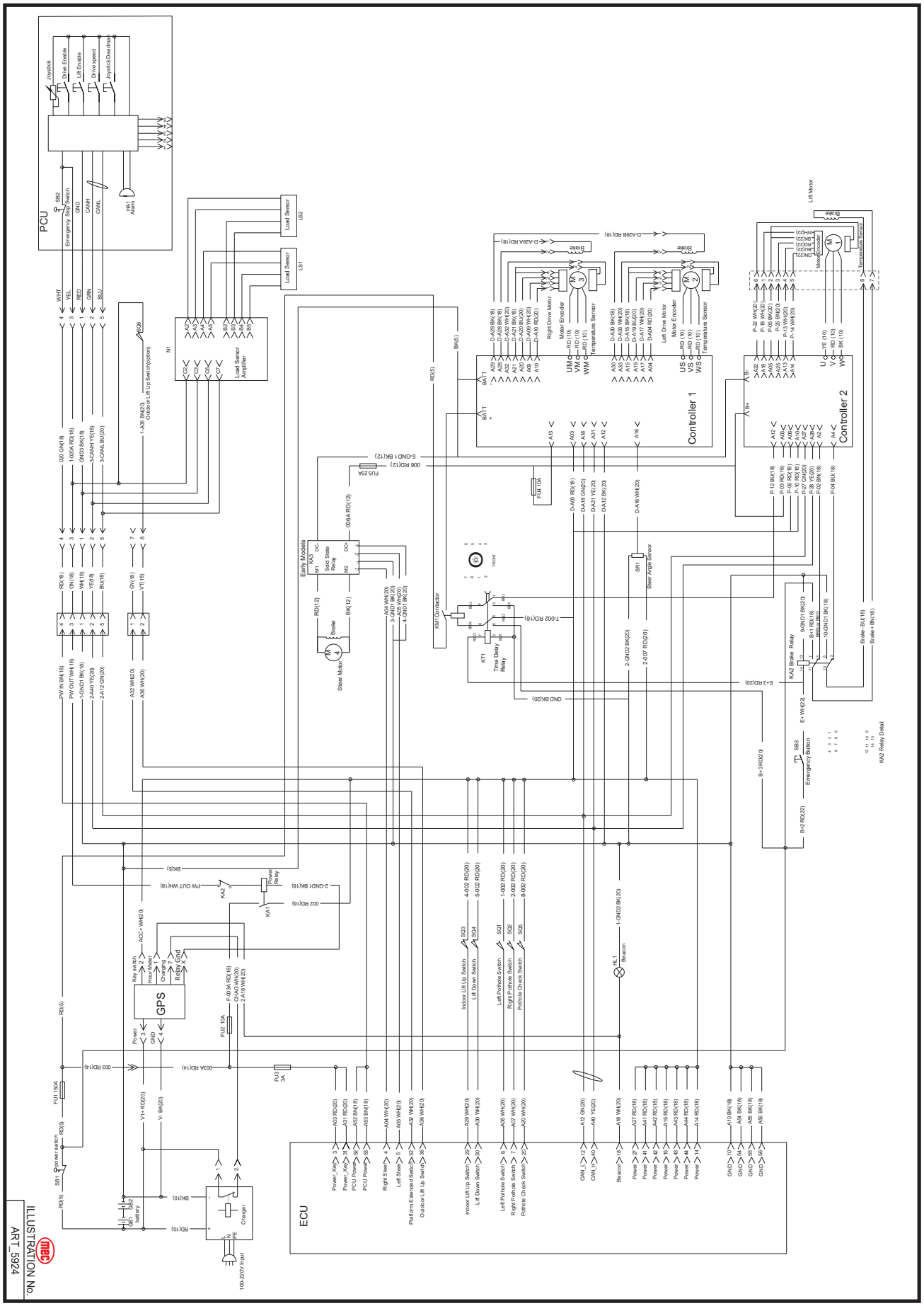
Steering Speed



This parameter controls speed at which the steering wheels turn.

1. Press the Drive Mode Select button. The button will light up, indicating this mode is active.
2. Press and hold the Horn button and the Low Speed Mode Select button (turtle icon).
3. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
4. Steering Speed can be set from 00 to 9°9. Factory setting is 30.
5. Save the new setting (See page 39 for “Saving New Values”).

Electrical Schematic



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.

Item	Part Number	Description	Qty.

Steer Linkage and Wheels Assembly Installation

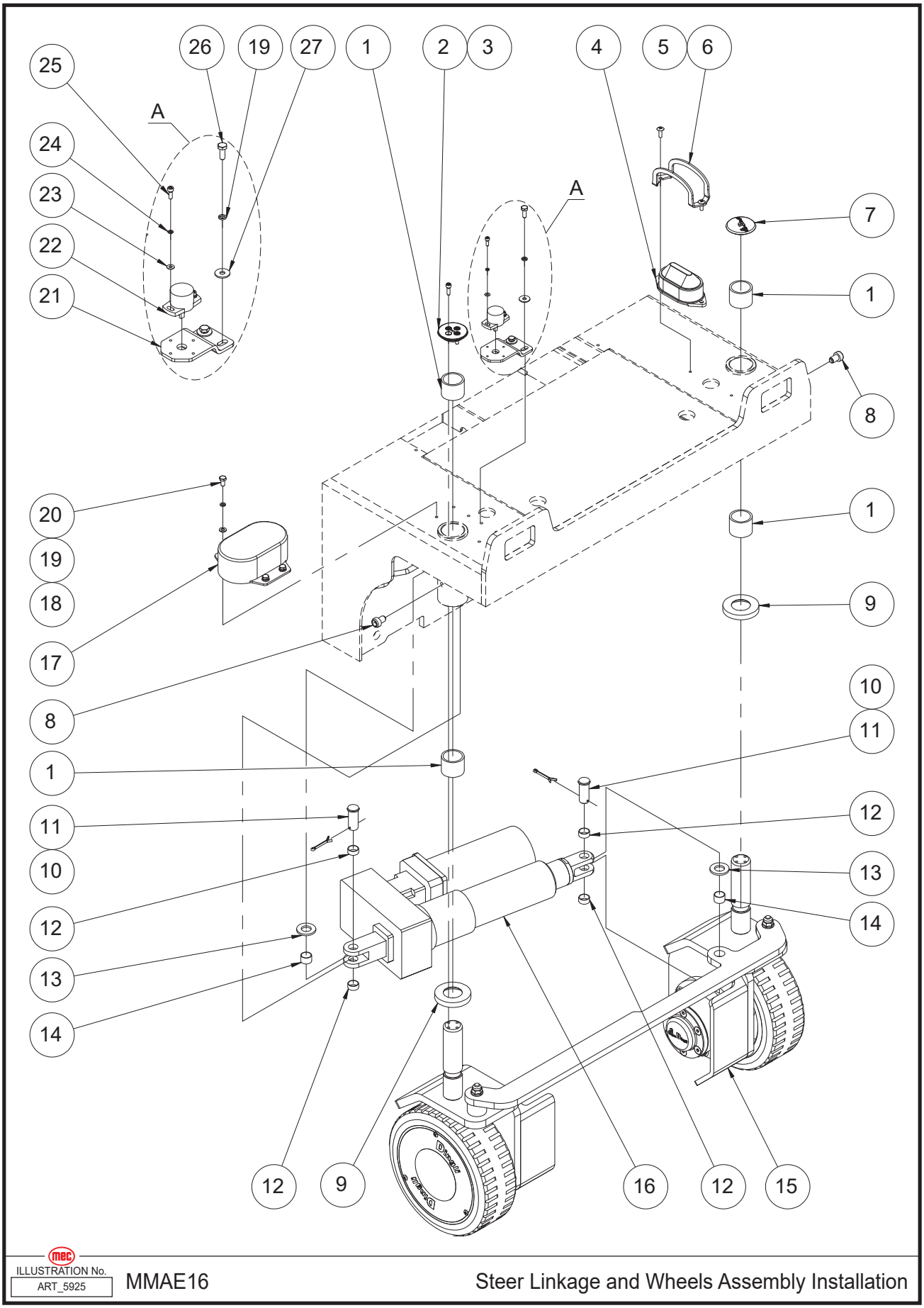


ILLUSTRATION No. ART_5925 MMAE16 Steer Linkage and Wheels Assembly Installation

Item	Part Number	Description	Qty.
1	41202	Bearing	4
2	44636	Cover	1
3	50359	Screw SHCS M05-0.80 × 16	4
4	41310	Beacon	1
5	53223	Screw THMS M05-0.80 × 16	2
6	41309	Beacon Cover	1
7	44637	Cover	1
8	41794	Screw	2
9	41199	Washer	2
10	44638	Cotter Pin	2
11	41321	Pin	2
12	41225	Bearing	4
13	43564	Washer	2
14	41210	Bearing	2
15	REF	Steer Linkage and Wheels Assembly (Refer to page 46)	1
16	44639	Electric Cylinder Assembly	1
--	44640	Electric Cylinder	1
--	44641	Reducer	1
--	44642	Brake	1
--	44643	Motor	1
17	44644	Sensor Cover	1
18	50000	WSHR M06 Standard Flat Washer	4
19	53046	WSHR M06 Spring Washer	6
20	53104	Screw HHCS M06-1.00 × 12	4
21	44645	Sensor Bracket	1
22	41195	Rotary Sensor	1
23	50284	WSHR M04 Standard Flat Washer	2
24	53062	WSHR M04 Spring Washer	2
25	50423	Screw SHCS M04-0.70 × 12	2
26	50068	WSHR M06 Flat Fender Washer	2
27	50445	Screw HHCS M06-1.00 × 16	2

REF - Reference

Steer Linkage and Wheels Assembly

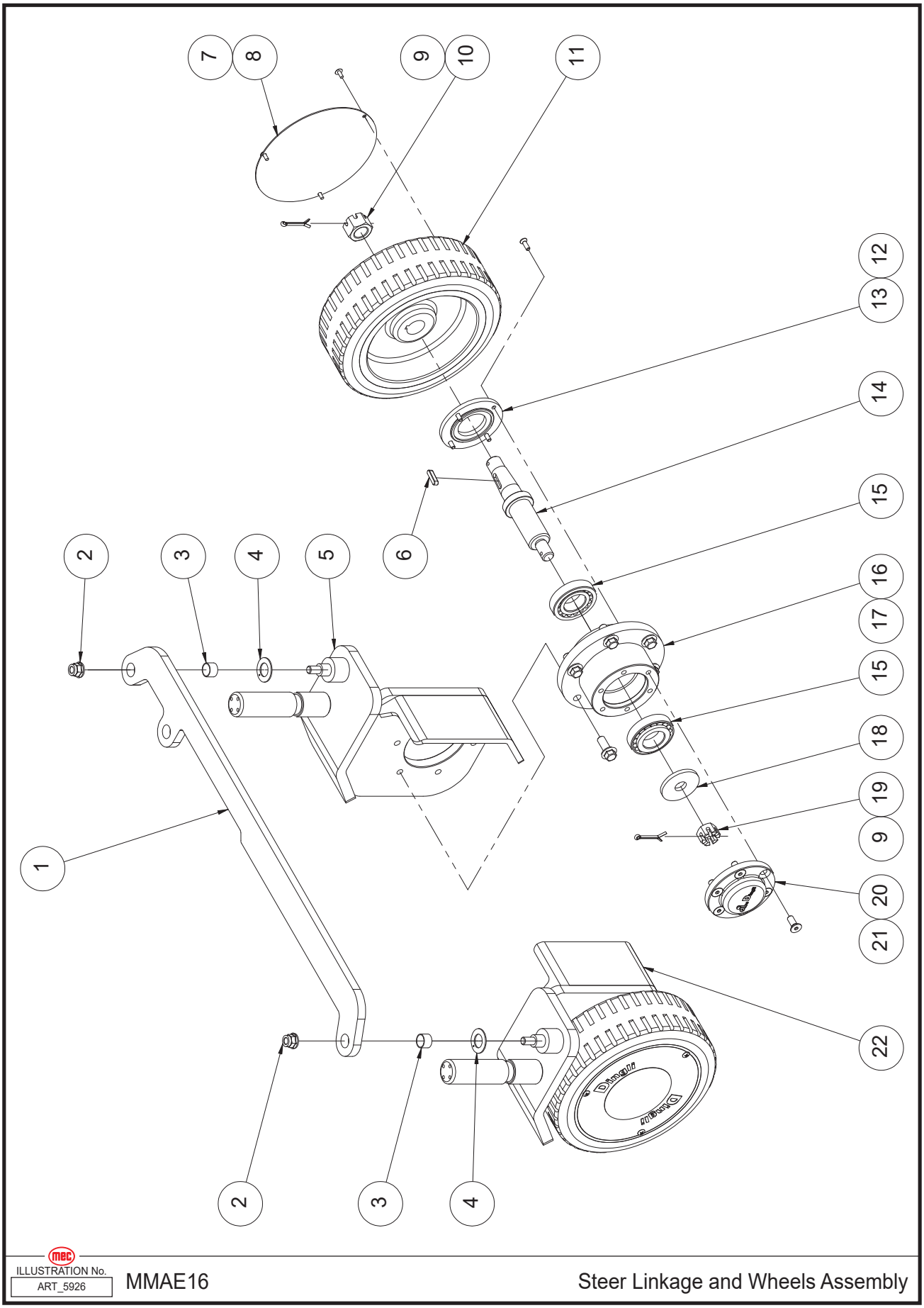


ILLUSTRATION No. ART_5926 MMAE16 Steer Linkage and Wheels Assembly

Item	Part Number	Description	Qty.
1	44646	Tie Rod Weldment	1
2	50311	Nut NNYL M10-1.50 Flange	2
3	41210	Bearing	2
4	41222	Bearing	2
5	44647	Steer Yoke Weldment	1
6	44648	Key	2
7	53348	Screw THMS M04-0.70 × 10	6
8	41323	Cover	2
9	44638	Cotter Pin	4
10	53416	Castle Nut M20-2.50 × 1.50	2
11	44649	Wheel	2
12	53269	Screw CSCS M05-0.80 × 16	8
13	41230	Bearing Cover	2
14	44650	Wheel Shaft	2
15	41024	Bearing	4
16	41234	Connection Plate	2
17	50429	Screw HHCS M10-1.50 × 25 Serrated Flange	12
18	41327	Washer	2
19	53347	Castle Nut M16 × 1.50	2
20	41328	Cap	1
21	53282	Screw CSCS M08-1.25 × 20	12
22	44651	Steer Yoke Weldment	1

Drive Wheel Assembly

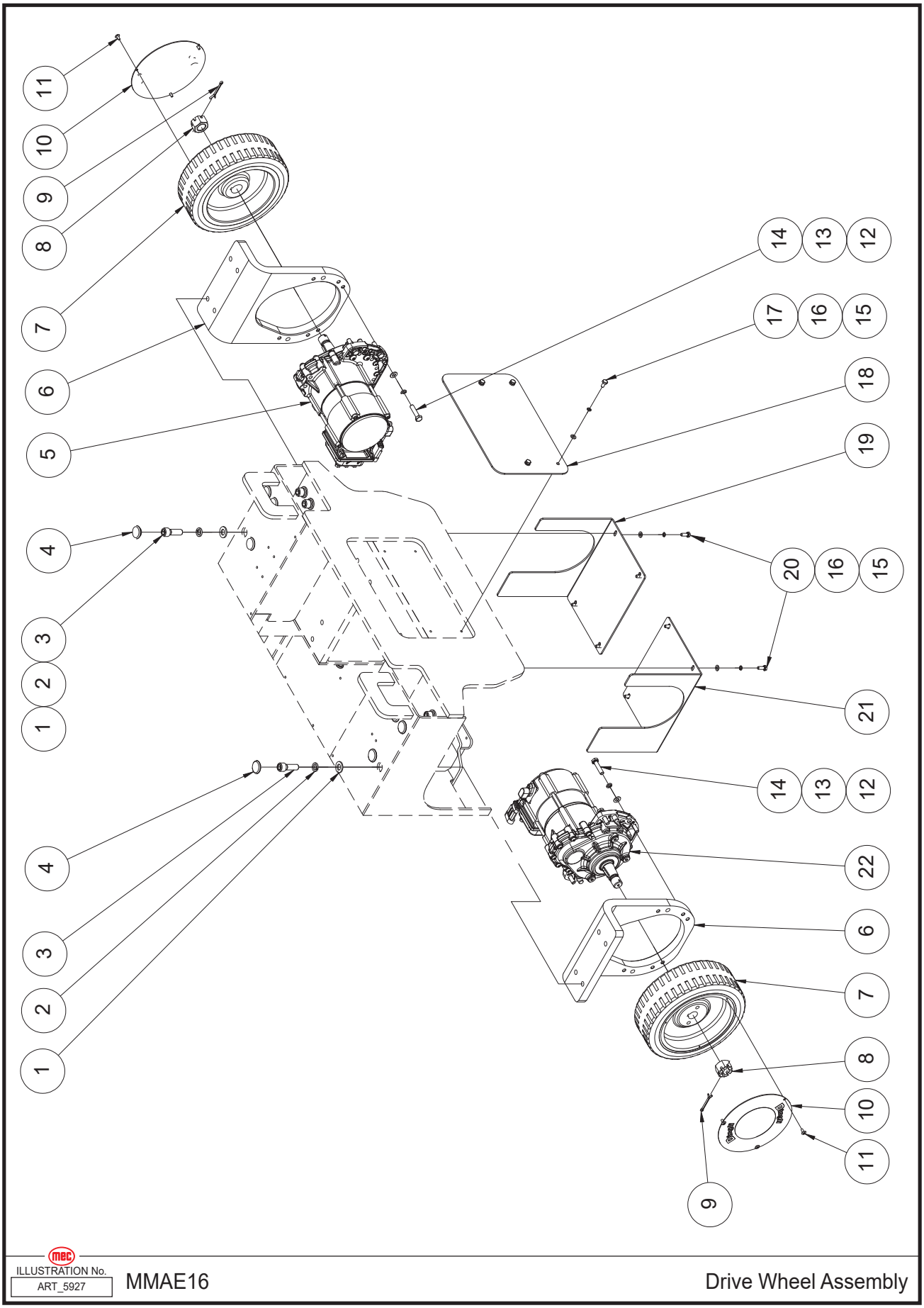


ILLUSTRATION No. ART_5927 MMAE16 Drive Wheel Assembly

Item	Part Number	Description	Qty.
1	50003	WSHR M12 Standard Flat Washer	8
2	53148	WSHR M12 Spring Washer	8
3	53013	Screw SHCS M12-1.75 × 35	8
4	44652	Cover	8
5	44653	Drive Motor Assembly, Right	1
--	44654	Reducer	1
--	44655	Motor	1
--	44656	Brake	1
6	44657	Support	2
7	44649	Wheel	2
8	53416	Castle Nut M20-2.50 × 1.50	2
9	43563	Cotter Pin	2
10	41323	Cover	2
11	53348	Screw THMS M04-0.70 × 10	6
12	50001	WSHR M08 Standard Flat Washer	12
13	53055	WSHR M08 Spring Washer	12
14	50282	Screw HHCS M08-1.25 × 35	12
15	50000	WSHR M06 Standard Flat Washer	12
16	53046	WSHR M06 Spring Washer	12
17	53104	Screw HHCS M06-1.00 × 12	4
18	44658	Cover	1
19	44659	Cover	1
20	50445	Screw HHCS M06-1.00 × 16	8
21	44660	Cover	1
22	44661	Drive Motor Assembly, Left	1
--	44654	Reducer	1
--	44655	Motor	1
--	44656	Brake	1

Pothole Protection Assembly

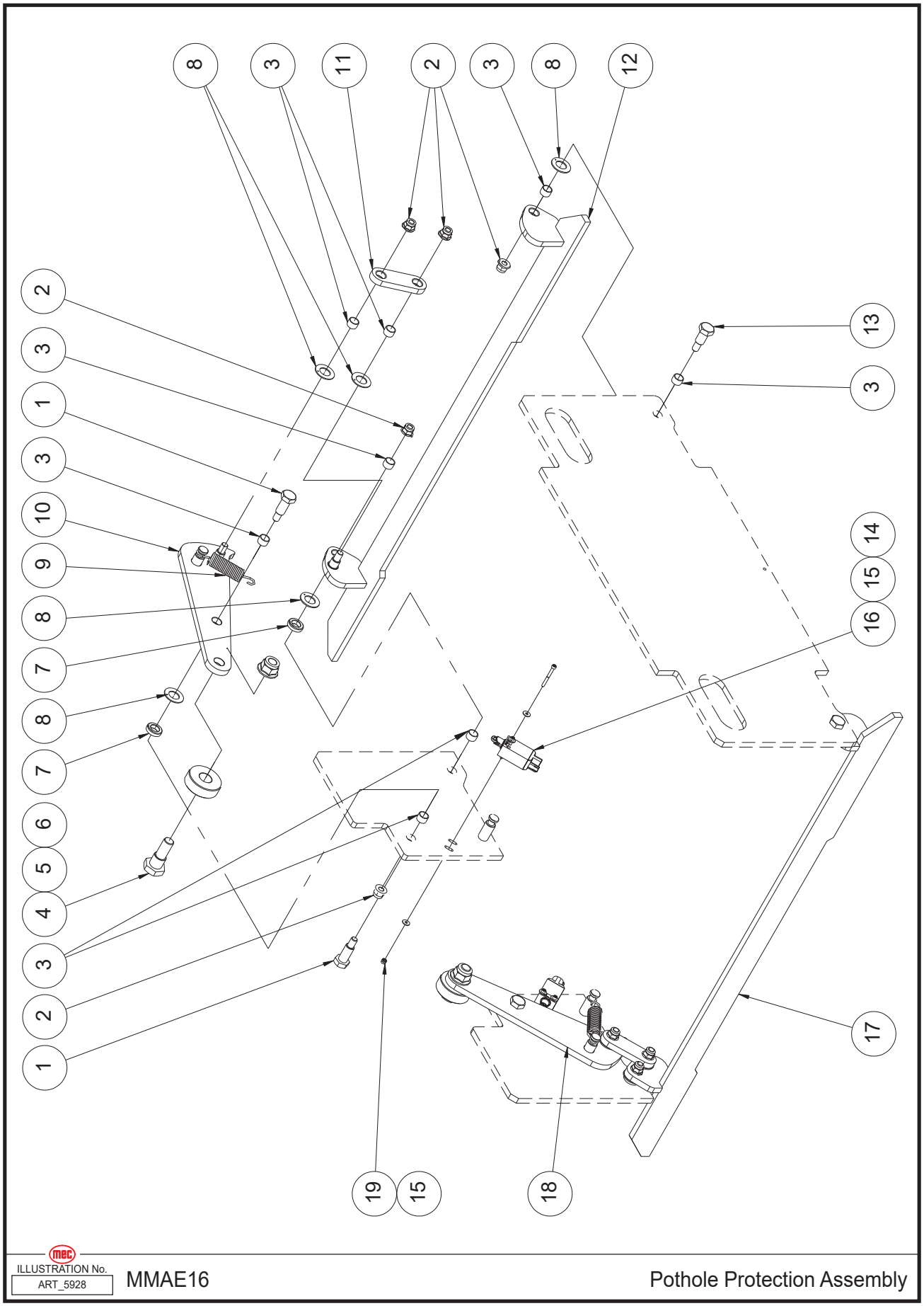


ILLUSTRATION No. ART_5928 MMAE16 Pothole Protection Assembly

Item	Part Number	Description	Qty.
1	44662	Pin	4
2	50311	Nut NNYL M10-1.50 Flange	10
3	44309	Bearing	16
4	44663	Pin	2
5	44664	Roller	2
6	53417	Nut NNYL M16-2.00 Flange	2
7	44665	Washer	4
8	41222	Bearing	10
9	44666	Spring	2
10	44667	Linkage Weldment	1
11	44668	Pothole Link Plate	2
12	44669	Pothole Guard Weldment	1
13	44670	Pin	2
14	53278	Screw SHCS M04-0.70 × 20	4
15	53120	WSHR M04 Flat Fender Washer	8
16	44671	Limit Switch	2
17	44672	Linkage Weldment	1
18	44673	Pothole Link Plate	1
19	50285	Nut NNYL M04 × 0.70	4

Electric Control Assembly

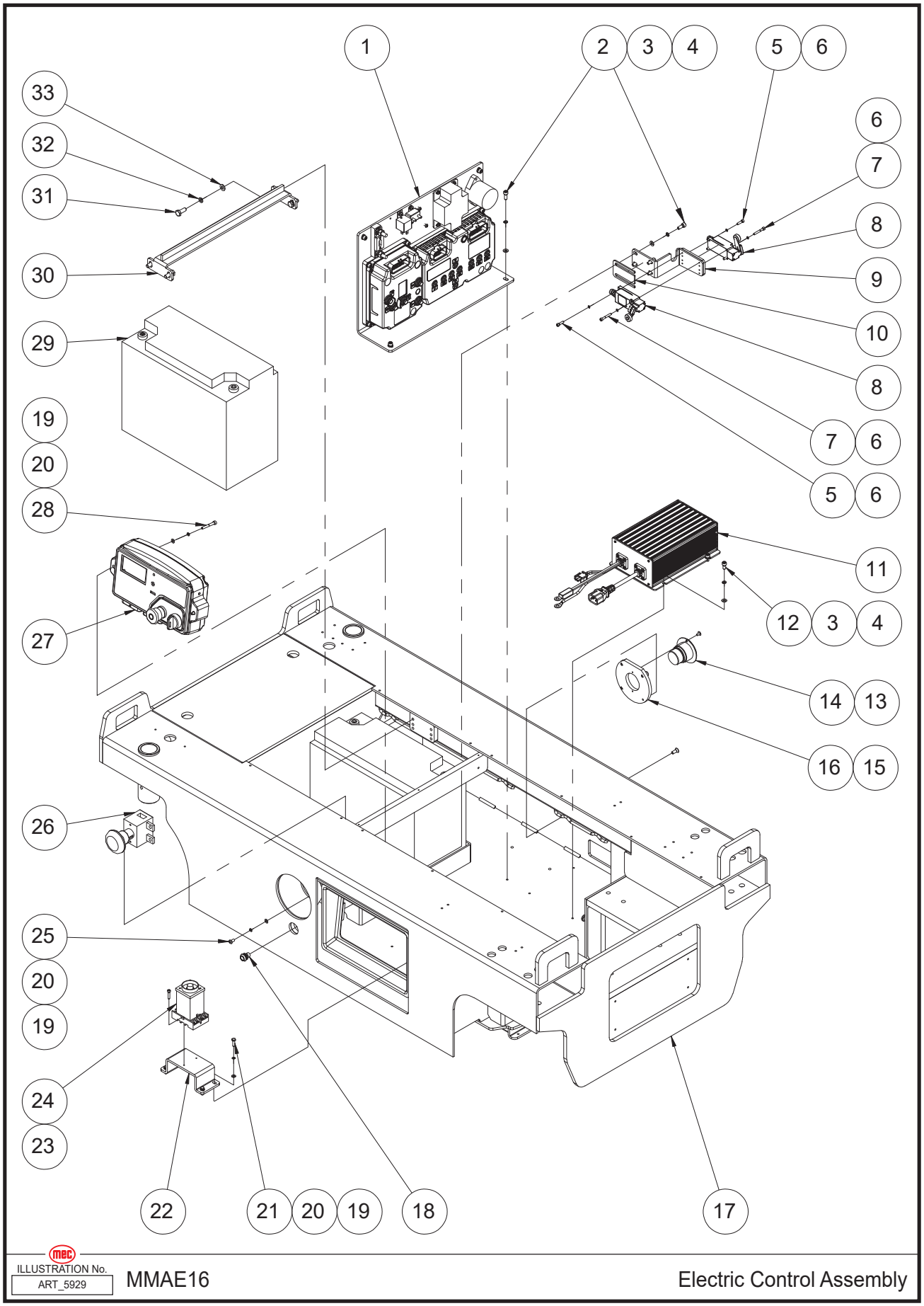


ILLUSTRATION No. ART_5929 MMAE16 Electric Control Assembly

Item	Part Number	Description	Qty.
1	REF	Motor Controller Assembly (Refer to page 54)	1
2	53138	Screw SHCS M06-1.00 × 16	8
3	53046	WSHR M06 Spring Washer	12
4	50000	WSHR M06 Standard Flat Washer	12
5	53113	Screw SHCS M04-0.70 × 16	4
6	53062	WSHR M04 Spring Washer	10
7	53065	Screw SHCS M04-0.70 × 30	4
8	42074	Limit Switch	2
9	44674	Switch Bracket	1
10	44675	Shim	1
11	42904	Charger	1
12	53380	Screw SHCS M06-1.00 × 12	4
13	53263	Screw THMS M04-0.70 × 8	2
14	41575	Plug	1
15	53226	Screw CSCS M06-1.00 × 16	4
16	44676	Mounting Plate	1
17	44677	Frame Weldment	1
18	44678	Pushbutton Switch	1
19	53038	WSHR M05 Standard Flat Washer	8
20	53043	WSHR M05 Spring Washer	8
21	53418	Screw HHCS M05-0.80 × 16	4
22	44679	Mounting Bracket	1
23	53278	Screw SHCS M04-0.70 × 20	2
24	44680	Time Relay	1
25	53354	Screw PHMS M05-0.80 × 10	2
26	42071	Power Switch	1
27	REF	Ground Control Assembly (Refer to page 56)	1
28	53067	Screw SHCS M05-0.80 × 40	2
29	44331	Battery	2
30	44681	Battery Keeper Bar	1
31	50030	Screw HHCS M08-1.25 × 20	4
32	53055	WSHR M08 Spring Washer	4
33	50001	WSHR M08 Standard Flat Washer	4

REF - Reference

Motor Controller Assembly

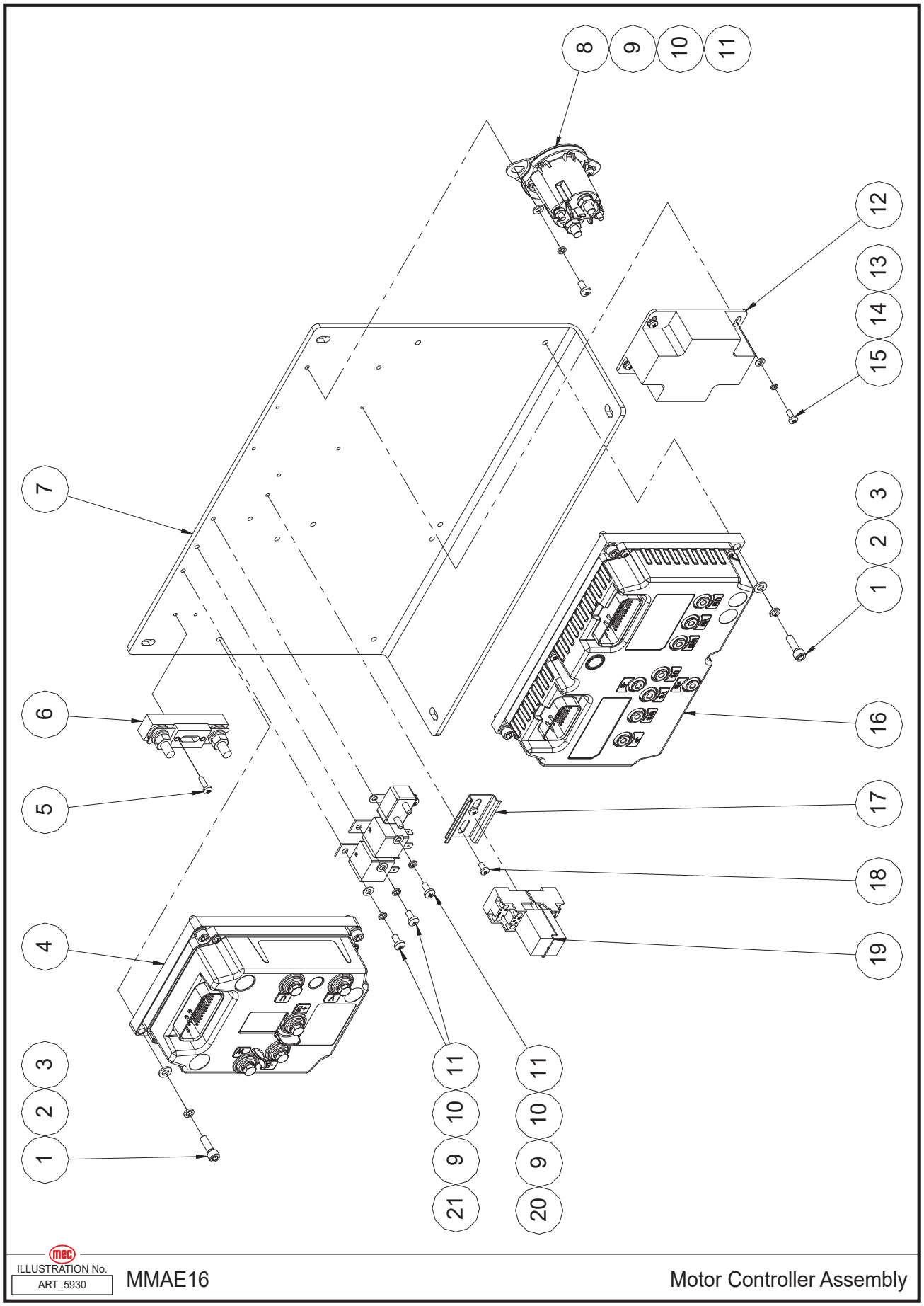


ILLUSTRATION No. ART_5930 MMAE16 Motor Controller Assembly

Item	Part Number	Description	Qty.
1	53124	Screw SHCS M06-1.00 × 20	8
2	53046	WSHR M06 Spring Washer	8
3	50000	WSHR M06 Standard Flat Washer	8
4	45910	Motor Controller, ZAPI TRI-PLAT	1
	46569	Motor Controller	1
5	53419	Screw PHMS M04-0.70 × 14	2
6	41251	150A Fuse Assembly	1
--	44031	150A Fuse	1
--	41092	Fuse Seat	1
7	44683	Mounting Plate	1
8	44684	DC Contactor	1
9	53038	WSHR M05 Standard Flat Washer	6
10	53043	WSHR M05 Spring Washer	6
11	53354	Screw PHMS M05-0.80 × 10	6
12	44685	Motor Controller, Steer	1
13	50284	WSHR M04 Standard Flat Washer	4
14	53062	WSHR M04 Spring Washer	4
15	53259	Screw PHMS M04-0.70 × 10	4
16	45909	Drive Motor Controller, ZAPI TRI-PLAT	1
	45300	Drive Motor Controller	1
17	44687	Terminal Rail	1
18	53276	Screw PHMS M04-0.70 × 8	2
19	44688	Relay	1
20	44689	Circuit Breaker	1
21	41334	Relay	2

Ground Control Assembly

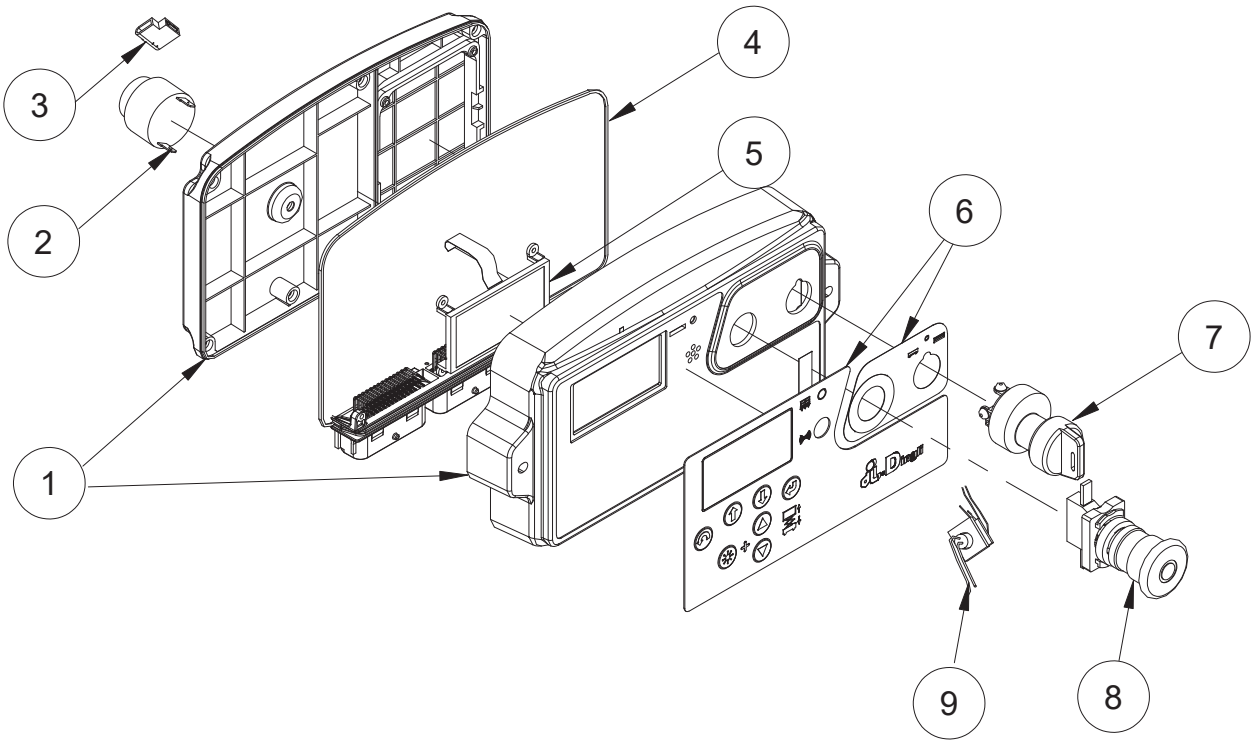


ILLUSTRATION No. ART_5870

Micro26AC

Ground Control Assembly

Item	Part Number	Description	Qty.
--	48423	Ground Control Assembly	1
1	44690	Shell Components	1
2	41568	Alarm	1
--	43631	Alarm Nut	1
3	44691	Alarm Harness	1
4	44692	Main Board	1
5	44693	Display	1
6	44795	Decal, Ground Control Panel	1
7	41418	Key Switch	1
--	91574	Key	1
8	41157	Emergency Stop Switch	1
--	43632	Red Mushroom Head	1
--	43633	Base With 1 NO Contact	1
9	44694	EMS Switch Harness	1

Chassis Accessory Installation

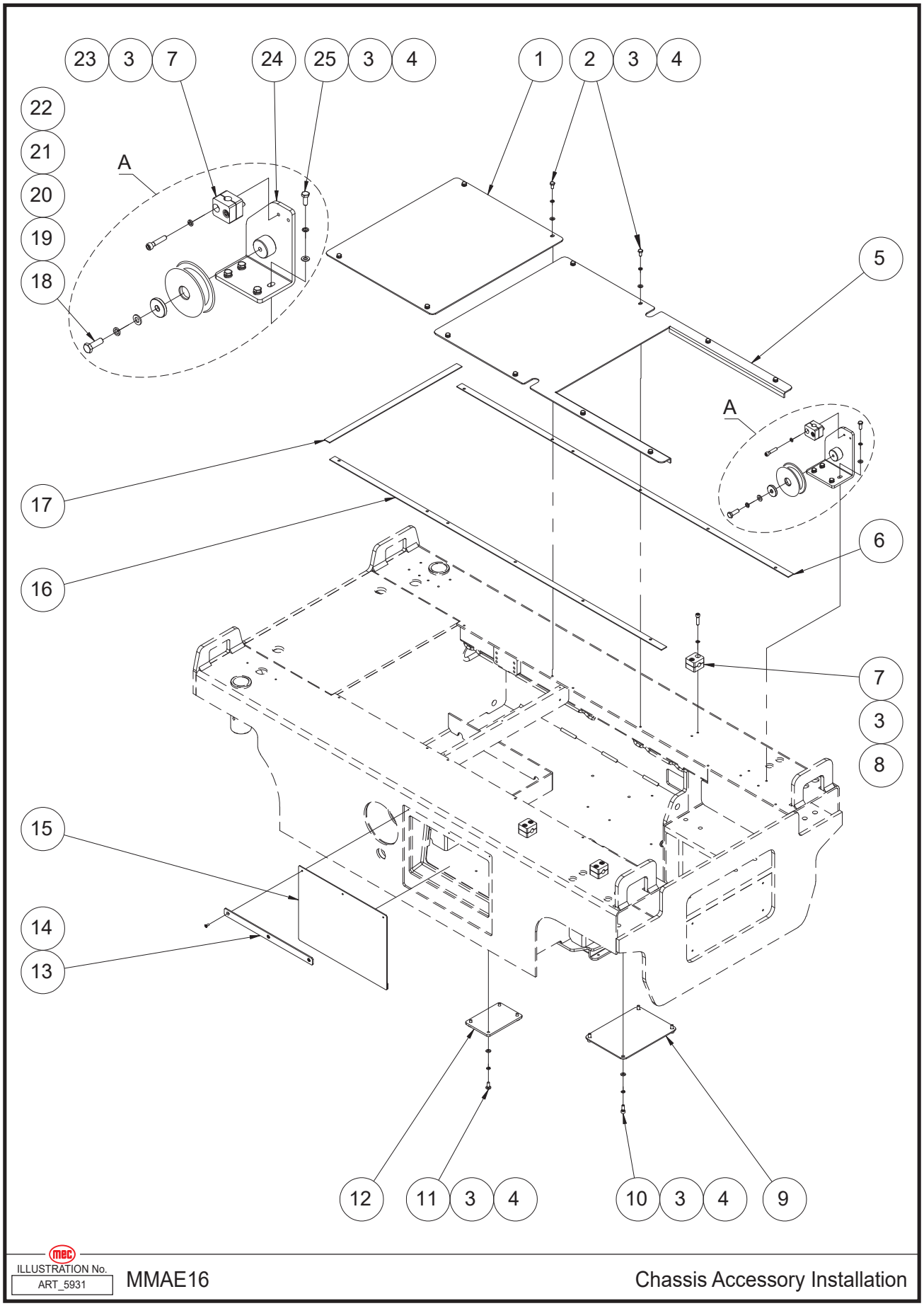


ILLUSTRATION No. ART_5931 MMAE16 Chassis Accessory Installation

Item	Part Number	Description	Qty.
1	44695	Cover	1
2	53104	Screw HHCS M06-1.00 × 12	12
3	53046	WSHR M06 Spring Washer	44
4	50000	WSHR M06 Standard Flat Washer	36
5	44696	Cover	1
6	44697	Sealing Strip	1
7	44698	Wire Clip	4
8	53123	Screw SHCS M06-1.00 × 25	6
9	44699	Cover	1
10	53138	Screw SHCS M06-1.00 × 16	4
11	53208	Screw PHMS M06-1.00 × 14	16
12	44700	Rubber Pad	4
13	44701	Plate	1
14	53348	Screw THMS M04-0.70 × 10	3
15	44702	Cover	1
16	44703	Sealing Strip	1
17	44704	Sealing Strip	1
18	50031	Screw HHCS M08-1.25 × 25	1
19	53055	WSHR M08 Spring Washer	1
20	50001	WSHR M08 Standard Flat Washer	1
21	44705	Washer	1
22	44706	Pulley	1
23	53207	Screw SHCS M06-1.00 × 30	2
24	44707	Pulley Bracket	1
25	50445	Screw HHCS M06-1.00 × 16	4

Mast and Chassis Installation

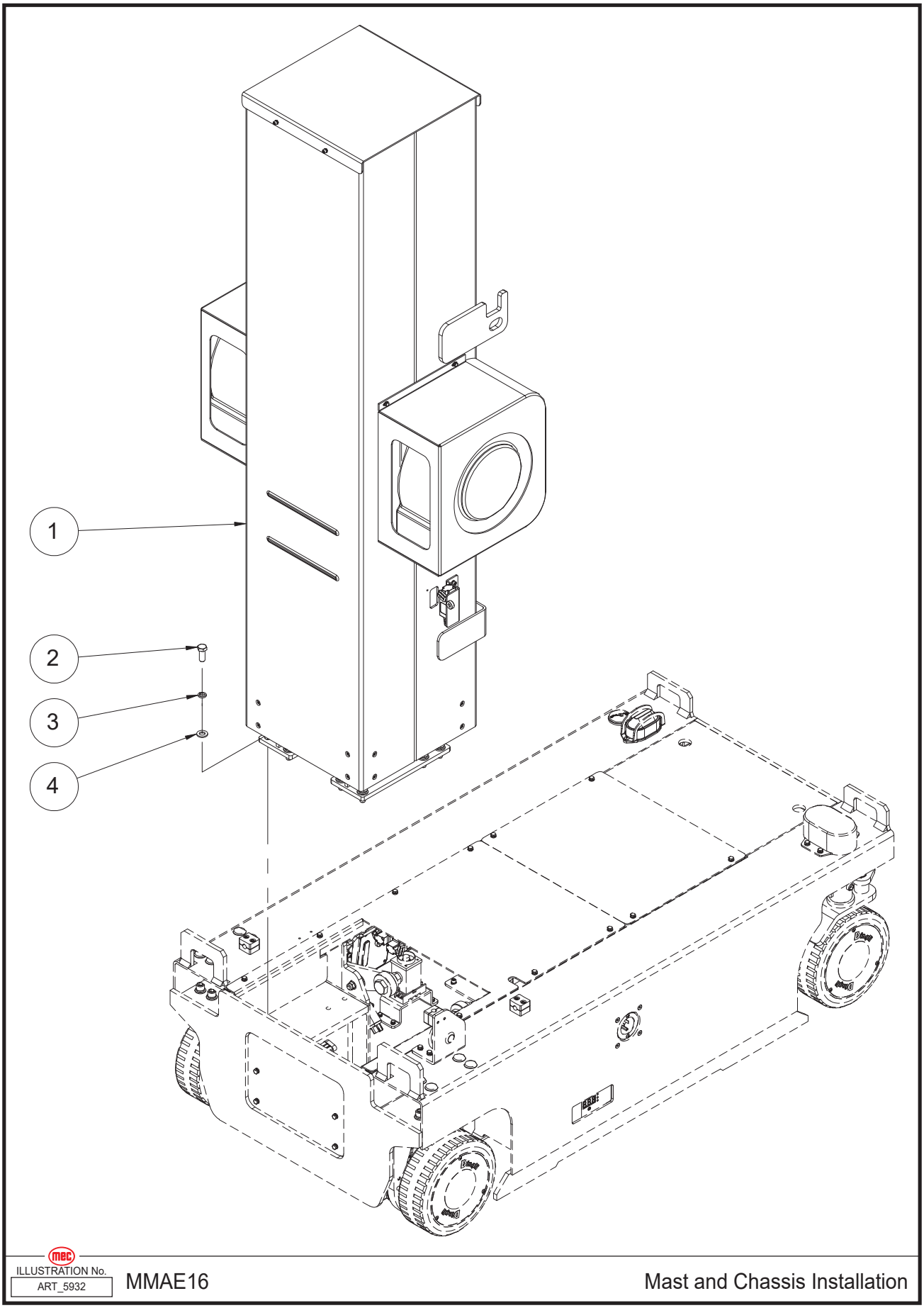


ILLUSTRATION No. ART_5932 MMAE16 Mast and Chassis Installation

Item	MEC	Description	Qty.
1	REF	Mast Assembly (Refer to page 62)	1
2	53148	WSHR M12 Spring Washer	2
3	50137	WSHR M12 ZP Standard Flat	4
4	50025	HHCS M12-1.75X060 10 ZP P	2

REF - Reference

Mast Assembly

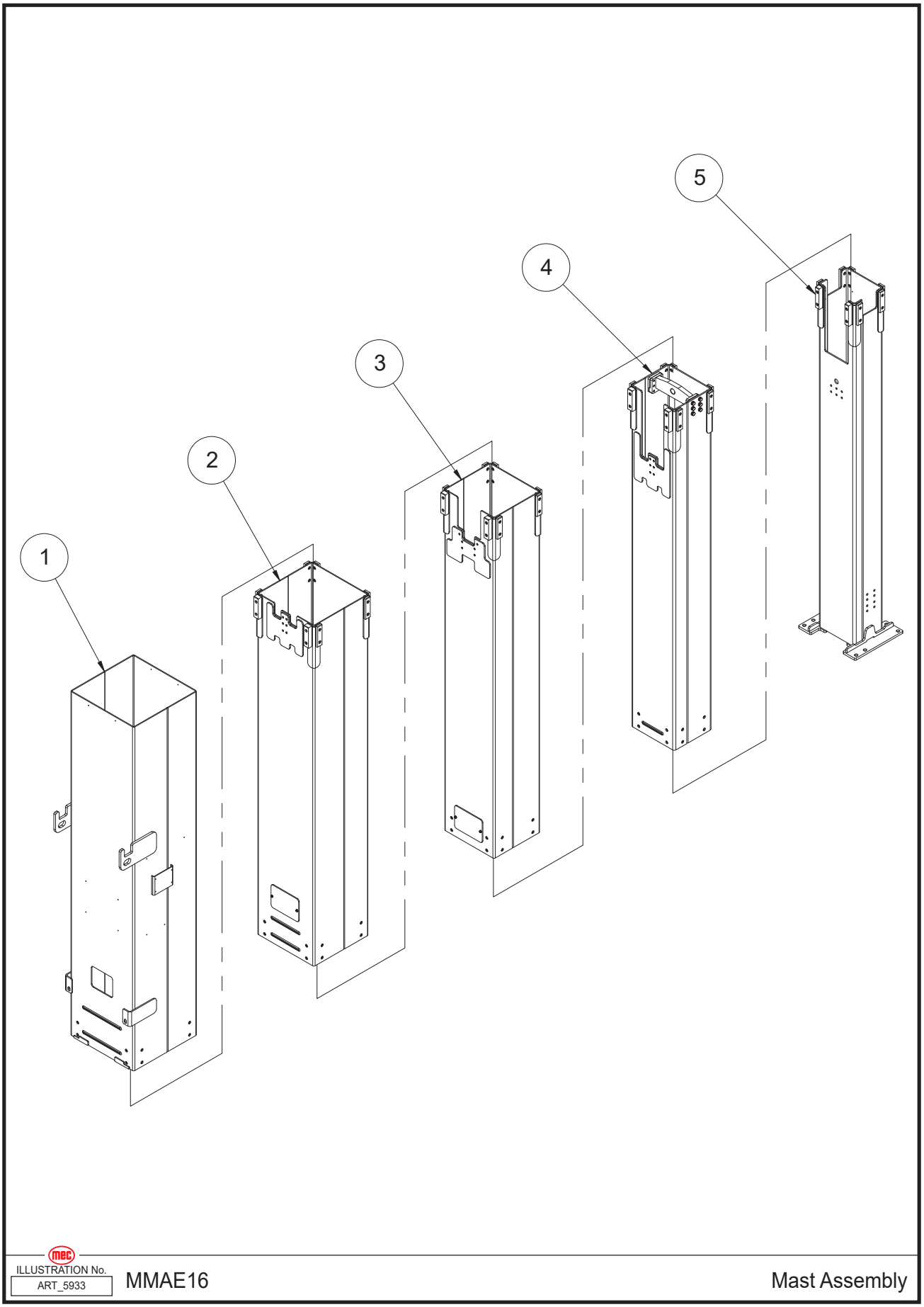


ILLUSTRATION No. ART_5933 MMAE16 Mast Assembly

Item	Part Number	Description	Qty.
1	REF	Mast 1 Assembly (Refer to page 64)	1
2	REF	Mast 2 Assembly (Refer to page 66)	1
3	REF	Mast 3 Assembly (Refer to page 68)	1
4	REF	Mast 4 Assembly (Refer to page 70)	1
5	REF	Mast 5 Assembly (Refer to page 72)	1

REF - Reference

Mast 1 Assembly

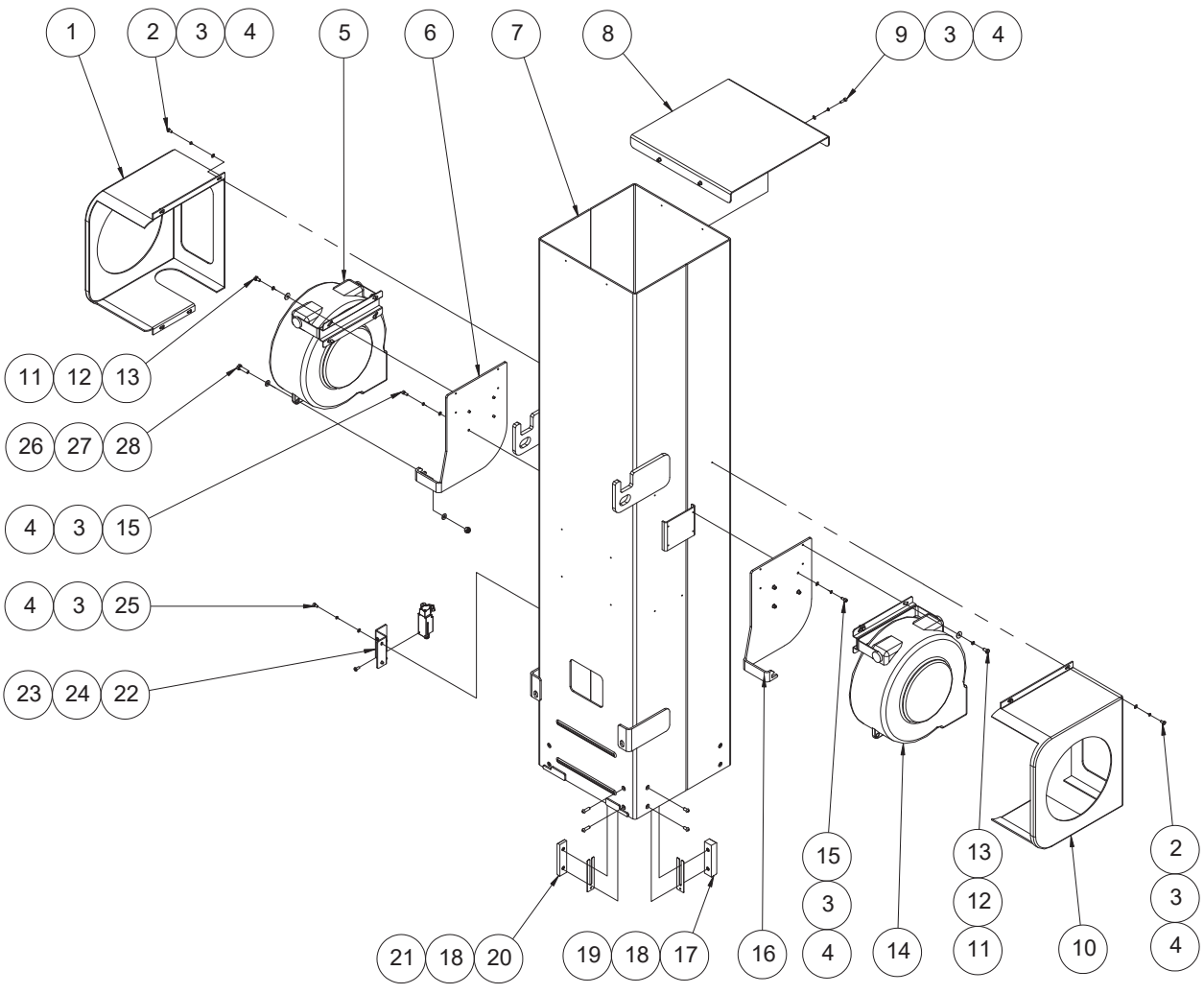


ILLUSTRATION No. ART_5934 MMAE16 Mast 1 Assembly

Item	Part Number	Description	Qty.
1	44708	Cover	1
2	53420	Screw HHCS M05-0.80 × 10	8
3	53043	WSHR M05 Spring Washer	22
4	53038	WSHR M05 Standard Flat Washer	22
5	44709	Cable Reel, Platform Power	1
6	44710	Reel Bracket	1
7	44711	Mast 1 Weldment	1
8	44712	Cover	1
9	50359	Screw SHCS M05-0.80 × 16	4
10	44713	Cover	1
11	50068	WSHR M06 Flat Fender Washer	8
12	53046	WSHR M06 Spring Washer	8
13	53104	Screw HHCS M06-1.00 × 12	8
14	44714	Cable Reel, Power to Platform	1
15	53116	Screw SHCS M05-0.80 × 12	8
16	44715	Reel Bracket	1
17	44716	Slide Block	2
18	53026	Screw BHCS M06-1.00 × 12	12
19	44717	Adjusting Plate	8
20	44718	Slide Block	6
21	53421	Screw BHCS M06-1.00 × 20	4
22	44719	Switch Bracket	1
23	53378	Screw PHMS M05-0.80 × 12	4
24	42074	Limit Switch, Outdoor	1
25	53173	Screw SHCS M05-0.80 × 10	2
26	50048	Nut NNYL M08 × 1.25	1
27	50001	WSHR M08 Standard Flat Washer	2
28	50032	Screw HHCS M08-1.25 × 30	1

Mast 2 Assembly

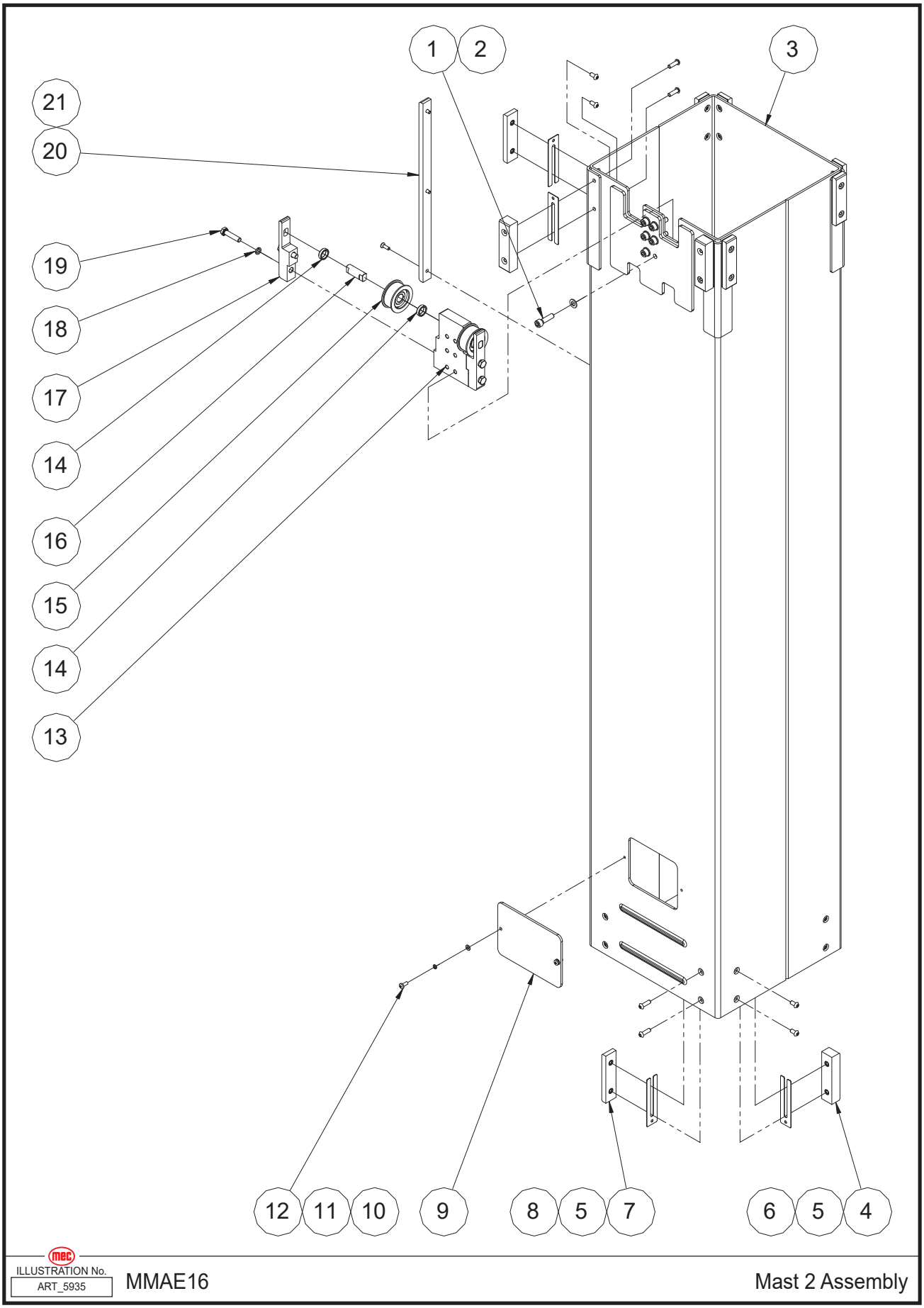


ILLUSTRATION No. ART_5935 MMAE16 Mast 2 Assembly

Item	Part Number	Description	Qty.
1	53385	Screw SHCS M08-1.25 × 30	6
2	50001	WSHR M08 Standard Flat Washer	6
3	44720	Mast 2 Weldment	1
4	44716	Slide Block	4
5	44717	Adjusting Plate	16
6	53421	Screw BHCS M06-1.00 × 20	8
7	44718	Slide Block	12
8	53026	Screw BHCS M06-1.00 × 12	24
9	44721	Cover	1
10	53038	WSHR M05 Standard Flat Washer	2
11	53043	WSHR M05 Spring Washer	2
12	53378	Screw PHMS M05-0.80 × 12	2
13	44722	Pulley Bracket	1
14	44723	Washer	4
15	44724	Pulley	2
16	44725	Pin	2
17	44726	Lock Plate	2
18	53055	WSHR M08 Spring Washer	4
19	50282	Screw HHCS M08-1.25 × 35	4
20	44727	Signal Plate	1
21	53269	Screw CSCS M05-0.80 × 16	3

Mast 3 Assembly

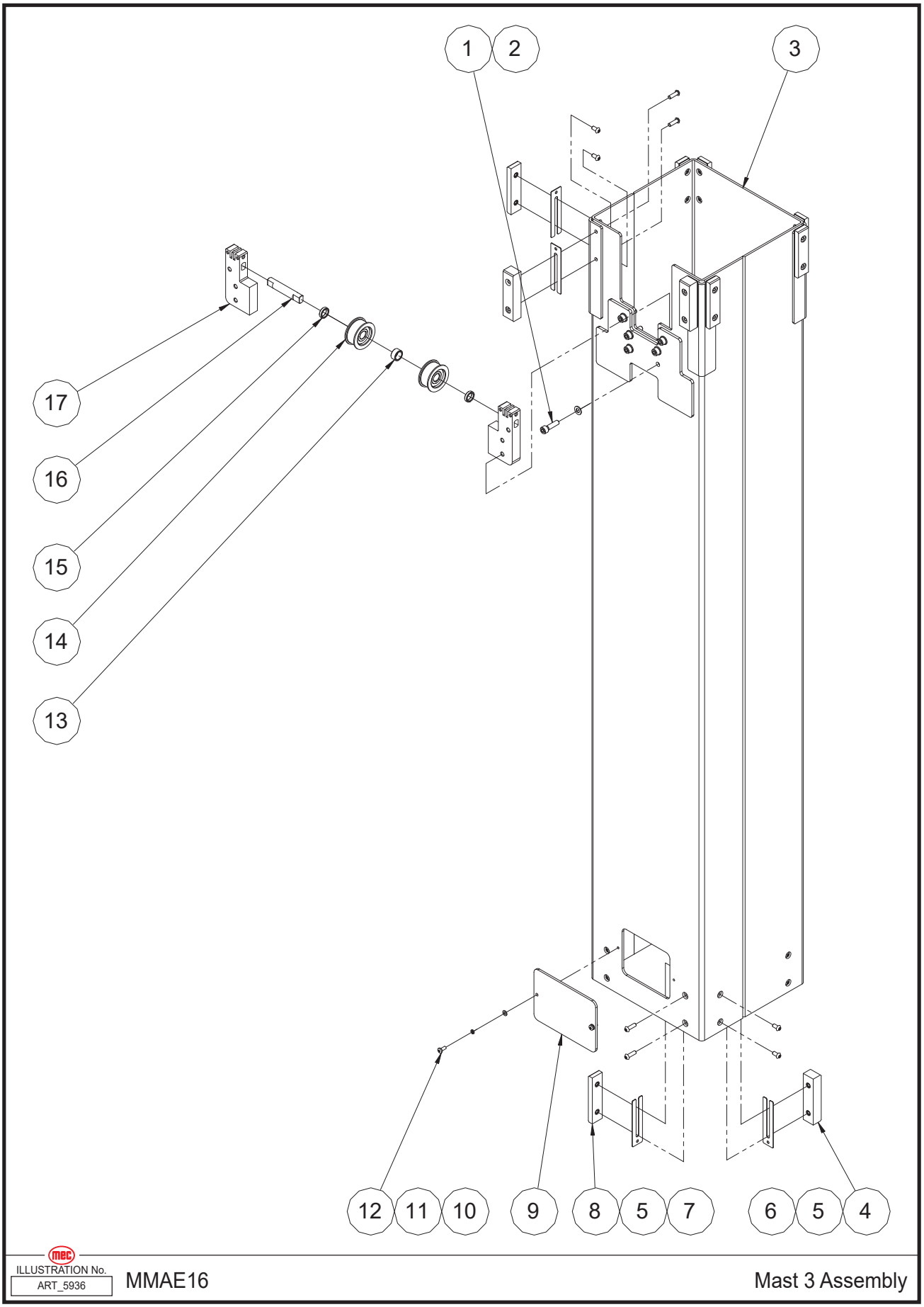


ILLUSTRATION No. ART_5936 MMAE16 Mast 3 Assembly

Item	Part Number	Description	Qty.
1	53385	Screw SHCS M08-1.25 × 30	6
2	50001	WSHR M08 Standard Flat Washer	6
3	44728	Mast 3 Weldment	1
4	44716	Slide Block	4
5	44717	Adjusting Plate	16
6	53421	Screw BHCS M06-1.00 × 20	8
7	53026	Screw BHCS M06-1.00 × 12	24
8	44718	Slide Block	12
9	44721	Cover	1
10	53038	WSHR M05 Standard Flat Washer	2
11	53043	WSHR M05 Spring Washer	2
12	53378	Screw PHMS M05-0.80 × 12	2
13	44729	Washer	1
14	44724	Pulley	2
15	44723	Washer	2
16	44730	Pin	1
17	44731	Pulley Bracket	2

Mast 4 Assembly

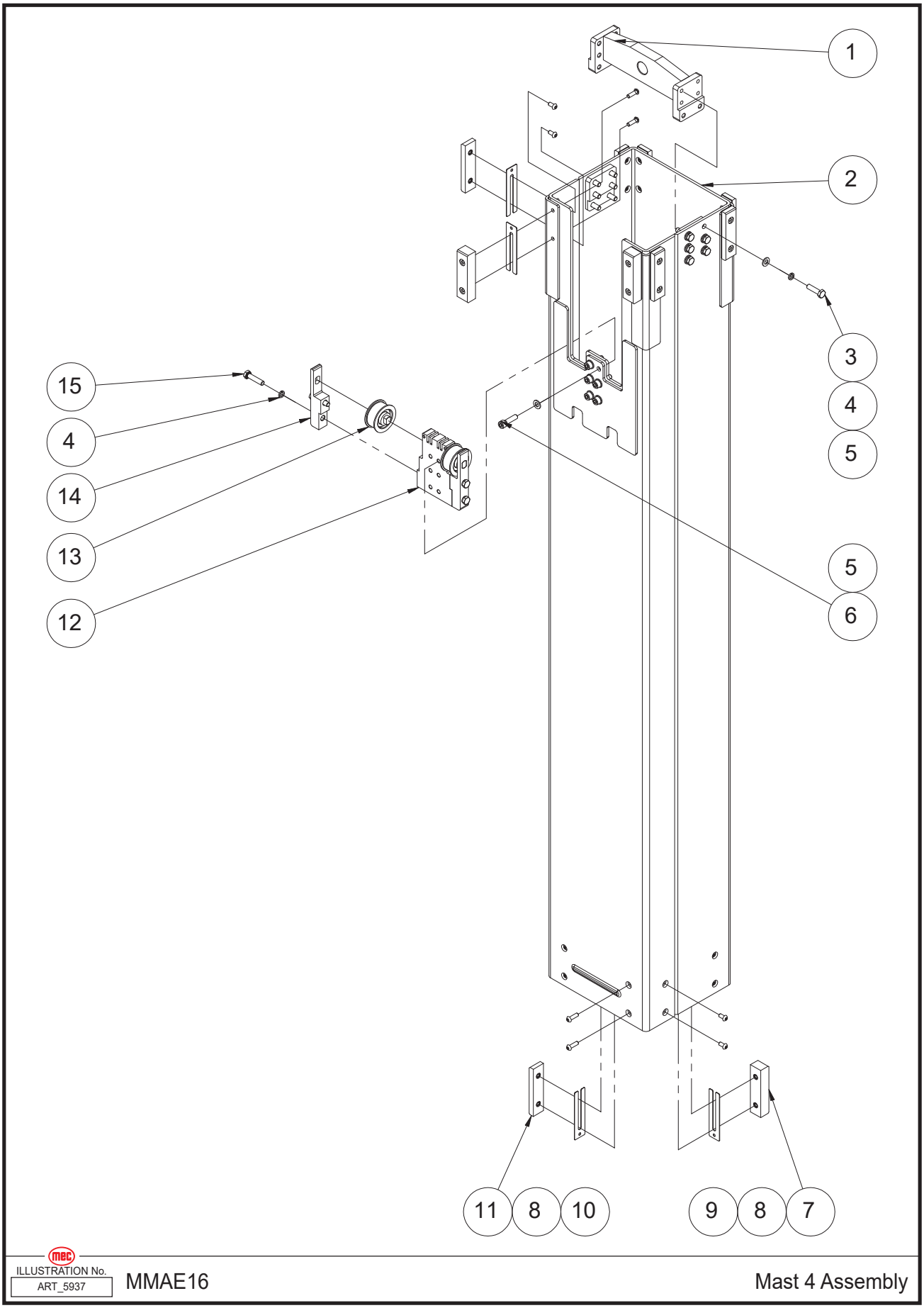


ILLUSTRATION No. ART_5937 MMAE16 Mast 4 Assembly

Item	Part Number	Description	Qty.
1	44732	Support	1
2	44733	Mast 4 Weldment	1
3	50032	Screw HHCS M08-1.25 × 30	12
4	53055	WSHR M08 Spring Washer	16
5	50001	WSHR M08 Standard Flat Washer	18
6	53385	Screw SHCS M08-1.25 × 30	6
7	44716	Slide Block	4
8	44717	Adjusting Plate	16
9	53421	Screw BHCS M06-1.00 × 20	8
10	53026	Screw BHCS M06-1.00 × 12	24
11	44718	Slide Block	12
12	44734	Pulley Bracket	1
13	44735	Pulley	2
14	44726	Lock Plate	2
15	50282	Screw HHCS M08-1.25 × 35	4

Mast 5 Assembly

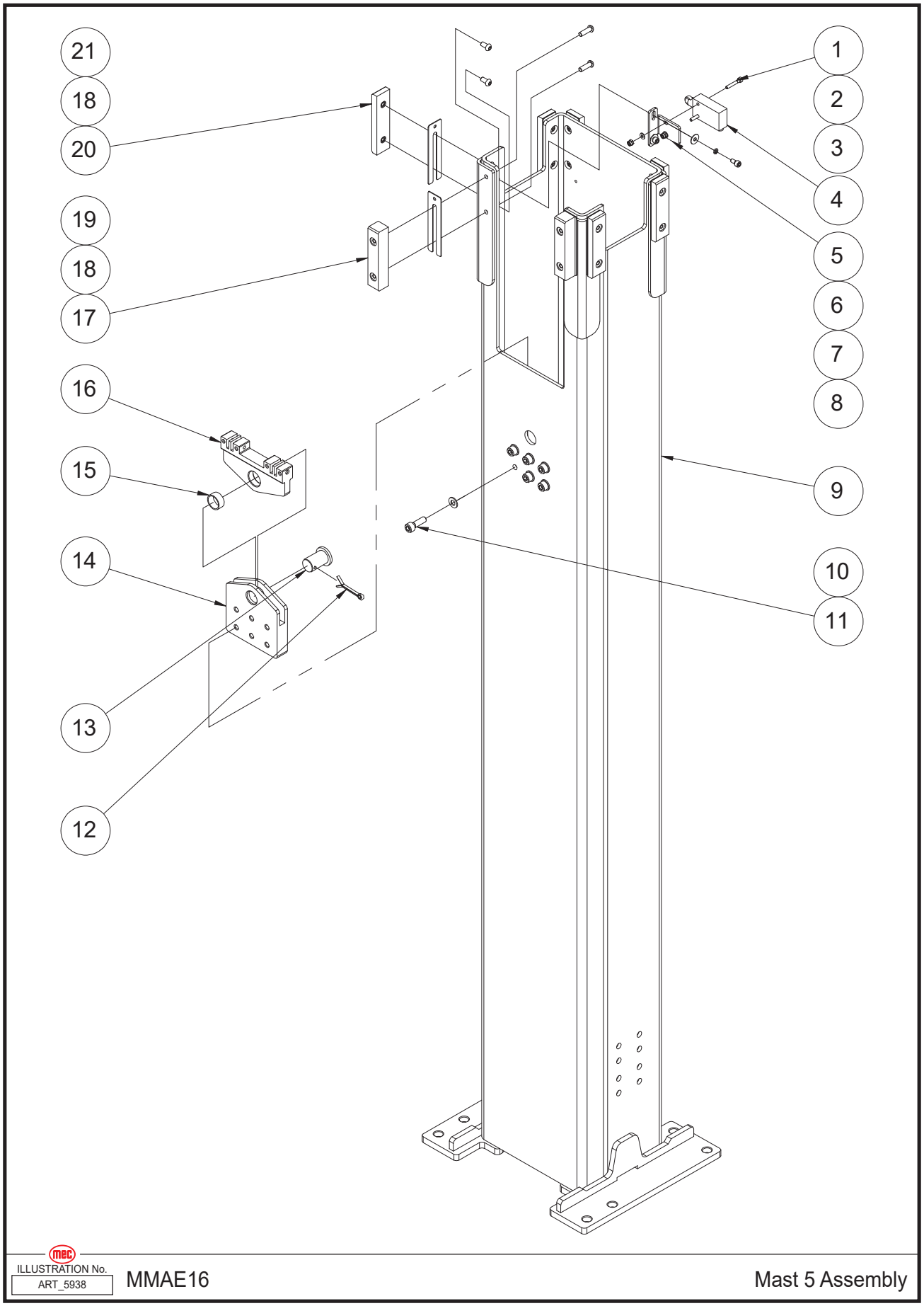


ILLUSTRATION No.
ART_5938

MMAE16

Mast 5 Assembly

Item	Part Number	Description	Qty.
1	53115	Screw SHCS M04-0.70 × 25	2
2	50284	WSHR M04 Standard Flat Washer	2
3	50285	Nut NNYL M04 × 0.70	2
4	44736	Limit Switch	1
5	44737	Switch Bracket	1
6	53173	Screw SHCS M05-0.80 × 10	2
7	53043	WSHR M05 Spring Washer	2
8	50525	WSHR M05 Flat Fender Washer	2
9	44738	Mast 5 Weldment	1
10	50001	WSHR M08 Standard Flat Washer	6
11	53210	Screw SHCS M08-1.25 × 25	6
12	44739	Cotter Pin	1
13	44740	Pin	1
14	44741	Rod Bracket	1
15	41214	Bearing	1
16	44742	Chain Terminal	1
17	44743	Slide Block	2
18	44717	Adjusting Plate	8
19	53421	Screw BHCS M06-1.00 × 20	4
20	44718	Slide Block	6
21	53026	Screw BHCS M06-1.00 × 12	12

(1-3) Mast Lifting Chain Installation

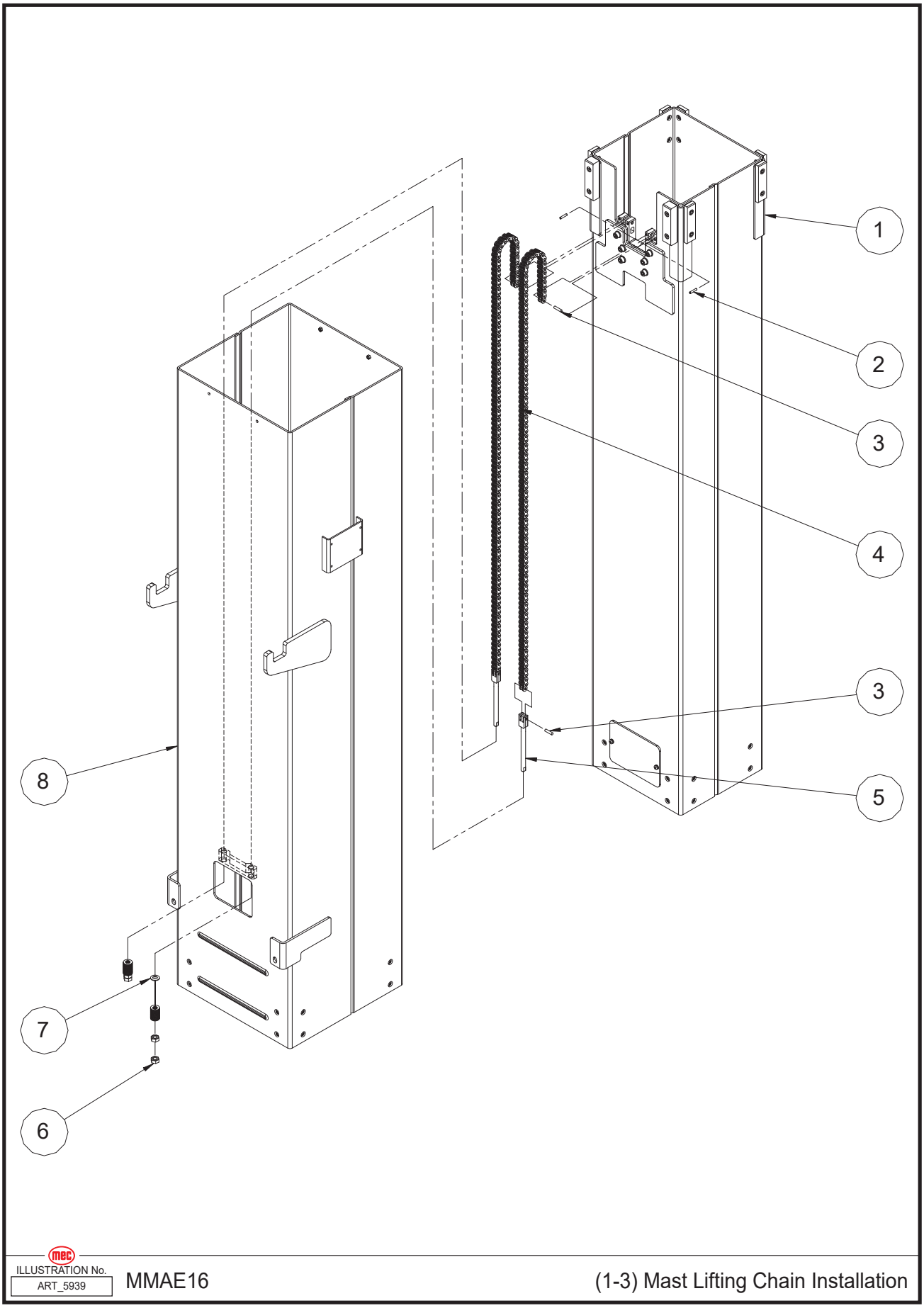


ILLUSTRATION No. ART_5939 MMAE16 (1-3) Mast Lifting Chain Installation

Item	Part Number	Description	Qty.
1	REF	Mast 3 Assembly (Refer to page 68)	1
2	44744	Pin	4
3	44389	Pin	4
4	44745	Chain	2
5	44746	Chain Terminal	2
6	53373	Nut NHEX M10-1.50	4
7	44747	Disc Spring	40
8	REF	Mast 1 Assembly (Refer to page 64)	1

REF - Reference

(2-4) Mast Lifting Chain Installation

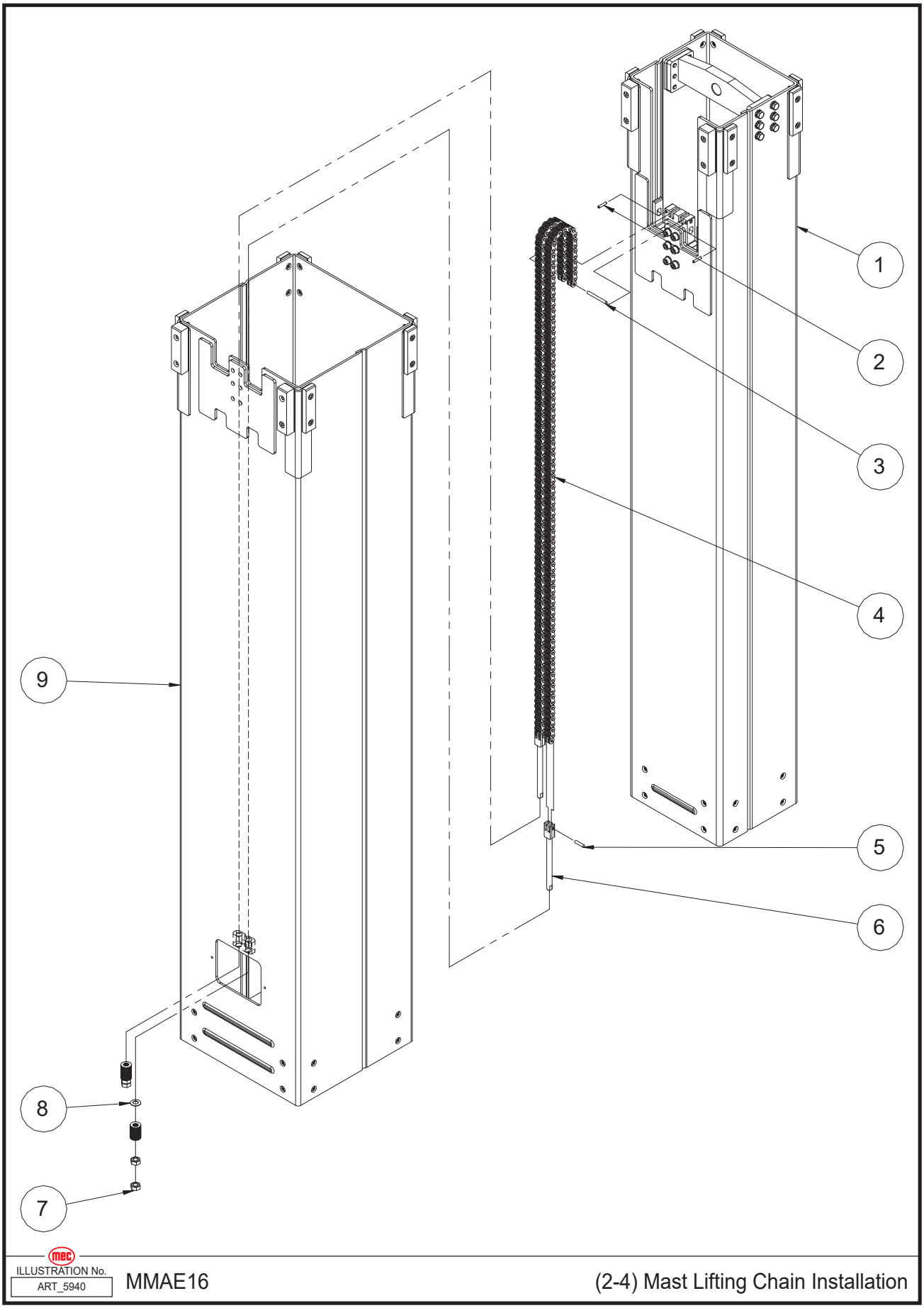


ILLUSTRATION No. ART_5940 MMAE16 (2-4) Mast Lifting Chain Installation

Item	Part Number	Description	Qty.
1	REF	Mast 4 Assembly (Refer to page 70)	1
2	44744	Pin	2
3	44748	Pin	1
4	44745	Chain	2
5	44389	Pin	2
6	44746	Chain Terminal	2
7	53373	Nut NHEX M10-1.50	4
8	44747	Disc Spring	40
9	REF	Mast 2 Assembly (Refer to page 66)	1

REF - Reference

(3-5) Mast Lifting Chain Installation

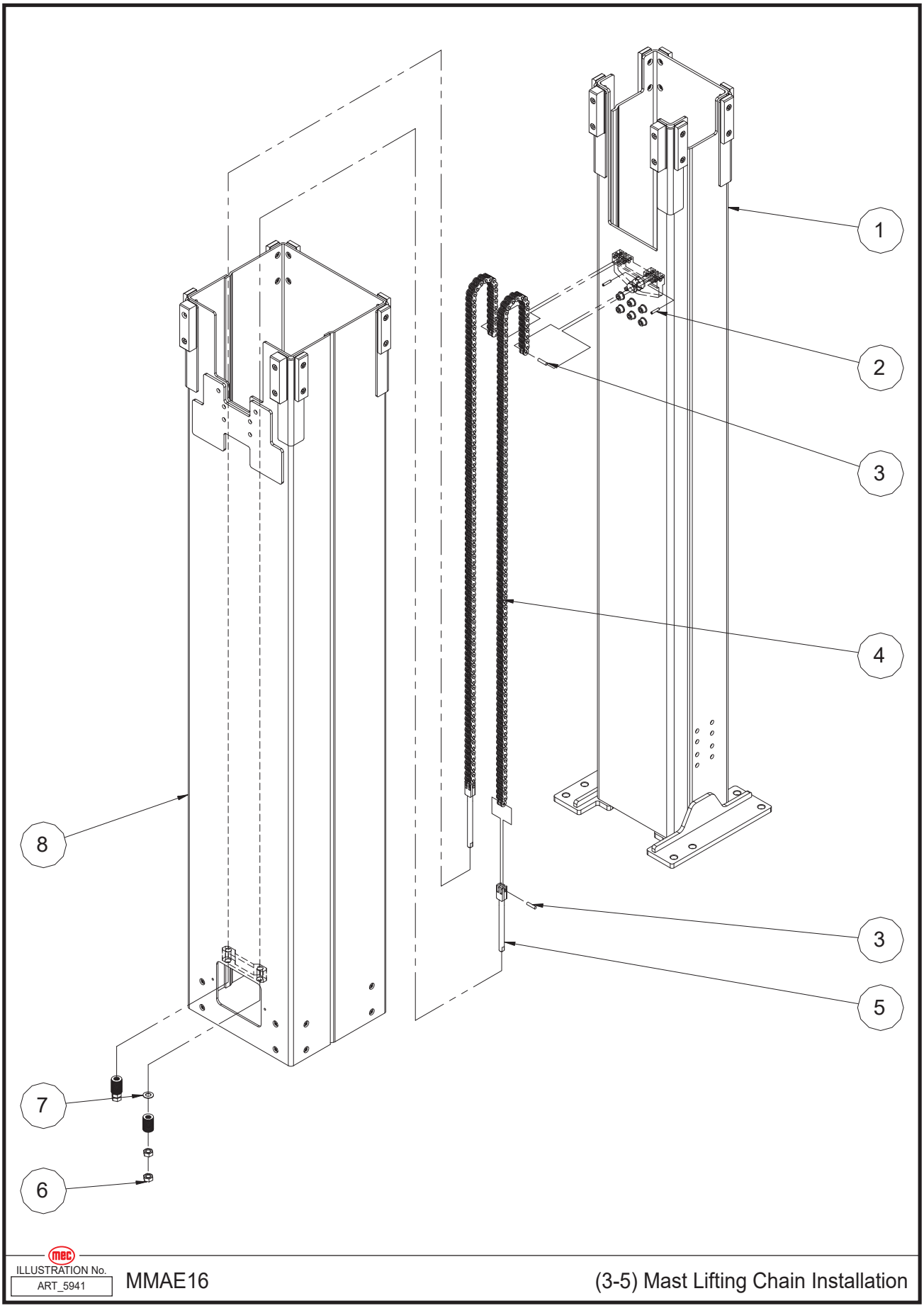


ILLUSTRATION No. ART_5941 MMAE16 (3-5) Mast Lifting Chain Installation

Item	Part Number	Description	Qty.
1	REF	Mast 5 Assembly (Refer to page 72)	1
2	44744	Pin	4
3	44389	Pin	4
4	44745	Chain	2
5	44746	Chain Terminal	2
6	53373	Nut NHEX M10-1.50	4
7	44747	Disc Spring	40
8	REF	Mast 3 Assembly (Refer to page 68)	1

REF - Reference

Electric Cylinder Installation

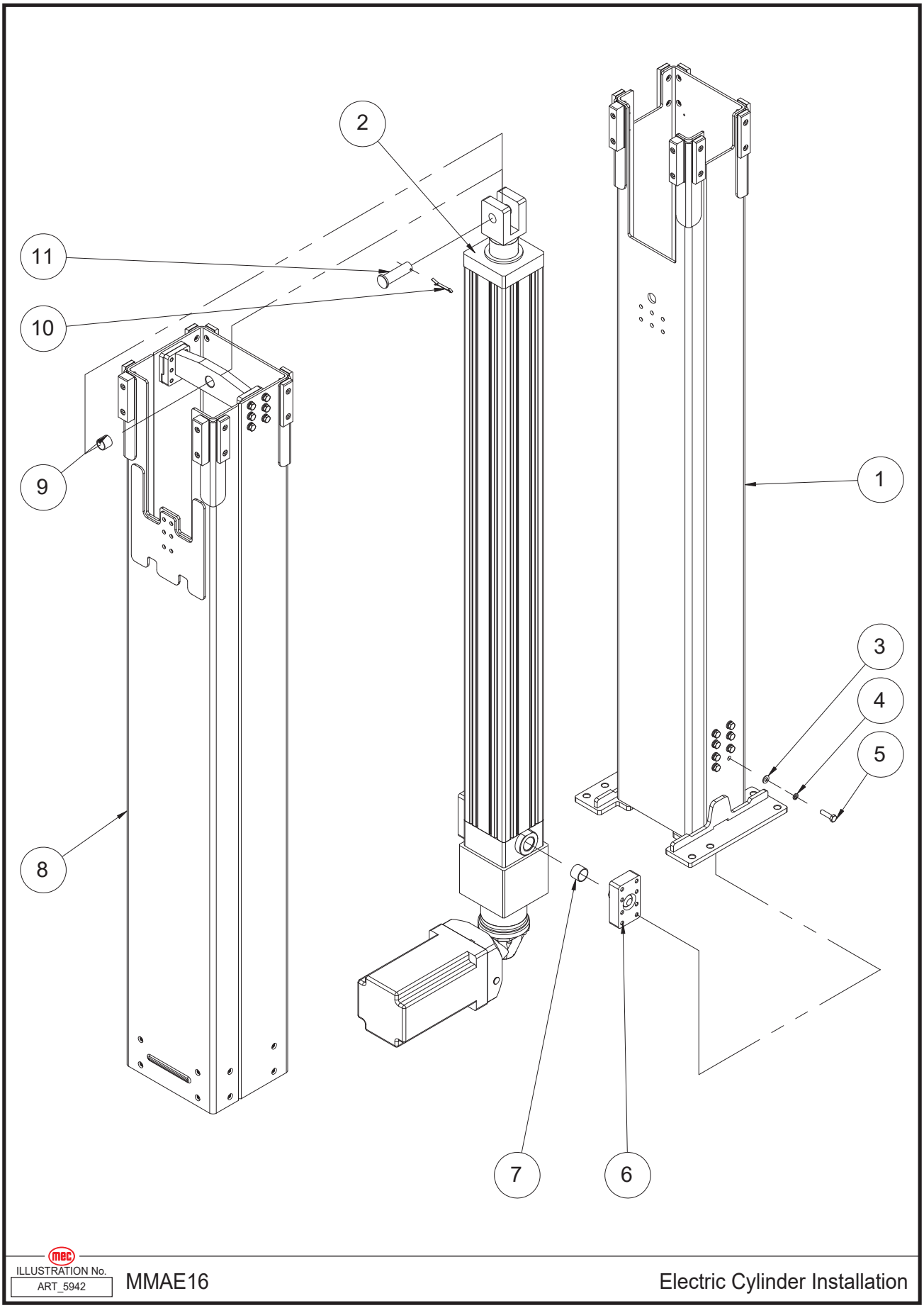


ILLUSTRATION No. ART_5942 MMAE16 Electric Cylinder Installation

Item	Part Number	Description	Qty.
1	REF	Mast 5 Assembly (Refer to Page 66)	1
2	44749	Electric Cylinder Assembly	1
--	44750	Electric Cylinder	1
--	44751	Reducer	1
--	44752	Brake (Serial 17400100–17401841 & Serial 17402087–17402101)	1
--	47499	Brake (Serial 17401842–17402086 & Serial 17402100 to current)	1
--	44753	Motor	1
3	50001	WSHR M08 Standard Flat Washer	16
4	53055	WSHR M08 Spring Washer	16
5	50032	Screw HHCS M08-1.25 × 30	16
6	44754	Electric Cylinder Bracket	2
7	41046	Bearing	2
8	REF	Mast 4 Assembly (Refer to page 70)	1
9	41037	Bearing	1
10	44739	Cotter Pin	1
11	44755	Pin	1

REF - Reference

Platform and Mast Installation

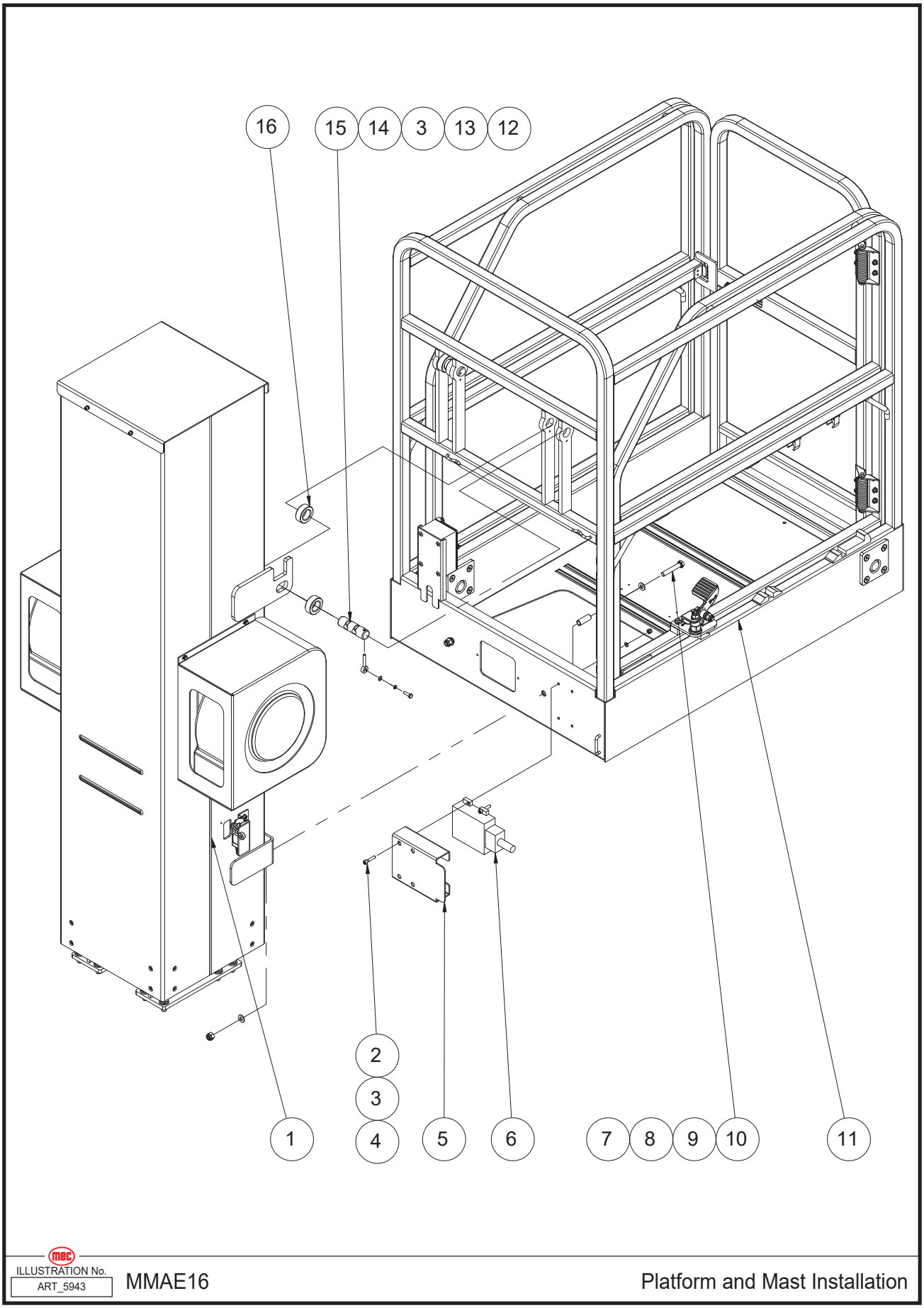


ILLUSTRATION No. ART_5943 MMAE16 Platform and Mast Installation

Item	Part Number	Description	Qty.
1	REF	Mast Assembly (Refer to page 62)	1
2	53207	Screw SHCS M06-1.00 × 30	4
3	50000	WSHR M06 Standard Flat Washer	6
4	50047	Nut NNYL M06-1.00	4
5	44756	Cover	1
6	44757	Load Sensor Amplifier	1
7	50049	Nut NNYL M10 × 1.50	2
8	50002	WSHR M10 Standard Flat Washer	4
9	44758	Spacer Sleeve	2
10	50421	Screw HHCS M10-1.50 × 60	2
11	REF	Platform Assembly (Refer to page 84 and page 86)	1
12	50028	Screw HHCS M06-1.00 × 20	2
13	53046	WSHR M06 Spring Washer	2
14	42449	Pin	2
15	44759	Sensor	2
16	44760	Sheath	4

REF - Reference

Main Platform Assembly

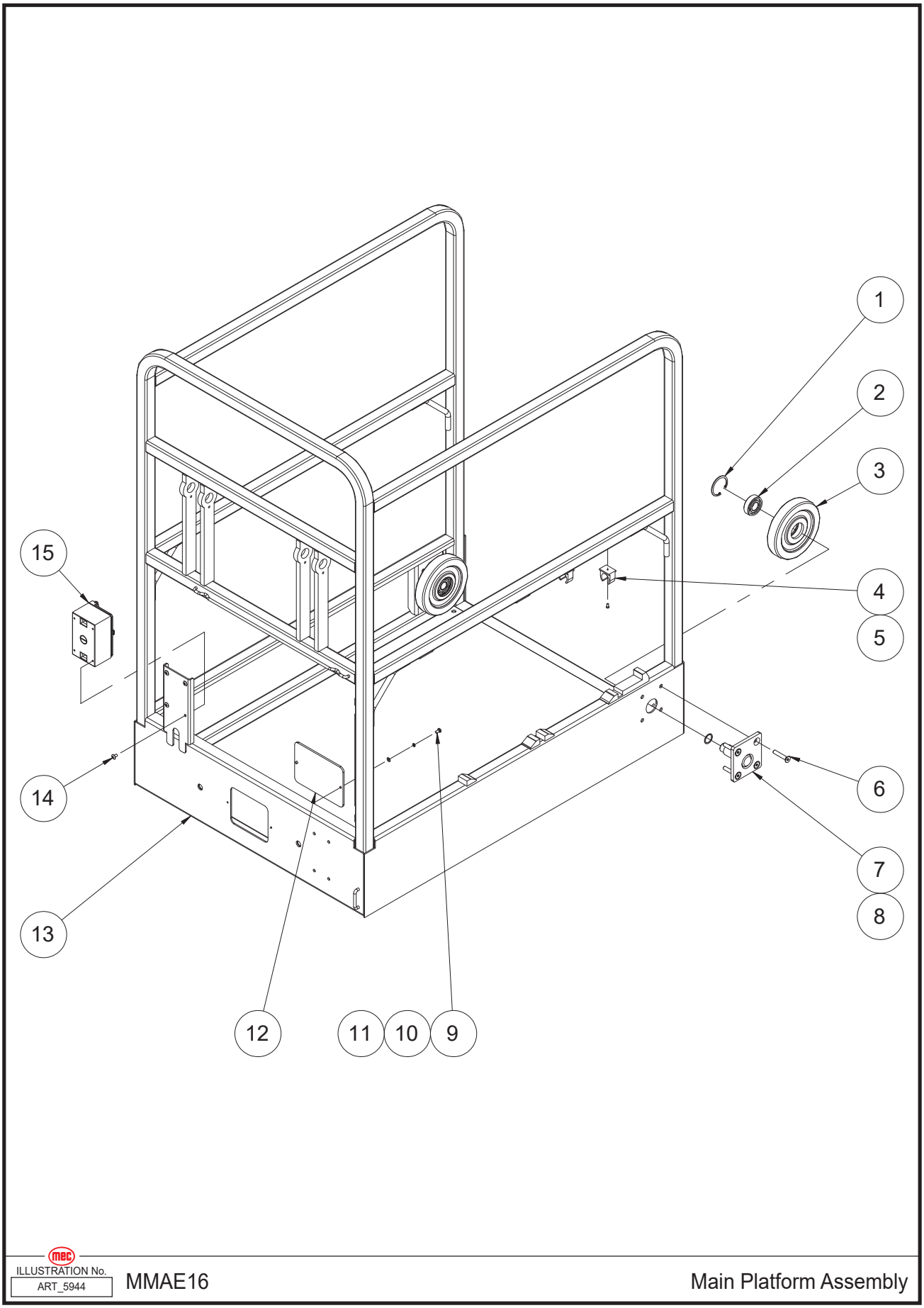


ILLUSTRATION No. ART_5944 MMAE16 Main Platform Assembly

Item	Part Number	Description	Qty.
1	43618	Circlips	2
2	41131	Bearing	2
3	43617	Roller	2
4	41134	Clip	2
5	53276	Screw PHMS M04-0.70 × 8	2
6	53275	Screw CSCS M08-1.25 × 45	8
7	41360	Roller Bracket	2
8	44761	Washer	2
9	53354	Screw PHMS M05-0.80 × 10	2
10	53038	WSHR M05 Standard Flat Washer	2
11	53043	WSHR M05 Spring Washer	2
12	44721	Cover	1
13	44762	Main Deck Weldment	1
14	53265	Screw THMS M05-0.80 × 10	4
15	91597	(AC Socket?) Outlet Box	1
--	91598	Outlet Cover	1
--	92007	Outlet, 15A 120V GFCI	1
--	53040	Screw, HHSM #8 x 0.5	4
--	92008	Strain Relief	1

Platform Extension Assembly

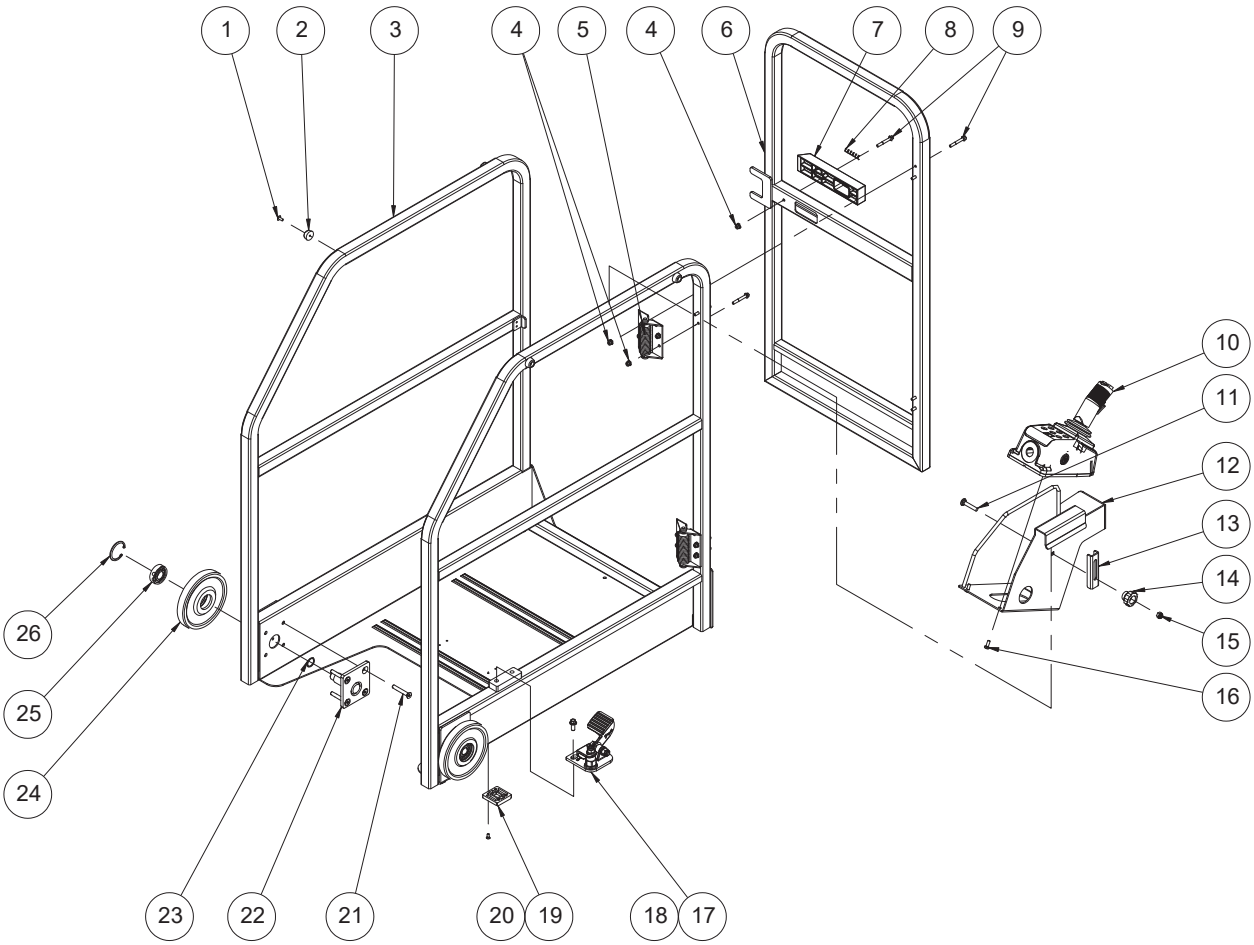


ILLUSTRATION No. ART_5945 MMAE16 Platform Extension Assembly

Item	Part Number	Description	Qty.
1	53224	Screw THMS M05-0.80 × 12	4
2	41120	Bumper	4
3	44763	Extension Deck Weldment	1
4	50568	Nut NNYL M06-1.00 Flange	9
5	44764	Hinge	2
6	44765	Entry Gate	1
7	41278	Handle	1
8	41277	Spring	1
9	53360	Screw HHCS M06-1.00 × 45 Flange	9
10	REF	Platform Control Box Assembly (Refer to page 90)	1
11	53248	Screw CARB M08-1.25 × 45	1
12	44766	Platform Control Box Mount Bracket	1
13	42500	Locating Plate	1
14	42501	Handle	1
15	50048	Nut NNYL M08 × 1.25	1
16	53231	Screw PHMS M06-1.00 × 16	4
17	REF	Platform Locking Device Assembly (Refer to page 88)	1
18	53257	Screw HHCS M08-1.25 × 20 Serrated Flange	2
19	41284	Slide Pad	2
20	53279	Screw CSCS M05-0.80 × 12	8
21	53280	Screw CSCS M08-1.25 × 55	8
22	41360	Roller Bracket	2
23	44761	Washer	2
24	41141	Roller 2	2
25	41131	Bearing	2
26	43618	Circlips	2

REF - Reference

Platform Locking Device Assembly

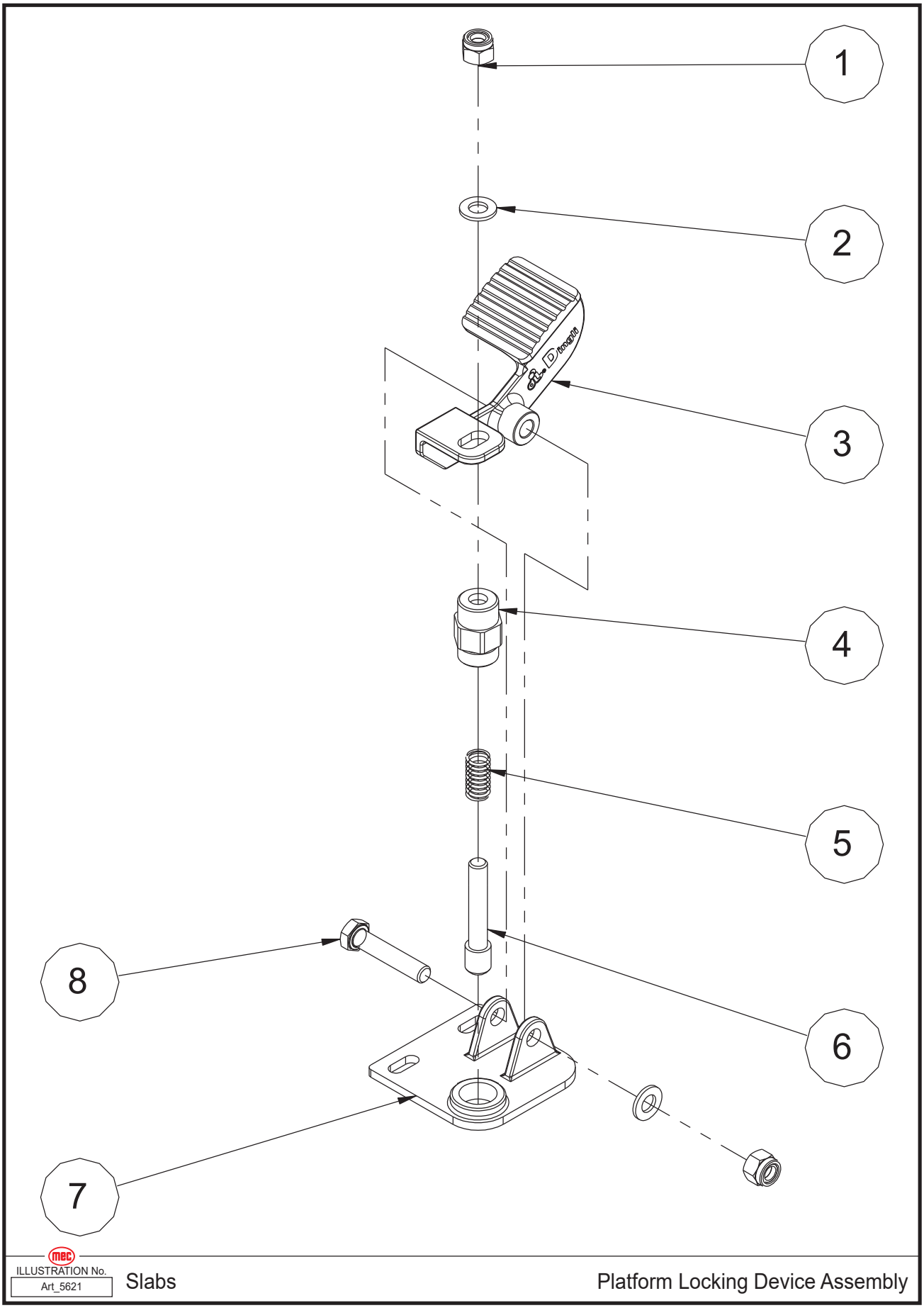


ILLUSTRATION No. Art_5621 Slabs Platform Locking Device Assembly

Item	Part Number	Description	Qty.
1	50049	Nut NNYL M10 × 1.50	2
2	50002	WSHR M10 Standard Flat Washer	2
3	41143	Foot Pedal	1
4	41144	Lock Pin Housing	1
5	41145	Spring	1
6	41146	Lock Pin	1
7	44767	Bracket	1
8	50020	Screw HHCS M10-1.50 × 50	1

Platform Control Box Assembly

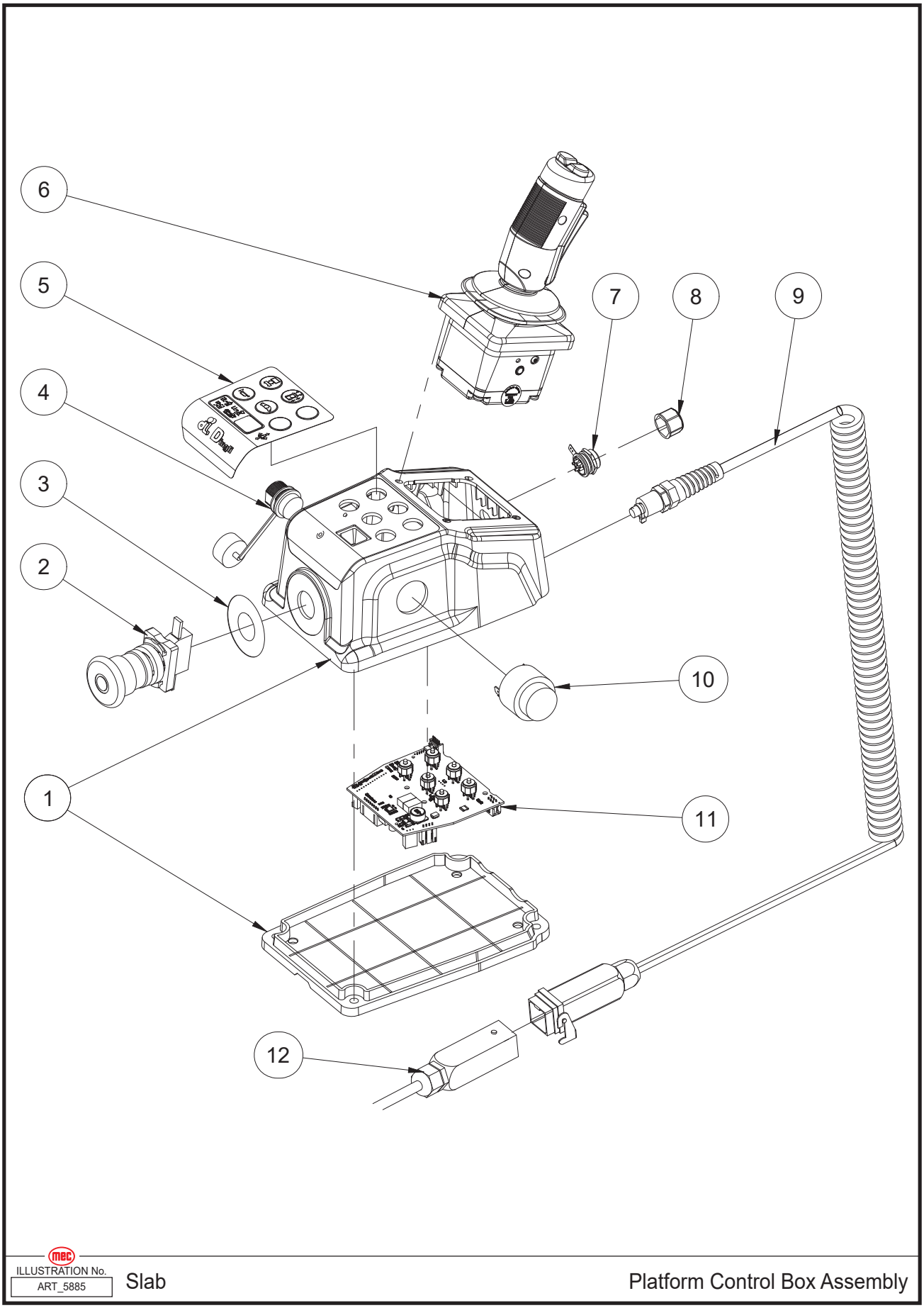


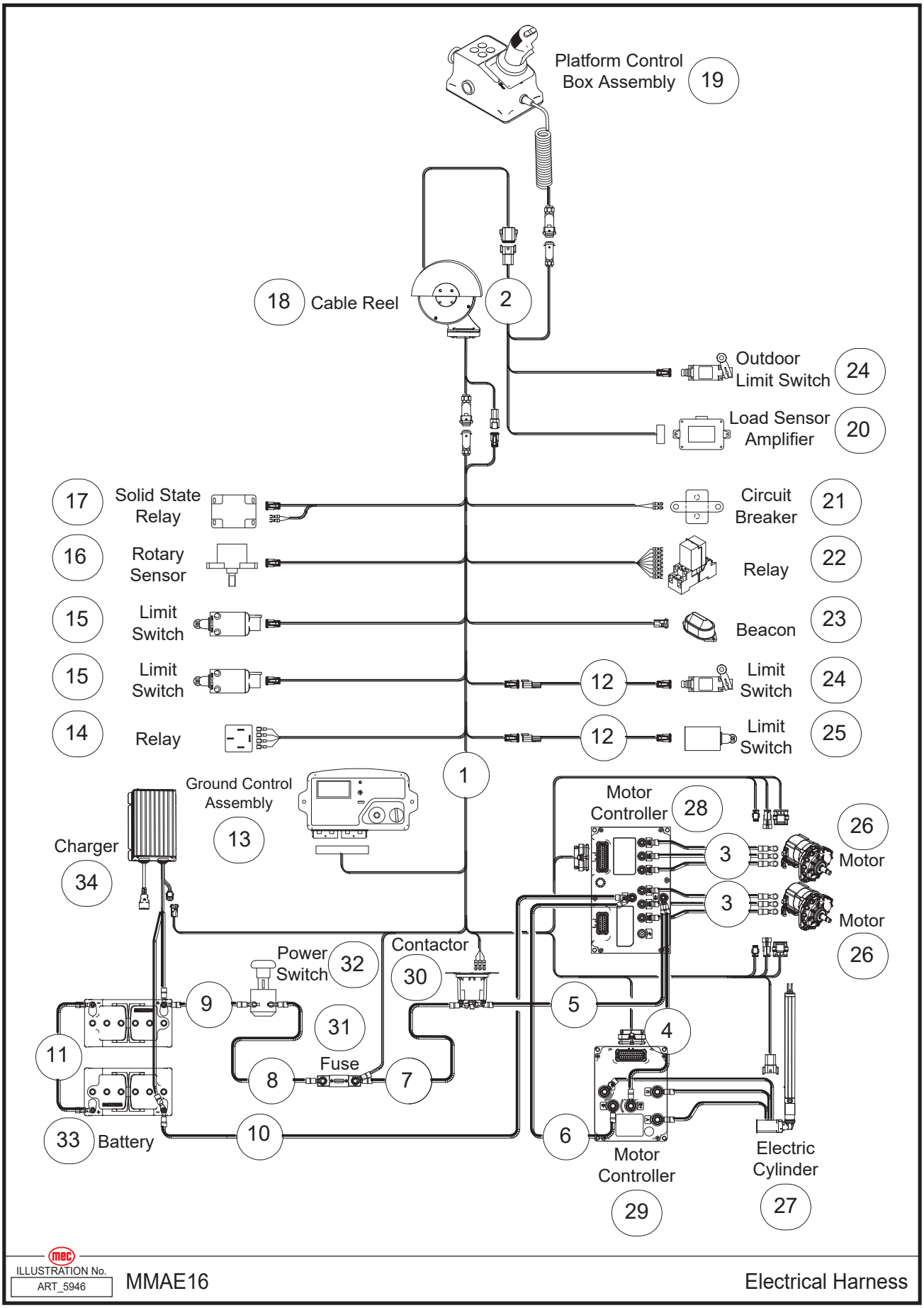
ILLUSTRATION No.
ART_5885

Slab

Platform Control Box Assembly

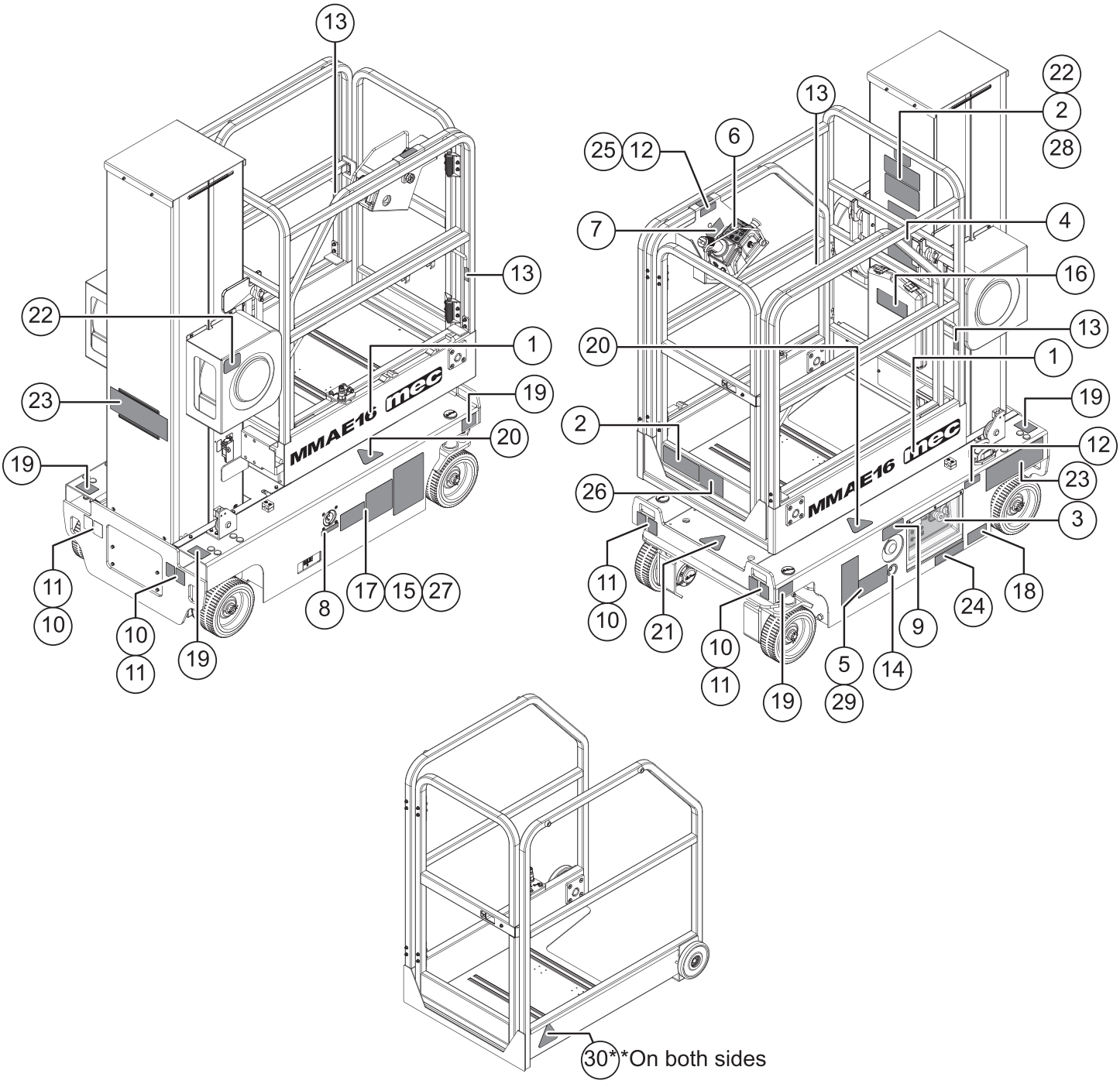
Item	Part Number	Description	Qty.
--	46315	Platform Control Box Assembly	1
1	44768	Shell Components	1
2	41157	Emergency Stop Switch	1
--	43632	Red Mushroom Head	1
--	43633	Base With 1 NO Contact	1
3	42915	Decal, Emergency Stop Panel	1
4	44769	USB Cable	1
5	44797	Decal, Platform Control Panel	1
6	41149	Joystick	1
--	43621	Function Enable Switch	1
--	41150	Joystick Cover	1
--	43622	Joystick Steer Switch	1
--	43623	Switch Boot	1
7	44770	Connector	1
8	44771	Connector Cap	1
9	44772	Coil Cord	1
--	44773	Hood	1
--	44774	Female Insert	1
--	44775	Female Contacts	5
--	43627	Cable Gland	1
10	41568	Alarm	1
--	43631	Alarm Nut	1
11	44776	PCU Main Board	1
12	44777	Platform Control Box Harness	1
--	44778	Housing	1
--	44779	Male Insert	1
--	44780	Male Contacts	5
--	43627	Cable Gland	1

Electrical Harness

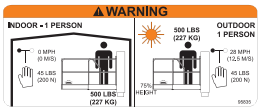
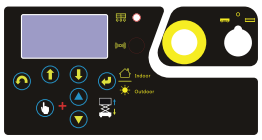
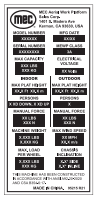
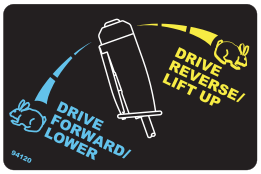
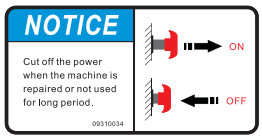
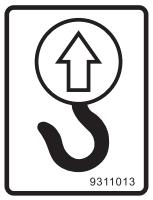
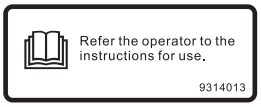
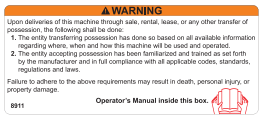
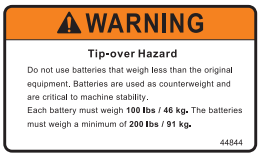
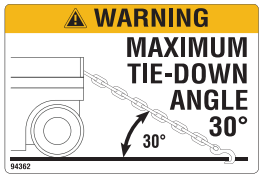
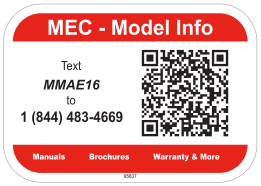
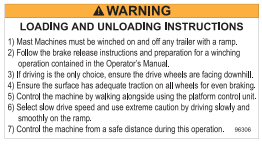


Item	Part Number	Description	Qty.
1	44781	ECU Harness	1
2	44777	Platform Control Box Harness	1
3	44782	Drive Motor Harness	2
4	44783	Lift Motor Controller Positive Harness	1
5	44784	Drive Motor Controller Positive Harness	1
6	44785	Lift Motor Controller Negative Harness	1
7	44786	DC Contactor Harness	1
8	44787	Fuse Harness	1
9	44788	Battery Positive Harness	1
10	44789	Drive Motor Controller Negative Harness	1
11	44790	Battery Harness	1
12	44791	Lift Up Limit Switch Harness	3
13	48423	Ground Control Assembly	1
14	41334	Relay	1
15	44671	Limit Switch, Pothole	2
16	41195	Rotary Sensor	1
17	44685	Motor Controller, Steer	1
18	44709	Cable Reel, Power to Platform	1
19	46315	Platform Control Box Assembly	1
20	44794	Load Sensor Amplifier	1
21	44689	Circuit Breaker	1
22	44688	Relay	1
23	41310	Beacon	1
24	42074	Limit Switch	3
25	44736	Limit Switch	1
26	44655	Motor	2
27	44639	Electric Cylinder	1
28	44686	Motor Controller	1
29	44682	Motor Controller	1
30	44684	DC Contactor	1
31	44031	150A Fuse	1
32	42071	Power Switch	1
33	44331	Battery	2
34	42904	Charger	1

Decals



PLATFORM EXTENDED

1 MMAE16 mec 95731 Qty. - 2	2  95835 Qty. - 2	3  44795 Qty. - 1	4  43885 Qty. - 1	5  95215 Qty. - 1
6  44797 Qty. - 1	7  94120 Qty. - 1	8  94659 Qty. - 1	9  43910 Qty. - 1	10  41635 Qty. - 4
11  41634 Qty. - 4	12  41639 Qty. - 2	13  41648 Qty. - 4	14  95847 Qty. - 1	15  41641 Qty. - 1
16  8911 Qty. - 1	17  44844 Qty. - 1	18  90732 Qty. - 1	19  94362 Qty. - 4	20  9910 Qty. - 2
21  91850 Qty. - 3	22  95837 Qty. - 2	23  96686 Qty. - 2	24  42534 Qty. - 1	25  41640 Qty. - 1
26  94115 Qty. - 1	27  41649 Qty. - 1	28  44598 Qty. - 1	29  96306 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: _____ **Ordered By:** _____
Account: _____ **Your Fax No.:** _____
Bill to: _____ **Ship to:** _____
_____ _____
_____ _____

Purchase Order Number _____ **Ship VIA** _____

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

***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)

Signature _____

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

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