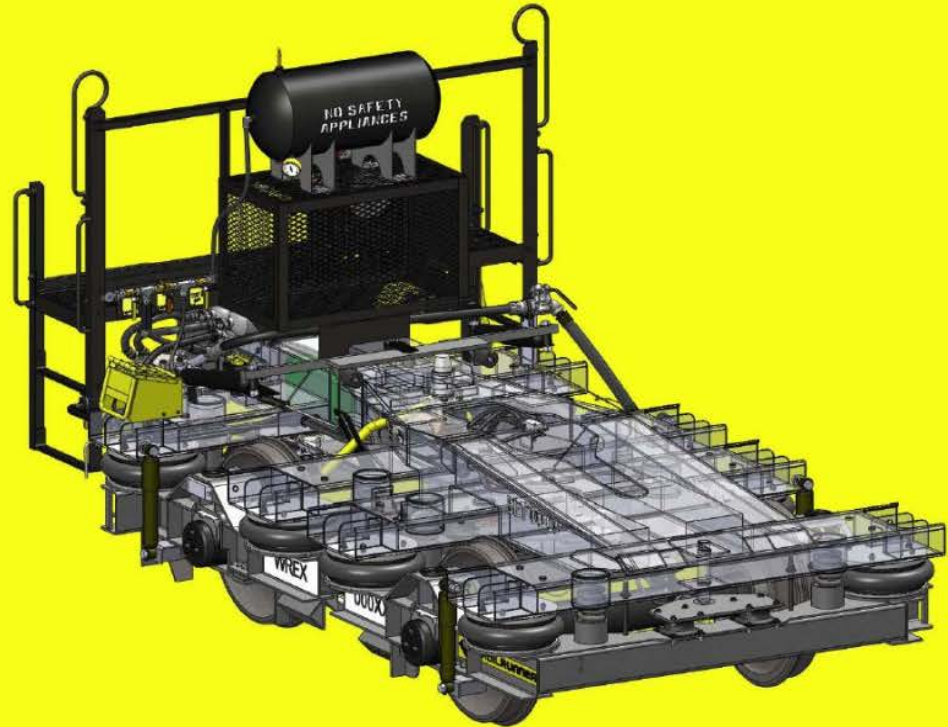




Training Manual

Terminal/Field Operations



Document no:	M0002			
Revision	Date	Author	Approved	Remarks
1	2008-2013	Misc.		Previous revision format
2	12/1/2017	Gelu Ciucă	John Grube	Updated address, document no



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Equipment Introduction

- There are three RailRunner vehicles:
 - Transition Unit (TU) which couples to locomotive,
 - Intermediate Unit (IU) which connects road chassis, and the
 - Chassis for over-the road container transport.



Transition Unit



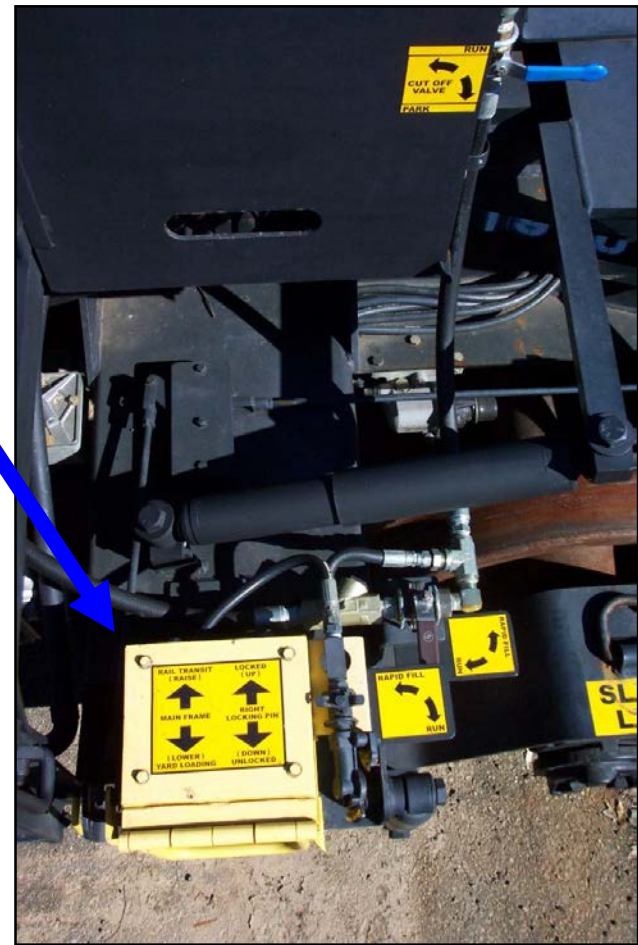
- Cross Over Platform
- Handbrake Wheel
- Toolbox
- Control Box
(yellow – not shown)
- Train Line Air Hose
- Suspension Reservoir
- Fork Lift Pockets



- Air Valves with Instructions
- Control Box with Instructions

Note:

Chassis Locking Pin must be up and locked and suspension raised before train can leave the terminal



TU Control Valves:

- Activate Locking pin
- Raise and Lower suspension

Intermediate Unit



- Parking Brake
- Control Box (yellow)
- Suspension Reservoir
- Train Line Air Hose
- Fork Lift Pockets



- Setting Ratchet-type Parking Brake
- Control Box (open)
- Operating Valves and Instructions visible from brake side of Bogie



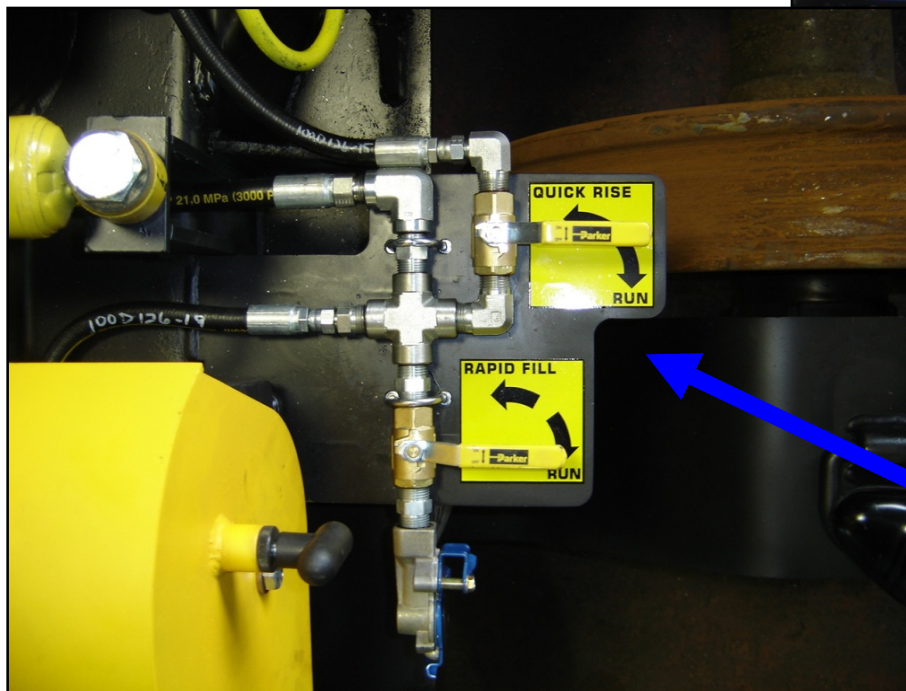
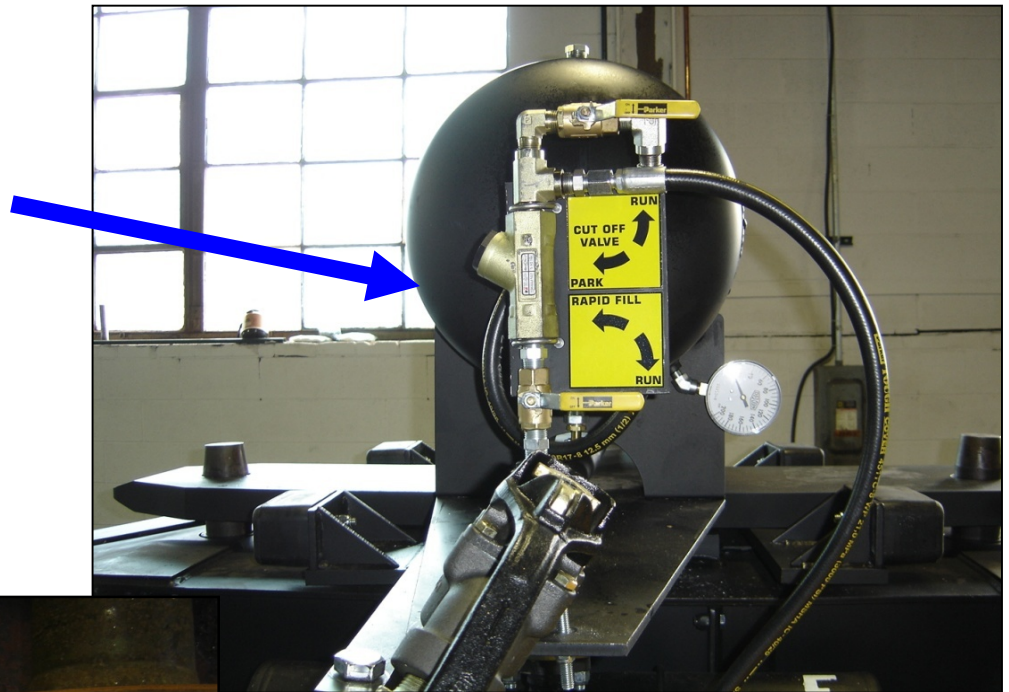
- Releasing the Parking Brake

Note:

Parking Brake must always be released prior to train movement to prevent damaging/"flat spotting" wheels.



- Air Valves and Instructions
- Train Line Cut-out Cock
- Pressure Gage



Note:

- **Minimum operating pressure 30 psi**
- **Nominal operating pressure 90 – 110 psi**
- **Pop-off valve set to 125 psi**

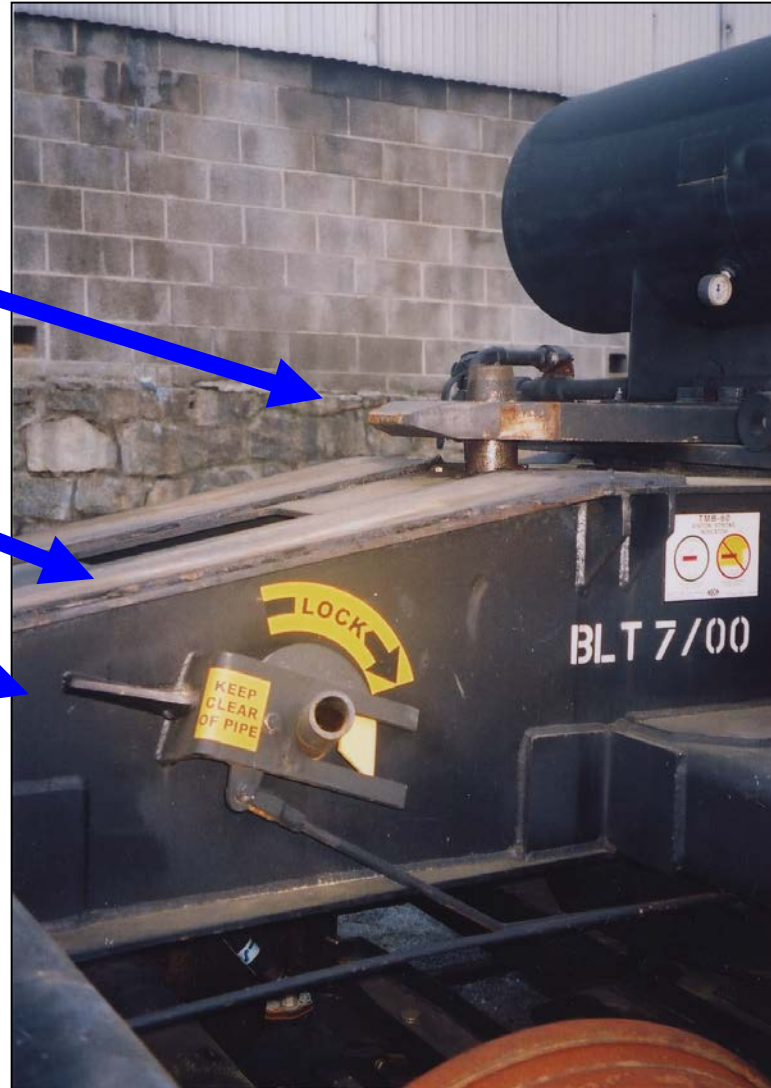
- Quick Rise Valve
- Rapid Fill Valve
- Glad Hand for Tractor



- Locking Pin in **“UP/RAISED”** position

- Auxiliary latch locks around pipe in **“RAISED”** position

- Pipe socket for manual operation

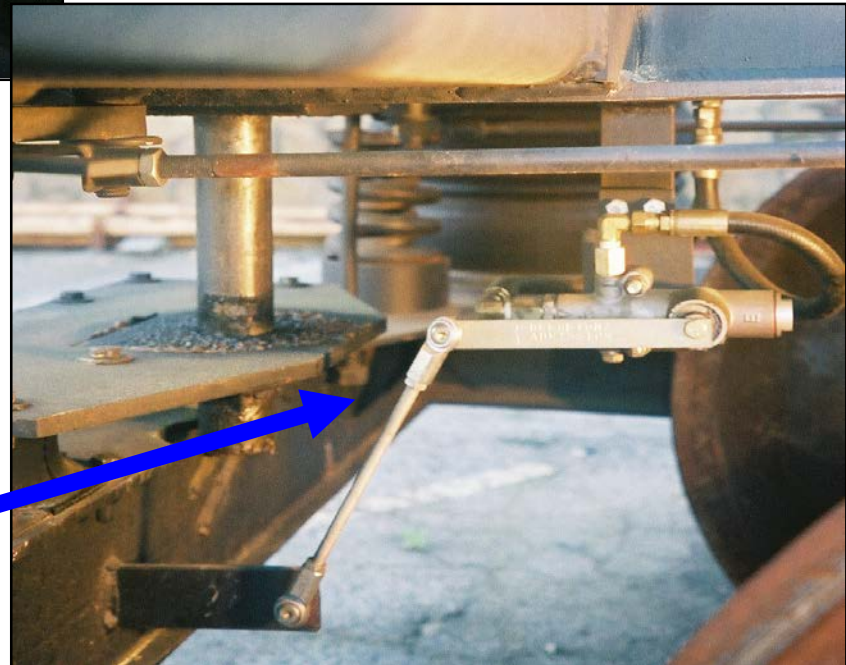




- **Control Box (closed)**
Indicates bogie is “travel ready.”

Note:

Control Box will close only with Air Spring Suspension inflated and Locking Pins properly positioned.



- **IU Leveling Valve**



Intermediate Unit

Note:

Locking Pin is shown in "UP/LOCKED" position through drawbar.

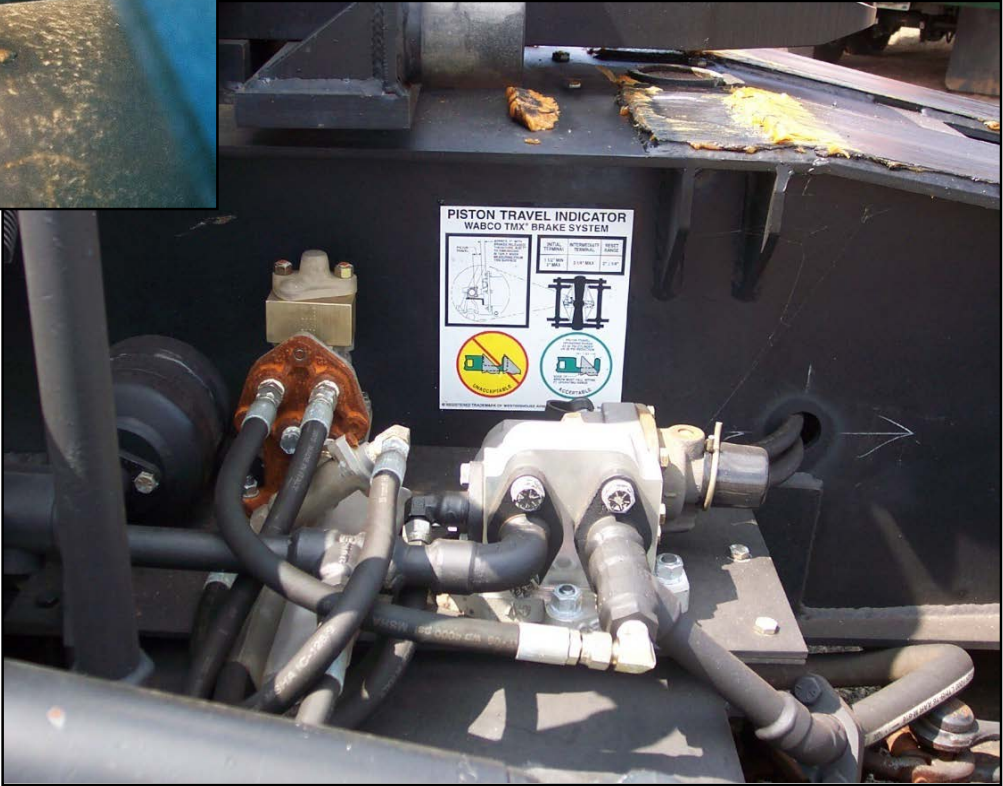
- Brake Decal for NYAB TMB-60





- NYAB TMB-60 Piston Stroke Indicator

- Empty/Load Valve Components on IU



53' Chassis (Fixed 3-Axle Suspension)



- Standard Over-the-Road Air and Electrical Connections
- Heavy Duty Landing Gear
- Receiver (Front and Rear)





- Glad Hand Connections
- Electrical Connection
- Front Container Locks
- Receiver Box

- Chassis Gooseneck
- Train Line Air Hose
- Heavy Duty Sand Shoes



- Folding Bumper at rear of chassis in “**UP/RAIL**” position
- Pin Locks Installed
- Container Twist Locks
- Rear Receiver Box



- Folding Bumper at rear of chassis in “**DOWN/ROAD**” position
- Insertion and Removal of Bumper Locking Pins





- Vent Valve located at rear of chassis on driver's side
- Refer to decal for operating instructions

Notice:

To prevent injury, always vent Train Line before uncoupling Glad Hands.



40' Chassis (2-Axle Sliding Suspension)



- Standard Over-the-Road Air and Electrical Connections
- Heavy Duty Landing Gear
- Receiver Box (Front and Rear)
- Train Air Line Pipe (Front to Rear)



Sliding Suspension for Road or Rail Operation

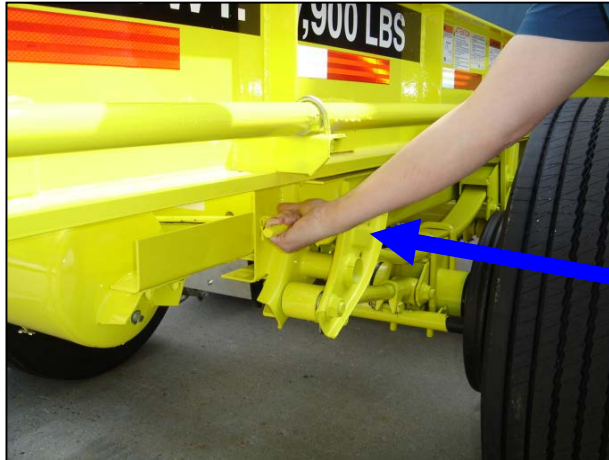


- Chassis **Sliding Suspension** shown at forward location for Over-the-Rail operation.

- Chassis **Sliding Suspension** shown at rear location for Over-the-Road operation.

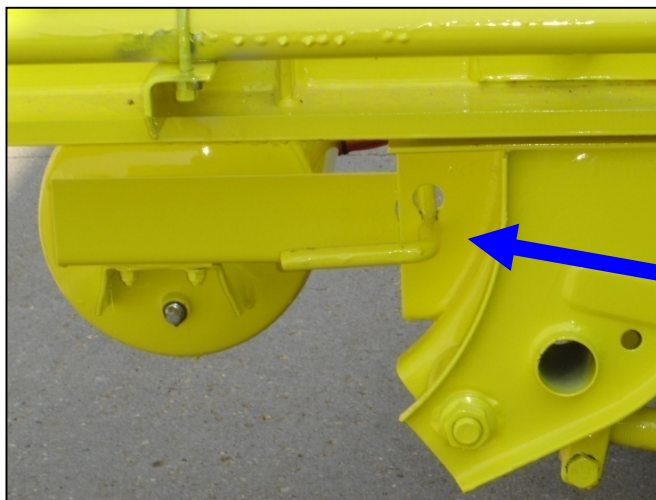


Operating the Sliding Suspension



- Operation of the **Suspension Control Lever** unlocks the Sliding Suspension and allows for repositioning of the slider.
- The lever is operated by lifting the lever from the locking slot and pulling to re-engage the slot allowing the suspension to slide.

- This view shows the Suspension Control Lever in the **"UNLOCKED"** position.
- The suspension can now be positioned by the hostler tractor for either road or rail operation.



- Close up view of the Locking Handle engaged in the keyhole slot in the **"LOCKING"** position.
- Once the suspension is positioned for road or rail operation, the lever must be locked as shown to engage the Suspension Locking Pins

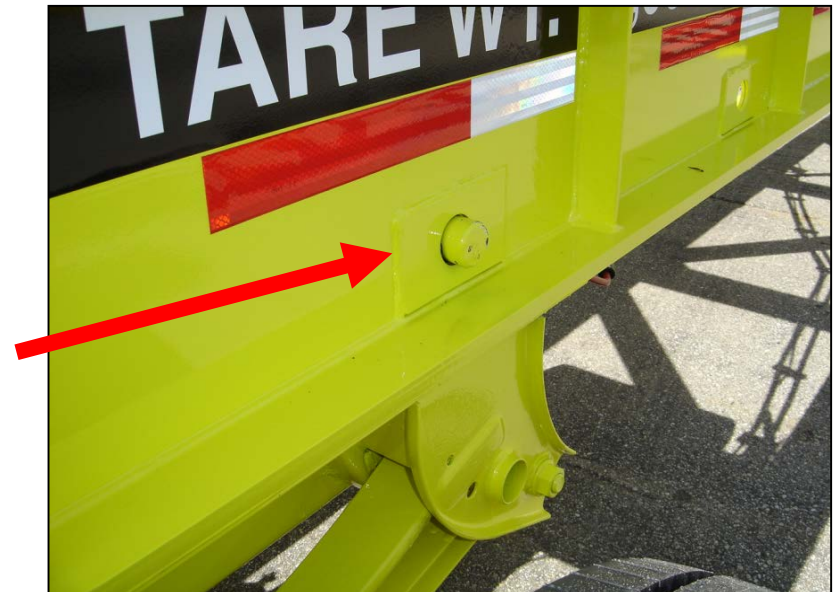


- The **Suspension Locking Pin** does not sufficiently extend through the side frame and is NOT properly engaged and locked.
- Check pins to assure proper locking before moving chassis.



- The **Suspension Locking Pin** in the proper locking position.

Notice: The Locking Pin extends through the side frame properly locking the suspension in place.





- View of Front Bolster showing Receiver Box



- **Train Air Hose** storage and Container Lock



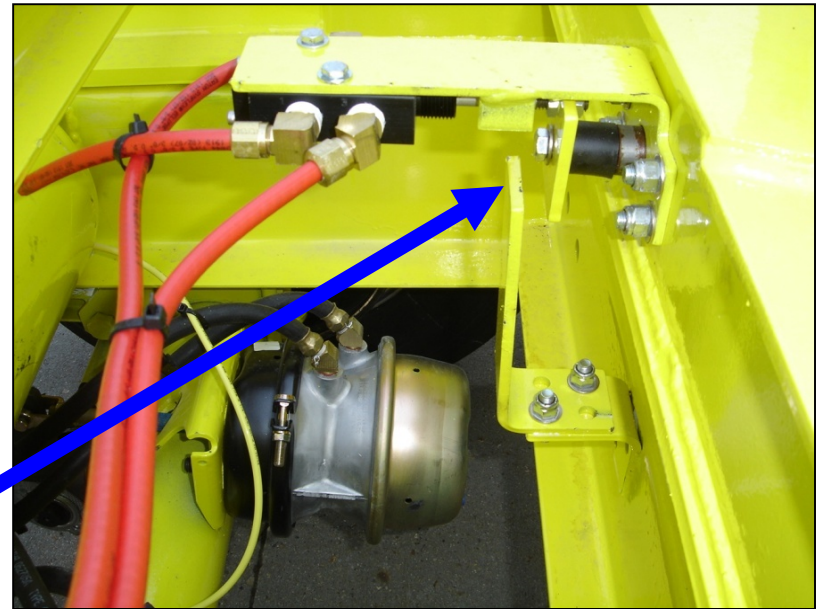
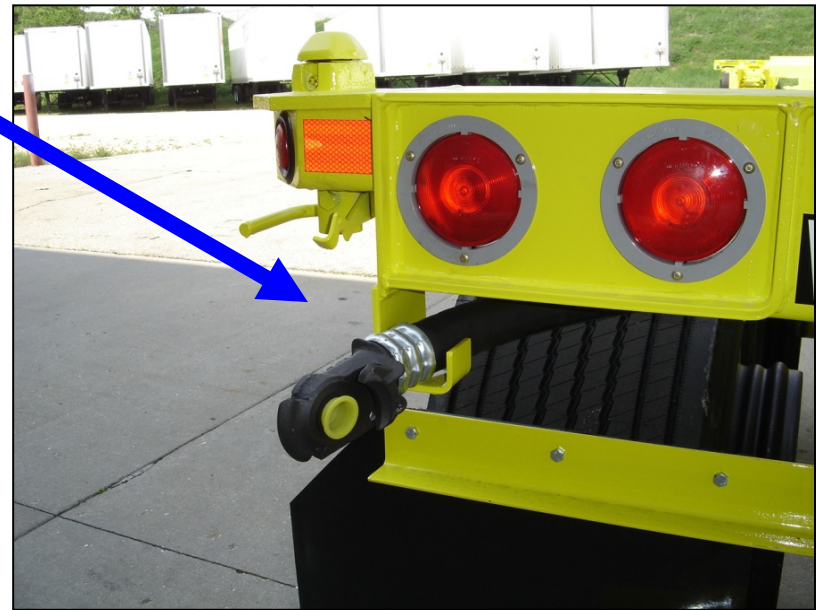
- Standard chassis air and electrical connections.



- Hose Storage

- **Slide Shoe** on Rear Bolster

Notice: Always check wear and tear of shoe regularly



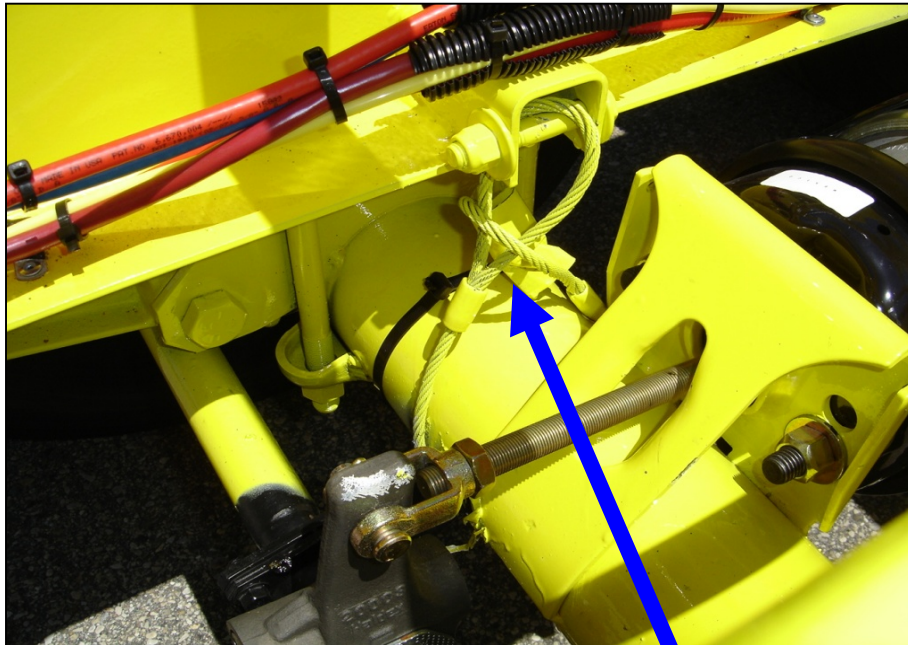
- Rail-to-Road Air Brake Interlock – Interlock prevents movement of chassis with suspension in forward “RAIL” position



Special Features

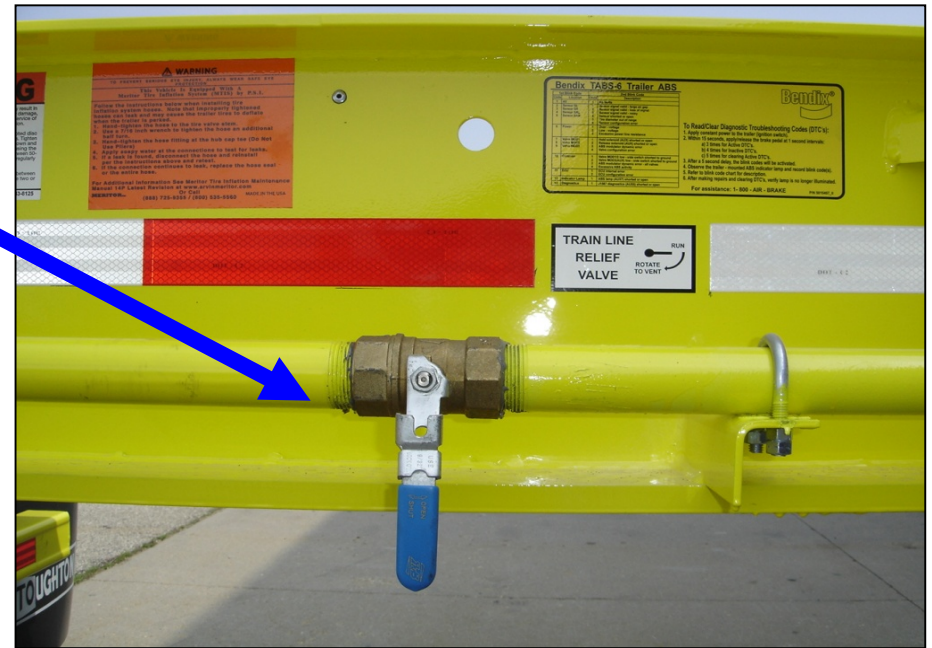
- **Train Air-Line Vent Valve**

Notice: Do NOT attempt to disconnect train line while under pressure



- Braided Slings to retain axles

- **Tire inflation system**



Assembling a RailRunner Train

- Forklift Truck transporting Transition Unit from side (Forks should be fully inserted across lower frame)



- Forklift Truck transporting Intermediate Unit from the side



Bogie Placement by Container Reach Stacker

- Transporting using wire slings/chains and D-rings



- Reach Stacker loading container onto positioned chassis



- Engaged Twist Lock on chassis in container corner casting





- Yard hostler positioning Chassis on the rail for train build

- Chassis positioned with Landing Gear centered on rail
- Adjust Landing Gear as required



Coupling Intermediate Units/Anchor Block



- IU on rail with Parking Brake engaged
- Chassis pushed by tractor and positioned onto bogie
- Chassis bumper in “**UP/RAIL**” position
- Sliding suspension forward



Notice:

**Field Serviceable
Check Valve**



- Drawbar on IU unit about to enter 53' chassis Receiver Box

Notice:
Remember to keep loading ramp heavily greased at all times





- Setting the IU Air Valves
 - Push outer valves to lock pins
 - Push middle valve to raise

- Coupling Train Line Air from Chassis to Bogie



Transition Unit/ End of Train Assembly



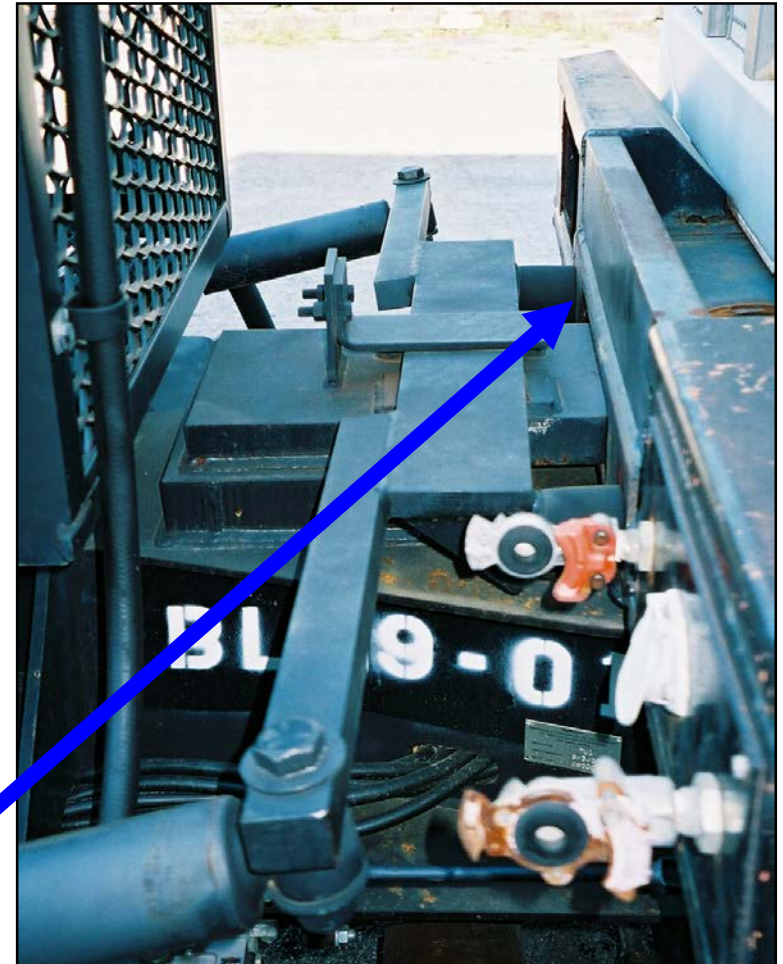
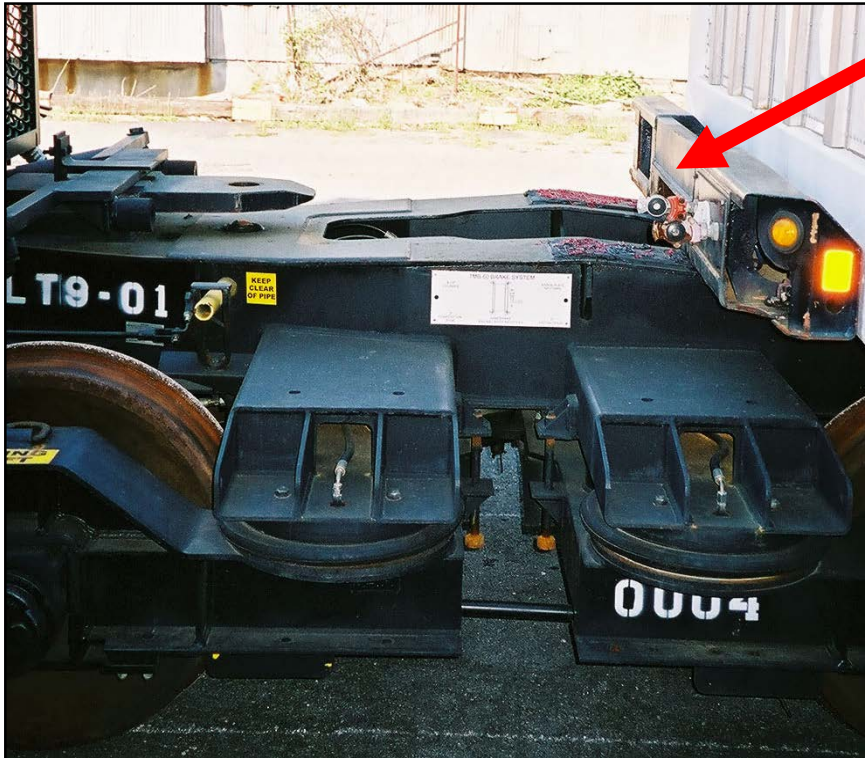


Transition Unit being positioned under Chassis



- Positioning the TU beneath the Chassis

Notice: Remember to keep loading ramp heavily greased at all times



Receiver Box Fully Engaged with Drawbar
(Chassis pushed against rubber bumper)



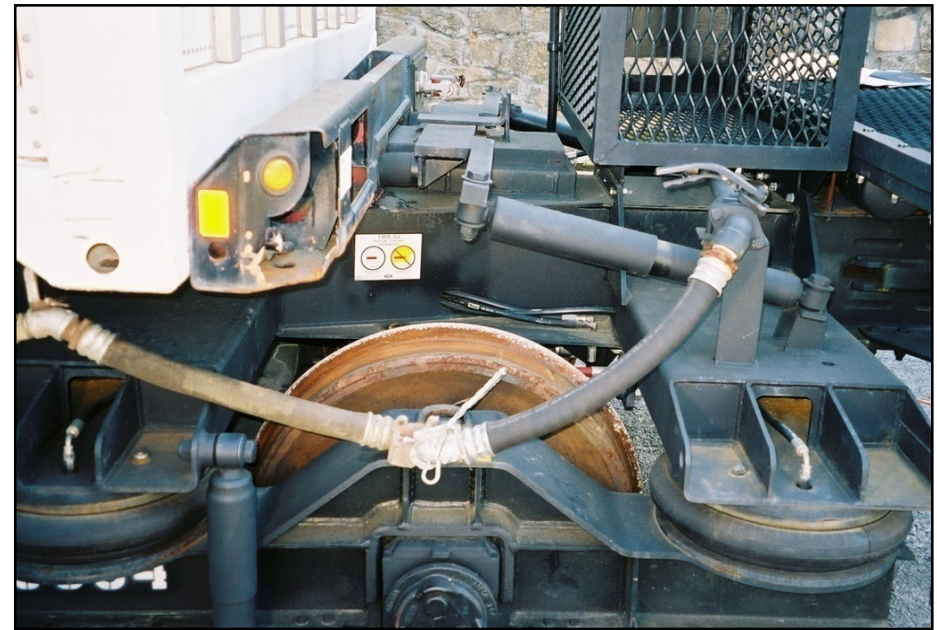
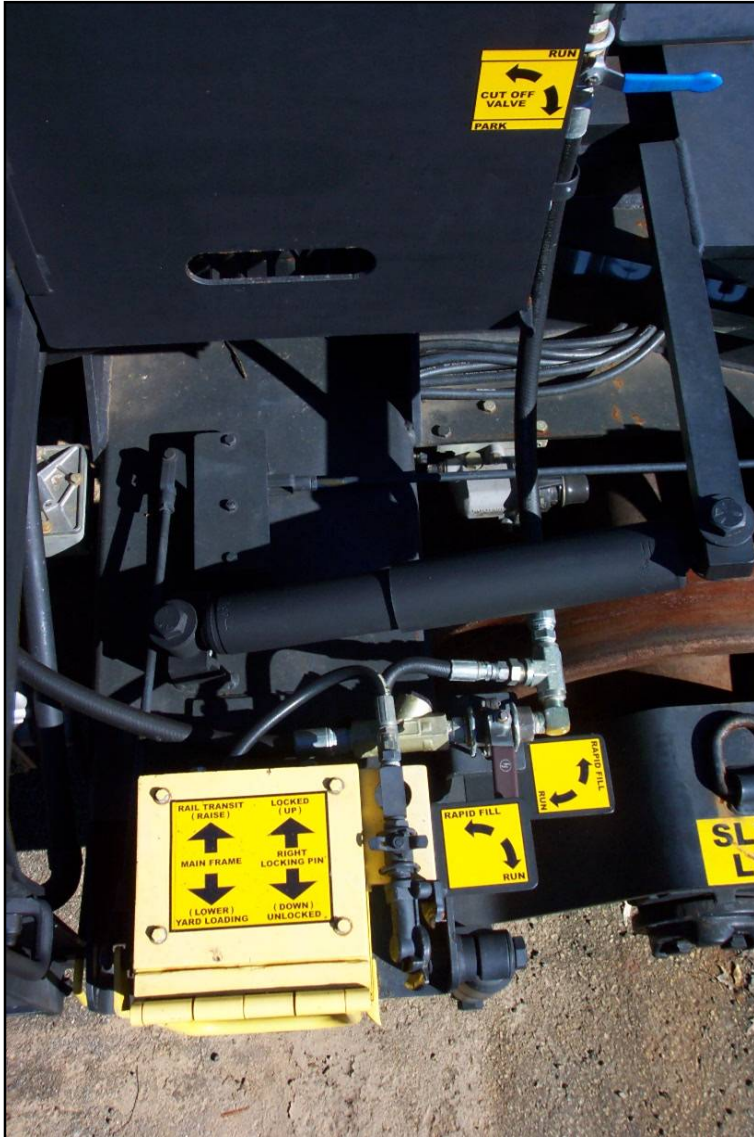


- Activating TU Controls



TU Locking Pin Fully Engaged and Secured





- Connecting the Train Line Air (Chassis to Bogie)

- Set all Air Valves to “**RUN**” position
- Close and latch Control Box Lid



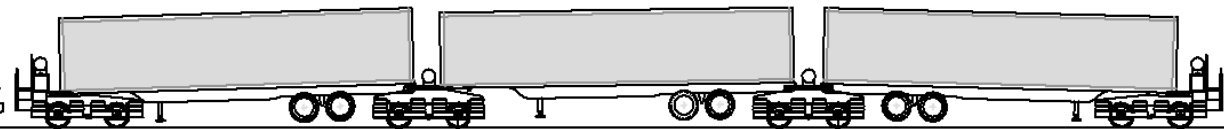
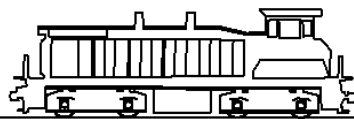
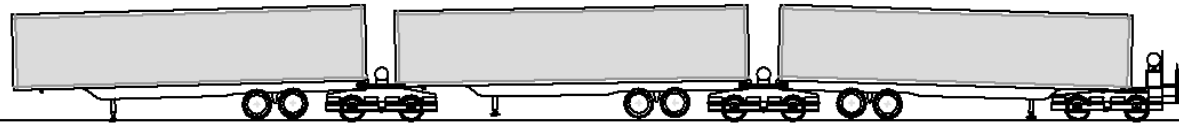
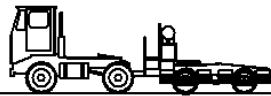
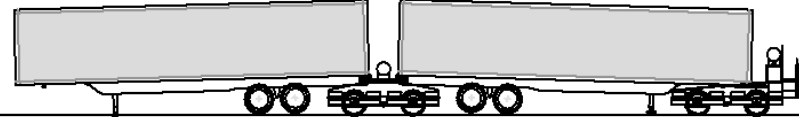
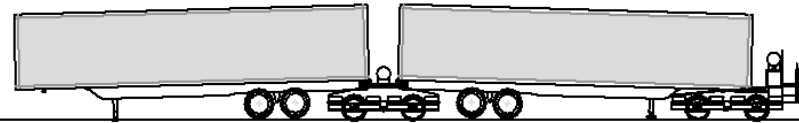
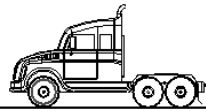
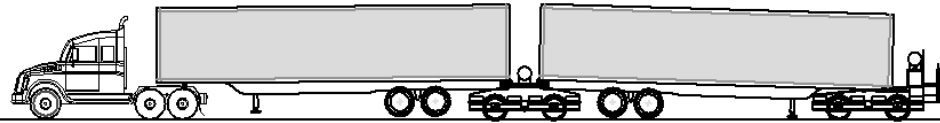
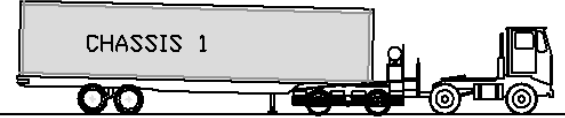
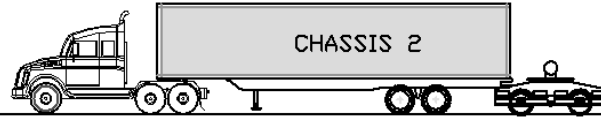
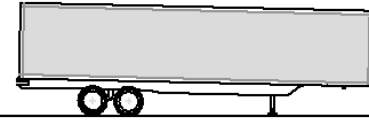
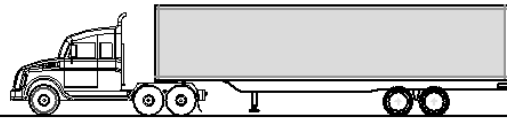


Note Air Spring
Suspension inflated for
Over-the-Rail operation

- Chassis with container shown
in “**UP/RAIL**” position



ANCHOR BLOCK

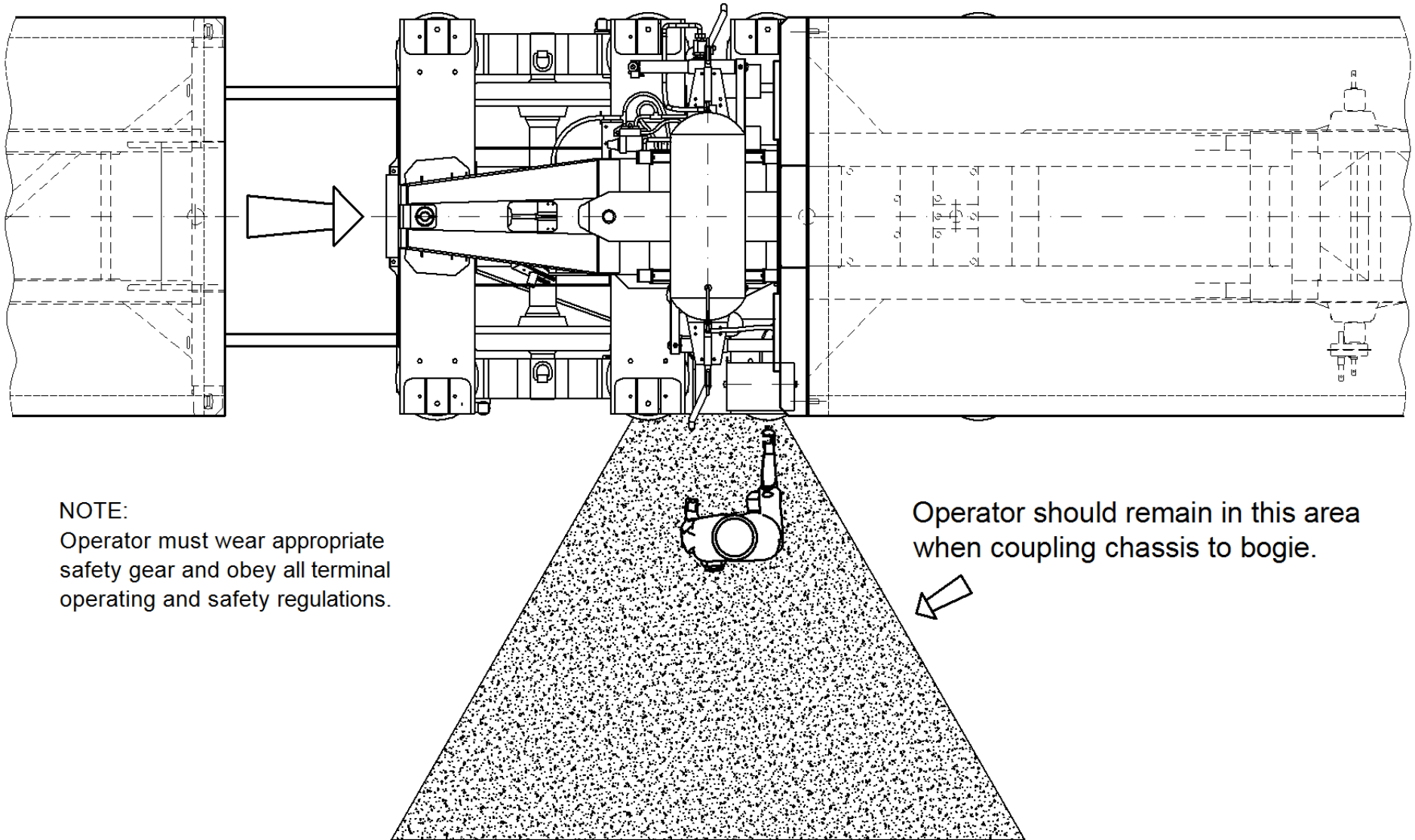


Sequence for Building a RailRunner Consist

- **Place RailRunner bogies on the track allowing adequate space to maneuver the hostler truck and chassis.**
- **Begin by placing one Transition Unit and a few Intermediate Units on the rail.**
- **Build one end of the train starting with a Transition Unit, one Intermediate unit and two chassis. These four vehicles make up the “Anchor” block.**
- **Back chassis number two onto the first Intermediate Unit.**
- **Back chassis number one onto the first Intermediate Unit.**
- **Push the Transition Unit under the first chassis.**
- **Use the Hostler truck and chassis to push the next Intermediate Unit on the track toward the Anchor Block.**
- **Coupler the Intermediate Unit to the chassis.**
- **Continue building the train with chassis and Intermediate Units.**
- **Finish the train build by connecting the Transition Unit to the consist.**
- **Couple the completed consist to the Locomotive.**



Safe Operating Area



NOTE:
Operator must wear appropriate safety gear and obey all terminal operating and safety regulations.

Operator should remain in this area when coupling chassis to bogie.



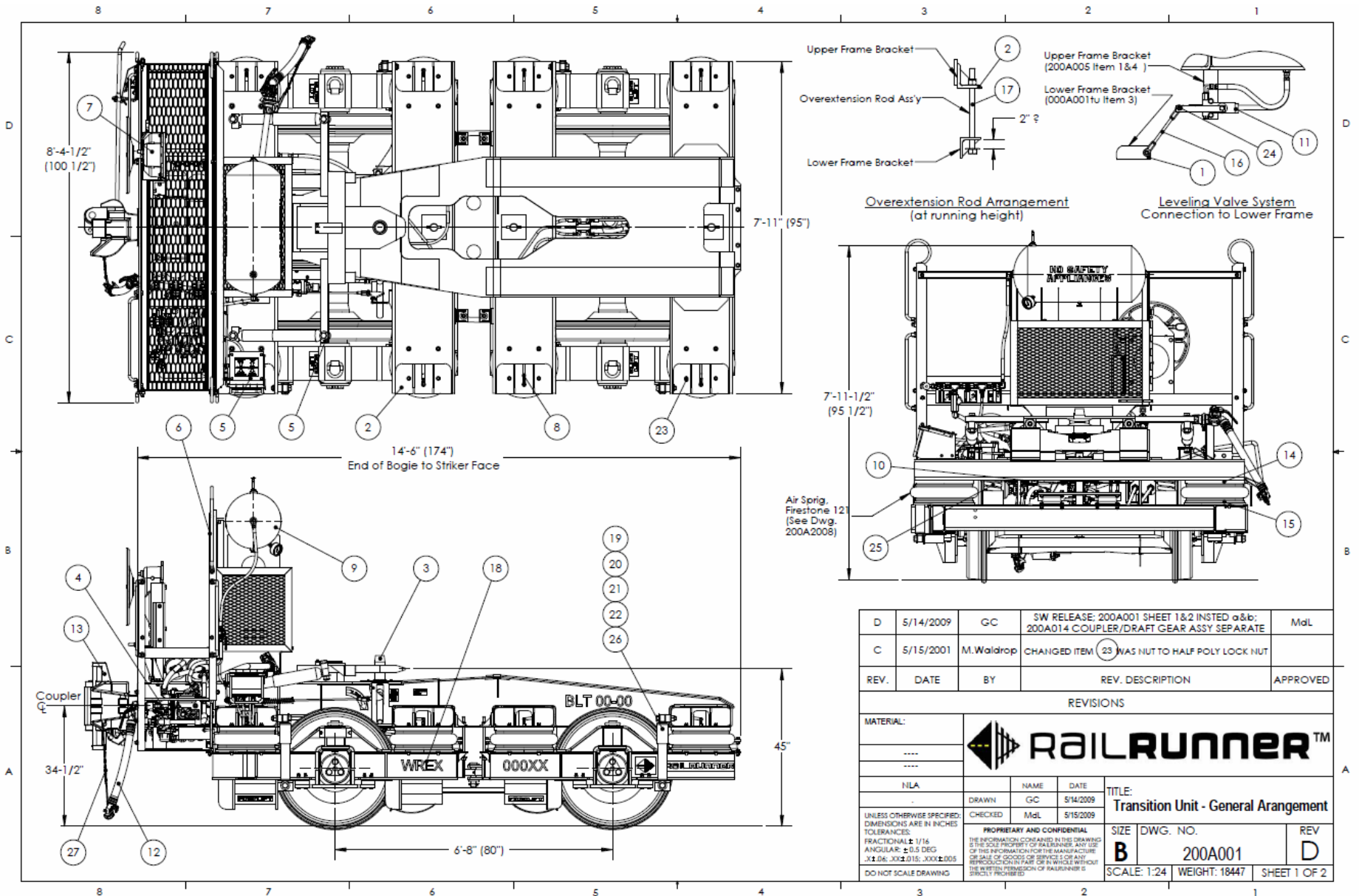
Operation Summary and Safety Review

- ◆ Keep clear of all equipment in motion.
- ◆ Always wear required safety gear.
- ◆ Only TU is equipped with a Cross Over Platform and appropriate safety appliances.
- ◆ IU has no safety appliances and should never be crossed over or ridden on.
- ◆ Do not attempt to disconnect train line air hoses while pressurized. Each chassis is equipped with a pressure relief vent valve at the rear. Vent pressure before disconnecting train line air.
- ◆ TU's and IU's are to be picked up from the side using designated fork lift pockets or picked up overhead by using wire slings and D-rings. Fully engage fork lift pockets on both sides of IU and TU.
- ◆ Keep all bogie loading ramps heavily greased at all times.
- ◆ Air Suspension System will not operate unless a minimum of 30psi is shown on the pressure gage.
- ◆ An Air Compressor is required to pressurize the Air Suspension System to 110psi during both train assembly and disassembly.
- ◆ The Air Suspension Reservoir is equipped with a pop off pressure relief valve set to 125psi.
- ◆ The Control Box on the IU will close and lock only when all mechanisms are in the proper "RAISED/LOCKED" position for over the rail operation.
- ◆ Parking Brakes must be released prior to moving the train to prevent damaging "flat spotting/sliding" of the wheels.
- ◆ All train line hoses must be connected between all chassis and all bogies.
- ◆ Check chassis landing gear clearance to rail.



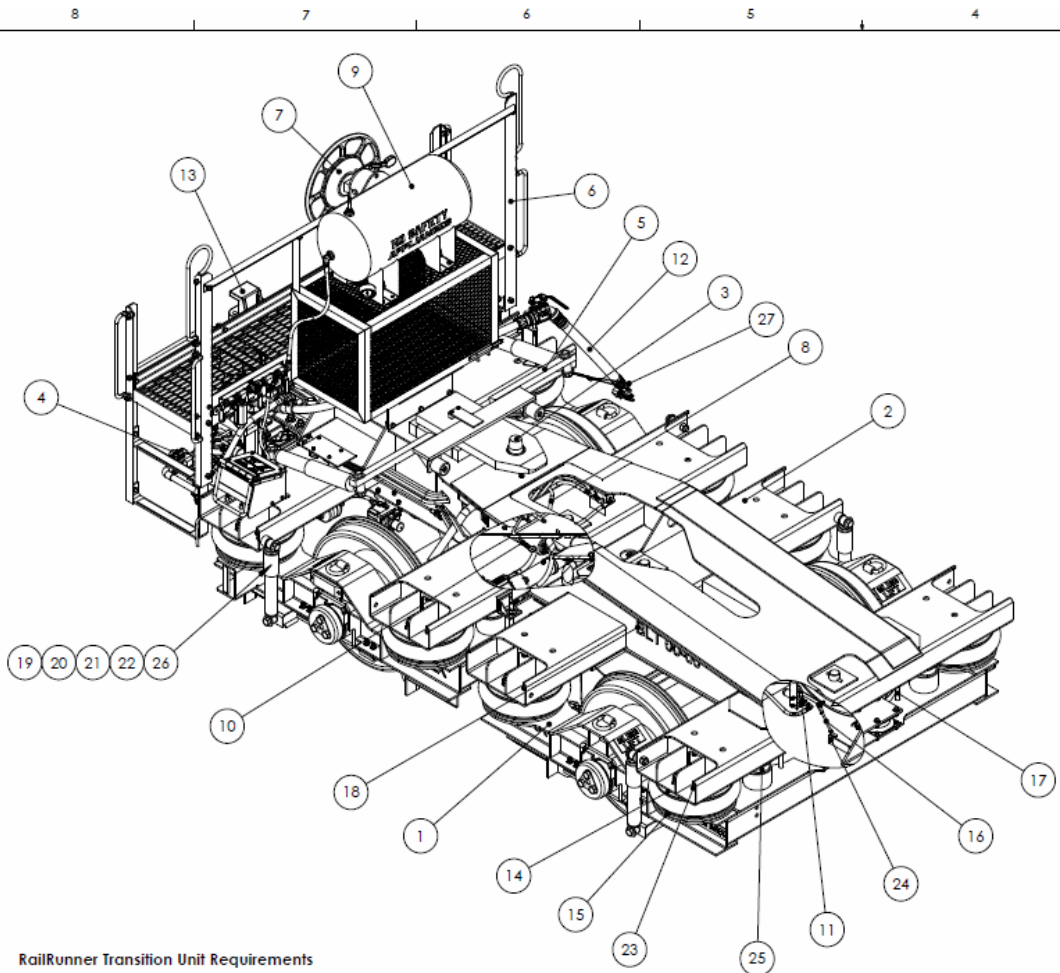
Reference Material

Dwg. 200A001a



D	5/14/2009	GC	5W RELEASE: 200A001 SHEET 1 & 2 INSTED a&b; 200A014 COUPLER/DRAFT GEAR ASSY SEPARATE	MdL
C	5/15/2001	M. Waldrop	CHANGED ITEM 23 WAS NUT TO HALF POLY LOCK NUT	
REV.	DATE	BY	REV. DESCRIPTION	APPROVED
REVISIONS				
MATERIAL:				
NILA				
DRAWN		NAME	DATE	TITLE:
CHECKED		MdL	5/15/2009	Transition Unit - General Arrangement
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		B	200A001	D
		SCALE: 1:24	WEIGHT: 18447	SHEET 1 OF 2

Dwg. 200A001b



BOM Table				
ITEM NO	QTY.	PART NUMBER	Rev	Description
1	1	000A001tu		LOWER FRAME ASSEMBLY (TRANSITION UNIT)
2	1	200A002a		Upper Frame Assembly
3	1	200A003		Pin Lock Assembly
4	1	200A004		Air Brake assembly
5	1	200A005		Miscellaneous Accessories Assembly
6	1	200A006		Safety Appliances
7	1	200A007		Hand Brake Arrangement
8	1	200A008		Air Bag Piping
9	1	200A009		Air Supply System
10	1	200A010		Cylinder System
11	1	200A011		Height Control Valve System
12	1	200A012		Trainline Assembly
13	1	200A014		Coupler/Draft Gear Assembly
14	8	200D001		Upper Wing Shim Plate
15	8	200D002		Lower Wing Shim Plate
16	2	200D071		Rod Assembly
17	8	200D127		Overextension Rod Assembly
18	1	200D152		Transition Unit - Decal & Stencil Location
19	4	910065		1-8UNC Hex Head Bolt x 5 lg. Gr.5
20	8	910066		1-8UNC Nylon Lock Nut
21	4	910067		1-8UNC Hex Head Bolt x 4 lg. Gr.5
22	8	910068		1 Washer
23	64	910110		5/8-11UNC Half Poly Lock Nut GR 5
24	4	910116		3/8-24UNC Nylon Lock Nut
25	8	940019		Spring, Alco CH14707A
26	4	940021		Shock, Monroe 74423
27	2	950026		Brake Hose Support, IRECO 20161 (or STRATO BC 601)

RailRunner Transition Unit Requirements

Weld Requirements:

1. Welds must conform to the requirements of AWS D1.1 and D15.1.
2. D15.1 will take precedence over D1.1 where the two disagree.
3. Welders must be certified to either D1.1 or D15.1 regarding applicable welding positions.
4. All welding will be performed using FCAW unless specified otherwise.
5. For all weld processes, the filler metal must meet the requirements of Table C4 of D15.1 for A572, Grade 50 steel.
6. All welds require visual inspection. 10% of all welds require a non-destructive inspection using either magnetic-particle or dye-penetrant testing per AWS D1.1. Inspectors must be AWS certified.

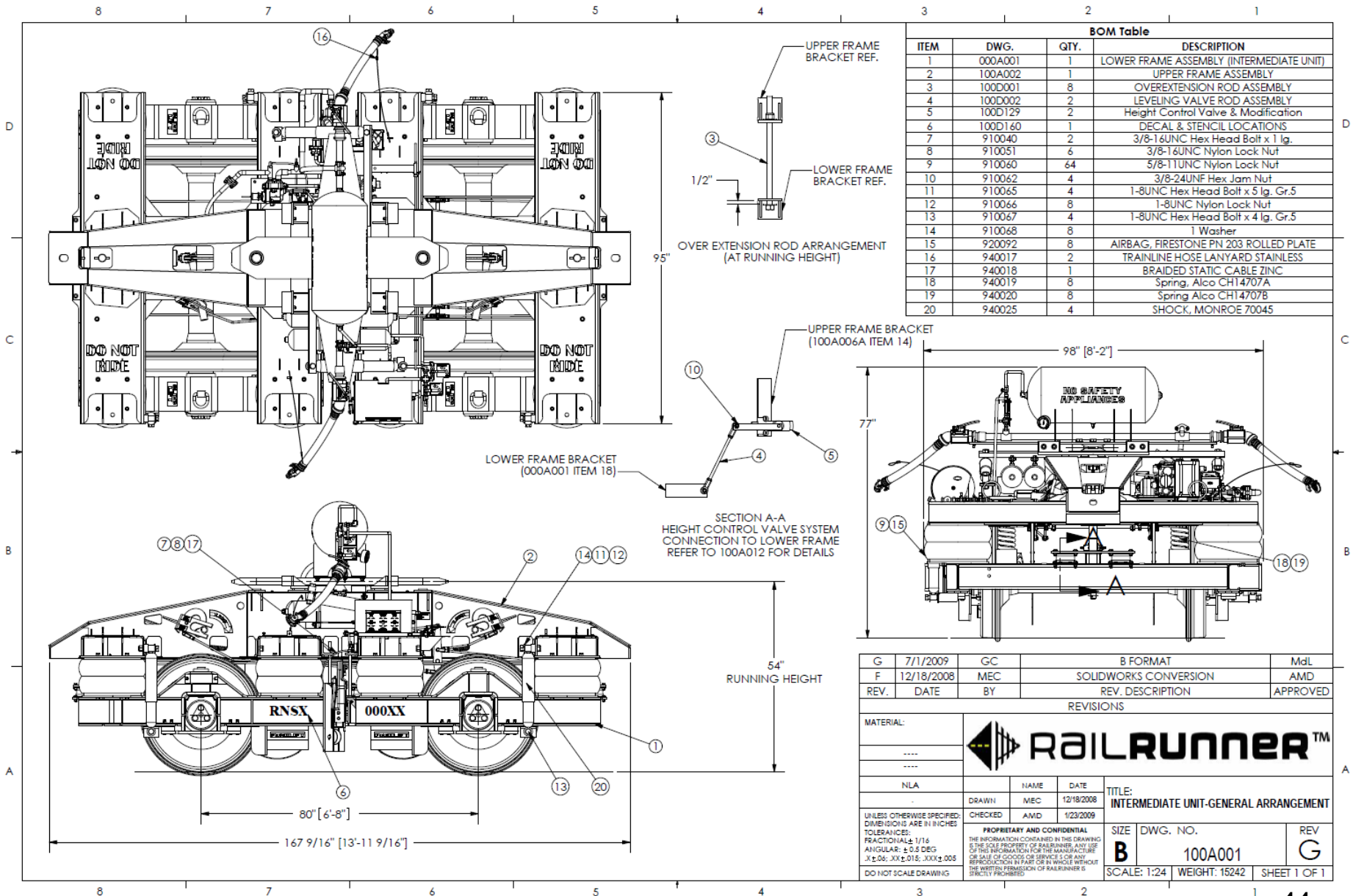
Material Specifications:

1. All structural steel must be certified to exceed 15 ft-lb @ 0°F on Charpy V-notch Impact test.
2. Material specifications for all materials must be kept for every lower frame, filed by upper frame serial number.

-	-	-	See Sheet1	-
REV.	DATE	BY	REV. DESCRIPTION	APPROVED

REVISIONS

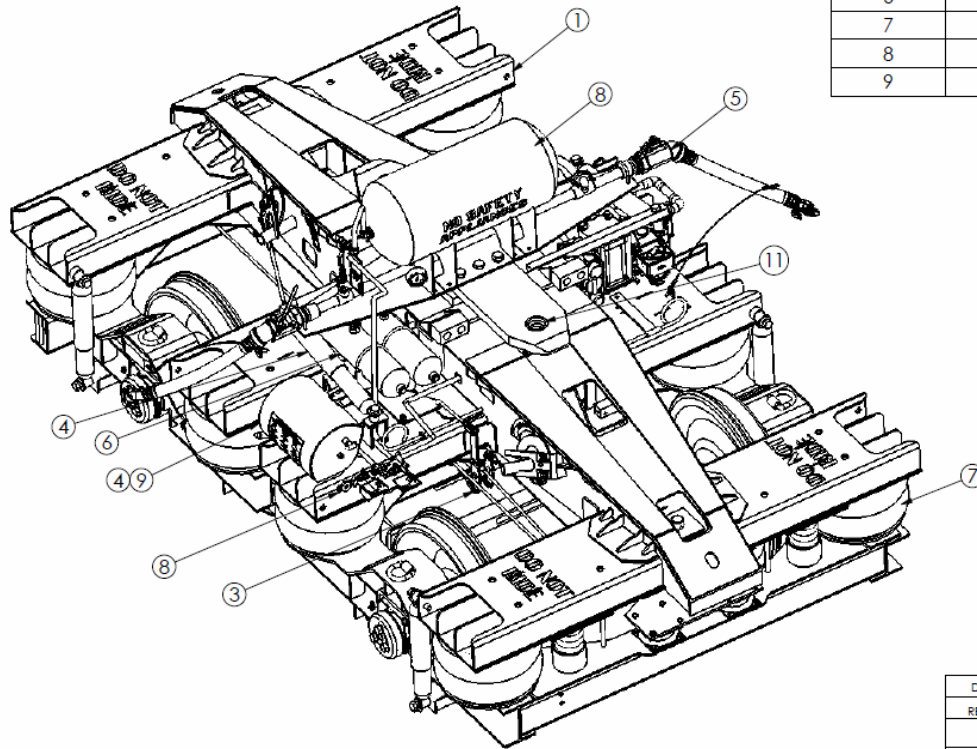
MATERIAL:				
NILA				
DRAWN	GC	DATE	TITLE:	
CHECKED	MdL	5/15/2009	Transition Unit - General Arrangement	
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FRACTIONAL: 1/16	ANGULAR: ±0.5 DEG	SCALE	DWG. NO.	REV
3/16, .002, .015, .000±.005		B	200A001	D
DO NOT SCALE DRAWING		SCALE: 1:24	WEIGHT: 18447	SHEET 2 OF 2



Dwg. 100A002

WELD REQUIREMENTS:

1. WELDS MUST CONFORM TO THE REQUIREMENTS OF AWS D1.1 AND D15.1.
2. D15.1 WILL TAKE PRECEDENCE OVER D1.1 WHERE THE TWO DISAGREE.
3. WELDERS MUST BE CERTIFIED TO EITHER D1.1 OR D15.1 REGARDING APPLICABLE WELDING POSITIONS.
4. ALL WELDING WILL BE PERFORMED USING GMAW-P UNLESS SPECIFIED OTHERWISE.
5. FOR ALL WELD PROCESSES, THE FILLER METAL MUST MEET THE REQUIREMENTS OF TABLE C4 OF D15.1 FOR A572, GRADE 50.




ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	100A003	UPPER FRAME WELDMENT
2	1	100A004	PIN LOCK ASSEMBLY
3	1	100A005	PADDLE SYSTEM ASSEMBLY
4	1	100A006	MIISC ACCESORIES ASSEMBLY
5	1	100A007	TRAINLINE ASSEMBLY
6	1	100A008	AIR BRAKE ASSEMBLY
7	1	100A009	AIR BAG PIPING
8	1	100A010	AIR SUPPLY SYSTEM
9	1	100A011	CYLINDER SYSTEM

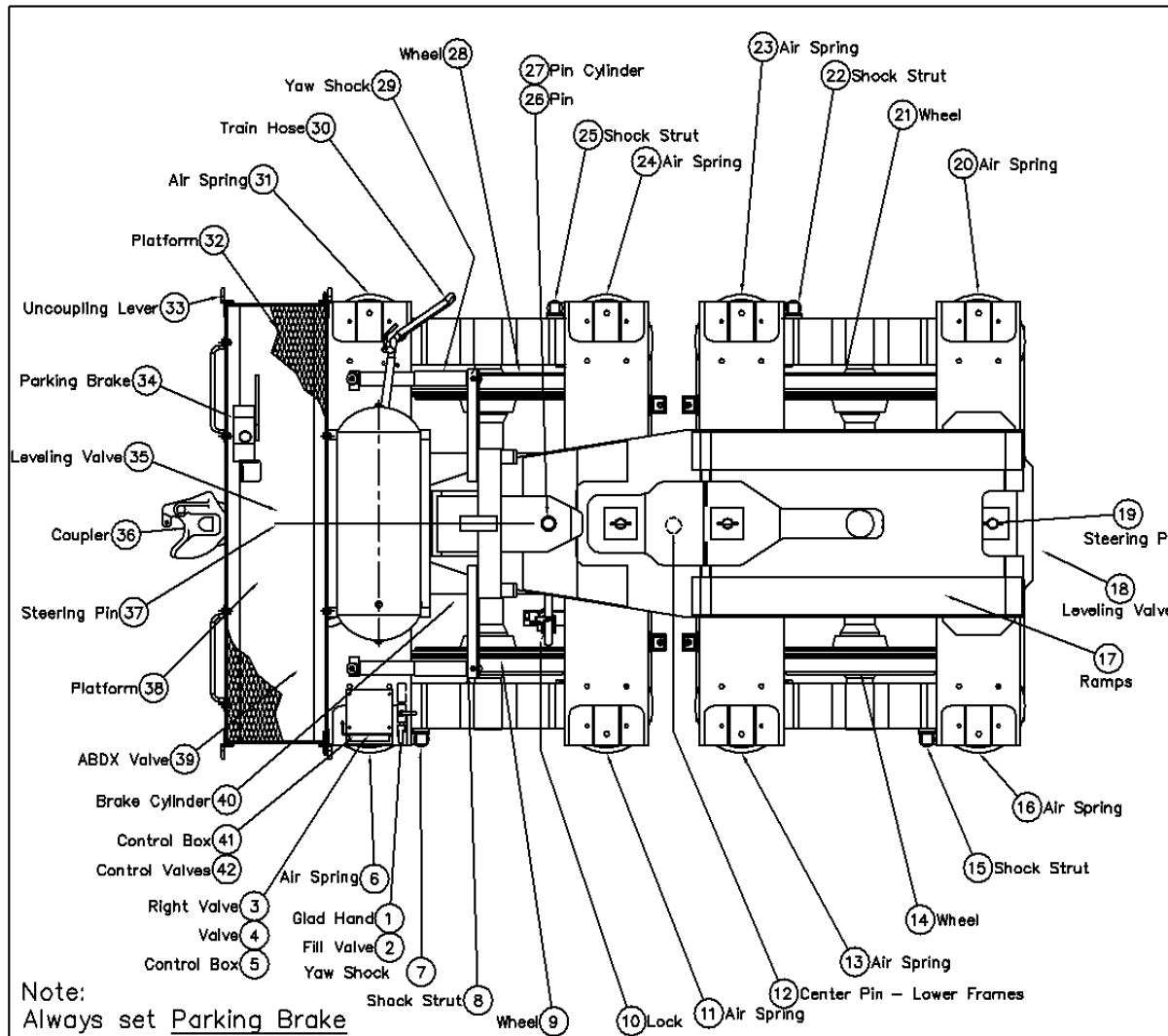
MATERIAL SPECIFICATIONS:

1. ALL STRUCTURAL STEEL MUST BE CERTIFIED TO EXCEED 15 FT-LB @ 0°F ON CHARPY V-NOTCH IMPACT TEST.
2. MATERIAL SPECIFICATIONS FOR ALL MATERIALS MUST BE KEPT FOR EVERY LOWER FRAME, FILED BY UPPER FRAME SERIAL NUMBER.

OTHER:

A SERIAL NUMBER SHALL BE STAMPED ON EVERY UPPER AND LOWER FRAME.

D	12/15/2008	MEC	SOLIDWORKS CONVERSION	
REV.	DATE	BY	DESCRIPTION	APPROVED
REVISIONS				
MATERIAL:				
100A001				
NLA:		NAME	DATE	TITLE:
		MEC	12/15/2008	UPPER FRAME ASSEMBLY
UNLESS OTHERWISE SPECIFIED:	CHECKED	AMD	1/23/09	
DIMENSIONS ARE IN INCHES	<small> PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF RAILRUNNER. ANY USE OF THIS INFORMATION FOR THE MANUFACTURE OR SALE OF GOODS OR SERVICE, OR ANY REPRODUCTION IN PART OR IN WHOLE WITHOUT THE WRITTEN PERMISSION OF RAILRUNNER IS STRICTLY PROHIBITED. </small>			SIZE B
TOLERANCES: FRACTIONAL: 1/16 ANGULAR: 4.0 DEG THREE PLACE DECIMAL: .005	DWG. NO.		REV	
DO NOT SCALE DRAWING	100A002		D	
	SCALE: 1:1	WEIGHT: 15128Lb	SHEET 1 OF 1	

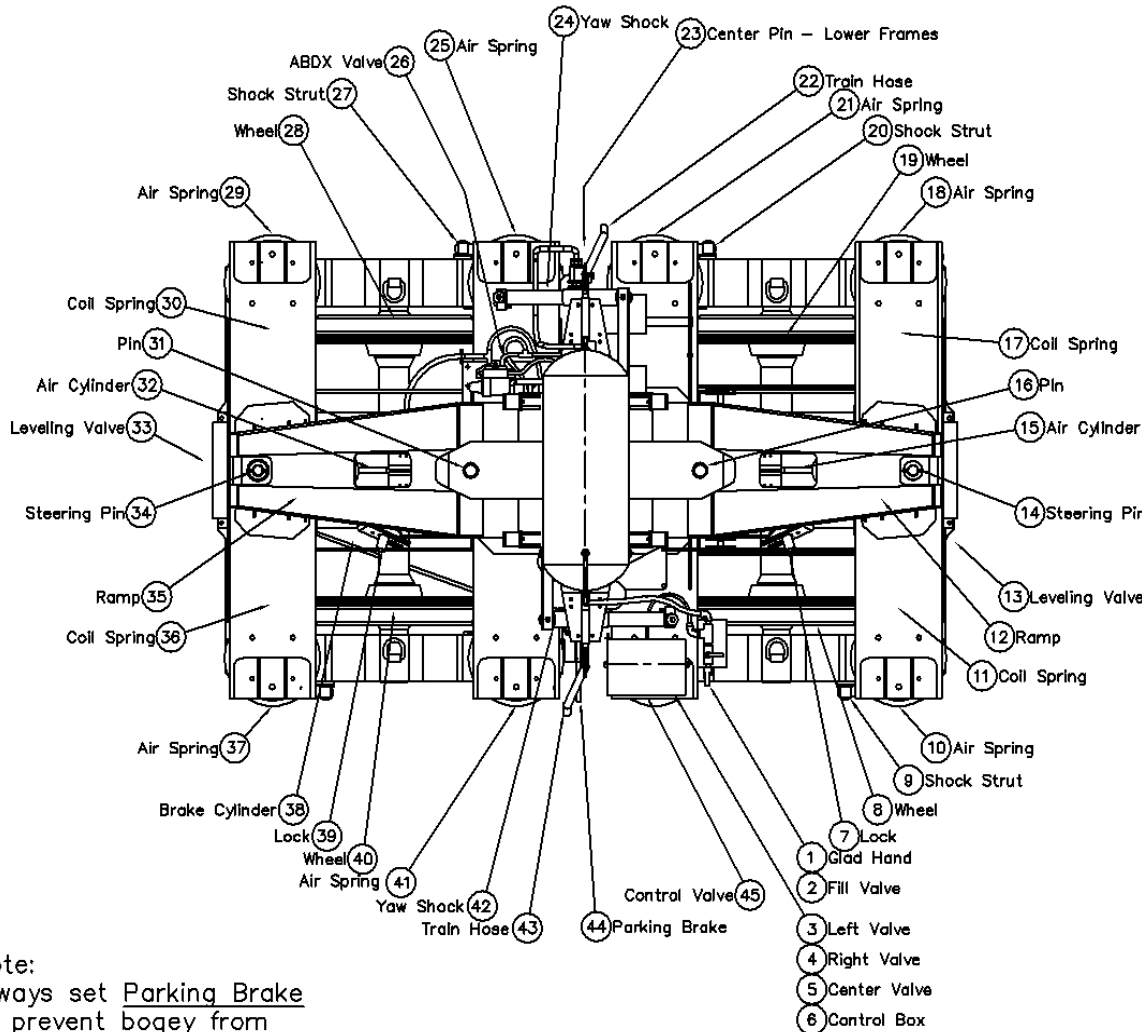


Field Inspection Transition Unit

- | | |
|---------------------|---|
| 1 Glad Hand | Charge tank to 110 PSI |
| 2 Fill Valve | Set Valve to Rapid Fill |
| 3 Right Valve | Move Valve IN and Out - Leave Out |
| 4 Right Valve | Move Valve IN - Raise Frame |
| 5 Control Box | Close Control Box, check mechanisms for fuction |
| 6 Air Spring | Look for damage, listen for air leaks |
| 7 Yaw Shack | Check bolted connections, look for fluid leaks |
| 8 Shock Strut | Check bolted connections, look for fluid leaks |
| 9 Wheel | Inspect wheel, brake shoe and brake beam |
| 10 Lock | Check locking mechanism and connections |
| 11 Air Spring | Look for damage, listen for air leaks |
| 12 Center Pin | Check pin connecting lower frames |
| 13 Air Spring | Look for damage, listen for air leaks |
| 14 Wheel | Inspect wheel, bearing, brake shoe and brake beam |
| 15 Shock Strut | Check bolted connections, look for fluid leaks |
| 16 Air Spring | Look for damage, listen for leaks |
| 17 Ramps | Apply grease to ramps |
| 18 Leveling Valve | Check control rod connections |
| 19 Steering Pin | Check shear pad bolts. Inspect rod and bushing for damage |
| 20 Air Spring | Look for damage, listen for air leaks |
| 21 Wheel | Inspect wheel, bearing, axle, brake shoe and brake beam |
| 22 Shock Strut | Check bolted connections, look for fluid leaks |
| 23 Air Spring | Look for damage, listen for air leaks |
| 24 Air Spring | Look for damage, listen for air leaks |
| 25 Shock Strut | Check bolted connection, look for fluid leaks |
| 26 Pin | Locked pin should be up and vertically aligned |
| 27 Pin Cylinder | Inspect cylinder mechanism beneath unit |
| 28 Wheel | Inspect wheel, bearing, axle, brake shoe and brake beam |
| 29 Yaw Shack | Check bolted connections, check for fluid leaks |
| 30 Train Hose | Check glad hand and condition of hose |
| 31 Air Spring | Check for damage, listen for air leaks |
| 32 Platform | Check steps and safety appliances for damage |
| 33 Uncoupling Lever | Inspect lever and bracket for operation |
| 34 Parking Brake | Set and release brake, inspect chain connections |
| 35 Leveling Valve | Check control rod connections |
| 36 Coupler | Check condition of coupler, draft key and train hose |
| 37 Steering Pin | Check shear pad bolts. Inspect rod and bushing for damage |
| 38 Platform | Check steps and safety appliances for damage |
| 39 ABDX Valve | Inspect ABDX valve, air tanks and empty/load valve |
| 40 Brake Cylinder | Check pinned connections and brake beam |
| 41 Control Box | Open box. Check mechanisms for fuction |
| 42 Control Valves | Pull the valves outward lower locking pins and frame |

Note:
Always set Parking Brake
to prevent bogey from
rolling during inspection
See Location at Item 34

REV.	DATE	BY	DESCRIPTION
A	03/7/85	M.Veldrop	INITIAL DRAWING RELEASE
<p><small>This design and all information herein is the Exclusive Property of RailRunner, Incorporated and must not be made public, copied or used in any way detrimental to our interest. It is loaned subject to return on demand unless furnished under contract provisions.</small></p>			
<h1>RailRunner</h1> <p>Field Inspection Transition Unit</p>			<p>TEROLERANCE ± 1/16 Unless Noted</p> <p>Total Weight</p> <p>Drawn M.Veldrop</p> <p>CHKD</p>
DWG # 100D176			NLA

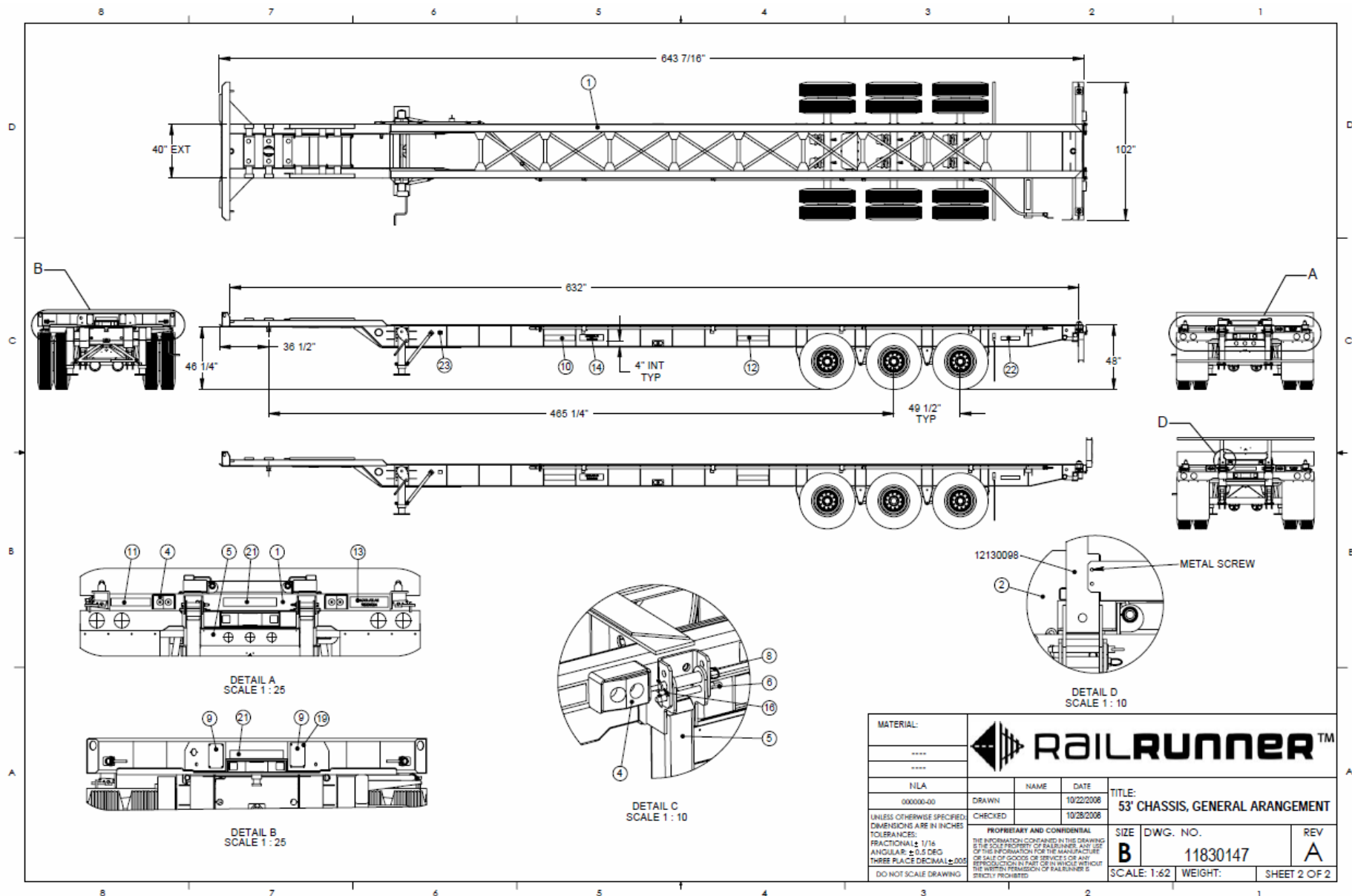


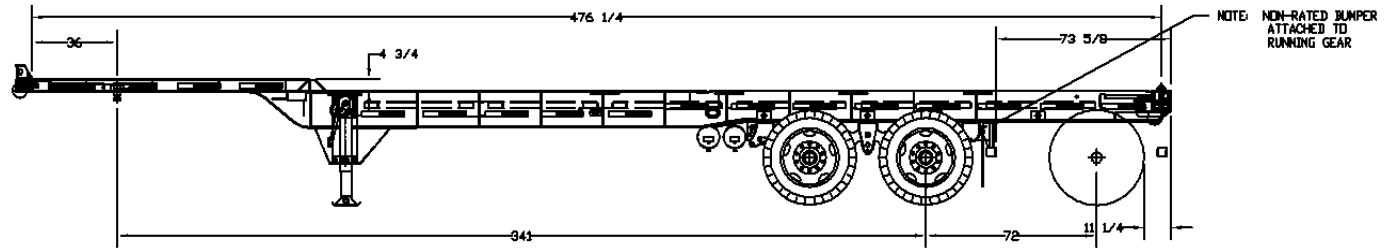
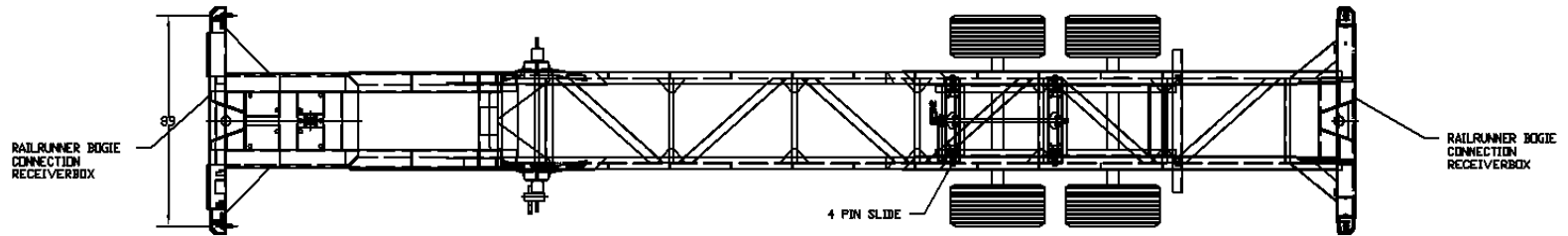
Note:
Always set Parking Brake
to prevent bogey from
rolling during inspection
See Location at Item 44

Field Inspection Intermediate Unit

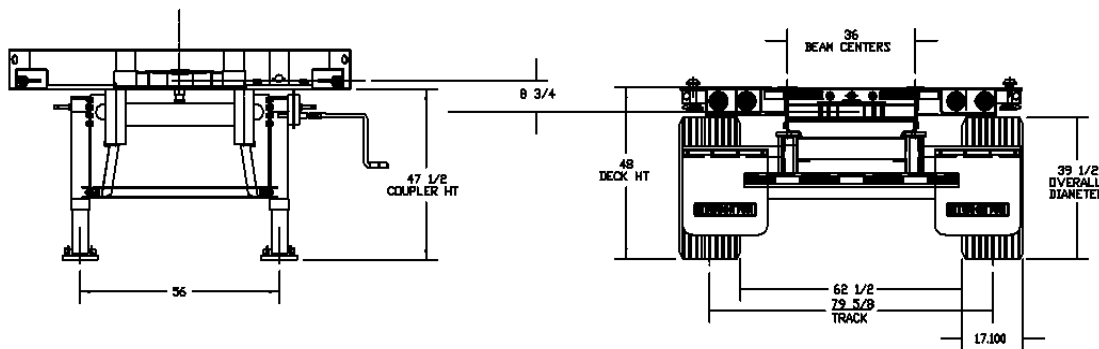
- | | |
|--------------------|---|
| 1 Glad Hand | Charge tank to 110 PSI |
| 2 Fill Valve | Set Valve to Rapid Fill |
| 3 Left Valve | Move Valve IN and OUT |
| 4 Right Valve | Move Valve IN and OUT |
| 5 Center Valve | Move IN - Raise Upper Frame |
| 6 Control Box | Close Control Box, check mechanisms for function |
| 7 Lock | Check locking mechanism and connections |
| 8 Wheel | Inspect wheel, bearing, axle, brake shoe and brake beam |
| 9 Shock Strut | Check bolted connections, look for fluid leaks |
| 10 Air Spring | Look for damage, Listen for air leaks |
| 11 Coil Springs | Check springs & paddle mechanism connections |
| 12 Ramps | Apply grease to ramps |
| 13 Levelling Valve | Check control rod connections |
| 14 Steering Pin | Check shear pad bolts. Inspect rod and bushing for damage |
| 15 Air Cylinder | Inspect mechanism inside frame for damage or debris |
| 16 Pin | Locking Pin should be up and vertically aligned |
| 17 Coil Spring | Check spring and paddle mechanism connections |
| 18 Air Spring | Look for damage, listen for air leaks |
| 19 Wheel | Inspect wheel, bearing, axle, brake shoe and brake beam |
| 20 Shock Strut | Check bolted connections, look for fluid leaks |
| 21 Air Spring | Look for damage, listen for air leaks |
| 22 Train Hose | Check glad hands and condition of hose |
| 23 Center Pin | Check pin connecting lower frames |
| 24 Yaw Shock | Check bolted connections, look for fluid leaks |
| 25 Air Spring | Look for damage, listen for air leaks |
| 26 ABDX Valve | Look for damage, listen for air leaks |
| 27 Shock Strut | Check bolted connection, look for fluid leaks |
| 28 Wheel | Inspect wheel, bearing, axle, brake shoe and brake beam |
| 29 Air Spring | Look for damage, listen for leaks |
| 30 Coil Spring | Check spring and paddle mechanism connections |
| 31 Pin | Locking pin should be up and vertically aligned |
| 32 Air Cylinder | Inspect mechanism inside frame for damage or debris |
| 33 Levelling Valve | Check control rod connections |
| 34 Steering Pin | Check shear pad bolts. Inspect rod and bushing for damage |
| 35 Ramps | Apply grease to ramps |
| 36 Coil Springs | Check springs and paddle mechanism connections |
| 37 Air Spring | Look for damage, listen for leaks |
| 38 Brake Cylinder | Check pinned connections and brake beams |
| 39 Lock | Check locking mechanism and connections |
| 40 Wheel | Inspect wheel, axle, bearing, brake shoe and brake beam |
| 41 Air Spring | Look for damage, listen for leaks |
| 42 Yaw Shock | Check bolted connections, look for fluid leaks |
| 43 Train Hose | Check glad hand and condition of hose |
| 44 Parking Brake | Set and release brakes. Inspect chain connection |
| 45 Control Valve | Pull the valves outward lower locking pins and frame |

REV.	DATE	BY	DESCRIPTION
A	09/7/05	M/Veldrop	INITIAL DRAWING RELEASE
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<h1>RailRunner</h1> <p>Field Inspection Intermediate Unit</p>			<p>TOLEANCE ± 1/16 Unless Noted</p> <p>Total Weight</p> <p>Dims. M/Veldrop</p> <p>CHND</p>
DWG # 100D175			MLA





ESTIMATED WGT: 7900lbs ± 2%



REV.	DATE	BY	APPVD	DESCRIPTION
1	08/25/06	RRR		SKETCH FOR INFO ONLY
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<h1>RailRunner</h1> <p>40ft CHASSIS Specification drawing</p>				<p>TOLERANCE: ± 1/16 Unless Noted</p> <p>Total Weight</p> <p>DWG</p> <p>CHKD</p> <p>Scale: 1/25</p>
<p>DWG # CH100-401A</p>				



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End

