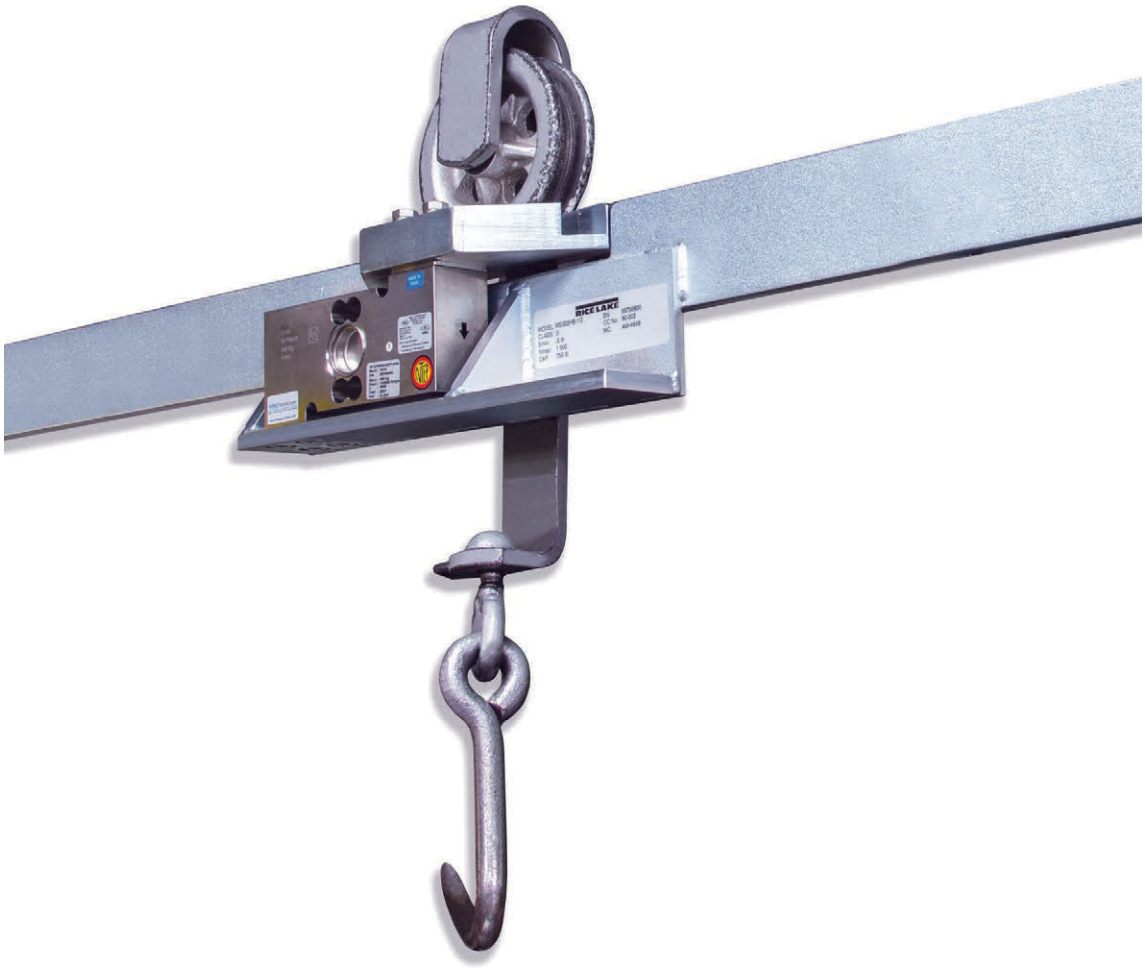
MS200 and MS202

Monorail Scale

Installation Manual



RICE LAKE®
WEIGHING SYSTEMS

September 12, 2025

PN 16984 Rev E

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www.ricelake.com

Revision History

This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description
C	August 5, 2024	Established revision history; Added newly released scales
D	March 7, 2025	Updated replacement parts
E	September 12, 2025	Added dimensional drawings

Table i. Revision Letter History

Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at www.ricelake.com/training or obtained by calling 715-234-9171 and asking for the training department.

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1.0 Introduction

This Manual is intended for use by technicians for the installation of MS200 and MS202 monorail scales.

Manuals are available from Rice Lake Weighing Systems at www.ricelake.com/manuals

Warranty information is available at www.ricelake.com/warranties

1.1 Safety

Safety Definitions:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.

IMPORTANT: Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

General Safety

Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.

WARNING

Failure to heed could result in serious injury or death.

Do not allow minors (children) or inexperienced persons to operate this unit.
Do not use for purposes other than weight taking.
Do not place fingers into slots or possible pinch points.
Do not use this product if any of the components are cracked.
Do not exceed the rated specification of the unit.
Do not make alterations or modifications to the unit.
Do not remove or obscure warning labels.
Do not use solvents or aggressive substances to clean product.
Do not submerge.

1.2 FCC Compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescites dans le Règlement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

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1.3 MS200 Portable Monorail Scales

The MS200 Monorail Scale is for portable use and is designed to bolt onto a straight section of either 3/8" x 2 1/2" or 1/2" x 2 1/2" rail. The overall length of straight rail required for the scale and ramps is 41". The scale body requires a 22" space between existing support hangers. MS200HB scales use Electroless Nickel Plated (ENP) mild steel. MS202HB-SS scale uses stainless steel. There are two configurations of the MS202HB Monorail Scale and one configuration of the MS202HB-SS Monorail Scale.

Model	Capacity	Material		Rail		Part Number
		ENP Mild Steel	Stainless Steel	3/8 in	1/2 in	
MS200HB	750 lb	●		●	●	19743
MS200HB	1500 lb	●			●	213006
MS200HB-SS	1500 lb		●		●	213007

Table 1-1. MS200 Portable Monorail Scales

MS200 Dimensions

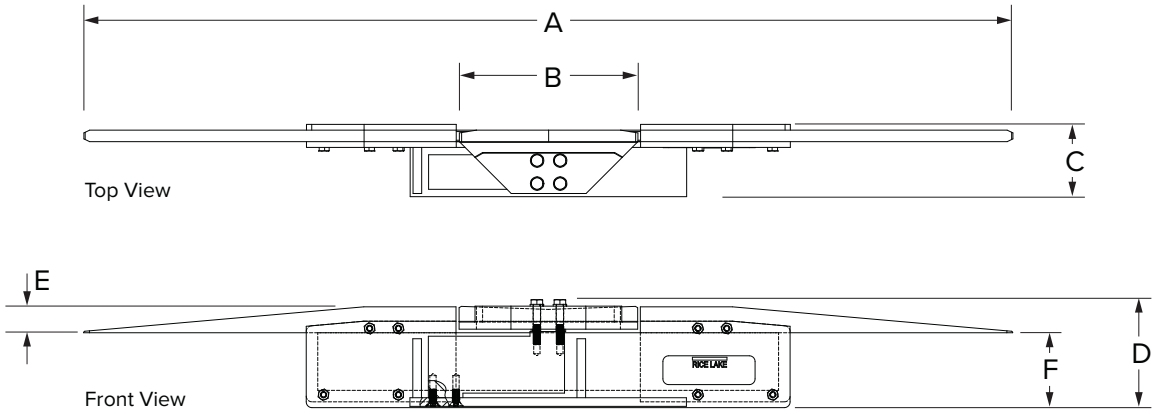

Figure 1-1. MS200 Portable Monorail Scales

Dimension	750 lb Capacity	1500 lb Capacity
A	21.00 in (533 mm)	40.32 in (1024 mm)
B	8.00 in (203 mm)	8.00 in (203 mm)
C	--	4.91 in (125 mm)
D	4.50 in (114 mm)	5.19 in (132 mm)
E	1.13 in (29 mm)	--
F	--	3.46 in (88 mm)

Table 1-2. MS200 Portable Monorail Scale

1.4 MS202 Permanent Monorail Scales

The MS202 Monorail Scales are for permanent use and come with 52" of either 3/8" or 1/2" rail. MS202HB scales use Electroless Nickel Plated (ENP) mild steel. MS202HB-SS scales use stainless steel. There are three configurations of the MS202HB Monorail Scale and three configurations of the MS202HB-SS Monorail Scale.

Model	Capacity	Material		Rail		Part Number
		ENP Mild Steel	Stainless Steel	3/8 in	1/2 in	
MS202HB	750 lb	●		●		19744
MS202HB	750 lb	●			●	19745
MS202HB	1500 lb	●			●	213003
MS202HB-SS	750 lb		●	●		196885
MS202HB-SS	750 lb		●		●	196888
MS202HB-SS	1500 lb		●		●	213004

Table 1-3. MS202 Permanent Monorail Scales

To install, remove a straight section of rail, then cut the MS202HB or MS202HB-SS rail to replace the section removed.

NOTE: A section as short as 14" can be removed. Because the usual hanger spacing of many existing mechanical scales is 48", most often installers remove a 48" section of rail, and cut 48" of the MS202 rail to fit between the existing hangers.

It is recommended to place a new hanger near the scale to reduce flexing and twisting within the 48" span. On both models, the live section of scale is 8" long with a slight concave dip so a trolley wheel will settle into the dip. Only one trolley at a time will fit on the 8" live portion of the scale.

WARNING: Use only high strength L9 (Grade 9) bolts and flat washers to attach load cells to the scale frame. Use only 140,000 PSI or greater fasteners on rail attachment points. Failure to follow this warning can cause severe injury or death.

MS202 Permanent Monorail Scale 750 lb Capacity Dimensions

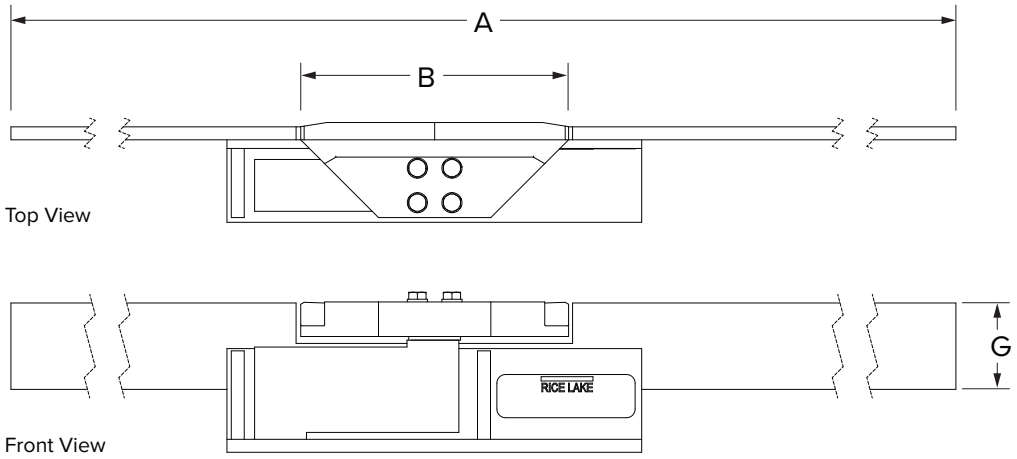

Figure 1-2. MS202 Permanent Monorail Scale 750 lb Capacity Dimensions

Dimension	750 lb Capacity
A	52.00 in ±0.03 in (1321 mm ±0.76 mm)
B	8.00 in (203 mm)
G	2.50 in (63.5 mm)

Table 1-4. MS202 Permanent Monorail Scale 750 lb Capacity Dimensions

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MS202 Permanent Monorail Scale 1500 lb Capacity Dimensions

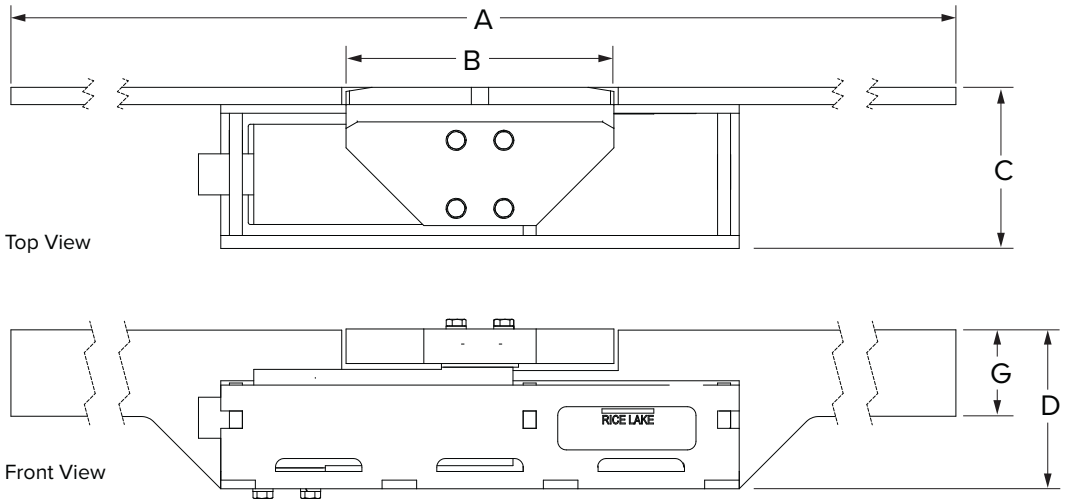

Figure 1-3. MS202 Permanent Monorail Scale 1500 lb Capacity Dimensions

Dimension	1500 lb Capacity
A	52.00 in ±0.03 in (1321 mm ±0.76 mm)
B	8.00 in (203 mm)
C	4.66 in (118 mm)
D	4.59 in (117 mm)
G	2.50 in (63.5 mm)

Table 1-5. MS202 Permanent Monorail Scale 1500 lb Capacity Dimensions

2.0 Installation

This section provides an overview of MS200 and MS202 Monorail Scale installation information.

2.1 Pre-Installation Checks

Before installing the portable monorail scale, check the trolleys used in the plant to ensure there is adequate clearance between the top of the swivel hook and the bottom of the scale (Figure 2-1).

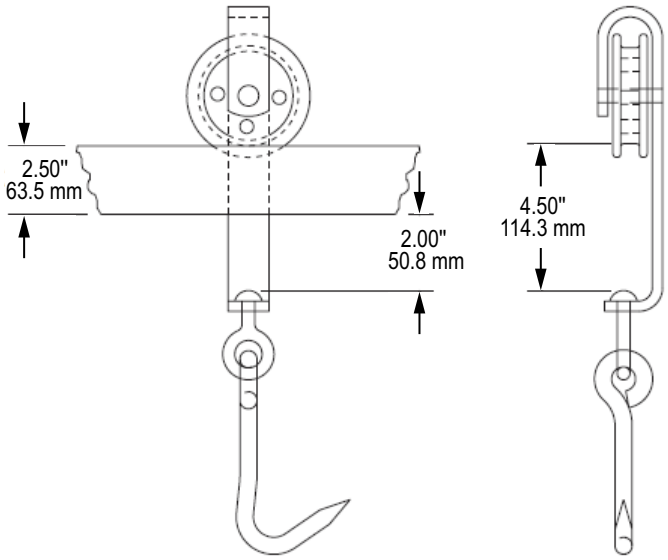

Figure 2-1. Minimum Clearances for Trolleys

2.2 Portable Installation

1. Select a location for installation with at least 41" of straight rail section.

CAUTION: Avoid locating the approach ends of the scale close to bends or corners of the rail system.

NOTE: If the rail hangers have less than 22" of space between them, move one of the hangers to achieve the 41" clearance.

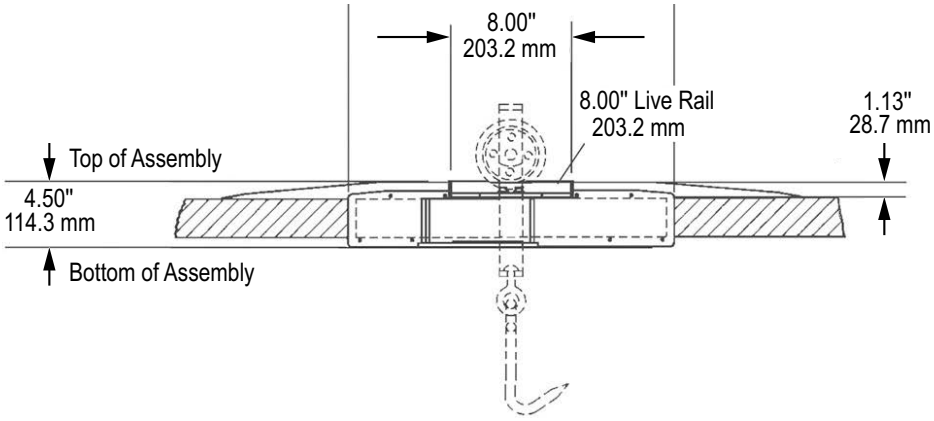

Figure 2-2. Portable Scale Dimensions

2. Loosen the four top bolts (Figure 2-3 on page 10) of the scale bracket.
3. Remove the four lower bolts (Figure 2-3 on page 10) of the scale bracket.

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4. Slide the scale unit over the rail with the load cell bracket toward the rail-hanger side of the rail then move the scale left or right along the rail to the desired location.

NOTE: The installation kit provides two 1/16" shims, 2-1/2" x 20" long for use with portable monorail scales on rails that are 3/8" thick.

5. If the rail is 3/8", place one shim on each side of the rail. If using a rail which is 1/2" thick, shims are not required.
6. Once in position, replace the four lower bolts.
7. Ensure the scale body is contacting the rail evenly along the entire length of the scale.
8. Tighten all eight bolts.
9. Check the alignment of the ends of the approach ramps with the rail.

NOTE: If the rail is not straight and true, correct the alignment by loosening the bolts and inserting pieces of shim stock between the rail and the bracket. Do this on a cut-and-try basis until the alignment looks smooth then tighten all eight bolts.

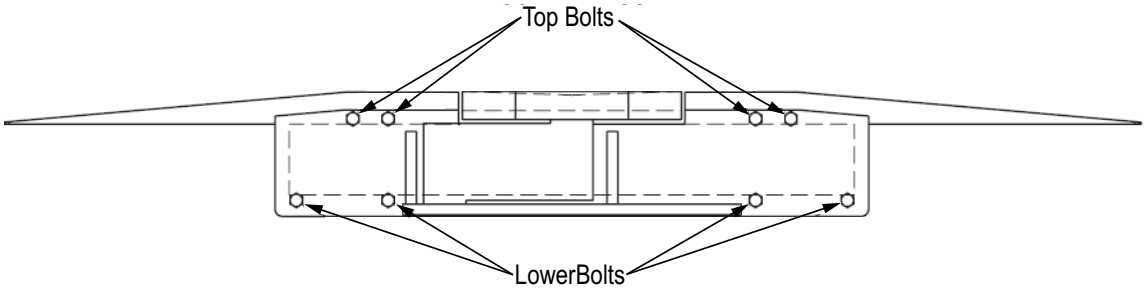

Figure 2-3. Top and Lower Bolts of Scale Mounting Bracket

10. Route theload cell cable to the desired location for the digital weight indicator.

CAUTION: Do not cut the load cell cable. It is recommended that the cable be attached to the rail assembly to prevent the possibility of damage (Figure 2-4).

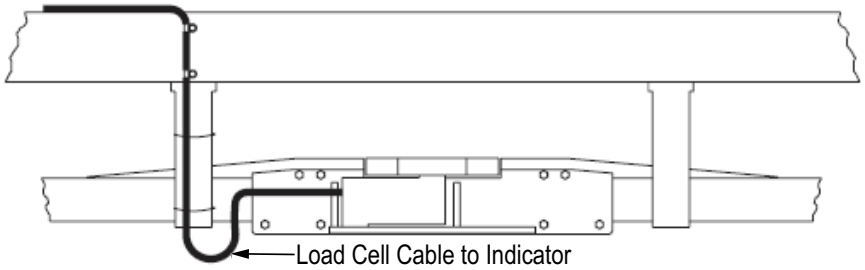

Figure 2-4. Suggested Load Cell Cable Attachment

11. Rail hangers and their beam supports usually provide a good place for attaching cable ties and cable clamps.

CAUTION: When attaching cable clamps, be careful not to pierce the load cell cable.

12. Attach load cell cable to indicator.

2.3 Permanent Installation

1. Check that all trolleys using the scale have adequate clearance to fit on the scale. See Figure 2-1 on page 9 for minimum clearance size.
2. Remove an existing section of straight rail then cut the MS202 rail to fit the removed section.

NOTE: The existing section of straight rail that should be removed should be in the range of 14 in– 52 in. To prevent having to weld in the new rail section, choose a section supported with hangers on each end.

3. Bolt the new section to the inner bolt holes of each hanger, as the joint will lie at the hanger center lines.

NOTE: If the removed rail section spans more than 24 in between hangers, install a new hanger close to the scale to prevent rail twist when the installation is complete.

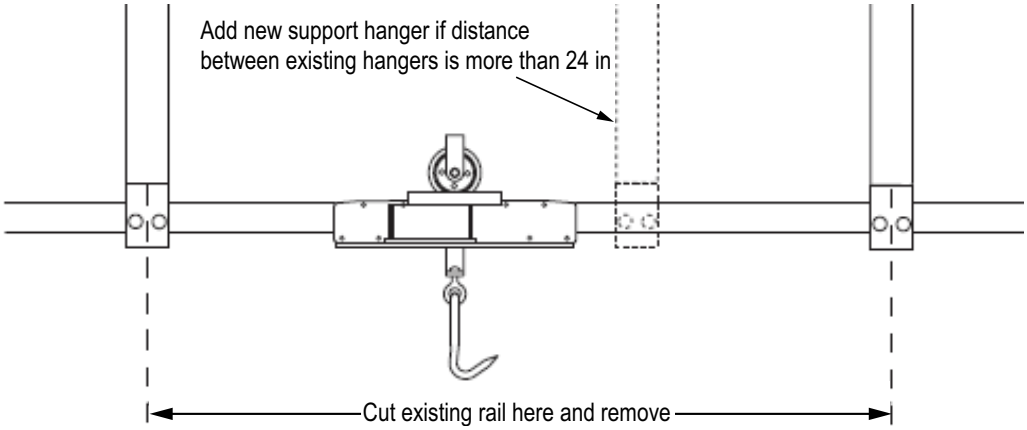

Figure 2-5. MS202 Rail Installation

4. Select a convenient location for mounting the indicator tilt stand within the length of the load cell cable.

NOTE: If the location requires a location further than the existing load cell cable, consult an authorized Rice Lake Weighing Systems scale technician.

5. Ensure the MS202 rail section is the correct width (3/8 in or 1/2 in) then remove the rail section, and cut the MS202 rail to the size of the section removed.
6. Temporarily position the MS202 section in place to match the alignment of the existing rail.
7. Mark the MS202 rail for drilling bolt holes matching the inner holes of the rail hangers.
8. Remove the MS202 rail and drill a hole in each rail end for the hanger bolts.
9. Bolt the MS202 rail section and scale to the supporting hangers, shimming as necessary to achieve good track alignment.
10. Route and secure the load cell cable and positioning the indicator.
11. Connect the load cell cable to the indicator.
12. Plug the power cord into a grounded outlet.
13. Power on the device. The display is ready for weighing.

NOTE: If a place in service report is required for new equipment, contact a Rice Lake Weighing Systems certified scale service company for assistance.

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3.0 Maintenance

This section provides an overview of MS200 and MS202 Monorail Scale maintenance information.

NOTE: Use live rail shims as necessary to reach proper live rail height.

3.1 Portable Monorail Replacement Parts

3.1.1 MS200HB Portable 750 lb ENP Mild Steel Monorail Scale (PN 19743)

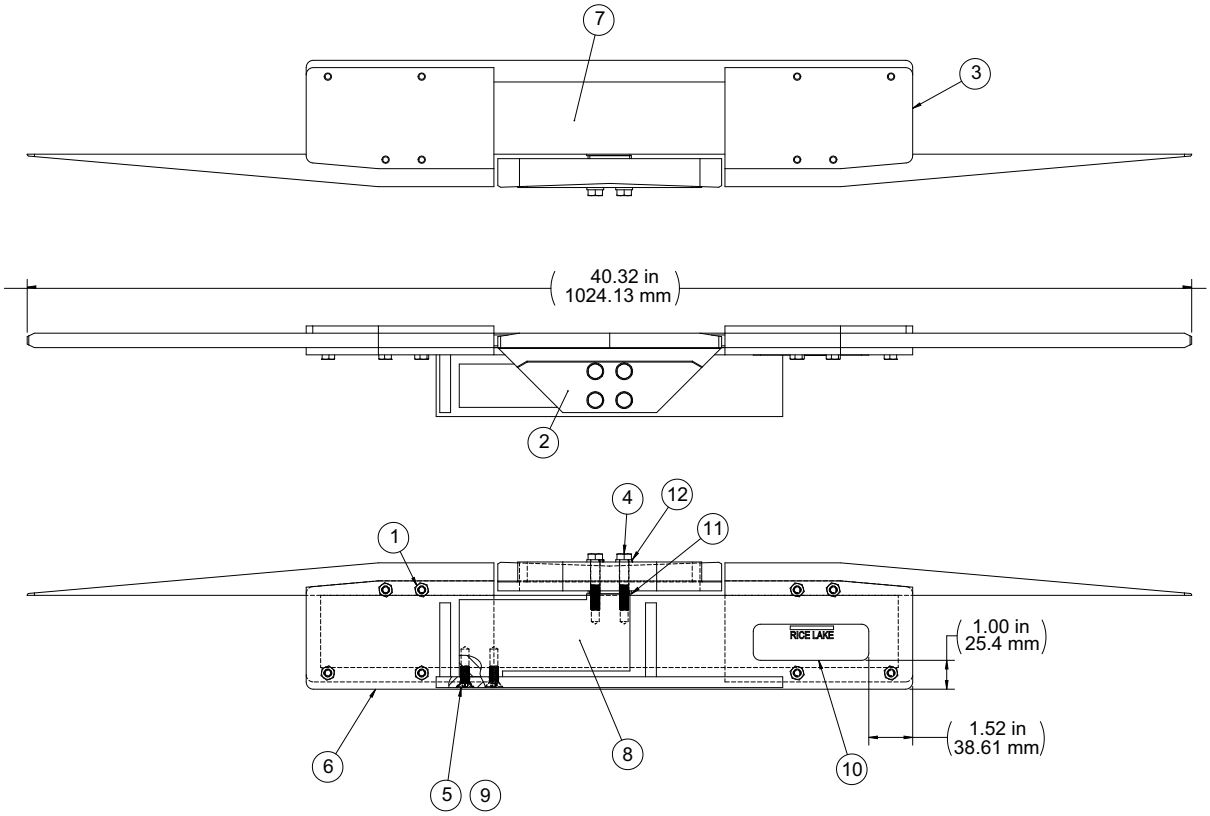

Figure 3-1. MS200HB Portable 750 lb ENP Mild Steel Monorail (PN 19743) Replacement Parts

Item No.	Part No.	Description	Qty.
1	14968	Screw, Cap 1/4-28NFx1 Hex Head SST	8
2	58A013-3	Live Rail, Zinc Plated	1
3	19995	Clamp, Side Rail Monorail	2
4	204847	Screw, Hex Head Cap 5/16-24NF x 1-3/4 SST	4
5	14990	Screw, Cap 5/16–24NFx3/4	4
6	58A013-1	Monorail, Portable Scale Weldment	1
7	19997	Shim, Monorail 2-1/2x20x1/16	2
8	167585	Load Cell, SPT 1510–500 kg	1
9	15386	Plug, Finishing Cap 1/4	4
10	52342	Label, Serial Tag 4.00 x 1.25	1
11	181955	Live Rail Shim, .105", SST	1
	181954	Live Rail Shim, .06", SST	1
	205524	Live Rail Shim, .0747", SST	1
12	15154	5/16 Lock Washer, SST	4

Table 3-1. MS200HB Portable 750 lb ENP Mild Steel Monorail (PN 19743) Parts List

3.1.2 MS200HB Portable 1500 lb ENP Mild Steel Monorail Scale (PN 213006)

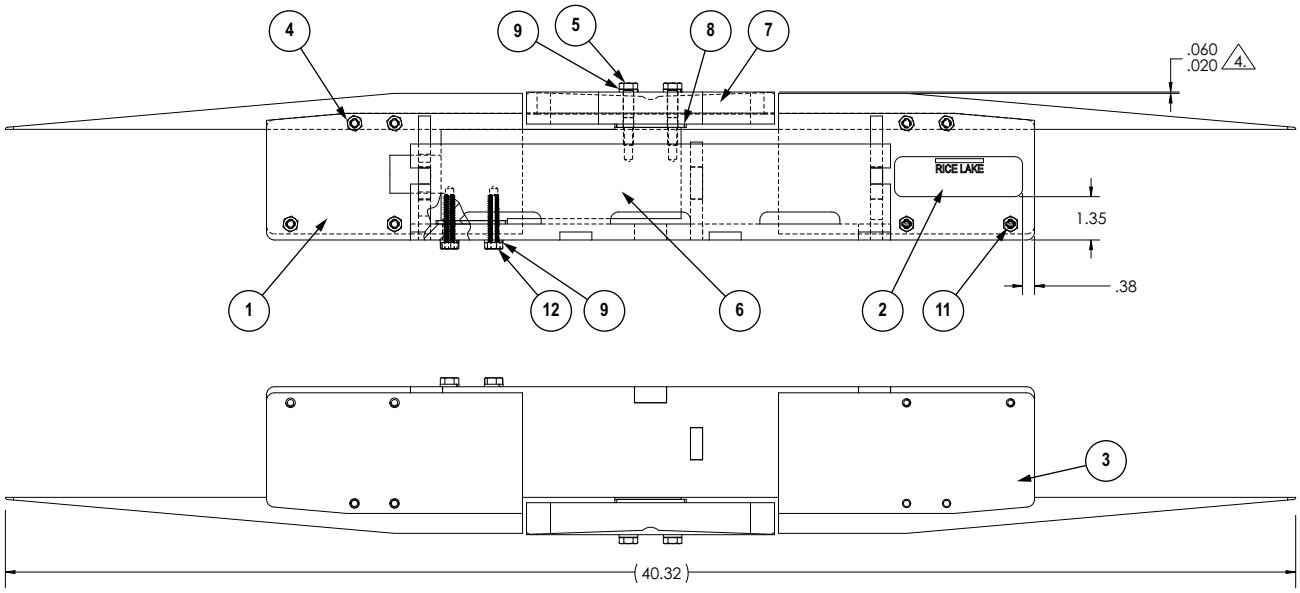

Figure 3-2. MS200HB Portable 1500 lb Monorail (PN 213006) Replacement Parts

Item No.	Part No.	Description	Qty.
1	213102	Portable Monorail Scale Weldment, MS, 1500 lb Capacity	1
2	52342	Label, Serial Tag 4.00 x 1.25	1
3	213106	Side Rail Clamp	2
4	14968	Screw, Cap 1/4-28 NF x 1 Hex Head SST	6
5	25511	Screw, Cap 5/16-18 NC x 3/4 Hex Head SST	4
6	227092	Load Cell, SPT RLPCBC-60, 1000 kg, 2 mV/V, 1000 ohm, 20 ft, SS HS FM IP69K NTEP III 5 S	1
7	213029	Live Rail, SST Monorail Scale	1
8	213018	Shim, Monorail Live Rail .1046 (12 Ga) SST	2
	216399	Shim, Monorail Live Rail .0747 (14 Ga) SST	-
	216398	Shim, Monorail Live Rail .0598 (16 Ga) SST	-
9	15154	5/16 Lock Washer SST	8
10	15386	Plug, Finishing Cap 1/4	4
11	214005	Stainless Steel Wire-Lockable Hex Head Screw 1/4-28, Partially Threaded	2
12	95333	Bolt, 5/16-18 NC x 1-1/2 Hex Head 18-8 SST Distance Across Flats = 1/2	4

Table 3-2. MS200HB Portable 1500 lb Monorail (PN 213006) Scale Parts List

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3.1.3 MS200HB Portable 1500 lb Stainless Steel Monorail Scale (PN 213007)

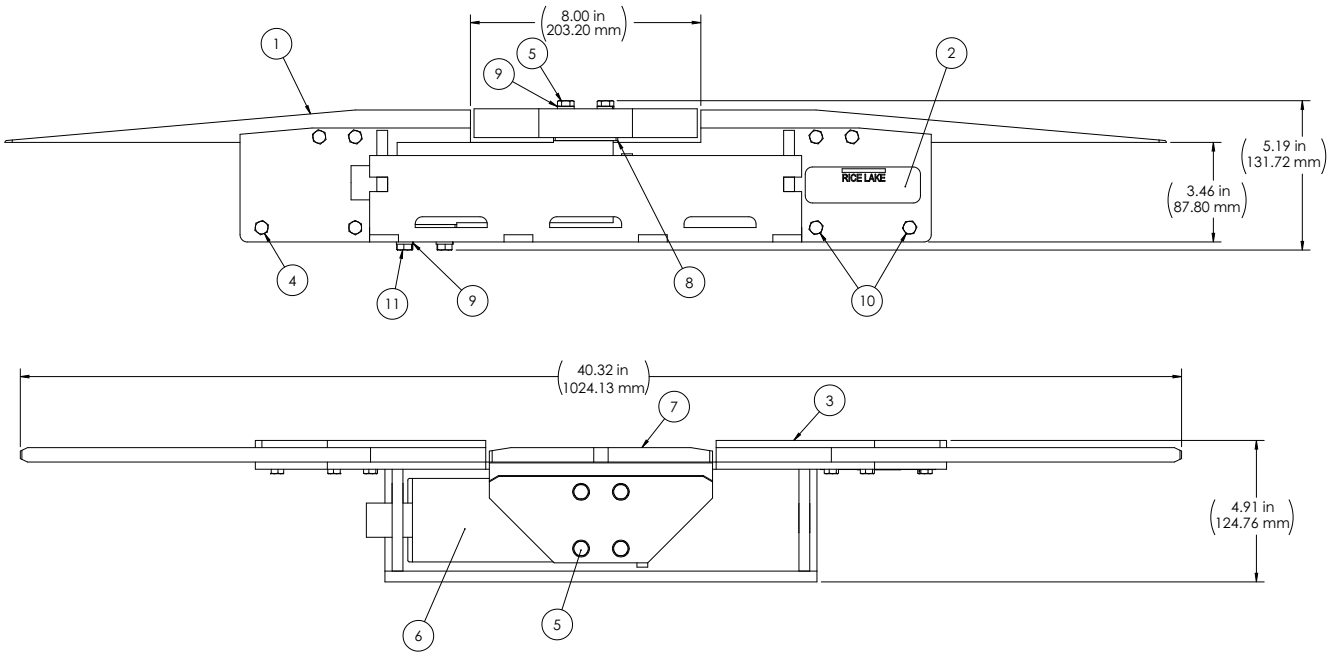

Figure 3-3. MS200HB Portable 1500 lb Monorail (PN 213007) Replacement Parts

Item No.	Part No.	Description	Qty.
1	213270	Portable Monorail Scale Weldment, SST, 1500 lb Capacity	1
2	52342	Label, Serial Tag 4.00 x 1.25	1
3	213480	Side Rail Clamp	2
4	14968	Screw, Cap 1/4-28 NF x 1 Hex Head SST	6
5	25511	Screw, Cap 5/16-18 NC x 3/4 Hex Head SST	4
6	227092	Load Cell, SPT RLPCBC-60, 1000 kg, 2 mV/V, 1000 ohm, 20 ft, SS HS FM IP69K NTEP III 5 S	1
7	213016	Live Rail, SST Monorail Scale	1
8	213018	Shim, Monorail Live Rail .1046 (12 Ga) SST	2
	216399	Shim, Monorail Live Rail .0747 (14 Ga) SST	-
	216398	Shim, Monorail Live Rail .0598 (16 Ga) SST	-
9	15154	5/16 Lock Washer SST	8
10	214005	Stainless Steel Wire-Lockable Hex Head Screw 1/4-28, Partially Threaded	2
11	95333	Bolt, 5/16-18 NC x 1-1/2 Hex Head 18-8 SST Distance Across Flats = 1/2	4

Table 3-3. MS200HB Portable 1500 lb Monorail (PN 213007) Scale Parts List

3.2 Permanent Monorail Scale Replacement Parts

3.2.1 MS202HB 750 lb Permanent ENP Mild Steel Monorail Scale (PN 19744 and 19745)

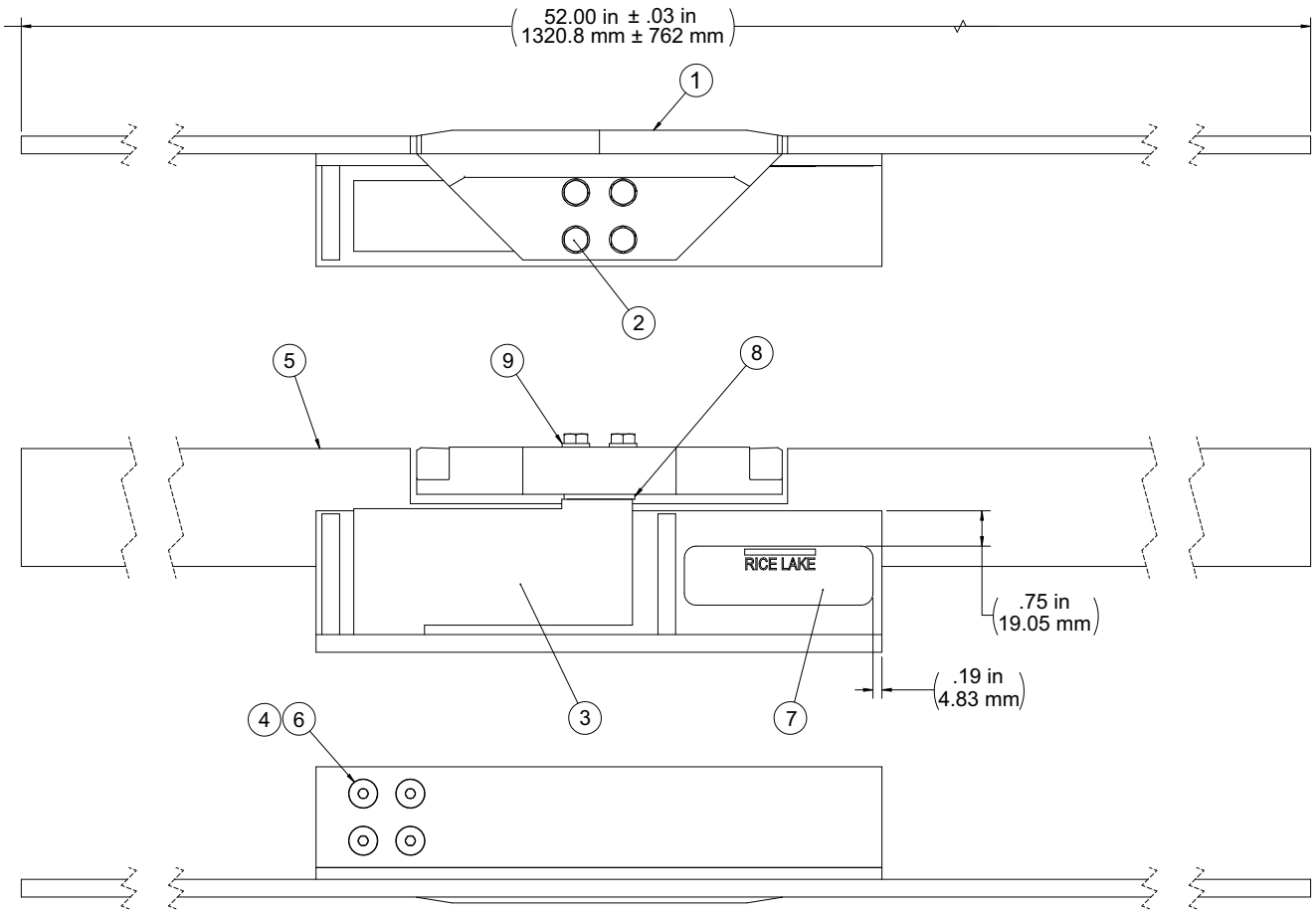

Figure 3-4. MS202HB Permanent Monorail Scale Replacement Parts (PN 19744 and 19745)

Item No.	Part No.	Description	Qty.
1	58A013-3	Live Rail, MS Zinc Plated	1
2	204847	Screw, Hex Head Cap 5/16-24 x 1-3/4 SST	4
3	167585	Load Cell, SPT 1510–500 kg	1
4	15386	Plug, Finishing Cap 1/4"	4
5	22207	Weldment, 3/8" In-line MS	1
6	14990	Screw, Cap 5/16–24NFx3/4	4
7	52342	Label, Serial Tag 4.00 x 1.25	1
8	181955	Live Rail Shim .105" SST	1
	181954	Live Rail Shim .06" SST	1
	205524	Live Rail Shim .0747" SST	1
9	15154	5/16 Lock Washer, SST	4

Table 3-4. MS202HB Permanent 750 lb Monorail Scale for 3/8 in Rail Parts List (PN 19744)

Item No.	Part No.	Description	Qty.
1	58A013-3	Live Rail, MS Zinc Plated	1
2	204847	Screw, Hex Head Cap 5/16-24 x 1-3/4 SST	4
3	167585	Load Cell, SPT 1510–500 kg	1
4	15386	Plug, Finishing Cap 1/4"	4
5	22208	Weldment, 1/2" In-line MS	1
6	14990	Screw, Cap 5/16–24NFx3/4	4
7	52342	Label, Serial Tag 4.00 x 1.25	1
8	181955	Live Rail Shim .105" SST	1
	181954	Live Rail Shim .06" SST	1
	205524	Live Rail Shim .0747" SST	1
9	15154	5/16 Lock Washer, SST	4

Table 3-5. MS202HB Permanent 750 lb Monorail Scale for 1/2 in Rail Parts List (PN 19745)

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3.2.2 MS202HB 1500 lb Permanent ENP Mild Steel Monorail Scale (PN 213003)

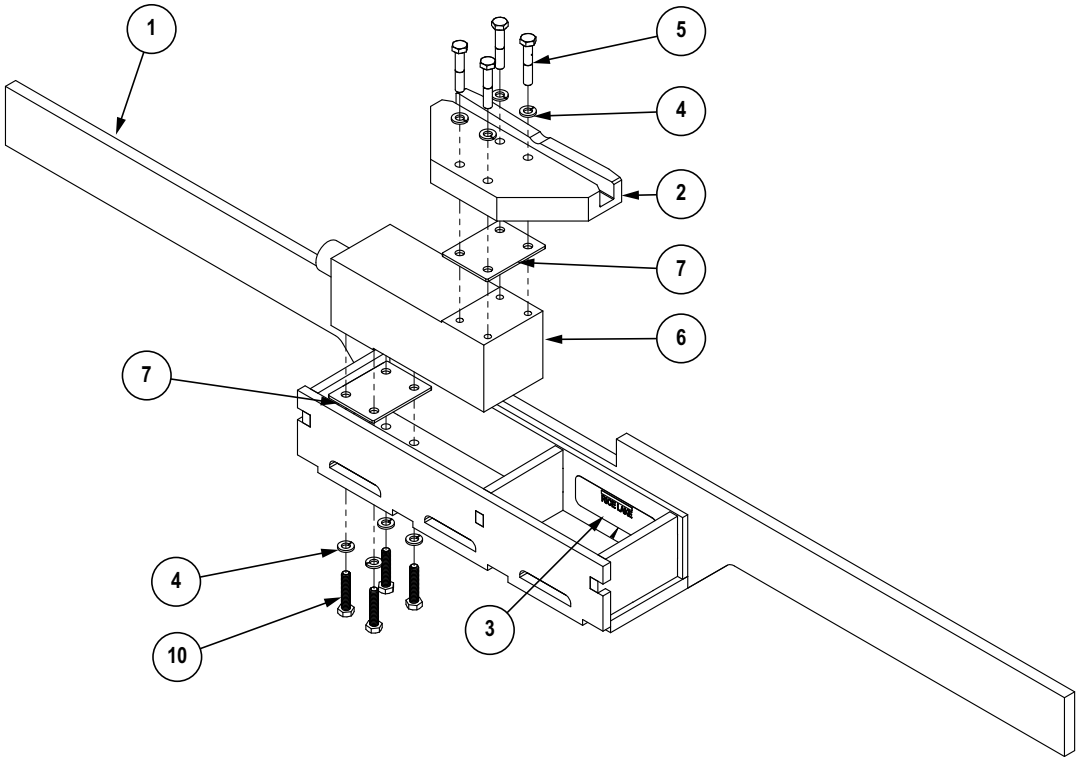

Figure 3-5. MS202HB 1500 lb Permanent ENP Monorail Scale Replacement Parts (PN 213003)

Item No.	Part No.	Description	Qty.
1	213030	Monorail Scale Weldment, 1/2" in-line MS, 1500 lb Capacity	1
2	213029	Live Rail, MS Monorail Scale	1
3	52342	Label, Serial Tag 4.00 x 1.25	1
4	15154	5/16 Lock Washer SST	8
5	25511	Screw, Cap 5/16-18 NC x 1-3/4 Hex head SST	4
6	227092	Load Cell, SPT RLPCBC-60, 1000 kg	1
7	213018	Shim, Monorail Live Rail .1046 (12 ga) SST	2
8	216399	Shim, Monorail Live Rail .0747 (14 ga) SST	-
9	216398	Shim, Monorail Live Rail .0598 (16 ga) SST	-
10	95333	Bolt, 5/16 NC x 1-1/2 Hex Head 18-8 SST	4

Table 3-6. MS202HB 1500 lb Permanent ENP Monorail Scale Parts List (PN 213003)

3.2.3 MS202HB-SS 750 lb Permanent Stainless Steel Monorail Scale (PN 19744 and 19745)

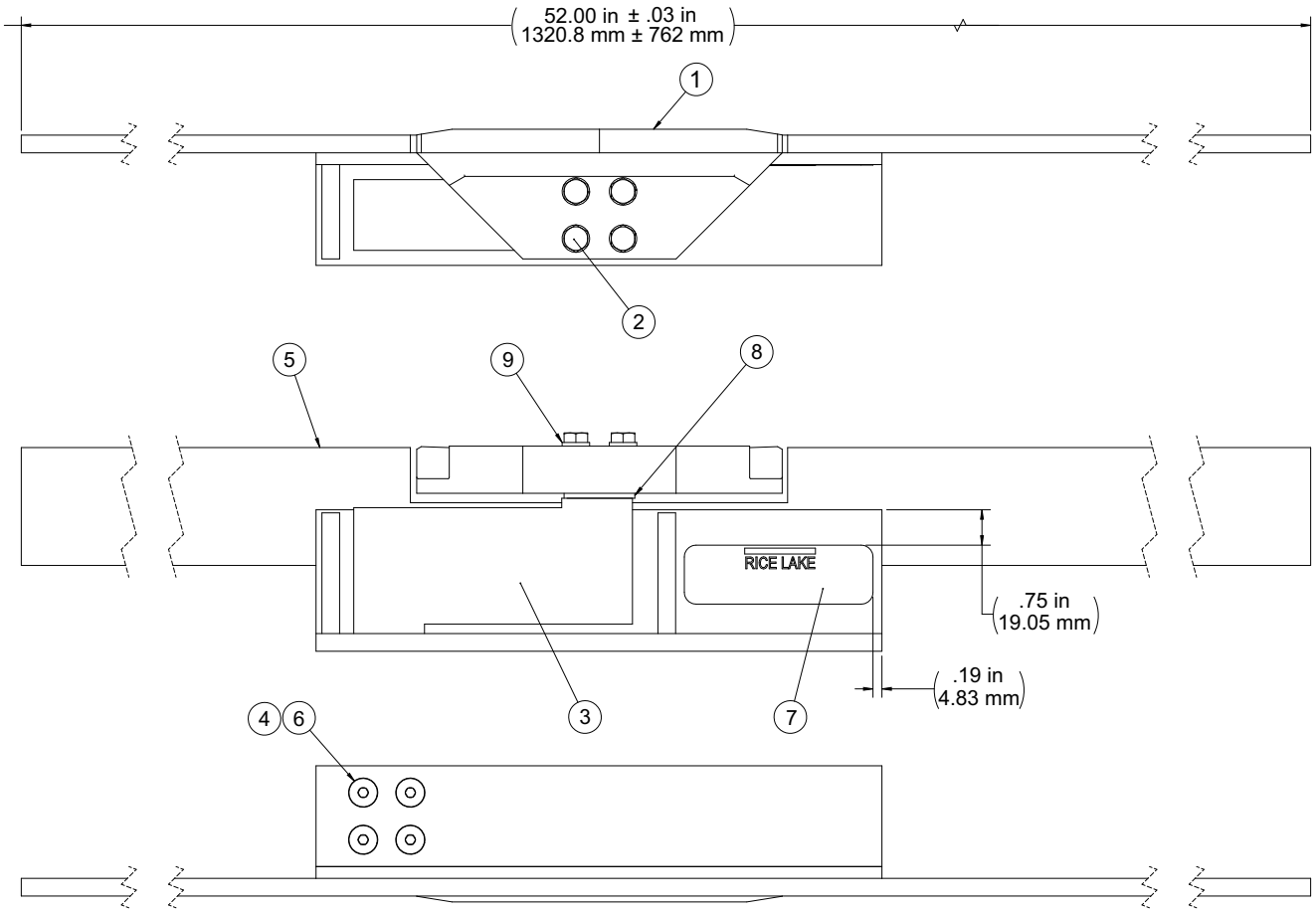

Figure 3-6. MS202HB-SS 750 lb Permanent Stainless Steel Monorail Scale Replacement Parts (PN 196885 and 196888)

Item No.	Part No.	Description	Qty.
1	196883	Live Rail, SST	1
2	204847	Screw, Hex Head Cap 5/16-24 x 1-3/4 SST	4
3	167585	Load Cell, SPT 1510–500 kg	1
4	15386	Plug, Finishing Cap 1/4"	4
5	196884	Weldment, 3/8" In-Line SST	1
6	14990	Screw, Cap 5/16–24NFx3/4	4
7	52342	Label, Serial Tag 4.00 x 1.25	1
8	181955	Live Rail Shim .105" SST	1
	181954	Live Rail Shim .06" SST	1
	205524	Live Rail Shim .0747" SST	1
9	15154	5/16 Lock Washer, SST	4

Table 3-7. MS202HB-SS 750 lb Permanent Monorail Scale for 3/8 in Rail Parts List (PN 196885)

Item No.	Part No.	Description	Qty.
1	196883	Live Rail, SST	1
2	204847	Screw, Hex Head Cap 5/16-24 x 1-3/4 SST	4
3	167585	Load Cell, SPT 1510–500 kg	1
4	15386	Plug, Finishing Cap 1/4"	4
5	196887	Weldment, 1/2" In-Line SST	1
6	14990	Screw, Cap 5/16–24NFx3/4	4
7	52342	Label, Serial Tag 4.00 x 1.25	1
8	181955	Live Rail Shim .105" SST	1
	181954	Live Rail Shim .06" SST	1
	205524	Live Rail Shim .0747" SST	1
9	15154	5/16 Lock Washer, SST	4

Table 3-8. MS202HB-SS 750 lb Permanent Monorail Scale for 1/2 in Rail Parts List (PN 196888)

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3.2.4 MS202HB-SS 1500 lb Permanent Stainless Steel Monorail Scale (PN 213004)

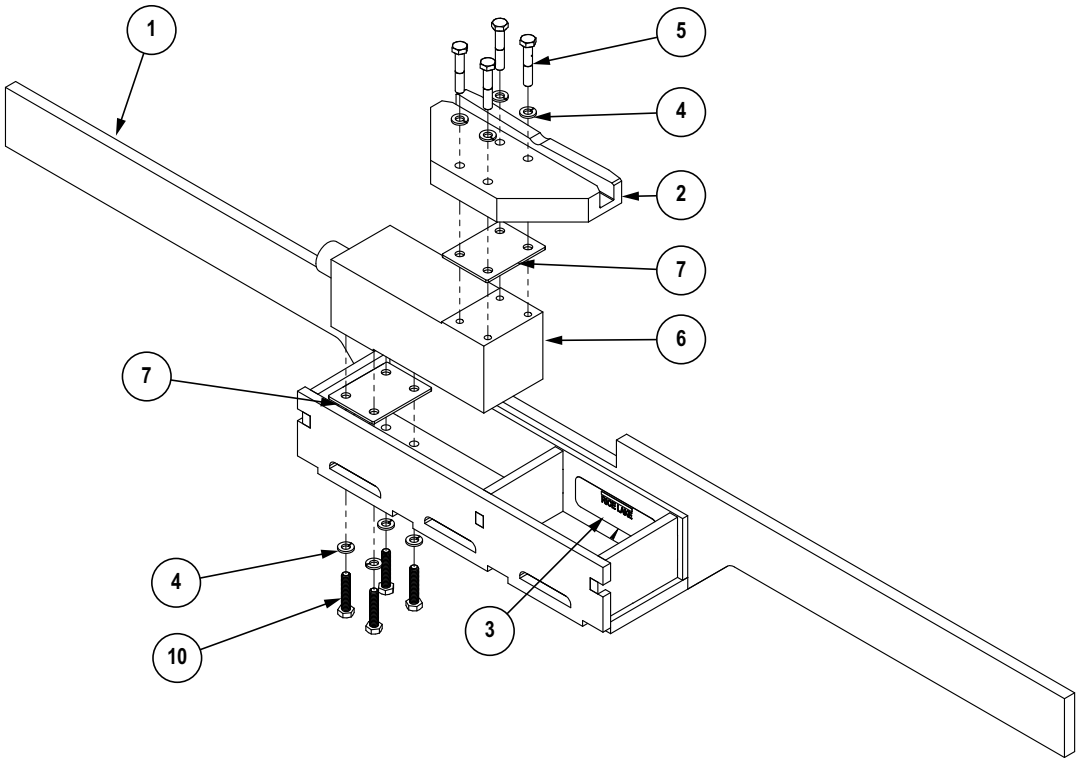

Figure 3-7. MS202HB-SS 1500 lb Permanent ENP Monorail Scale Replacement Parts (PN 213004)

Item No.	Part No.	Description	Qty.
1	213017	Monorail Scale Weldment, 1/2" in-line SST, 1500 lb Capacity	1
2	213016	Live Rail, SST Monorail Scale	1
3	52342	Label, Serial Tag 4.00 x 1.25	1
4	15154	5/16 Lock Washer SST	8
5	25511	Screw, Cap 5/16-18 NC x 1-3/4 Hex head SST	4
6	227092	Load Cell, SPT RLPCBC-60, 1000 kg	1
7	213018	Shim, Monorail Live Rail .1046 (12 ga) SST	2
8	216399	Shim, Monorail Live Rail .0747 (14 ga) SST	-
9	216398	Shim, Monorail Live Rail .0598 (16 ga) SST	-
10	95333	Bolt, 5/16 NC x 1-1/2 Hex Head 18-8 SST	4

Table 3-9. MS202HB-SS 1500 lb Permanent ENP Monorail Scale Parts List (PN 213004)

4.0 Specifications

MS200 Portable Monorail Scale

Construction
Electroless nickel plated steel construction, stainless steel hardware

Load Cell Construction
Stainless steel

Bridge Resistance
350 ohms nominal

Rated Output
2 mV/V

Nonlinearity
0.03% full scale

Warranty
One-year limited warranty

Certifications and Approvals
NTEP
CoC Number 90-003
Accuracy Class: III; n_{max}: 1500

MS202 Permanent Monorail Scale

Construction
Electroless nickel plated or stainless steel construction

Load Cell Construction
Stainless steel

Bridge Resistance
350 ohms nominal

Rated Output
2 mV/V

Nonlinearity
0.03% full scale

Warranty
One-year limited warranty

Certifications and Approvals
NTEP
CoC Number 90-003
Accuracy Class: III; n_{max}: 1500d

Measurement Canada
AM-4849

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