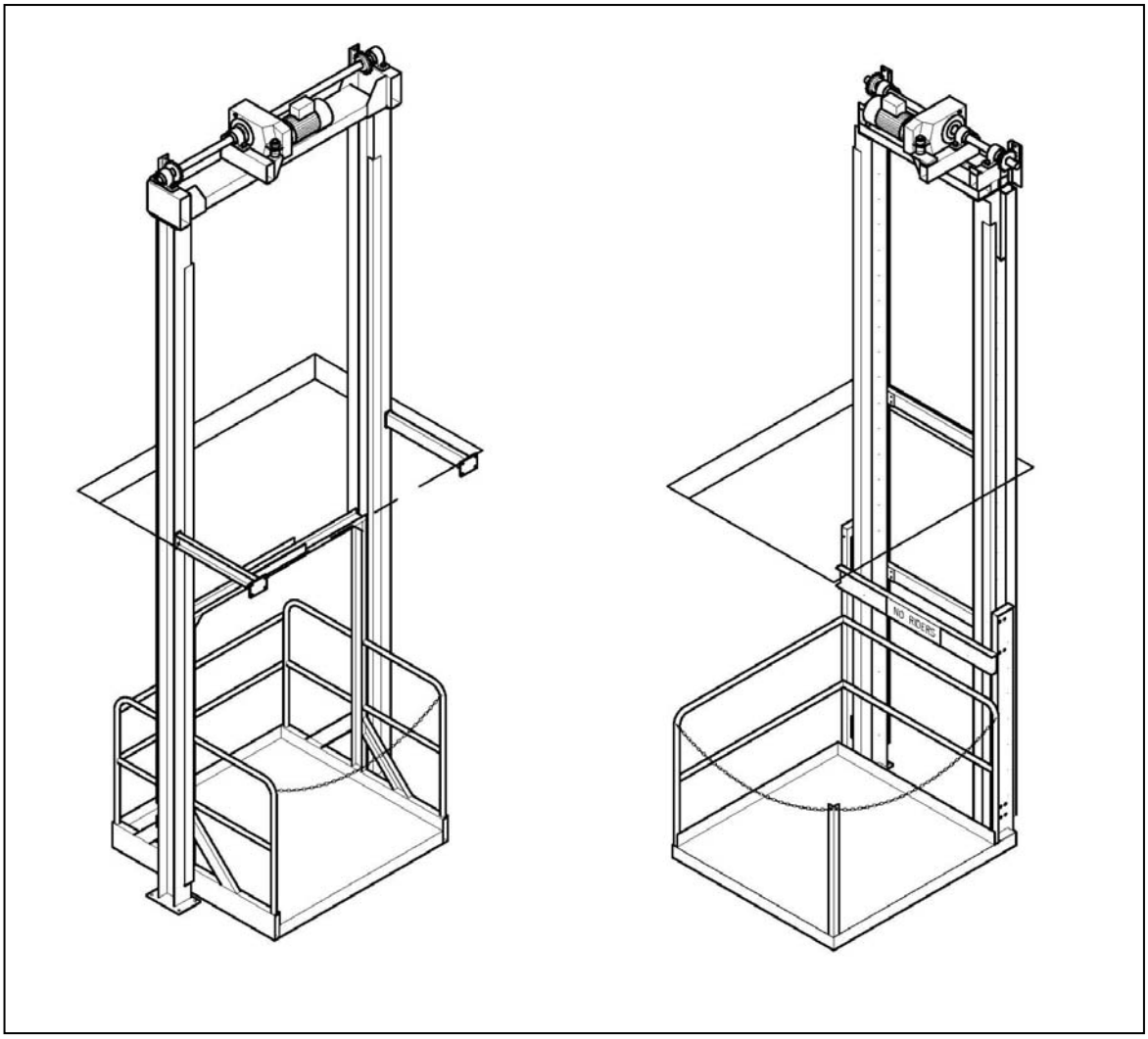
Mechanical VRC (Straddle & Cantilever)

Installation, Operation, Maintenance & Parts Manual



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Thank you

We know that in today's competitive marketplace, customers have many choices when purchasing products. We appreciate your choosing Wildeck's high quality industrial product and know you have made a wise decision.

Our continued reputation as one of the top manufacturers of industrial products rests with the satisfaction of each and every customer. Wildeck products are *Crafted with Confidence* by employee owners in Waukesha, Wisconsin, USA. Should you have any questions or require installation assistance, please do not hesitate to contact your local Wildeck representative or Wildeck's customer service department at 1-800-325-6939.

Thank you for allowing Wildeck to serve your needs.

Tools and Equipment Required
To Install Wildeck Mechanical VRC Units

Welding machine and equipment (helmet, gloves, rods, etc.)

Cutting torch with full tanks

2000 lb. capacity forklift (or alternative)

Chain fall and/or come-a-long

1000 lb. Capacity cables or hook chains

Disk grinders

“C” clamps

Hammer drill

Drill bits for 1/2" and 3/8 x 3-1/2" long minimum anchor bolts

1/2" drive socket set with sockets to 1-1/8"

Extension cords

Sledge hammer

Allen wrenches to 3/8"

Open end wrenches to 15/16"

Drift punch

5/8-11" N.C. tap

Carpenter’s square

Chalk line

Plumb bob

Grease gun

4' level

25' measuring tape

Hacksaw

Vertical Reciprocating Conveyor (VRC) Bracing and Supports

Wildeck® Inc., supplies support bracing at each level as indicated on the General Arrangement Drawing prepared for each application. Also, see Bracing Section of this manual for bracing options.

This bracing is especially designed to allow a specified gap between the platform carriage and floor at each level, with the provision that the bracing is properly anchored to structurally sound flooring and/or support members.

RECOMMENDATION: *Prior to installing your Wildeck® VRC, a qualified installation contractor should inspect the designated site to verify that the structural integrity and composition of walls and flooring are suitable for proper support and alignment.*

If you have any questions regarding the structural integrity of your proposed VRC location before proceeding with installation procedures, contact your authorized Wildeck® distributor or contact Wildeck® Inc. (Phone: 262/549-4000 or Fax 262/549-7703).

SUGGESTION: *If possible, the VRC installer should have available some lengths of angle iron (2 inches x 2 inches x ¼ inch) and channel iron (4 inches x 5.4 lb./ft.) for those situations when on-site retro-fitting is unavoidable. Also, pieces of flat steel (1/8 inch to 1/4 inch thick) for shimming and (3/8 inch to ½ inch thick) for footings and supports.*

Installation Overview

There are three methods of installing your Wildeck® Inc. VRC. Each method is recommended and equally efficient.

Please review the following outline of each method as related to the skill and preference of your installers, availability of necessary installation tools and equipment (See Page A-1 for complete list.), and working space available.

Method 1

1. Review General Arrangement Drawing and custom owner's manual that includes detailed parts identification for specific application.

2. Make accurate positioning measurements at upper and ground levels.

3. Position carriage unit according to ground floor measurements.

4. Install wheel blocks in beams, raise beams into position, bolt wheel blocks to carriage.

5. Bolt drive unit into position on top of beams.

6. Measure beams for proper distance and plumb accuracy.

7. Secure to floor.

8. Re-check measurements and plumb accuracy, proceed with bracing, final welding, and final adjustments.

Method 2

Method 2 does not require the carriage unit to be in position throughout the assembly process as indicated by Method 1, Step 3.

The VRC beams may be assembled without the carriage in position provided that your upper level and ground level measurements and plumb procedures are absolutely accurate.

You may consider positioning the carriage unit as per Method 1 to double-check your upper and lower level measurements, and to visually inspect for existing or potential obstructions within the travel path of the unit once installation is completed. The carriage unit may then be removed to provide more space for beam and bracing installation.

NOTE: *The carriage must be in place and attached to the before final welding and anchoring is started.*

Method 3

Method 3 will be used when site conditions make hoisting of the drive unit difficult.

The VRC beams may be attached to the drive unit while lying on the ground, and beams and drive unit hoisted into position as one unit. Your upper level and ground level measurements and plumb procedures must be absolutely accurate.

Fundamental Points Regarding the Installation of Your Wildeck VRC

The building structure must be strong enough for anchor and support the VRC.

NOTE: *Cantilever lifts have greater forces applied to the main beam because of the orientation of the carriage platform and main beam structure. Therefore, the flooring and building structure must be strong and sound enough to handle the bracing loads.*

REFER TO FIGURES 7C, 7D, AND 7E ON PAGES 23 THROUGH 25

- Recommended (minimum 4 inches x 5.4 lb./ft. or stronger) channel iron bracing must be included at each lift level.

- Bracing must be securely anchored to the building.

  Anchoring into block, brick, or stud-type walls is unacceptable.

  Anchoring into wood floors or wood supports should be avoided.

  Through bolting with steel plate backup plates is the only recommended procedure when anchoring into wood is unavoidable.

- All hardware must be installed as securely as possible.

  Use plate steel backing plates whenever necessary to eliminate all potential pull-out conditions.

  Perpendicular shear strength of concrete anchors, lags, or bolts attached to bracing should be utilized to avoid hardware being pulled straight out of support structures.

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PO Box 89
405 Commerce Street Waukesha, WI 53187
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Wildeck VRC Beam and Bracing Installation
Following Method 1 Outline

1. Carefully uncrate your Wildeck VRC. Identify and match all of the beams, braces, mechanical and electrical components, fasteners, etc. with the parts list provided.

   Contact your Wildeck distributor or Wildeck, Inc., (Phone 262/549-4000 or Fax 262/549-7703) immediately if any part is missing, damaged, or not specified by the Parts List.

   Do not proceed with installation procedure until your part count is complete and accurate or authorization to proceed is granted.

2. Wildeck provides a General Arrangement Drawing that includes the specific dimensions to insure proper VRC installation and operation.

   The measurements you make—upper level opening, floor-to-floor distance, pit depth, etc.—must be exactly as shown on the General Arrangement Drawing.

Accurate Measurements Are Essential

1. Second Level Opening

   Refer to your General Arrangement Drawing and lay out the second level opening.

   A. Determine the location of the lift at upper level.

   B. Measure and mark each outside dimension per General Arrangement Drawing. (This is the overall carriage width dimension.)

   C. Measure and mark the center point of the upper level opening.

REFER TO FIGURE #1

2. Drop a plumb line one (1) inch out from center point mark at upper level.

   NOTE: *One (1) inch is a standard distance. Deviations may exist for specific installations. Check your General Arrangement Drawing for exact distance.*

   REMINDER: *Plumb lines must clear all wall protrusions or any other interference that the carriage must clear after installation.*

3. Mark plumb bob tip contact point clearly on lower level floor.

REFER TO FIGURE #2

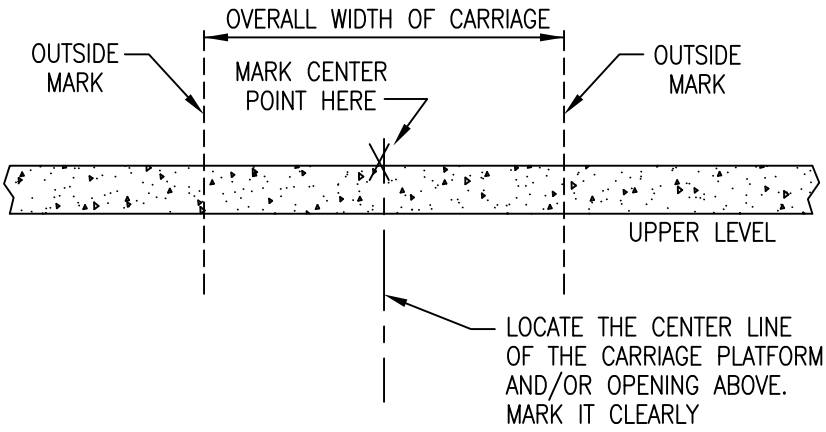

OVERALL WIDTH OF CARRIAGE
OUTSIDE MARK
MARK CENTER POINT HERE
OUTSIDE MARK
UPPER LEVEL
LOCATE THE CENTER LINE OF THE CARRIAGE PLATFORM AND/OR OPENING ABOVE. MARK IT CLEARLY

FIG. 1

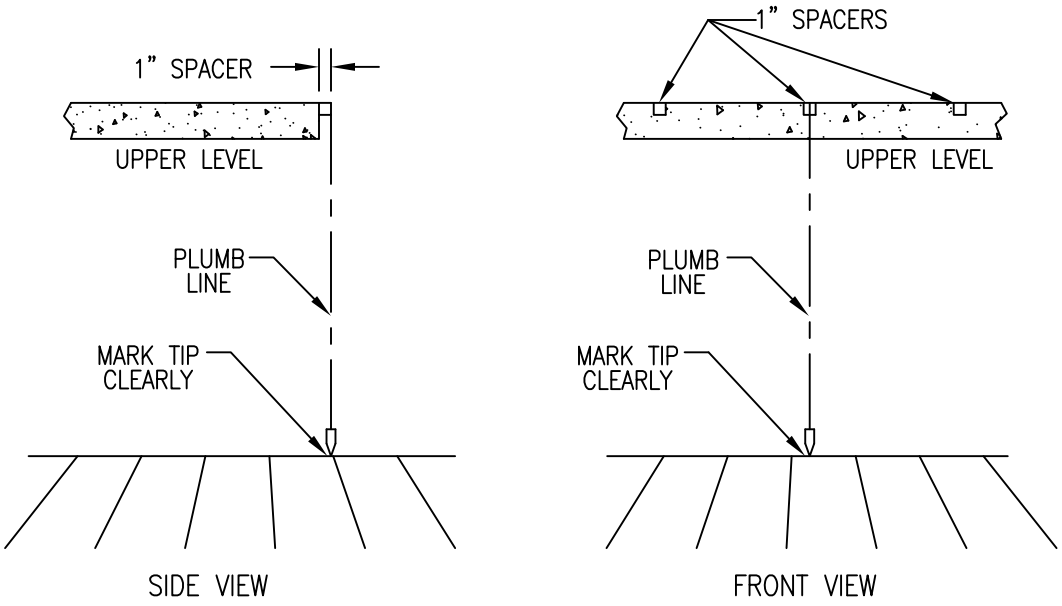

1" SPACER
UPPER LEVEL
PLUMB LINE
MARK TIP CLEARLY
SIDE VIEW
1" SPACERS
UPPER LEVEL
PLUMB LINE
MARK TIP CLEARLY
FRONT VIEW

FIG. 2

4. Drop plumb lines one (1) inch out (or specified distance) from each upper level outside mark.

5. Mark each plumb bob tip contact point clearly on lower level floor.

6. Use a chalk line to snap a line through each outside dimension mark.

   IMPORTANT: *The carriage will be aligned with this line. The center point mark must be on the line snapped between the outside dimension marks. Repeat Steps 2 - 6 if necessary until accurate three-point alignment is reached.*

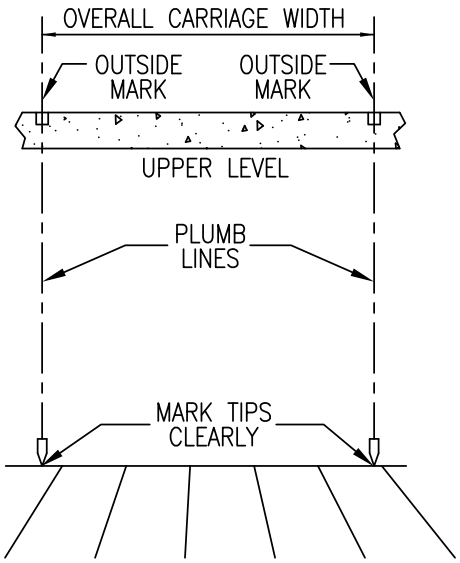
REFER TO FIGURE #3

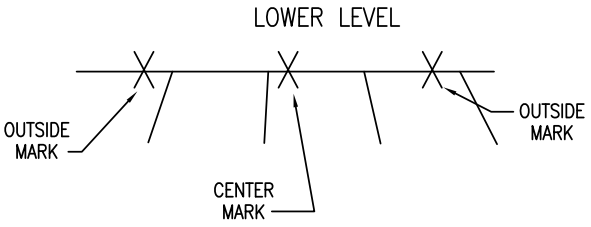
7. Measure and mark the center point of the carriage platform.

8. Position the carriage as shown on the General Arrangement Drawing. The center point mark on the building floor (Step 3) must align with the center point of the carriage platform. The edge of the carriage platform must coincide with the line snapped on the floor to mark the overall carriage width (as illustrated in Figure 3).

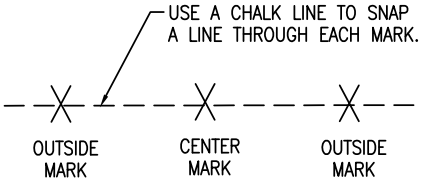
9. Note: If the lift penetrates a floor, or clearances are tight, the carriage may be positioned after the beams have been installed and raised in place. (As described in Method 2.)

REFER TO FIGURE #4



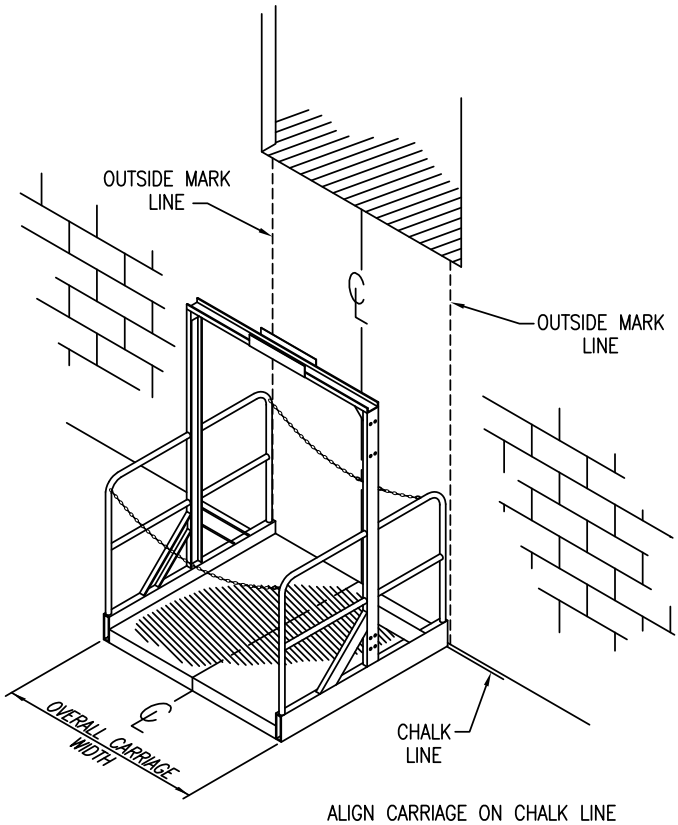


MARK EACH PLUMB BOB TIP CLEARLY ON LOWER LEVEL.



NOTE: THE CARRIAGE WILL BE ALIGNED TO THIS LINE.

FIG. 3



ALIGN CARRIAGE ON CHALK LINE AND OUTSIDE MARKS.

FIG. 4

Main Beam Installation

1. Position upper and lower wheel blocks into beams.

   NOTE: *Hold safety cams in to prevent engagement.*

2. Slide the wheel block down the beam until it is approximately seven (7) feet from the bottom of the beam. (Seven (7) feet is a relative distance.) The upper wheel block should be positioned in alignment with the upper mounting holes of carriage.

3. Remove all 5/8 inch hex head bolts from the four (4) wheel blocks.

4. If possible, run a 5/8 - 11 tap through all threaded wheel block mounting holes for easier fastening. (Not necessary if threaded holes are clean.)

REFER TO FIGURE #5

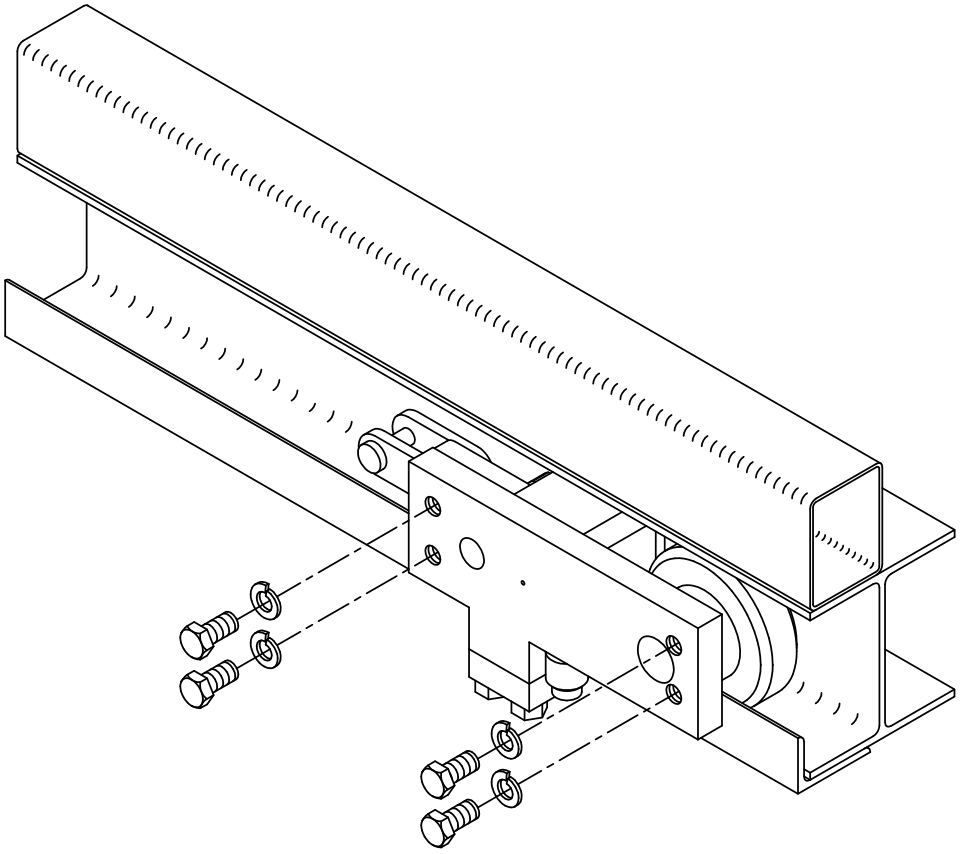


FIG. 5

Main Beam Installation, continued

5. Raise right-side beam into position.

   WARNING: *It is the responsibility of the installer to properly lift and secure beams, bracing, and components in a safe manner. The illustrations used in this manual may not show all of the tools and auxiliary equipment recommended by Wildeck on Page 1 of this manual for proper and safe installation, or all of the techniques that may be required by installers to accomplish certain tasks.*

   Contact your authorized Wildeck® distributor or Wildeck, Inc., (Phone 262/549-4000 or Fax 262/549-7703) should any problem or question arise during any phase of the installation process.

6. Slide beam alongside carriage and align wheel blocks with mounting holes.

7. Bolt carriage to the wheel blocks using the bolt previously removed (Step 3). Make sure bolts are secure.

   WARNING: *Carriage alone will not support beams. Make sure beams in upright position are always supported and held in place throughout installation process.*

   NOTE: *Carriage platform with a six (6) inch channel or larger vertical uprights requires 1/8 inch shims for proper spacing of wheel blocks.*

8. Make sure right-side beam is secured and adequately supported.

9. Repeat Steps 5 - 8 to raise and secure left-side beam. All warning messages and note information applicable to Steps 5 - 8 apply.

10. Install drive unit. Do not over-tighten bolts. Snug bolts down to allow for final adjustments.

REFER TO FIGURES #6A, 6B, 6C

NOTE:
Some columns will ship in multiple sections. See Page A-16 for details about the welded beam splice.

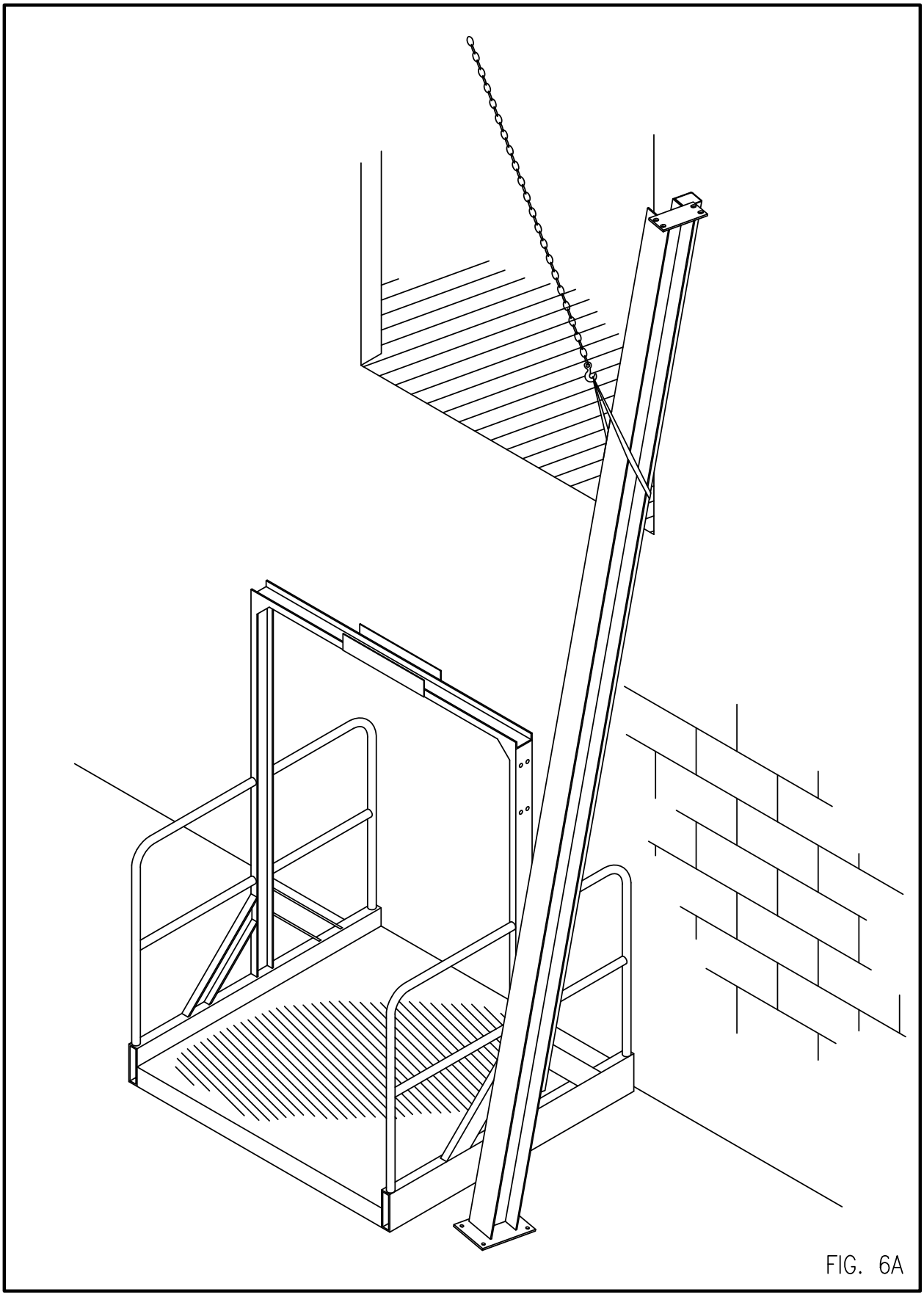


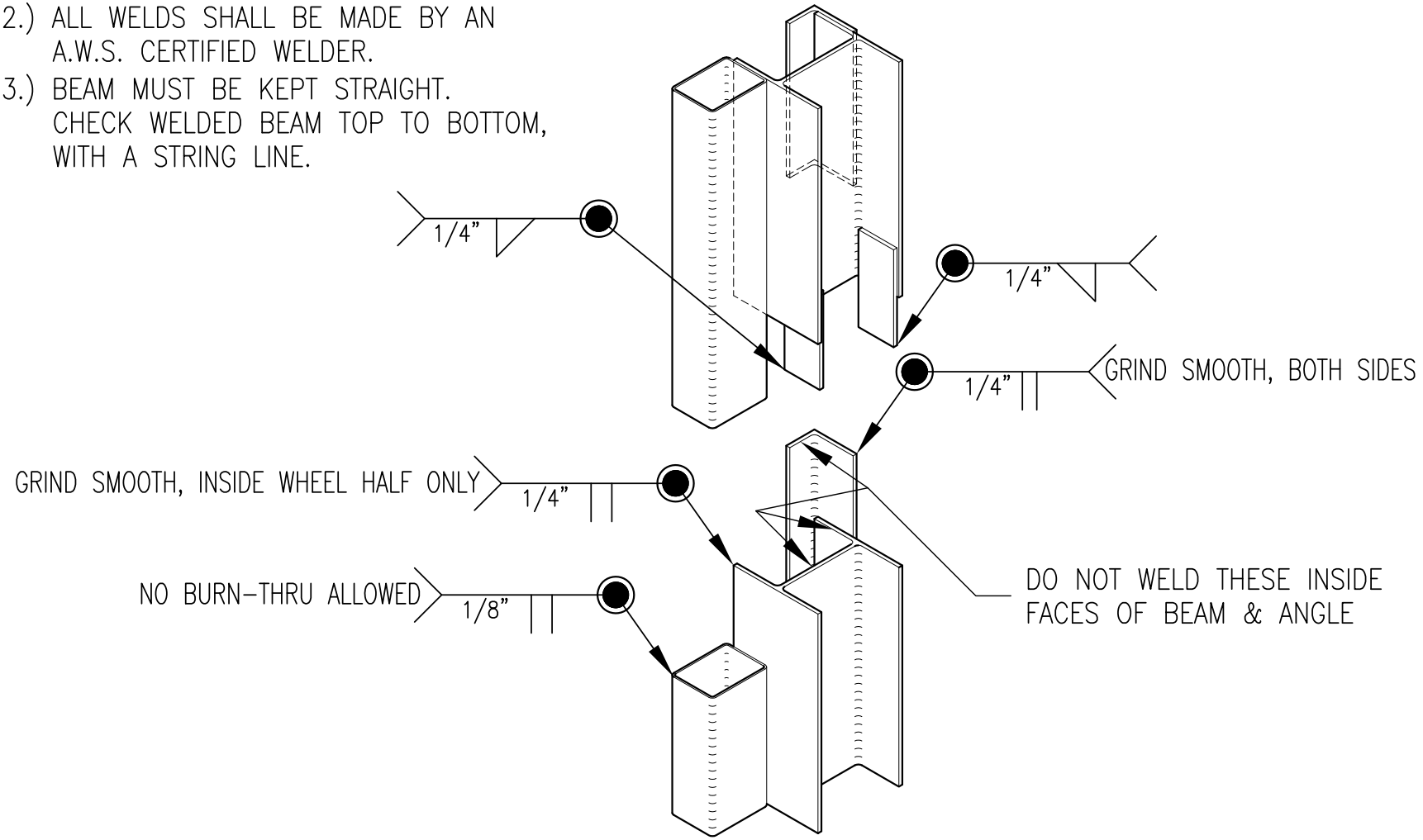
FIG. 6A

NOTES:

1.) TUBE STEEL IS NOT USED ON HYDRAULIC UNITS.

2.) ALL WELDS SHALL BE MADE BY AN A.W.S. CERTIFIED WELDER.

3.) BEAM MUST BE KEPT STRAIGHT. CHECK WELDED BEAM TOP TO BOTTOM, WITH A STRING LINE.



WILDECK™	MECHANICAL MAST WELDMENT FIELD WELDING INSTRUCTIONS	DATE: 2-3-98 DRN BY SMP	2877-MECH	REV

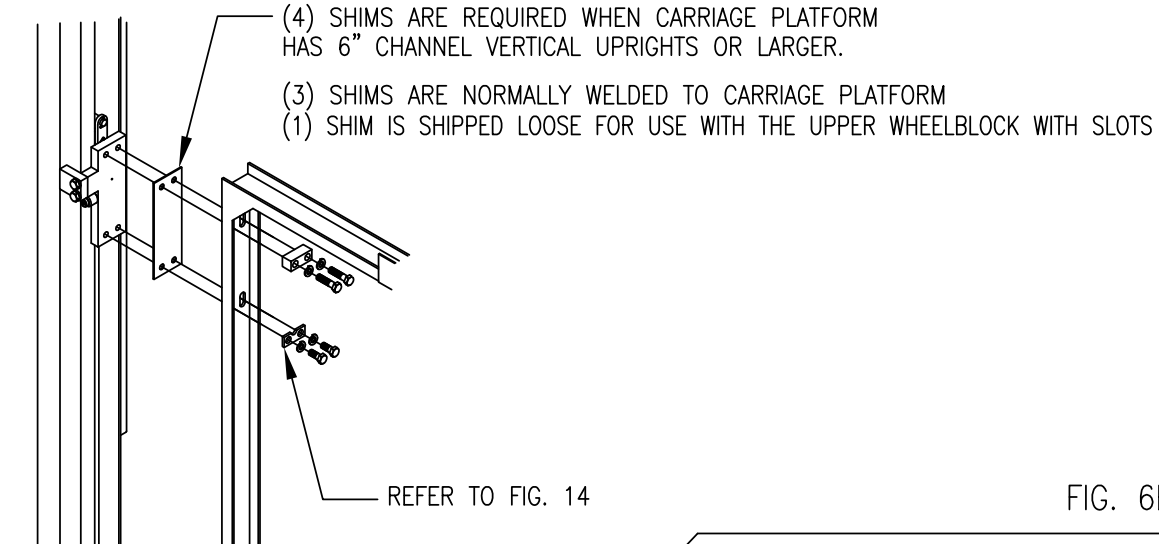

(4) SHIMS ARE REQUIRED WHEN CARRIAGE PLATFORM HAS 6" CHANNEL VERTICAL UPRIGHTS OR LARGER.
(3) SHIMS ARE NORMALLY WELDED TO CARRIAGE PLATFORM
(1) SHIM IS SHIPPED LOOSE FOR USE WITH THE UPPER WHEELBLOCK WITH SLOTS
REFER TO FIG. 14

FIG. 6B

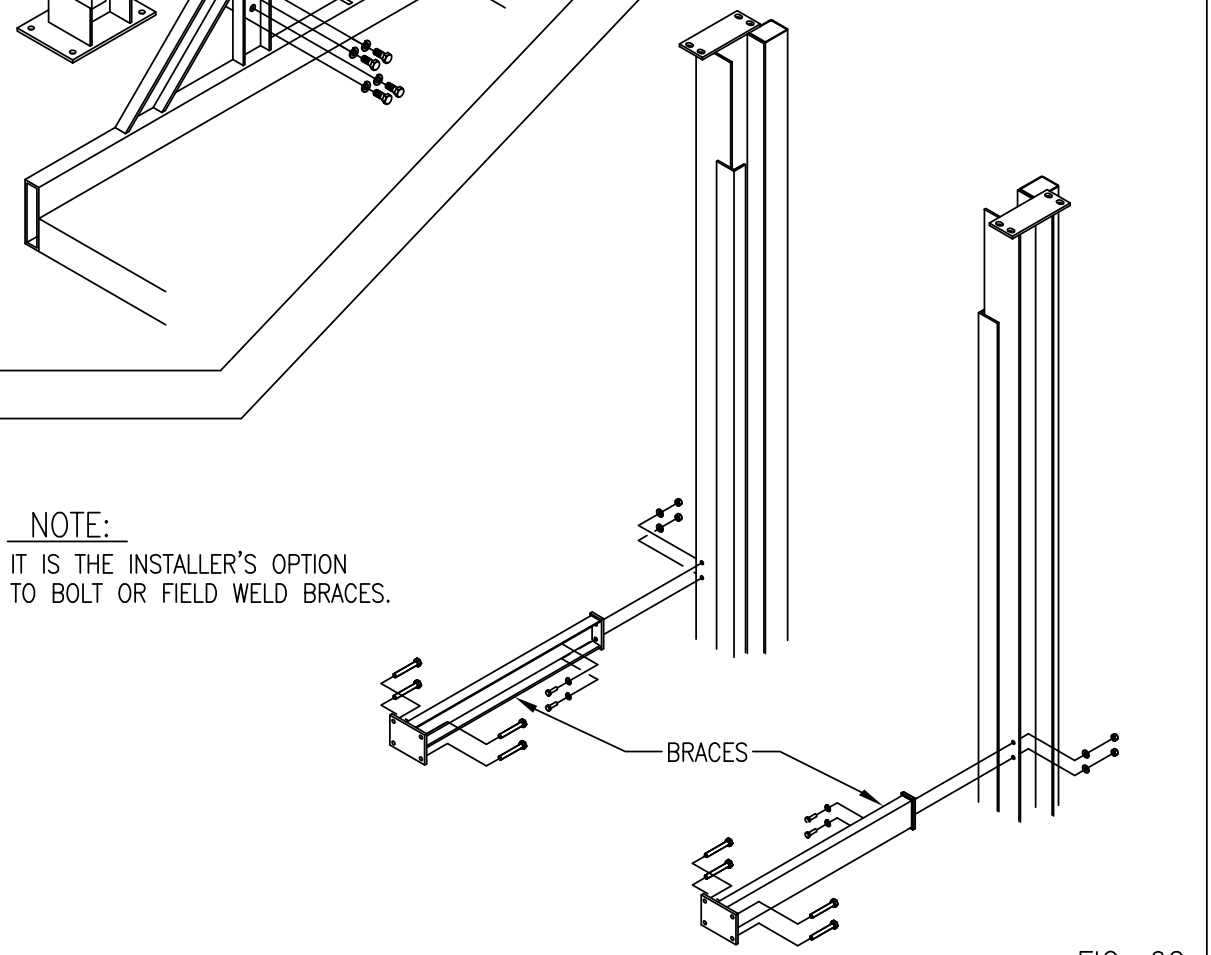

NOTE:
IT IS THE INSTALLER'S OPTION TO BOLT OR FIELD WELD BRACES.
BRACES

FIG. 6C

Alignment of Main Beams

1. Measure the distance between guide angles on main beams at lower level. This dimension should be 2-5/8 inches greater than the overall carriage width.

   NOTE: *If 1/8-inch shims are supplied with carriage platform, include them in the overall width dimension*.

2. Move to upper level and set beams to the same distance.

3. Level the carriage and set the spacing between wheel block guide rollers and guide angle at 1/8 inch. Use shims if necessary.

   NOTE: *Temporarily inserting a 1/8 inch shim between guide rollers and the guide angle will help to set and maintain proper spacing. Make sure these shims are removed before raising platform.*

4. Plumb right side beam and recheck spacing.

5. Lag or tack weld floor-to-beam brace into position. (For special applications, see Bracing Section of this manual for bracing options.)

   NOTE: *Make sure the beam is not twisted or bent.*

6. Recheck beam with plumb line and/or level. Anchor to floor after beam is plumb.

7. Recheck beam with plumb line and/or level. Recheck spacing between beams.

8. Lag or tack weld floor-to-beam brace to the right beam.

   NOTE: *Again, make sure the beam is not twisted or bent.*

9. Recheck beam with plumb line and/or level.

10. Anchor right-side beam to floor using eight (8) ½ inch anchors 3-1/2 inches (minimum) long. Use four (4) anchors for each beam.

    NOTE: *Depth of holes for anchors should always be deeper than the length of the anchor bolt.*

11. Repeat Steps 1 - 10 to align and secure left-side beam.

REFER TO FIGURES #7, 7A, and 7B

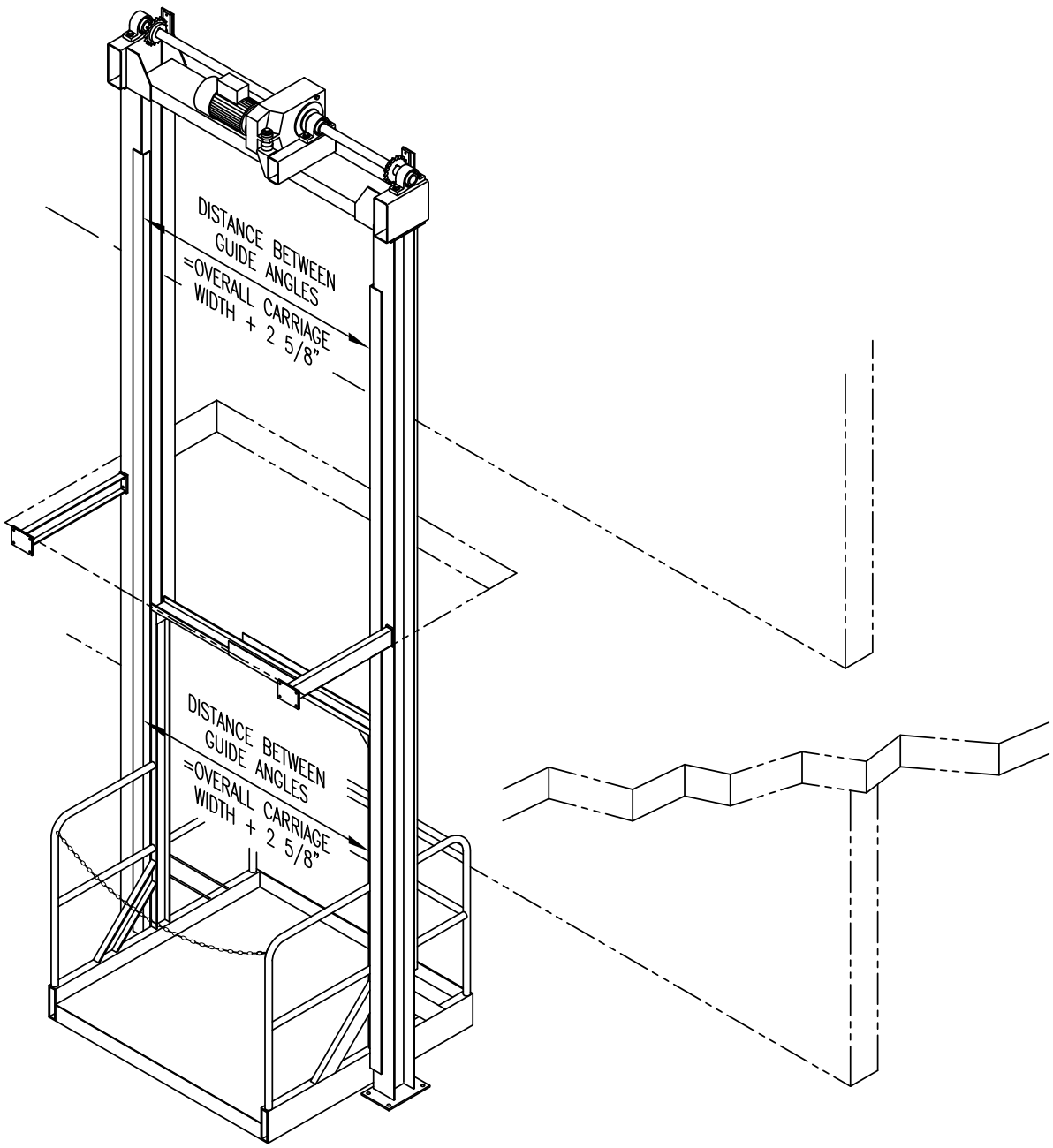

DISTANCE BETWEEN
GUIDE ANGLES
=OVERALL CARRIAGE
WIDTH + 2 5/8"
DISTANCE BETWEEN
GUIDE ANGLES
=OVERALL CARRIAGE
WIDTH + 2 5/8"

FIG. 7

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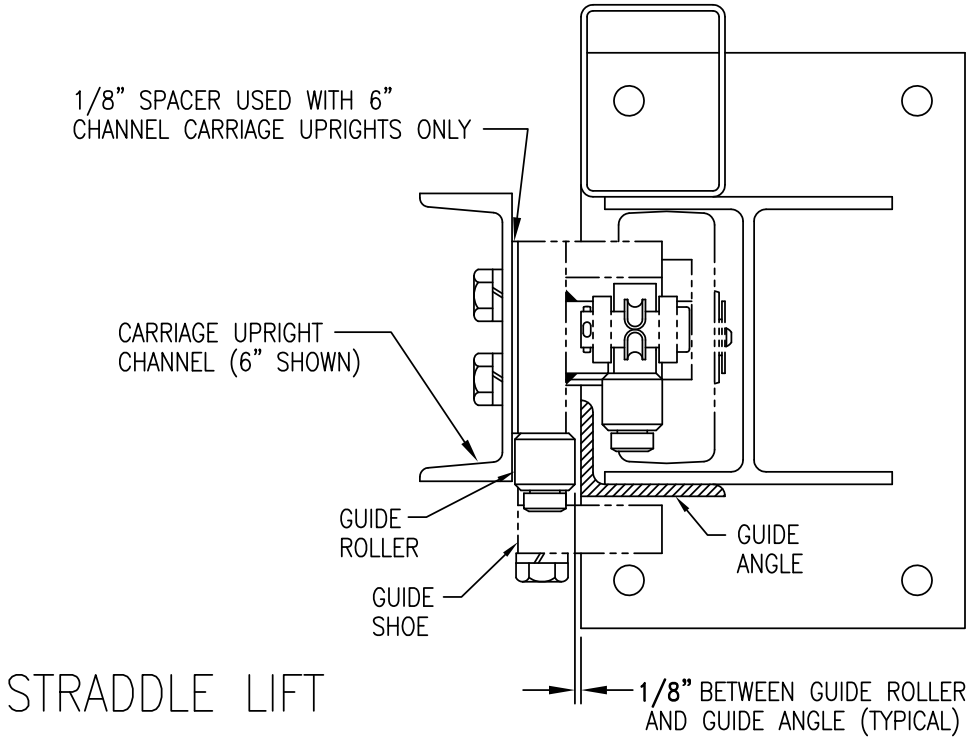
1/8" SPACER USED WITH 6" CHANNEL CARRIAGE UPRIGHTS ONLY
CARRIAGE UPRIGHT CHANNEL (6" SHOWN)
GUIDE ROLLER
GUIDE SHOE
GUIDE ANGLE
1/8" BETWEEN GUIDE ROLLER AND GUIDE ANGLE (TYPICAL)
STRADDLE LIFT

FIG. 7A

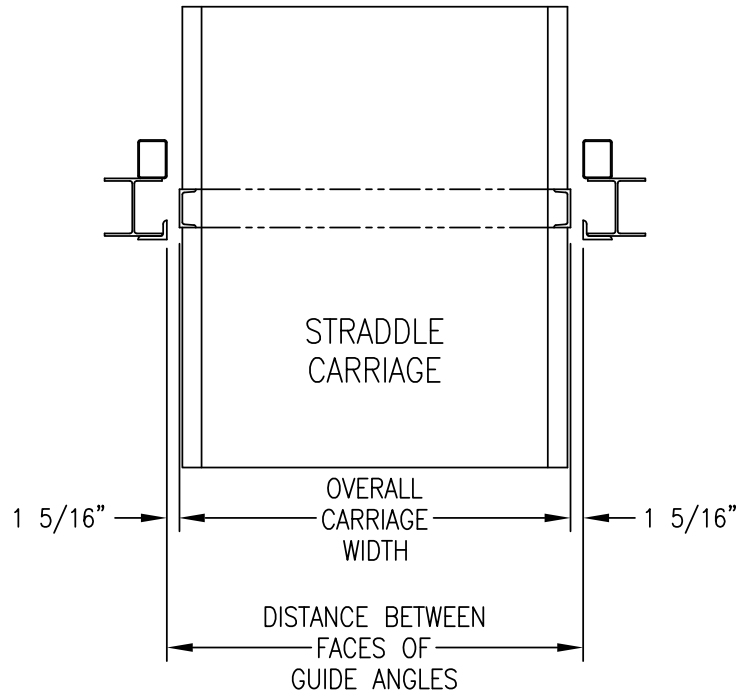
STRADDLE CARRIAGE
1 5/16"
OVERALL CARRIAGE WIDTH
1 5/16"
DISTANCE BETWEEN FACES OF GUIDE ANGLES

FIG. 7B

Special Cantilever Lift Installation Instructions

1. Cantilevered units have the main beams installed between the upright members of the carriage.

2. Guide angles on the beams should face outward and toward the carriage side.

   NOTE: *The guide shoes on the wheel blocks must be visible while standing on the carriage.*

3. Because the carriage is completely supported on one side of the main beams, the lateral loading imposed is much higher than on a standard straddle unit. Adequate bracing is a must.

4. Configurations on cantilevered lifts differ. Check your General Arrangement Drawing for bracing recommendations. Unit may be braced anywhere at the back or to the ceiling from the top of the main beams.

   NOTE: *See Bracing Section of this manual for bracing options.*

   CAUTION: *Cantilevered units must be securely braced and full welded before attempting to raise the carriage.*

5. Some units may have a free-standing back frame which is lagged to the floor to prevent the main beam from tipping. The free-standing back frame extends under the carriage and is attached to the inboard side of the main beam.

6. To position main support beams for cantilevered carriage configurations: Measure the distance between inside edges of vertical upright on carriage platform. This dimension less 2-5/8 inches equals the distance between the outside edge of the main beam guide angles.

REFER TO FIGURES #7C, 7D, AND 7E

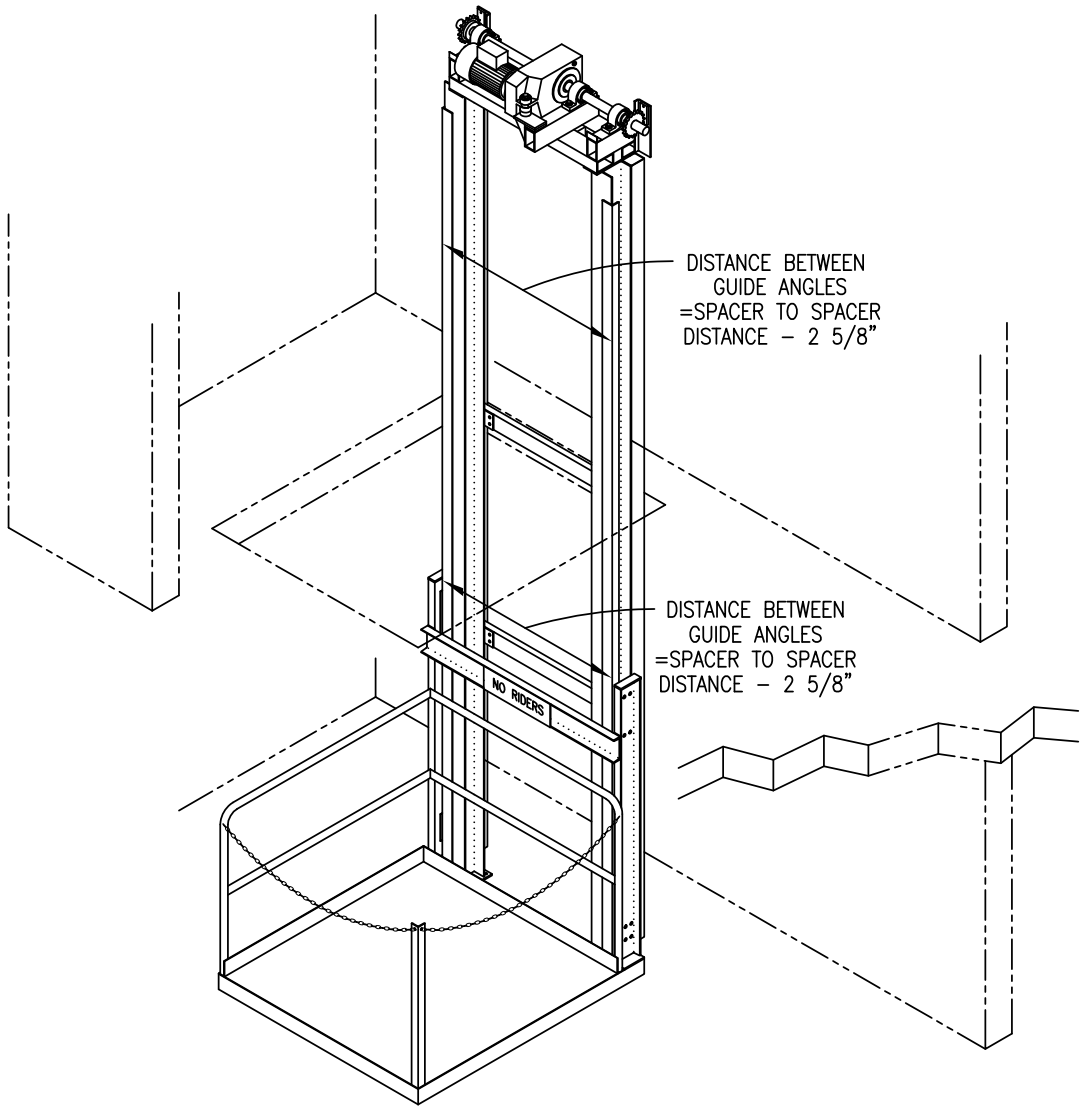
DISTANCE BETWEEN
GUIDE ANGLES
=SPACER TO SPACER
DISTANCE – 2 5/8"
DISTANCE BETWEEN
GUIDE ANGLES
=SPACER TO SPACER
DISTANCE – 2 5/8"
NO RIDERS

FIG. 7C

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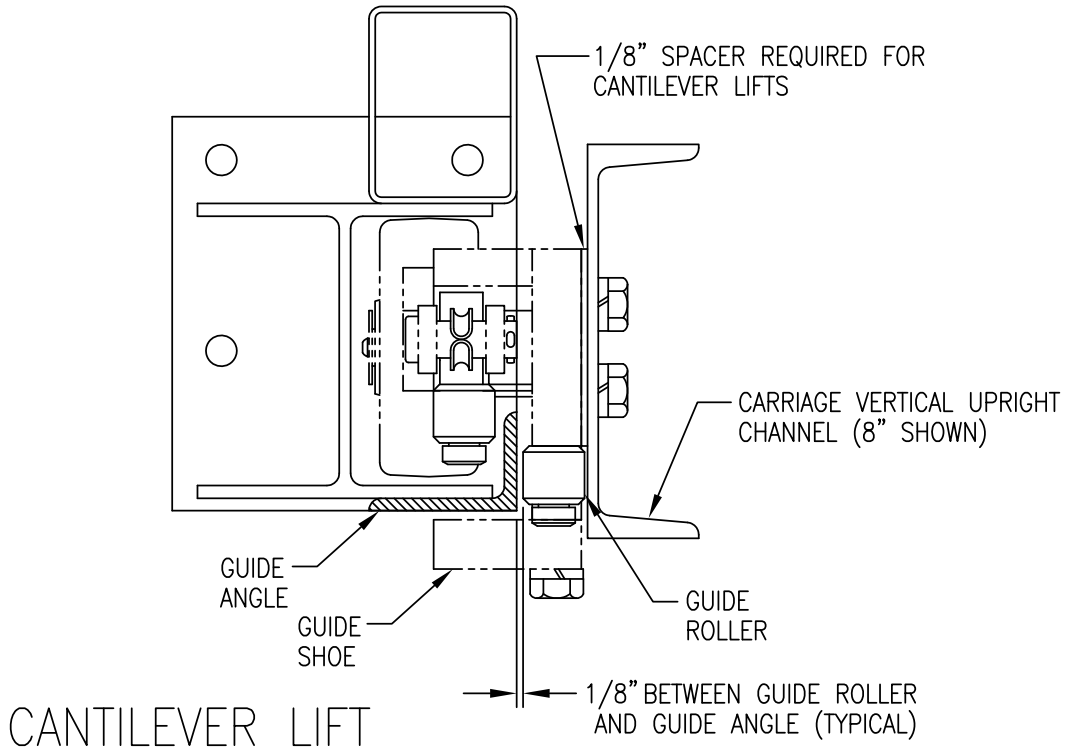


CANTILEVER LIFT

FIG. 7D

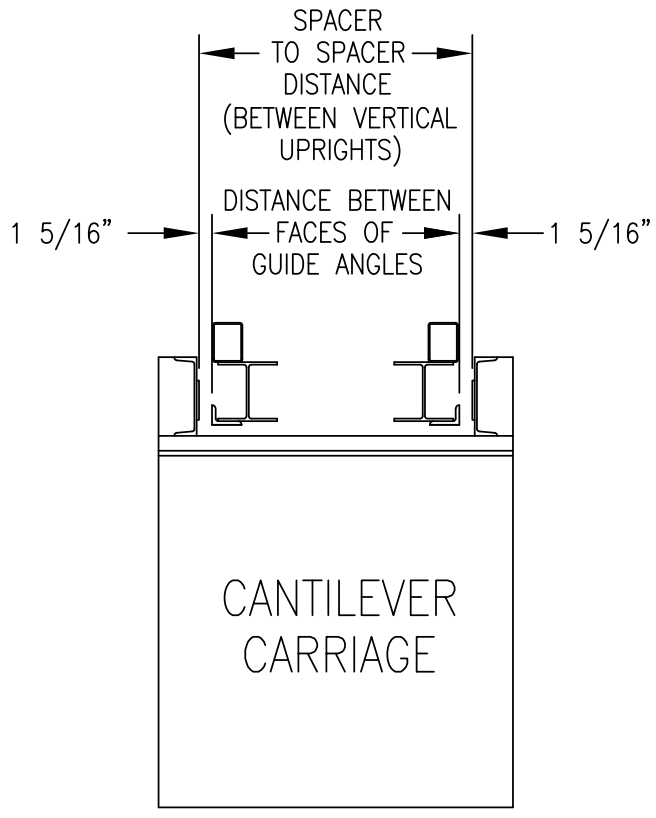


FIG. 7E

Chain Assembly Installation Procedure

1. Remove chain from crate and assemble into two (2) equal lengths, or use larger “lift” chain and smaller “tension” chain.

2. Attach chain connection blocks to one end of lift chain using one of the master links.

3. Attach chain swivel to the other end of the lift chain using a master link.

4. Attach the tension chain to the other side of the swivel with the 1-3/4” (larger) S-hooks. Crimp both sides to the S-hook closed with a pliers.

REFER TO FIGURE #8

5. Raise chain up over the drive shaft. Drop larger lift chain down through the center of the beam to the wheel block. Drop smaller tension chain through the tube on the back of the beams.

6. Lower lift chain for enough to be connected to the wheel blocks. Slip chains over sprockets and install nylon jump blocks behind sprockets.

   NOTE: *The length of chain between each wheel block and each sprocket must be the same. Reposition the chain on the sprockets until both chain lengths are equal.*

7. Remove cotter pin on wheel block and secure chain connection block to the wheel block. Reinstall cotter pin.

8. Slip tension chain around sprocket on the tensioner unit.

9. Locate and attach eyebolt to tab on carriage. Attach tension chain to eyebolt with 1-3/8 inch S-hook. Crimp both sides to the S-hook closed with a pliers. Tension chain may need to be cut to length. Tighten the eyebolt to adjust chain tension.

   NOTE: *Chain tension is correct when tensioner spring is compressed one inch; tensioner limit switch arm will also be moved to a horizontal position.*

BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	DRIVE CHAIN (SIZE VARIES)		
2	1	#35 CHAIN		
3	1	CONNECTION BLOCK FOR DRIVE CHAIN	VARIES	
4	1	1/4" CHAIN SWIVEL		
5	2	MASTERLINK, #35 TENSION CHAIN		
6	1	S–HOOK, 1 3/4" LG.		
7	1	S–HOOK, 1 3/8" LG.		
8	1	EYEBOLT, 1/4"–20 X 4" LG.		
9	2	HEX NUT, 1/4"–20		
10	2	MASTER LINK FOR DRIVE CHAIN	VARIES	

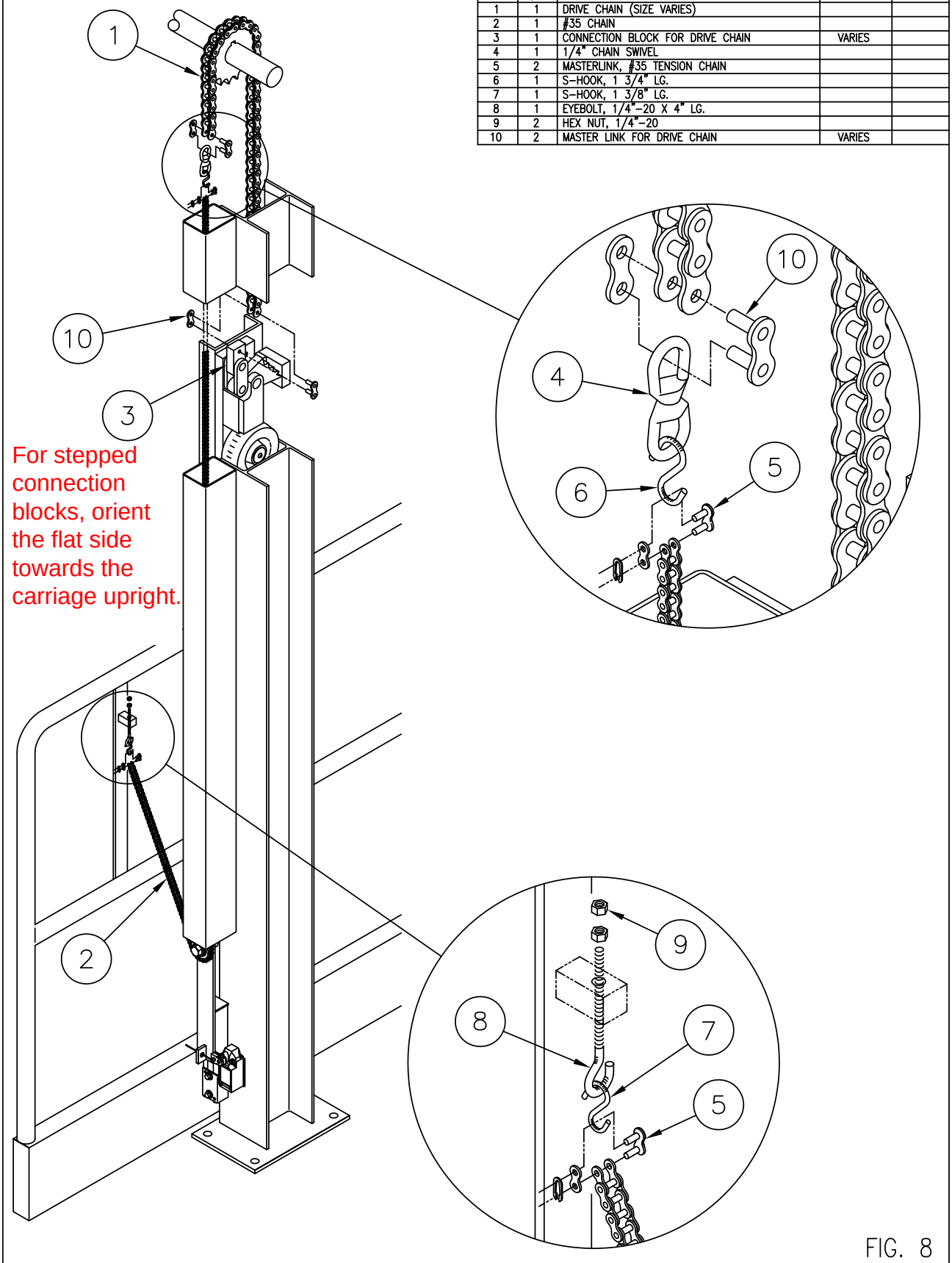


FIG. 8

Actuator Cam Installation

1. The actuator cam mounts to the unistrut on the side of the carriage platform.

2. Place the actuator cam on the carriage so that it is centered in the unistrut and secure using unistrut spring nuts and 1/4-20 x 3/4 inch screws.

   NOTE: *The first floor limit switch is actuated off the bottom of the carriage cam. The top floor level limit switch is activated off the top portion of that same cam.*

REFER TO FIGURE #9

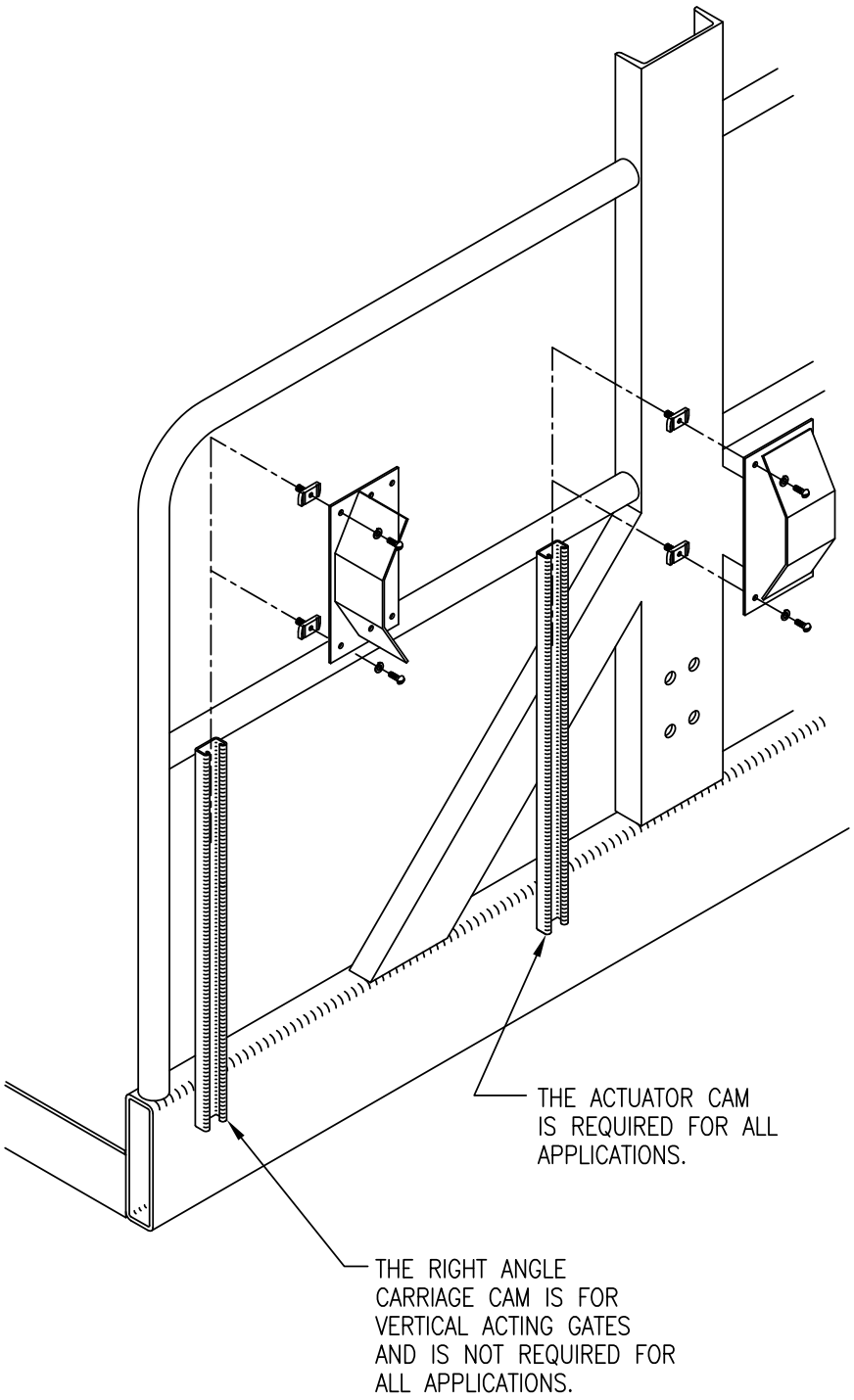

THE ACTUATOR CAM
IS REQUIRED FOR ALL
APPLICATIONS.
THE RIGHT ANGLE
CARRIAGE CAM IS FOR
VERTICAL ACTING GATES
AND IS NOT REQUIRED FOR
ALL APPLICATIONS.

FIG. 9

Two-Level Mechanical Lifts

Instructions for Locating and Mounting Limit Switches:

1. Mark the vertical location of the upper level on the left hand main beam. A long straight edge placed on the upper floor is helpful in projecting the floor edge. This is the height where the carriage will stop at the upper level.

2. Measure from carriage deck (the surface which material rests on) to the top of limit switch actuator cam. Add this distance up from the mark made on the beam in Step 1. Place the limit switch assembly so that the unistrut is flush on this point, see figure #10. Drill and bolt unistrut mounts to the face of the beam spaced in 1/2 inch using 1/4-20 bolts and nuts.

   CAUTION: *Do not weld on guide angle.*

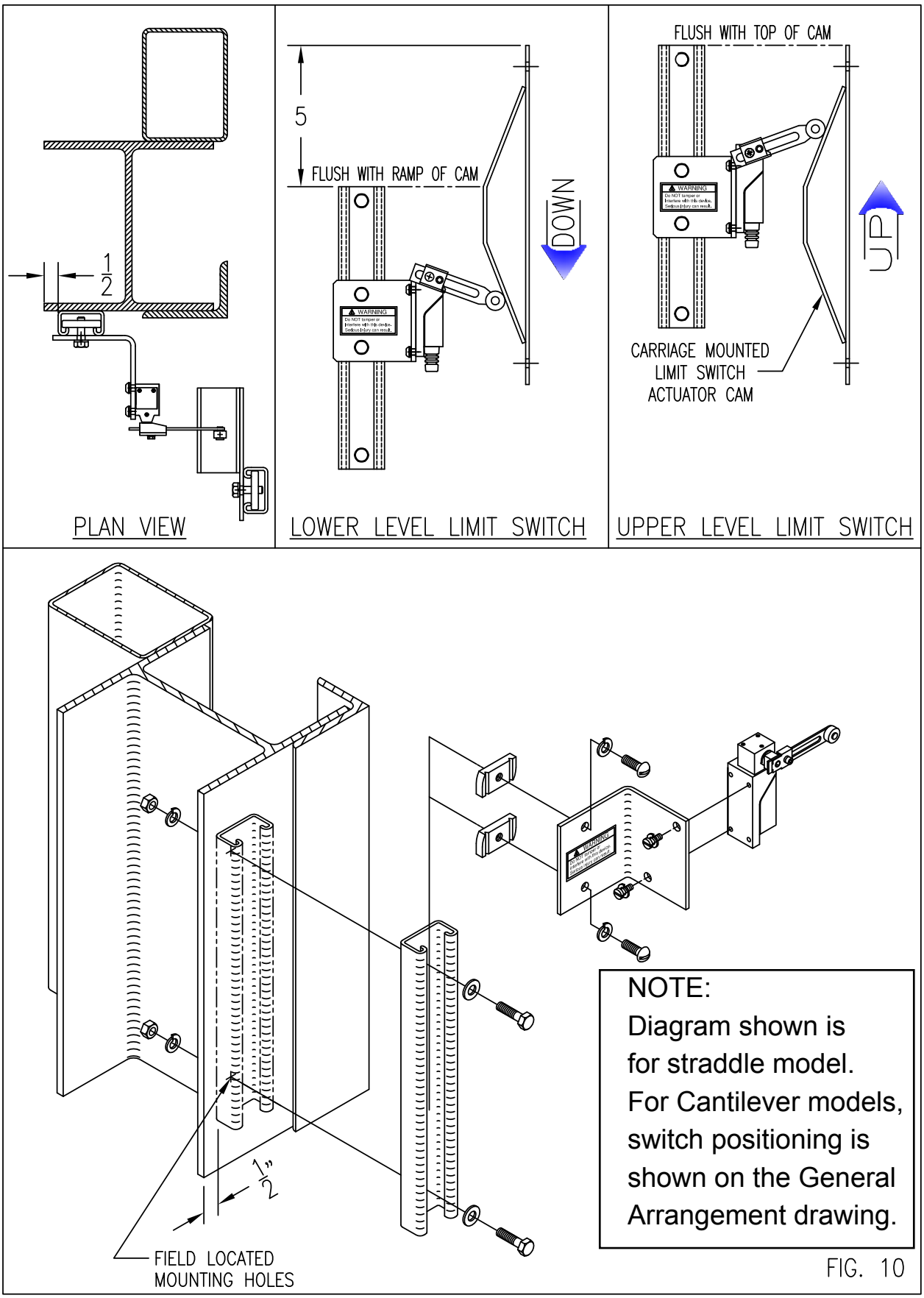
3. Install the lower level unistrut bracket by fitting the limit switch assembly to the beam as shown in figure #10. The carriage must be within an inch of the final lower level position.

4. Slide the upper level limit switch bracket to the bottom of the unistrut for setup and tighten the bolts.

5. Slide the lower level limit switch bracket to the top of the unistrut for setup and tighten the bolts.

   NOTE: *The first floor limit switch is actuated off the bottom of the carriage cam. The top floor level limit switch is actuated off the top portion of the same cam.*

REFER TO FIGURE #10



NOTE:
Diagram shown is for straddle model. For Cantilever models, switch positioning is shown on the General Arrangement drawing.

FIG. 10

Multi-Level Mechanical Lift

Intermediate Floor Level Limit Switch Installation:

1. Bottom and top levels use (1) limit switch to sense carriage position. See previous page for locating these limit switches. Middle level use (2) limits switches, wired in series. The carriage will stop when **both** limit switches are tripped.

3. Follow the procedure on the previous page to install the intermediate floor level unistrut bracket(s), except the unistrut bracket will be centered in relation to the limit switch actuator cam.

2. The upper switch should be located such that it is triggered by the top edge of the cam. It will stop the carriage when it is moving in the UP direction.

   NOTE: *The cam will pass by the lower switch before it contacts the upper switch.*

3. The lower switch should be located such that it is triggered by the bottom edge of the cam. It will stop the carriage when it is moving in the DOWN direction.

   NOTE: *The cam will pass by the upper switch before it contacts the lower switch.*

REFER TO FIGURE #11

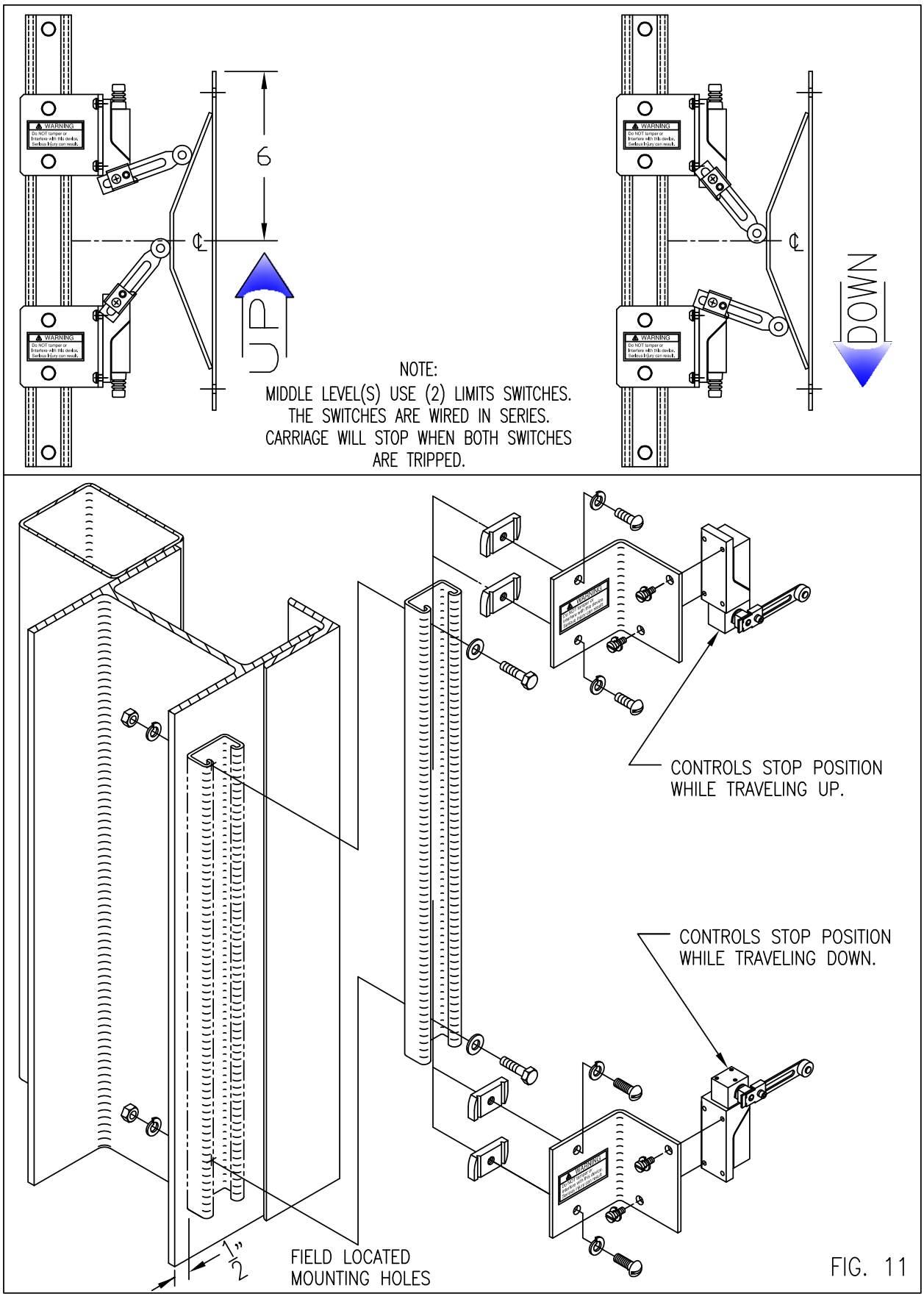

6
UP
DOWN
NOTE:
MIDDLE LEVEL(S) USE (2) LIMITS SWITCHES.
THE SWITCHES ARE WIRED IN SERIES.
CARRIAGE WILL STOP WHEN BOTH SWITCHES
ARE TRIPPED.
CONTROLS STOP POSITION
WHILE TRAVELING UP.
CONTROLS STOP POSITION
WHILE TRAVELING DOWN.
1/2"
FIELD LOCATED
MOUNTING HOLES

FIG. 11

Chain Tension Limit Switches

Chain tension limit switches are located along side each of the tensioner units. The purpose of limit switches is to shut off power to the lift if movement of the chain tensioner slide bar occurs.

NOTE: *The slide bar will move upward if chain tension becomes too great. It will move downward if chain tension becomes too slack.*

Installation Instructions:

NOTE: *The switch bracket is reversible for installation on either the left hand or right hand side of the lift.*

1. Install adjustable rod arm on limit switch. Arm should be in a horizontal position as shown in the diagram.

2. Slide spring up into tensioner channel which is part of the main beam assembly.

3. Install tensioner slide bar assembly (with sprocket) into channel below spring.

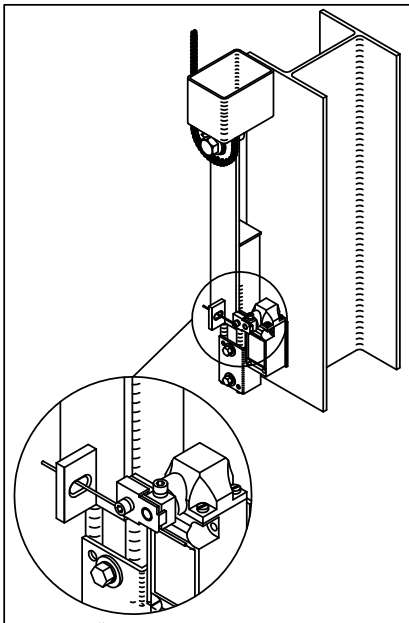
4. Install unistrut nuts into channel and mount switch bracket with switch to channel with 1/4-20 x 3/4 inch bolts, 1/4 inch lock washers, and flat washers.

   NOTE: *The switch arm must extend through the hole in the slide bar tab.*

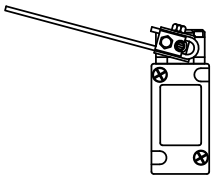
5. Install tension chain on sprocket and adjust chain length such that the arm on the limit switch is in a horizontal position.

   NOTE: *This should also be the neutral position of the switch.*

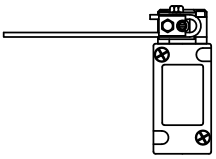
Refer to Figure #12



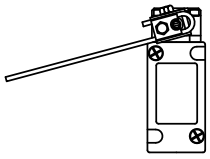
TIGHTEN #35 CHAINS WITH CARRIAGE MOUNTED EYEBOLTS TO COMPRESS SPRINGS 1". THEN, MOUNT LIMIT SWITCHES SUCH THAT THE RODS ARE IN THE HORIZONTAL POSITION. THE RODS SHOULD BE CENTERED IN THE HOLE OF THE TENSIONER TAB.



CHAIN FAULT:
#35 CHAIN IS TOO TIGHT. SWITCH IS TRIPPED. NO CONTINUITY THROUGH SWITCH.



CHAIN OK:
CONTINUITY THROUGH NORMALLY CLOSED CONTACTS OF SWITCH.



CHAIN FAULT:
#35 CHAIN IS TOO LOOSE/SPRING IS NOT COMPRESSED 1". NO CONTINUITY THROUGH SWITCH.

NOTE:
CHAIN TENSIONER SWITCHES CAN NOT BE ADJUSTED UNTIL CARRIAGE IS HANGING FROM MAIN LIFTING CHAINS.

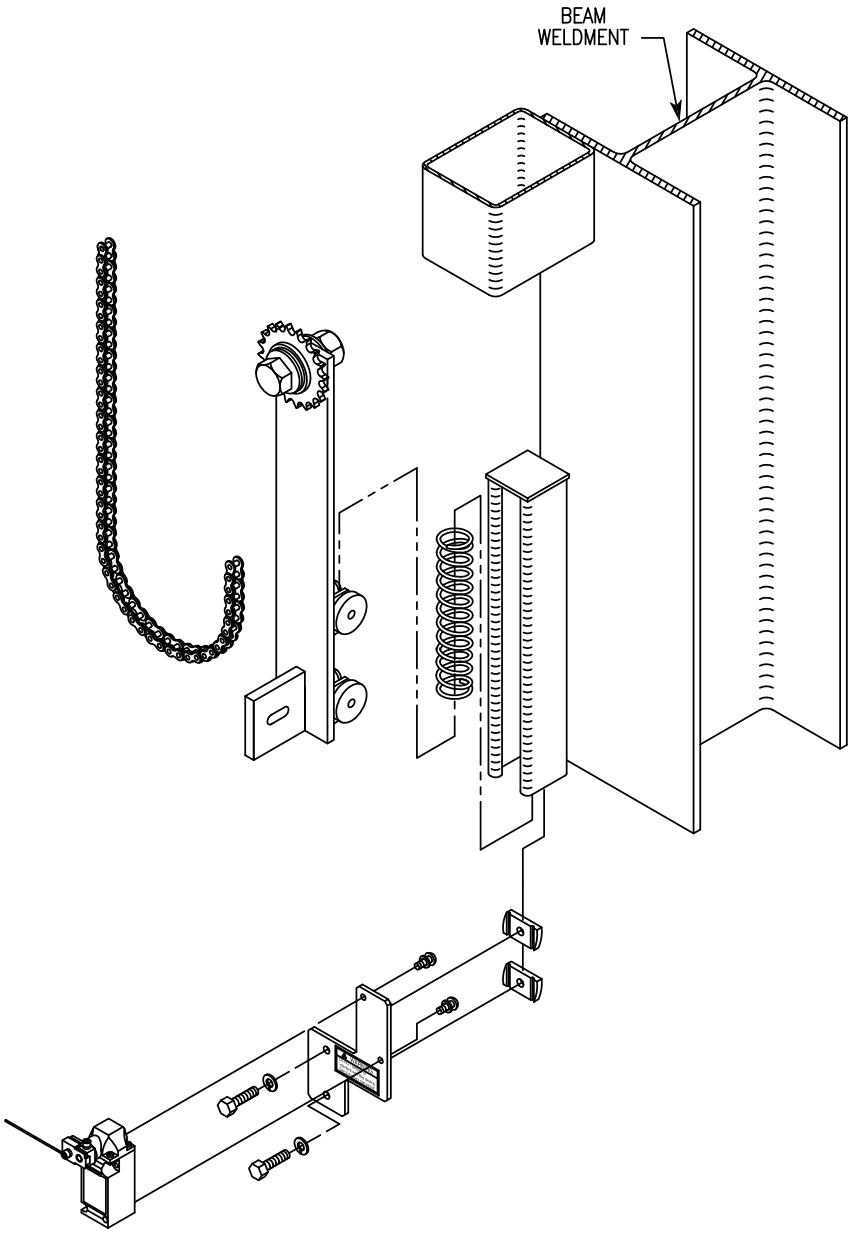


FIG. 12

Chain Tension Limit Switches

Testing Instructions:

1. Disconnect the tension chain from the carriage; the tensioner slide bar should drop down and activate the limit switch. Listen for a click in the limit switch to know when it has been tripped.

2. Reconnect the tensioner chain to the carriage; the limit switch should return to its neutral horizontal position.

3. While standing on the carriage, grab the tension chain and pull it toward you. This should lift the tensioner slide bar and activate the limit switch. Again, listen for a click in the limit switch to know that the switch has tripped. Release the chain and check that the switch returns to the neutral position.

4. Repeat test for tensioner on opposite side of lift.

Tension Chain Guard Installation: (If included)

After chain tension limit switches are installed and tested, the tension chain guards should be installed. These guards cover the tension chain and keep objects away from it as it moves.

1. Align the short (1”) side of the guard with the inner part of the chain tube.

2. Use 1/4-20 hardware or self-tapping screws to attach guard to main guide beam.

Refer to Figure #12B

NOTE: *After an initial use period of 30-90 days, a follow-up visit should be performed to re-adjust the chain tension limit switches. The chain will stretch out during its initial use and may cause nuisance trips of the chain tension limit switches if not re-adjusted.*

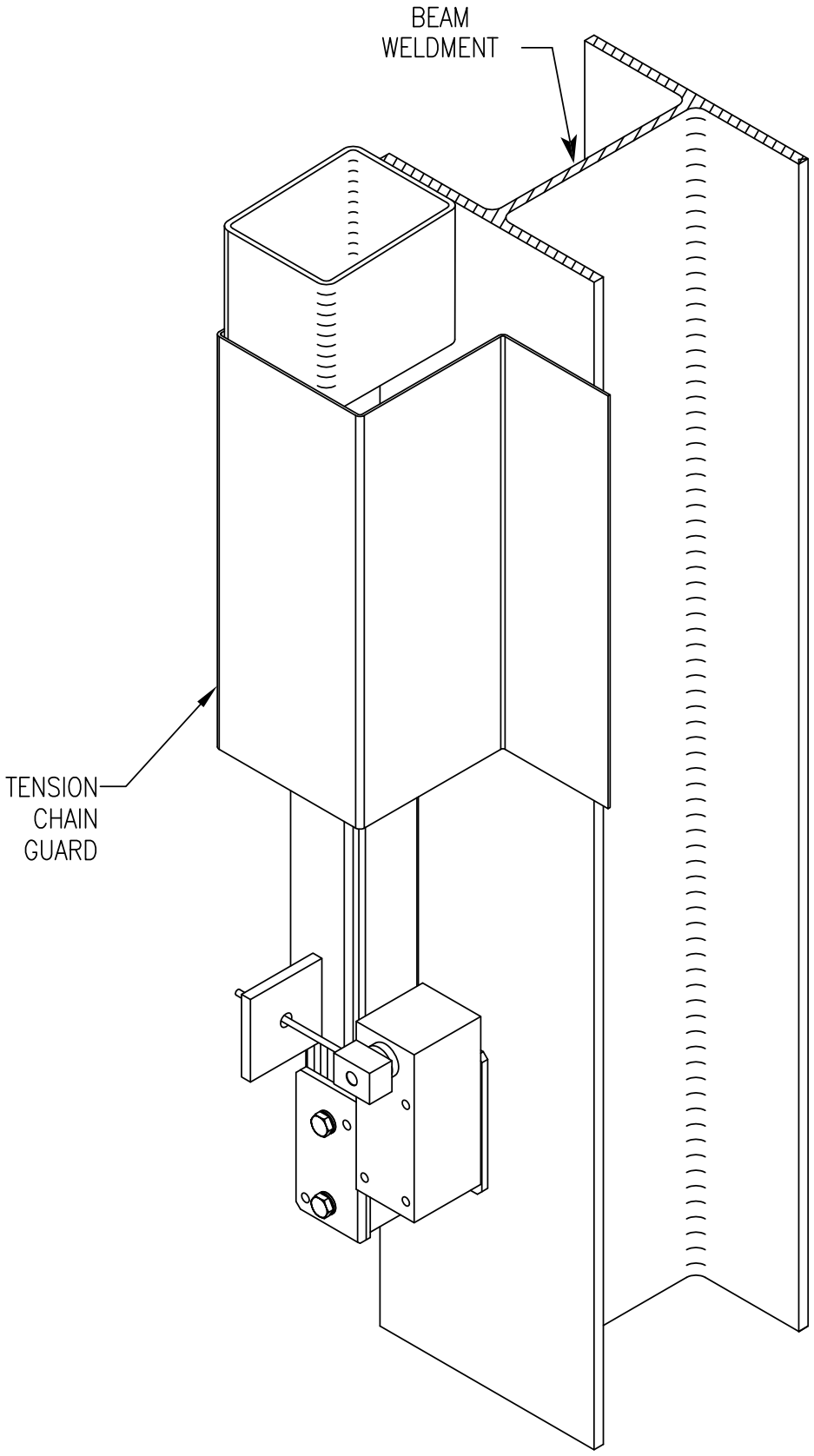


FIG. 12B

Overtravel Limit Switch Installation Instructions

1. Measure the distance from the carriage deck to the top of wheel block shoe.

2. Measure this distance upward from the upper floor level mark made in Step 1, Limit Switch Mounting Instructions.

3. Drill and bolt limit switch bracket 1/2 inch from the guide angle so that unistrut is centered with top of wheel block shoe, using 1/4-20 bolts and nuts.

4. Position limit switch on unistrut bracket such that it will be actuated by the top of the wheel block shoe.

   NOTE: *This switch should be adjusted so that it is not triggered during normal operation of the lift, but will prevent the carriage from hitting the drive unit if the platform fails to stop at the upper level.*

REFER TO FIGURE #13

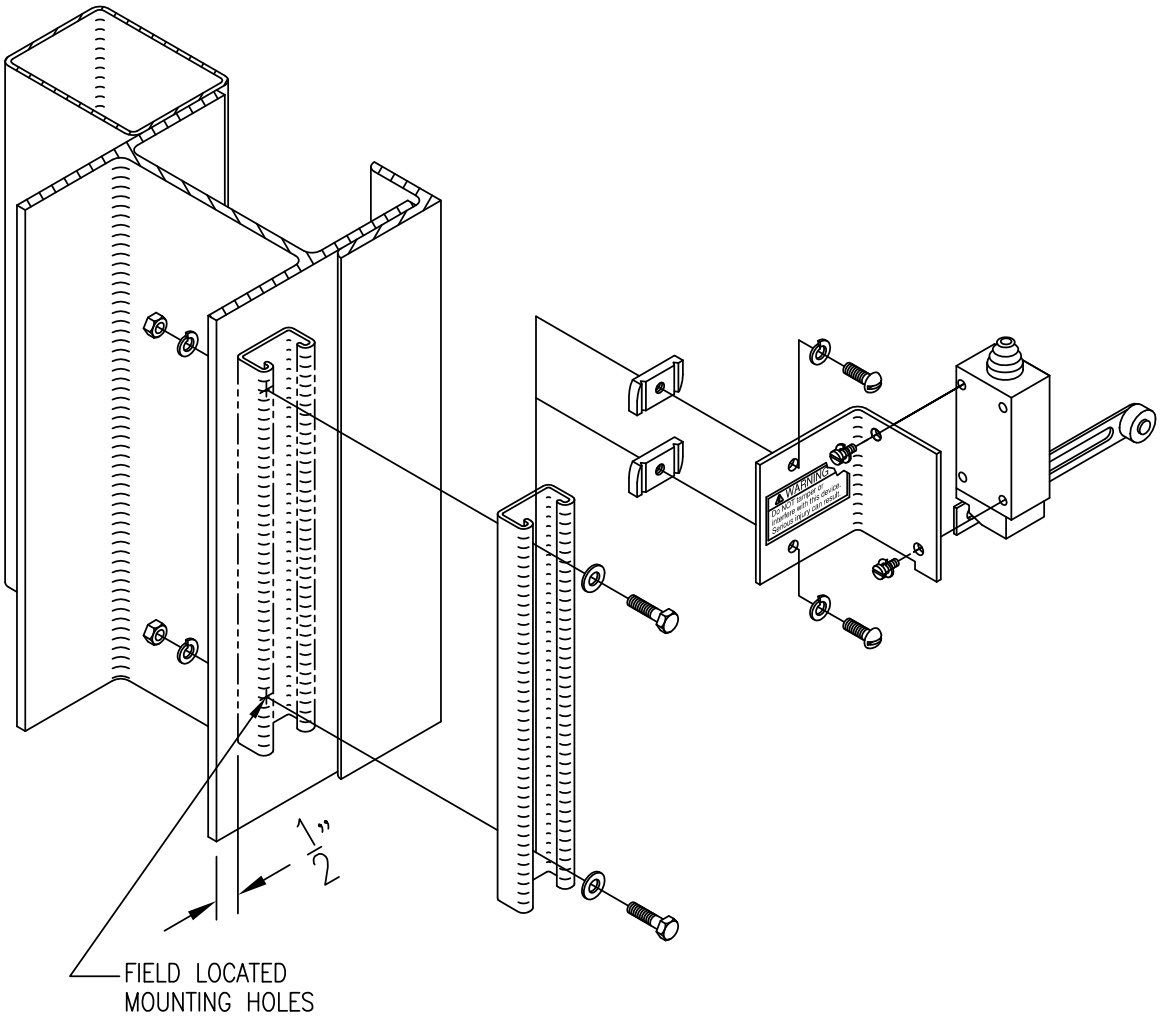


FIG. 13

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Wildeck® Inc.
PO Box 89
405 Commerce Street Waukesha, WI 53187
Telephone: 262/549-4000 * Fax: 262/549-7703

For Your Electrician

Always mount push button stations out of reach from the carriage (approximately six (6) feet).

Circuit incorporates a current-sensing, magnetic overload relay which resets at 70 - 85% of its overload condition. Therefore, the relay must be set at 17 - 42% above an overload condition. A timer bypasses the jam relay for a nominal two (2) seconds during starting in-rush. To set the jam relay, place a maximum load on the carriage and slowly adjust the relay until it resists jamming. Adjustment instructions are provided in the control box.

Setting the Jam Relay

1. Load the carriage to capacity weight.

2. While raising the lift, adjust the jam relay until instantaneous trip current equals motor current or until motor continues to run after the timer times out.

3. If no power is available, use calibration wires to set jam relay at no more than 90% of the motor’s full load current as shown on the serial plate.

Lift Start Up Procedure

1. Wire power unit and check rotation.

   CAUTION: *Use a very short application of power. The first movement should tend to lift the carriage. Rotation tending to lower the carriage can damage the chain tensioning assembly and chain tensioner.*

   WARNING: *Be prepared to disconnect power immediately when powering the unit before all limit switches are installed.*

   Allowing carriage over-travel in either direction can result in severe damage.

   The use of temporary power is not recommended for inexperienced installers.

2. Make sure carriage is free to rise approximately six (6) inches. Be certain that chains are equally tight.

3. Use the following procedure to level the carriage:

   A. Loosen wheel block mounting bolts on side of carriage with the jackscrew.

   B. Using a four foot level, determine what direction the jackscrew has to be turned to level the carriage.

   C. Turn jackscrew in appropriate direction to level carriage and fully tighten mounting bolts.

   CAUTION: *After leveling the carriage, do not use the jackscrew to support the carriage. Mounting bolts must be tightened.*

REFER TO FIGURE #14

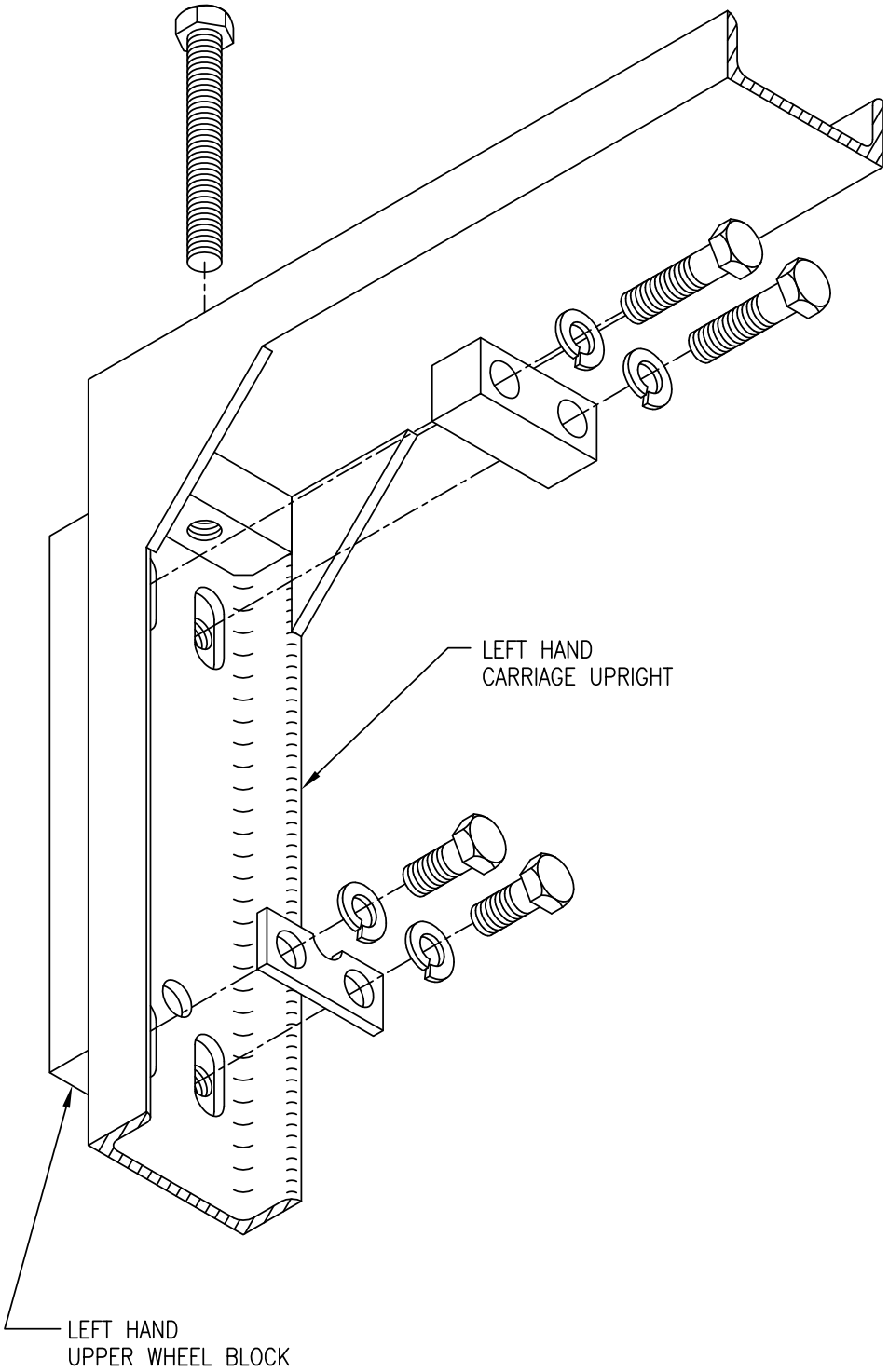
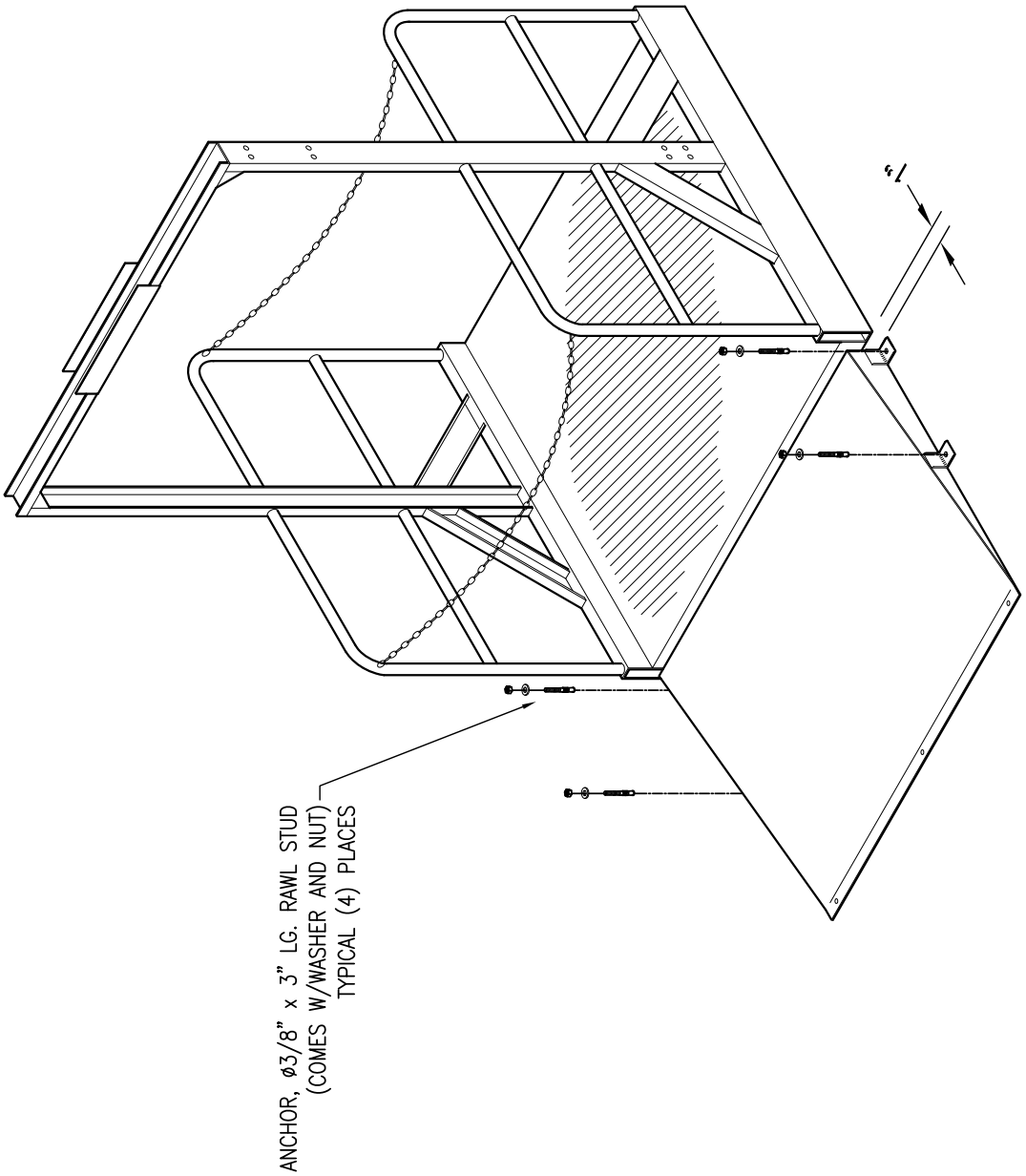


FIG. 14

For installations without a recessed pit, a steel approach ramp can be installed.



REV

1451

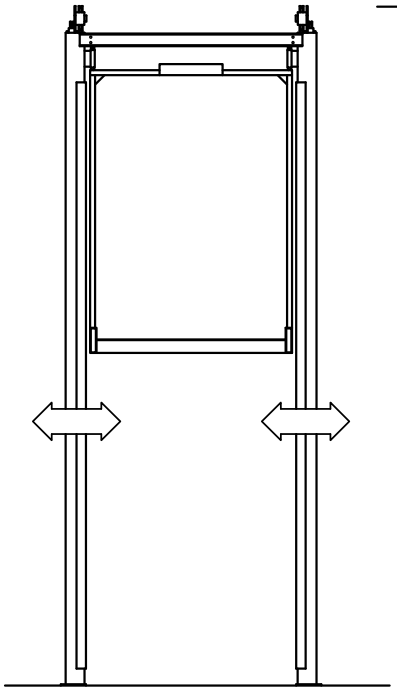
DATE:

DRN BY

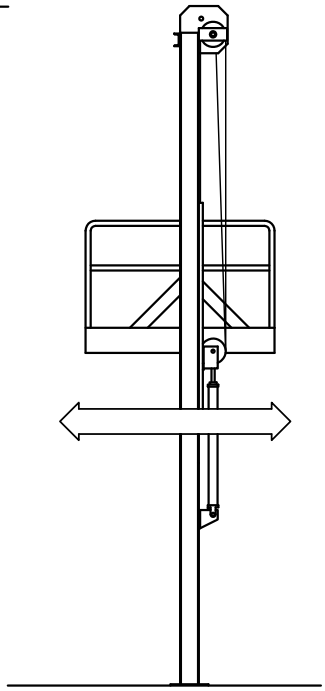
RAMP INSTALLATION

WILDECK™

Straddle Lift

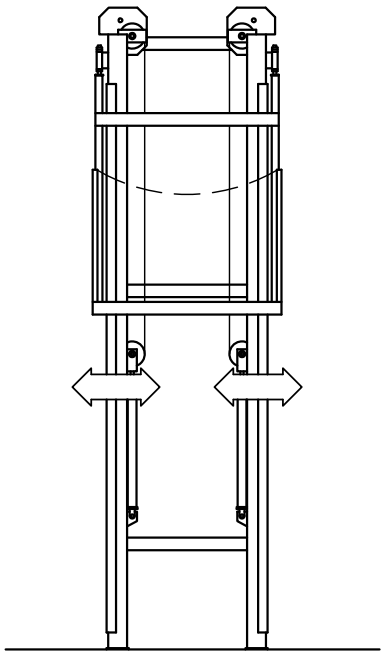


Front
Braces Must Restrain
Sideways Motion

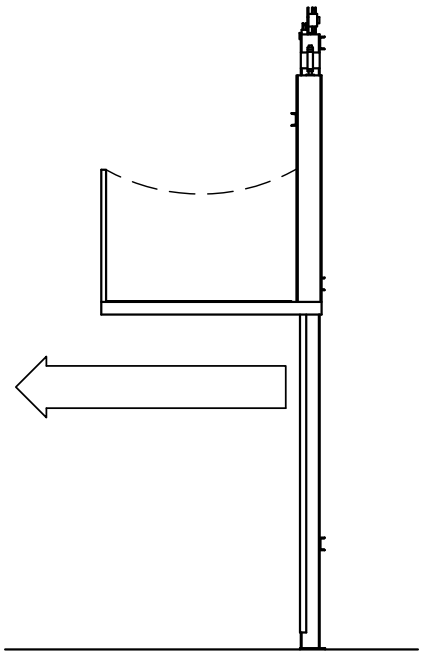


Side
Braces Must Restrain
Forward and Backward Movement

Cantilever Lift

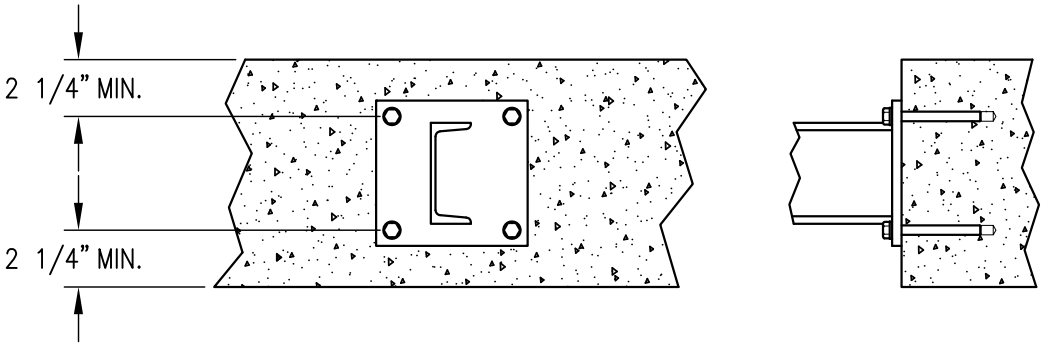


Front
Braces Must Restrain
Sideways Motion

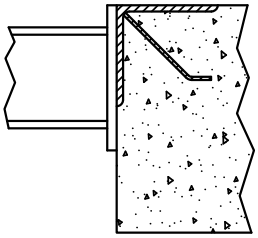


Side
Braces Must Restrain
Forward Movement

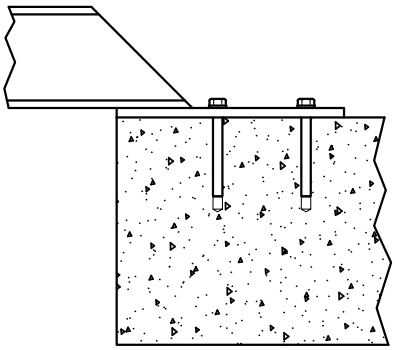
CONCRETE FLOORS



Anchored to Face of Floor

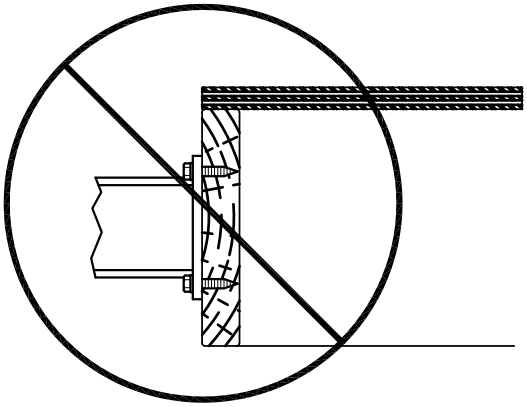


Welded to Embedded Angle

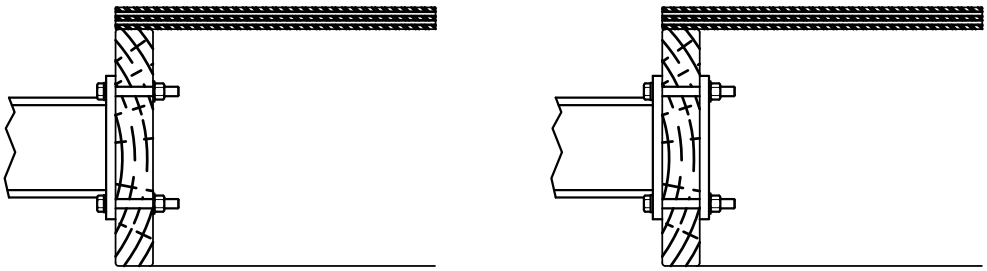


Anchored to Floor

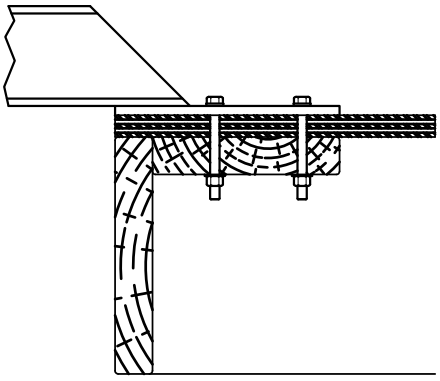
WOODEN FLOORS



Lag Bolted to Face of Floor – NOT PREFERRED

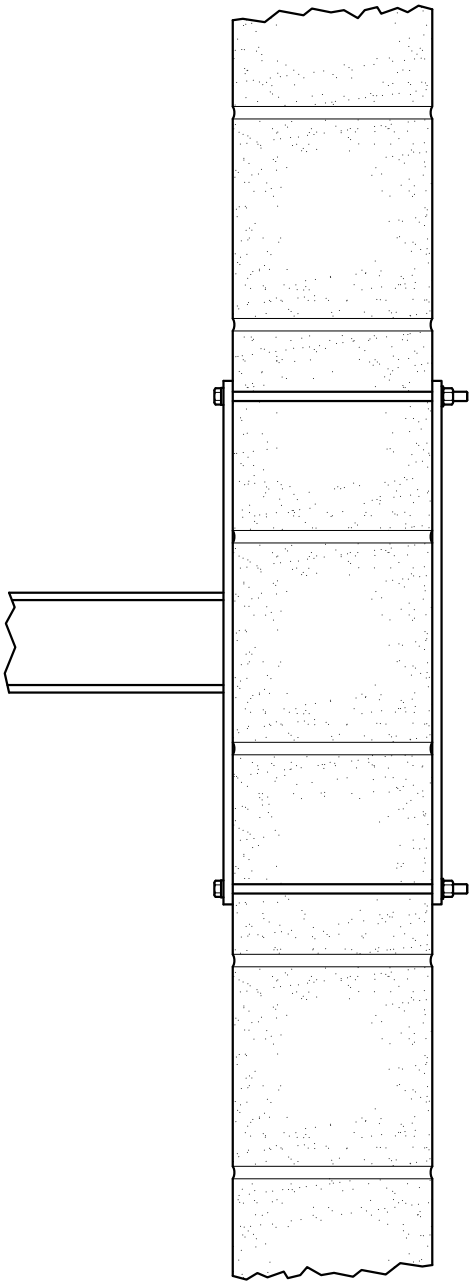


Through Bolted – Acceptable, but Recommend Using a Back Plate.



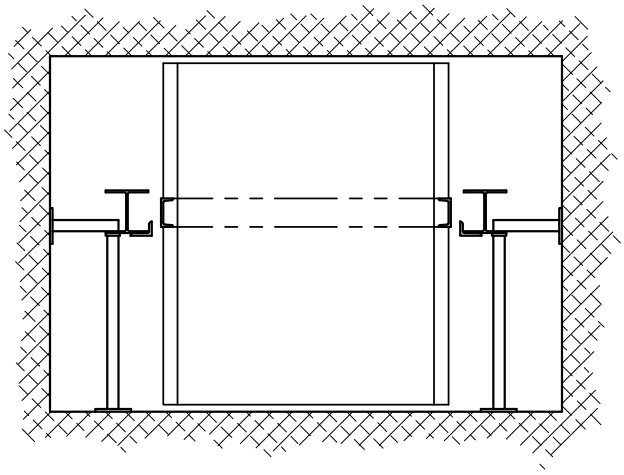
Bolted Thru Floor – Preferred

BLOCK WALLS

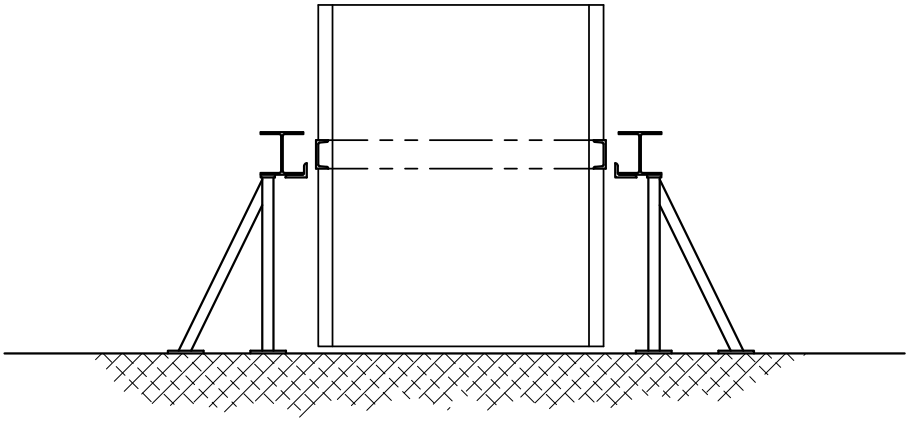


Through Bolted with a Back Plate
This is the PREFERRED WAY
to anchor to a block wall.

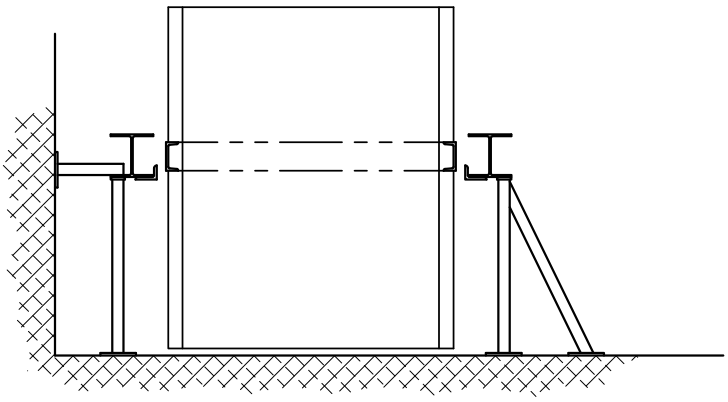
Straddle Lift Bracing Options



Thru Floor or Shaftway

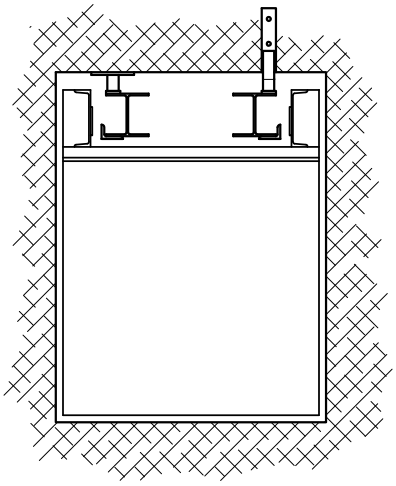


Against a Mezzanine

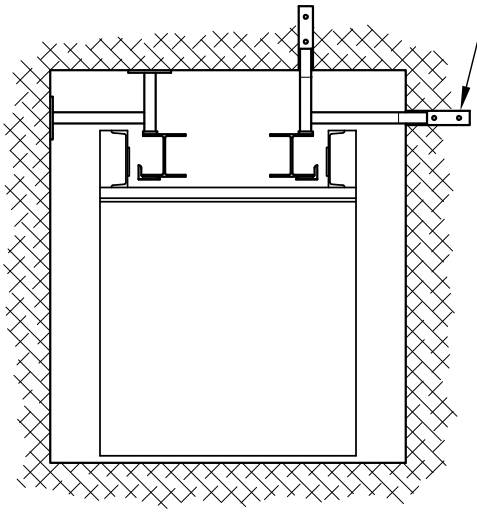


In a Corner

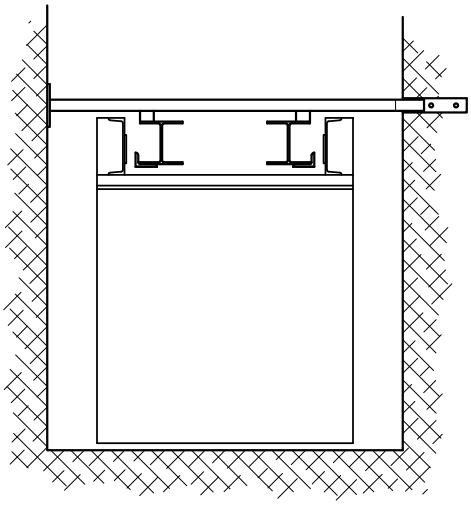
Cantilever Carriage Bracing Options



Standard Bracing

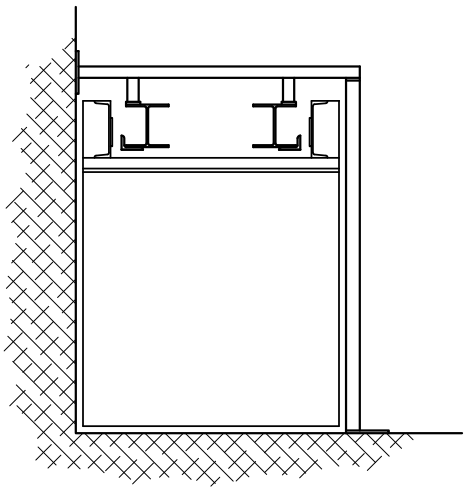


Oversized Cutout

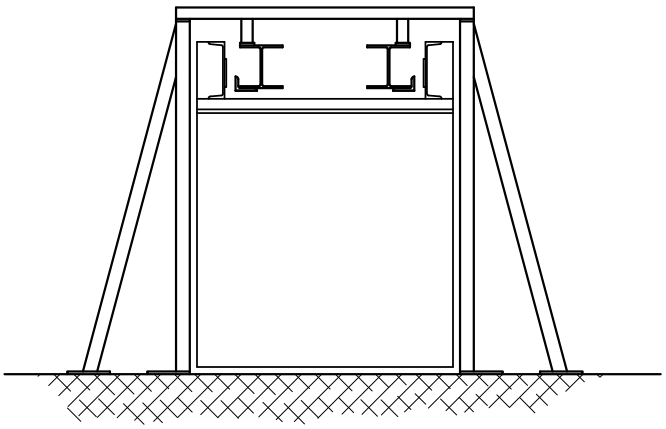


Bracing on 3 Sides

Cantilever Carriage Bracing Options

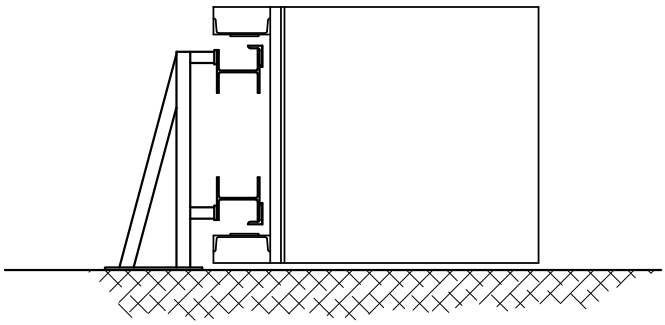


In a Corner

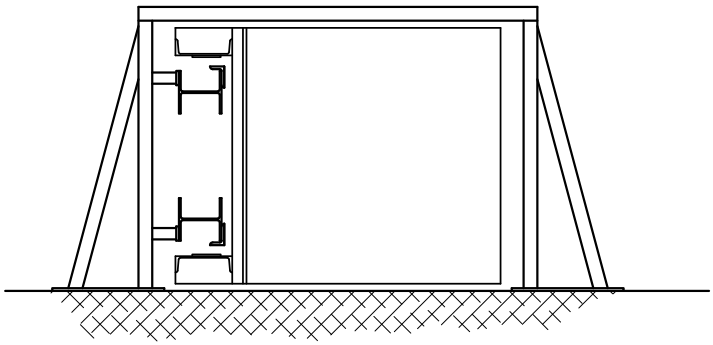


Against a Mezzanine

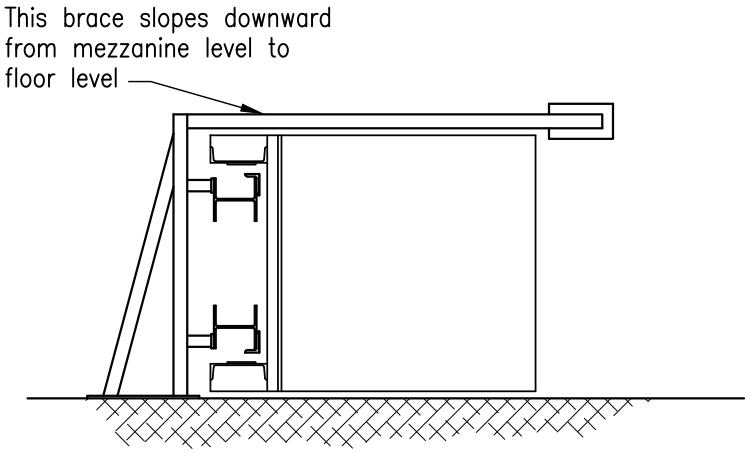
Cantilever Carriage Bracing Options



Against a Mezzanine – 1 Side Braced



Against a Mezzanine – Both Sides Braced



Against a Mezzanine – With Brace Anchored to Floor

Introduction

Wildeck®, Inc. manufactures mechanical vertical reciprocating conveyors to meet the highest productivity standards that industrial users demand.

These specific features provide Wildeck Lift Product users with reliable performance and outstanding, long-life value:

- Ease of operation
- Adjustable floor level limit switches
- Electrical protection
- Free-fall protection

WARNING: *YOUR WILDECK LIFT PRODUCT IS NOT DESIGNED OR AUTHORIZED FOR HUMAN CONVEYANCE.*

DO NOT ALLOW ANYONE ON THE CARRIAGE (LIFT PLATFORM) OR TO BE ENCLOSED WITHIN THE SAFETY GATE AND SCREENING PERIMETER WHILE OPERATING WILDECK LIFT PRODUCTS.

Be sure all employees designated to operate Wildeck Lift Products are thoroughly familiar with the contents of this manual before commencing operating procedures.

All Wildeck Lift Product operators should have immediate access to this manual.

Keep this manual clean and dry to maintain legibility of all information, drawings, and procedures.

Throughout Wildeck Service Manuals you will frequently find WARNINGS and CAUTIONS.

Please read all WARNINGS carefully and always obey all WARNING instructions to avoid the possibility of endangering yourself and others.

CAUTION information applies to possible equipment damage due to misuse and/or misapplication of Wildeck Lift Products.

REMEMBER: *The potential for personal injury can result from damaged and worn equipment even when Wildeck Lift Products are properly operated.*

Introduction, continued

Always keep Wildeck Lift Products properly maintained.

Never exceed lift capacity limits.

ALWAYS: *Maintain optimum weight distribution balance when lifting and lowering loads.*

CONTACT QUALIFIED SERVICE PERSONNEL IMMEDIATELY if damage is suspected or apparent prior to operating Wildeck Lift Products.

WARNING: *DO NOT TROUBLE-SHOOT OR SERVICE LIVE ELECTRICAL CIRCUITS*.

ALL ELECTRICAL MAINTENANCE AND REPAIR WORK MUST BE PERFORMED BY QUALIFIED CONTROLS ELECTRICIANS ONLY.

Wildeck, Inc. also advises the presence of additional personnel qualified in first aid training to be present while electrical work is performed.

Glossary

Each mechanical lift consists of the following components and assemblies as described in the glossary.

Drive Unit

Electric brake motor, gear reducer, drive shaft, and sprockets.

Refer to Drawing Section, drawings: #1319-IB Straddle
#1390-IB Cantilever

Carriage Platform

The movable platform upon which load material is located during lifting and lowering procedures.

Refer to Drawing Section, drawings: #1004-IB Straddle
#1364-IB Cantilever

Main Frame

Two six (6) inch wide flange beam assemblies used for supporting and guiding carriage platform during operation.

Refer to Drawing Section, drawings: #1290-IB Straddle
#1291-IB Straddle
#1337-IB Cantilever
#1338-IB Cantilever

Lower Wheel block Assembly

The two roller assemblies which guide the carriage within main frame members during travel.

Refer to Drawing Section drawings: #1075-IB Steel
#1074-IB Steel
#1071-IB Phenolic
#1041-IB Phenolic

Glossary, continued

Upper Wheel block Assembly

The two roller assemblies which guide the carriage frame assembly within lift frame members. Roller assemblies also serve as a mounting point for the lift chains and safety cams.

Refer to Drawing Section drawings: #1073-IB Steel
#1072-IB Steel
#1069-IB Phenolic
#1027-IB Phenolic

Chain Assembly

The continuous, revolving chain loops which move the carriage platform.

Refer to Drawing Section, drawing: #1321-IB

Chain Tensioner Assembly

The spring-loaded devices that keep the chain assemblies tight. Chain tensioner assemblies also contain electrical switches which shut the lift down in the event of slack or broken chain.

Refer to Drawing Section, drawing: #1295-IB

Carriage Leveler

The adjustable screw assembly used to match the carriage level with the level of the floor.

Refer to Drawing Section, drawing: #1325-IB

Floor Level Limit Switches

Electrical switches mounted at each floor level to determine the stopping location of the carriage platform.

Refer to Drawing Section, drawings: #1386-IB
#1387-IB

Glossary, continued

Over Travel Limit Switch

An electrical switch mounted at the top of the main frame that serves as an emergency shut-off switch in the event of upper floor level limit switch failure.

Refer to Drawing Section, drawing: #1388-IB

Safety Gates and Enclosure

Safety gates and enclosures are located at each level and entrance to the carriage platform.

Electrical inter-connect switches on each gate prevent lift and lowering operations until each gate is closed and locked. Gate doors remain closed and locked when the load is not at that level.

Refer to Drawing Section on Gates and Enclosures

Control Panel

Control panel mounted near the lift contains the transformer, overload devices, and components required for lift operation.

Pushbutton stations at each level provide operation for UP, DOWN, and EMERGENCY STOP (red) operations.

Refer to Electrical Schematic

Push Button Station

A pushbutton (P.B.) station at each level provides electrical controls used to operate the lift. An EMERGENCY STOP button is also located at each P.B. station.

Refer to Drawing Section, drawing: #1389-IB

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Wildeck® Inc.
PO Box 89
405 Commerce Street Waukesha, WI 53187
Telephone: 262/549-4000 * Fax: 262/549-7703

How It Works

Basic Principle

Two continuous chain loops located within the main beams on either side of the carriage platform are the two primary elements, which raise and lower the carriage platform. The chain loops reach from the top of the main frame to the floor. The carriage is attached to both chain loops and moves up or down depending on the rotation direction.

Drive Unit

The drive unit, located at the top of the main frame, rotates the drive shaft, which extends to the full width of the lift. The gearbox and brake motor are located at the center of the drive shaft. Drive sprockets mounted at each end of the drive shaft mesh with the chain loops to provide synchronized rotation of chain system components.

Brake Motor

The brake motor is located within the drive unit. When engaged, the brake locks the drive shaft in place, thereby stopping carriage platform movement. The brake releases automatically when power is directed to the drive motor, i.e., when the UP or DOWN button is pushed. A power failure or interruption will cause the brake to engage automatically. Safety switches are provided to engage the brake manually.

Chain System

The weight of the carriage is supported by the large section of the chain loop generally referred to as the “lift chain.” The “tension chain” is the smaller section of each chain loop connected to each end of the lift chain. The tension chain engages with the drive sprockets to raise or lower the carriage depending on the rotation direction of the drive shaft.

Spring-loaded chain tension assemblies are located at the bottom of the main frame and maintain optimum tension for each chain loop. An electrical limit switch mounted along each side of each assembly will break the electrical connection to the drive unit, automatically engaging the brake motor, when an over-tension or under-tension condition exists.

Over-tension in one of the chain loops will move its tensioner upward until the electrical circuit to the drive motor is broken. Slackness, disengaged chain loop, or severed chain loop will cause the tensioner to move downward until the circuit is broken.

How It Works, continued

Floor Level Limit Switches

Floor level limit switches are provided at each operating level. The switches stop the carriage at the desired position at each operating level by shutting off power to the drive unit, which engages the brake motor. The switches are adjustable to provide optimum platform alignment with the floor level.

Over Travel Switch

An over travel switch provides a safety backup to protect the unit from damage should the carriage travel past the uppermost floor level limit switch. The over travel switch, like the floor level limit switches, disconnects power to the drive unit when engaged.

Control Buttons

Single Level Units:
UP and DOWN control buttons are located at each operating level. Once one of these buttons is activated, the control circuitry prevents the other button from being activated until the carriage platform comes to a complete stop.

Multi-Level Units:
The numbered control buttons correspond with each stopping point for the lift. The lowest point is Level One. Pressing the level number where you are will move the carriage platform to you; pressing another level number will send the carriage platform to that floor. Once one level number button is pressed, no other level number buttons will activate until the carriage platform comes to a complete stop.

Emergency Stop Buttons

A red EMERGENCY STOP button is located at each operating level. The carriage platform will stop immediately when an EMERGENCY STOP button is pushed. No other button will activate until the activated EMERGENCY STOP button is pulled out to its original position.

Free-Fall Protection

Spring-activated safety cams attached to the upper wheel blocks on the carriage automatically stop the carriage within the first few inches of decent in the event of a chain break or an extremely slack chain condition.

How It Works, continued

Electrical System

The drive unit motor operates on standard plant voltage (usually 230 or 460 volt, three-phase). However, the controls and limit switches operate on the reduced voltage provided by the 24-volt transformer located in the control panel. When a control button is pressed, the low voltage circuit magnetically closes the contacts in the motor starter to provide the high voltage required to operate the motor.

The low voltage control circuit connects control buttons, limit switches, and status switches located on each safety gate. All safety gates must be closed before the lift can operate.

The electrical system also includes overload protection for the motor.

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Wildeck® Inc.
PO Box 89
405 Commerce Street Waukesha, WI 53187
Telephone: 262/549-4000 * Fax: 262/549-7703

Servicing Wildeck Lift Products

WE ADVISE: *Visual walk-around inspections prior to operation each day and/or at the beginning of each work shift to check for equipment damage and obstructions to moving parts.*

Visual inspection points:

1. *Electrical system—damaged control panel and buttons; frayed or loose wiring*
2. *Worn chain*
3. *Foreign objects; litter*
4. *Be sure carriage deck is clean and dry*

Routine Maintenance Procedures

Wildeck Lift Products require scheduled maintenance such as lubrication, minor adjustments, and periodic inspection of key components.

We recommend that you establish a maintenance schedule system and keep a record of all maintenance activity. Refer to schedule for suggested service intervals and to the Servicing Location Schematic Diagram.

Lift and Tension Chains

Inspect for evidence of wear or breaking, kinking, and excessive corrosion. Be sure connections are tight and sprockets are not damaged.

Proper lubrication of roller chain components is vital for optimum performance and long life. Wear between the pin and bushing causes the roller to stretch. The gap between the pin link plate and roller link plate on the slack side of the chain should be filled with oil.

Oil forms a film which minimizes wear on the pin and bushing, reduces noise, and acts as a coolant when the chain runs at high speed.

Servicing Wildeck Lift Products, continued

Recommended Oil

Only high quality oil should be used to lubricate the roller chain. Neither heavy oil nor grease is suitable. The viscosity of the oil will depend on the chain size, chain speed, and ambient temperature. The lubricants recommended for specific temperature ranges are provided in the following table:

Lift Capacity	**Chain Size**	**Ambient Temperature Range**			
		14º F 32º F	32º F 104º F	104º F 122º F	122º F 140º F
Under 1000#	#50 or less	SAE 10	SAE 20	SAE 30	SAE 40
1000-2000#	#60 and #80	SAE 20	SAE 30	SAE 40	SAE 50
3000-4000#	#100				
5000-6000#	#120 or more	SAE 30	SAE 40	SAE 50	

Regardless of the lubricating system used, the roller chain must be washed with solvent. Examine the pin and bushing after removing the chain. Any damage or reddish-brown color on their surfaces indicate that the system is not being adequately lubricated.

Motor Maintenance

Oil levels and oil quality should be checked at frequent intervals, depending on usage. Oil changes are due at 10,000 operating hours or every two years.

Synthetic lubricants can extend oil change intervals to 20,000 hours or every four years. The lubricant should be changed at more frequent intervals where arduous operating conditions exist, such as high humidity, corrosive environment, or large temperature changes.

Grease packed bearings should be cleaned and re-greased every 10,000 hours or 20,000 hours for synthetic grease. Care should be taken on input bearings that only 1/3 of the free volume of the bearing is filled with grease to avoid overheating. For output bearings and bearings with replaceable grease shields, fill to 2/3 of the free volume.

Servicing Wildeck Lift Products, continued

ATTENTION: *When the recommended lubricant is not available, it is permissible to use a lubricant having equivalent characteristics. We do not recommend that lubricants of different brands be mixed. Under no circumstances should synthetic lubricants be mixed with one another, or with one having a mineral base.*

Ambient air temperature range ºF	Formulation	SHELL Oil Company	TEXACO Oil Company
+104 to +20	Mineral	Omala EP 220	Meropa 220
+14 to +176	Synthetic	Omala HD 680	Pinnacle EP680
-13 to +140	Synthetic	Omala HD 220	Pinnacle EP220
-40 to +50	Synthetic	Omala HD 32	Pinnacle EP32

Motor Brake **(The following brand specific data is for NORD motor and brake, see the end of this section for other motor, brake, or drive train data.)**

The VRC motor, and thus the VRC platform, is held in place by the brake disc in the motor unit. This disc should be checked periodically for wear.

The brake disc is a metal plate with fiber pads mounted on each side of it. The disc spins with the motor. When the motor stops, the spinning brake disc is clamped between the motor end shield and the stationary disc. The clamping force is provided by the brake springs located between the stationary disc and the brake coil. Energizing the brake coil pulls the stationary disc away from the fiber brake disc and compresses the brake springs.

When the stationary disc clamps against the fiber brake disc, an air gap opens up between the gray brake coil and the silver stationary disc. As the brake wears, this gap becomes larger. Measuring this gap determines how much the brake has worn.

Motor brake, continued
(The following brand specific data is for NORD motor and brake, see the end of this section for other motor, brake, or drive train data.)

For optimal performance of the brake, the air gap must be between the minimum and maximum air gap spacing. When the gap approaches the maximum air gap spacing, it must be readjusted to minimum air gap. When the brake can no longer be adjusted, the brake pad must be replaced. This will generally happen after three adjustments. The brake must also be replaced when the minimum brake pad thickness is reached.

Brake Check Procedure

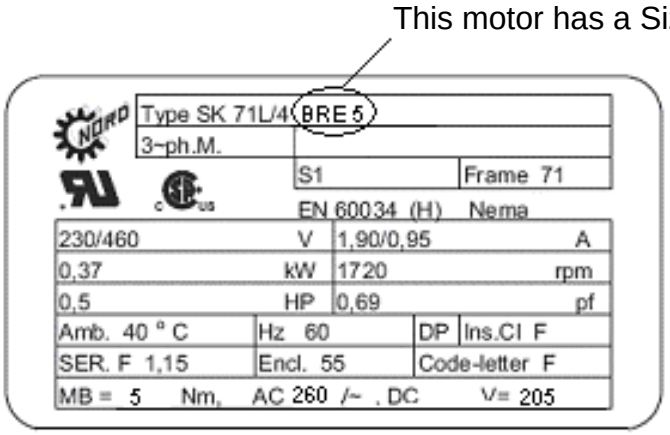
WARNING: *Motor brake holds VRC in position. Carriage will drop if brake is released. Do not perform motor maintenance from VRC carriage unless it is securely supported by safety chains.*

1) Disconnect power to unit. Follow “Lock out Tag out” procedures.

2) Do not perform motor maintenance from VRC carriage unless it is securely supported by safety chains.

3) Remove fan guard.

4) Identify the brake size from the motor nameplate.



5) Using a feeler gauge, check the gap between the silver stationary disc and the gray brake coil. See next two pages for instructions.

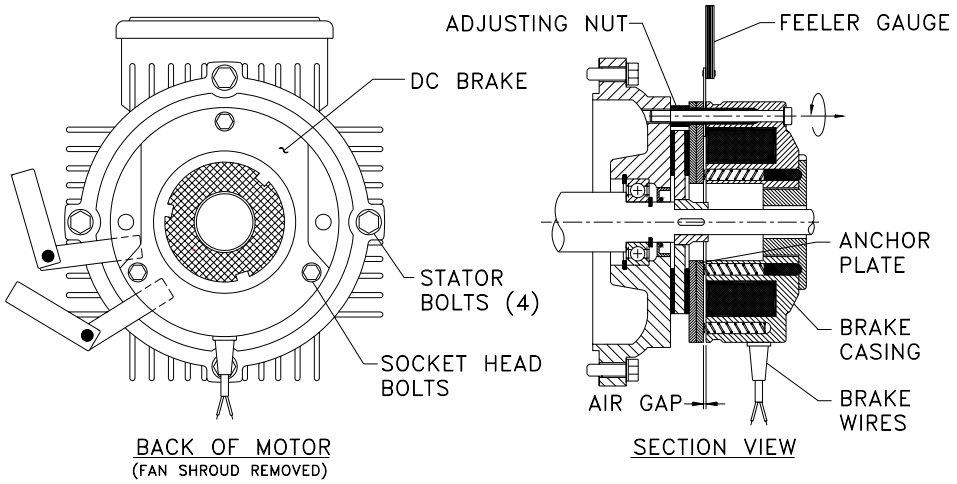
6) When finished, reinstall fan guard and remove safety chains.

MAINTENANCE – PRECIMA STYLE 5-250NM

Brake Air Gap Adjustment:
In order to get maximum life out of the brake, the air gap must be set properly. As the brake wears and decreases in thickness, the air gap will increase. If the air gap is too large, the brake coil may not have enough magnetic force to pull the anchor plate across the gap and the brake rotor will drag.

While checking the air gap, measure the gap around the socket head cap screws as shown in the picture below.

- Loosen the socket head cap screw that attaches the brake to the motor endbell.
- Depending if the air gap needs to be increased/decreased, turn the adjusting nut accordingly. A quarter or half turn is usually sufficient for adjusting purposes.
- After adjusting the nut, tighten the socket head cap screw back onto the brake.
- Measure the air gap for spacing - Repeat process to achieve recommended setting.



Size	Rated Torque [Lbs.-ft (Nm)]	Power of Brake Coil [W]	Air Gap Setting [in]	Max Air Gap Before Re-Adjustment [in]	Minimum Rotor (Brake Pad) Thickness [in]
5	3.75 (5)	22	0.008	0.031	0.177
10	7.5 (10)	28	0.008	0.031	0.217
20	16 (20)	34	0.012	0.031	0.301
40	30 (40)	42	0.012	0.035	0.374
60	44 (60)	50	0.012	0.039	0.453
100	75 (100)	64	0.016	0.043	0.492
150	110 (150)	76	0.016	0.043	0.571
250	188 (250)	100	0.019	0.047	0.650

PRECIMA STYLE – BRAKE PAD REPLACEMENT

LIST OF TOOLS

Following are a list of tools to remove the brake:

- Screw drivers – Philips & Flat (to remove the fan cover)
- External snap ring pliers (to remove fan retaining snap ring)
- Large screw drive or a small pry bar (to pop off the fan)
- Metric sockets & T-handles and open-end wrenches.

IMPORTANT

- Ensure that the reducer load is supported. Removal of the brake will let the load free fall, which may cause injury.
- Disconnect power from motor.

PROCEDURE

When the brake pad is worn to the minimum thickness as shown in the chart on page 6, the pad should be replaced to maintain the proper operation. To replace the pad:

- Remove the 4 bolts to remove the fan cover
- If the brake has a hand release, this can be removed by unscrewing.
- Remove the fan cover and note the position of the hand release slot if applicable.
- Remove the snap ring holding the cooling fan.
- Carefully remove the cooling fan, key and second snap ring.
- If the brake is equipped with a dust boot, remove it.
- Remove the 3 socket head cap screws holding the brake coil to the motor end-bell.
- Remove the brake coil, noting the hand release and power cable locations.
- The brake pad will now slide off the hub holding it on the shaft.
- Clean the brake, install the pad and reassemble.

NOTE: Upon reassembly, the brake air gap setting must be checked and adjusted if needed, as noted on page 6.

SEW Motors and Brakemotors

Type BM (G) Brakes

OPERATING INSTRUCTIONS

09 793 67 US

General

Every SEW-Eurodrive motor is thoroughly tested, checked, and properly packed prior to shipment. However, please check immediately upon arrival for shortage of parts or transit damage. Note the damage or shortage on the freight bill of lading and file a claim with the carrier. Also, notify SEW-Eurodrive of the shortage or damage.

Installation

For motors mounted integrally to a gear unit, please refer to the Operating Instructions for Gearmotors and Gear Reducers for proper installation of the drive. The drive installation site should be selected to ensure:

Ambient temperatures below 40°C (104°F).

Unimpeded flow of air to the motor and variable speed units.

Accessibility to gear unit, oil plugs.

Adequate space for the removal of the brakemotor fanguard for brake adjustment and maintenance.

The drive unit should be mounted on a flat, vibration damping, and torsionally rigid structure. The flatness tolerance of the supporting surface should not exceed:

For motor size 180 and smaller — 0.004 inch
For motor size above 180 — 0.008 inch

Do not hammer on the shafts to install couplings, sheaves, etc. Hammering can cause brinelling of the bearings and a reduction in bearing life. We recommend heating the components to approximately 175°F and sliding them on. This will reduce possible damage to the bearings. In addition, there is a metric tapped hole in the center of the motor shaft that can be utilized with a tool to press on or remove the coupling, sheaves, etc.

The motor shaft diameters are metric and have tolerances as listed in the SEW-Eurodrive catalogs. Shaft couplings should be properly aligned to prevent vibration, coupling wear and premature failure of the shaft bearings.

Maximum Parallel Offset — 0.003 inch
Maximum Angular Offset — 0.030°

To prevent the output shaft and bearings from being subjected to excessive loads, the maximum overhung loads, as shown in SEW-Eurodrive catalogs, should not be exceeded. Please consult our engineering department if the load may exceed the recommended figure given or where there are combined radial and axial loads. In such cases, the exact operating conditions must be stated including speed, direction of rotation, position, magnitude and direction of the external radial and axial loads being applied.

Long Term Storage

If the motor must be stored for a long period of time without operating, the motor must be stored in a dry, protected area, and in the mounting position indicated on the unit nameplate.In order to ensure that the motor has not been damaged by moisture after a prolonged storage, the insulation resistance should be checked. An insulation tester with a measurement voltage of at least 500V (e.g. magneto generator) should be used for this purpose. The insulation resistance is sufficient if it has an ohmic value of at least 1000 x V_N (e.g. at V_N = 230VAC: R_{insul} 230000 ohms = 0.23M ohms). If the measured value is smaller, the motor should be dried before use (for example, with hot air up to a maximum of 90°C or by resistance heating with an auxiliary AC voltage of 10% of V_N via an isolating transformer). Care should be taken to ensure that the motor is heated with not more than 20% of its rated current and that the rise in temperature is not more than 90°C. The drying procedure can be stopped when the insulation resistance has reached 500000 = 0.5M ohms.

Severe Duty Units

Severe Duty Units are indicated with the letters "-KS" at the end of the motor type on the motor nameplate. Severe Duty units include drain holes in the motor end bells and conduit box at the lowest points allowing condensation to drain out of the motor.

CAUTION!

The drain holes are installed for the mounting position listed on the gear box nameplate. Installing a unit in a mounting position other than what is shown on the nameplate will reposition the condensation drain holes. As a result, the drain holes may not be located at the lowest point and may not allow water to drain. This can cause premature drive failure.

Electrical Connection

The motor must be installed and connected by a qualified electrician who is knowledgeable with the NEC article 430 and local regulations. He must make sure that the voltage and frequency of the electrical supply correspond with the data stamped on the motor nameplate before connecting the motor in accordance with the wiring diagram, which can be found in the terminal box. For brake connections, see the following pages.

At installation the electrician must make sure that the terminal block jumpers are positioned correctly and that all electrical connections including the ground connection are secure. In order to effectively protect the motor from overloads, appropriate motor protection must be provided. Fuses do not always provide adequate motor protection. For motors which are required to operate with a very high start-stop frequency, the overload heater type motor protection is insufficient. It is advisable in such applications to provide the motor with temperature sensors (thermistors) in the windings. Monitor the thermistors by means of an external trip device. In this way, the motor will be fully protected against practically all possible overloads.

When using motors outdoors or in washdown applications the cable entries into the terminal box must be directed downward to prevent water from entering the conduit box. The unused cable entries must be closed off properly.

Lubrication and Maintenance

WARNING! <u>Always ensure equipment is secure and electrical power is off before removing or performing maintenance on the drive assembly.</u> The motor bearings are sealed and the grease content is adequate for the life of the bearing.

SEW EURODRIVE

SOUTHEAST MANUFACTURING & ASSEMBLY CENTER
1295 Spartanburg Highway/Lyman SC 29365
(864) 439-7537 Fax: (864) 439-7830

SOUTHWEST ASSEMBLY CENTER
3950 Platinum Way/Dallas TX 75237
(214) 330-4824 Fax: (214) 330-4724

MIDWEST ASSEMBLY CENTER
2001 West Main Street/Troy OH 45373
(937) 335-0036 Fax: (937) 222-4104

EAST COAST ASSEMBLY CENTER
200 High Hill Road/Bridgeport NJ 08014
(856) 467-2277 Fax: (856) 845-3179

WEST COAST ASSEMBLY CENTER
30599 San Antonio Road/Hayward CA 94544
(510) 487-3560 Fax: (510) 487-6381

ISO 9002

Brake Coil Resistance

Motor Frame		DT71-80	DT80	DT90-100	DT100	DV112-132S	DV132M-160M	DV160L-225
Brake Size		BM(G)05	BM(G)1	BM(G)2	BM(G)4	BM(G)8	BM15	BM30/31/32/62
Brake Torque (lb-ft)		0.89 - 3.7	4.4 - 7.4	3.7 - 14.8	17.7 - 29.5	7.00 - 55.3	18.4 - 110.6	36.9 - 442.5
BRAKE VOLTAGE		R_B( )	R_B( )	R_B( )	R_B)	R_B( )	R_B( )	R_B( )
AC (to rectifier V_B)	DC	R_T( )	R_T( )	R_T( )	R_T( )	R_T( )	R_T( )	R_T( )
	24	4.3 13.2	3.8 11.8	3.3 10.3	7 8.2	1.6 8.2	0.8 5.0	0.7 5.3
105-116	48	17.1 52.5	15.2 47.0	13.3 40.9	10.7 32.7	6.2 32.7	3.1 20.1	2.8 21.1
186-207	80	54.0 166	48.1 149	42.1 129	33.8 103	19.6 103	9.8 63.5	8.9 66.7
208-233	96	68.0 209	60.5 187	53.0 163	42.5 130	24.7 130	12.4 80.8	11.2 84.0
330-369	147	171 525	152 470	133 409	107 327	62 327	31.1 201	28.1 211
370-414	167	215 661	191 591	168 515	134 411	78.1 411	39.2 253	35.4 266
415-464	185	271 832	241 744	211 649	169 518	98.3 518	49.3 318	44.6 334
465-522	208	341 1047	303 937	266 817	213 652	110 577	62.1 401	56.1 421

Voltage AC - The voltage shown is the nameplate AC brake voltage supplied to the brake rectifier.

DC - The voltage shown is the effective DC voltage required by the brake coil. The measured voltage from the rectifier will be 10-20% lower than that shown.

Brake Coil Resistance - values must be measured with the brake coil disconnected from the rectifier.

R_B - Accelerator coil resistance in , measured from the red to the white brake coil wire.

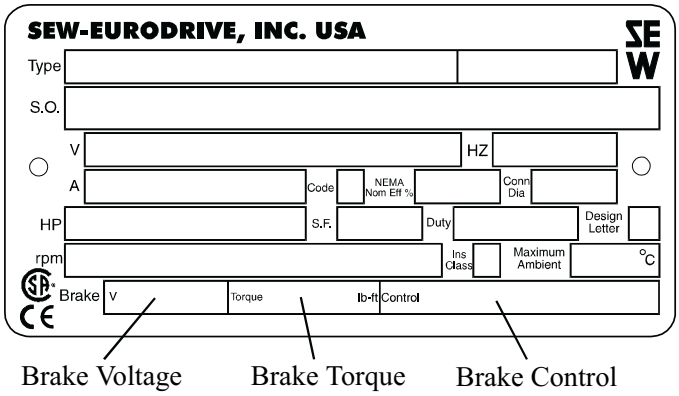
R_T - Fractional coil resistance in , measured from the white to the blue brake coil wire.

Brake Connection (AC Voltage)

SEW-Eurodrive motor brakes can be connected in a number of different ways. In order to connect the brake for each application, it is important to refer to the data on the motor nameplate that describes the brake system. The brake fields are: brake voltage, brake torque and brake control.

This operating instruction covers AC brake voltages with the following brake control components. If the brake voltage is DC, or if the brake control components differ from those listed below, an additional operating instruction must be consulted for connection information.

SEW-Eurodrive fail-safe mechanical brakes are DC controlled. Standardly, a brake rectifier (halfwave) is provided to convert the AC line voltage to the DC voltage required to drive the brake. 24VDC brakes do not include a rectifier. When voltage (V_B) is applied to the brake, it will release. When voltage (V_B) is removed from the brake, it will set. The brake rectifier can be wired either for normal brake reaction time (setting, stopping) or fast brake reaction time. The fast brake reaction will set the brake more quickly which will provide a shorter and more repeatable stopping distance. There are two basic types of brake rectifiers, BG and BGE. The BG brake rectifier is standard on motor sizes DT71 - DT100. The BGE rectifier is standard on motor sizes DV112 - DV225. The BGE rectifier can be ordered with motor sizes DT71 - DT100 and will provide faster brake release times allowing the motor to cycle more frequently.



Brake Control (Rectifier)	Part Number
BG1.5	825 384 6
BG3.0	825 386 2
BGE1.5	825 385 4
BGE3.0	825 387 0

The wiring diagrams for brake connections are located on the inside of the motor conduit box lid. The brake will release and allow the motor to rotate when the nameplate AC brake voltage V_B is supplied to the brake rectifier terminals. There are certain cases where the brake rectifier can receive its voltage from the motor's terminal block, meaning that when power is applied to the motor it will simultaneously release the brake and start the motor. See page 3 for this description.

Re-adjusting the Brake Air Gap

A properly adjusted brake air gap is critical for correct operation. The following table indicates the required air gap measurement.

Motor Size	Brake Size	Air Gap
DT71 - DT100	BM(G)05 - BM(G)4	0.010"-0.024" (0.25-0.6 mm)
DV112 - DV225	BM(G)8 - BM31	0.012"-0.047" (0.3-1.2 mm)
DV180-DV225	BM32-BM62 Double Disc	0.016"-0.047" (0.4-1.2 mm)

Prolonged use of the brake will wear the brake disc lining. This wear increases the air gap. When the air gap approaches its maximum value, the brake must be re-adjusted. To re-adjust the brake, follow the procedure below.

1. Remove the fan cover (14), fan snapring, fan (17), rubber seal (2), and any accessories at the fan end.
2. Insert a feeler gauge between the brake coil body (21) and the stationary disc (22), tighten the adjusting nuts (19) until the minimum value for the air gap is reached equally around the brake. With motor size 160L and up (brakes BM30 to BM62) first screw the threaded bushings (24) into the endshield. After setting the air gap, lock the bushings (24) against the coil body.
3. Ensure a play of 0.06" to 0.08" (1.5 to 2 mm) in the releasing arm. See "THE HAND RELEASE MECHANISM."

Replacement of the Brake Disc (26)

Extended operation of the brake may wear the brake disc (26) beyond acceptable limits. The thickness of the brake disc can be measured to determine if this has occurred.

Motor Size	Brake Size	Min. Disc (26) Thickness
DT71 - DT100	BM05 - BM4	0.354" (9mm)
DV112 - DV225	BM8 - BM62	0.394" (10mm)

If the brake disc (26) is worn below the measurement given, it must be replaced. If the thickness is greater than the specification above, the brake disc is still usable and the brake can be re-adjusted.

The Hand Release Mechanism

Most of our brakes are supplied with a hand-operated release lever. This allows opening of the brake without applying power, allowing for adjustments on the driven machinery.

There are two brake release mechanisms available:

The "BMHR" (4) type requires a lever to be inserted into the release arm. To open the brake, pull the lever away from the motor. It will re-engage automatically, once the lever is released. The lever, when not used, is attached to the motor's cooling fins with clamps.

The screw-type "BMHF" (5) arrangement requires a hexagon key which, when turned clockwise, opens the brake.

Since the stationary disc (22) will move away from the coil body during the brake's operation, it is vital that there is free play (floating clearance) on the release arm of 0.060"-0.080" (1.5-2.0 mm). The springs (11) should be placed between the arm (7) and the nuts (12) to eliminate noise.

The brake release mechanism is not used to change the brake's torque setting. There must always be clearance on the lever.

Troubleshooting

Fault: Motor does not run

1. Check the motor and brake wiring for damage and proper connection.
2. At the motor, measure the line voltage, line current and motor resistance of all three phases.
3. If all three phases read a similar current value the following conditions may exist:

   The motor may be blocked by either an excessive external load, or problems in the reducer or the brake. In both cases, the motor should draw locked rotor (in-rush) current. Consult SEW-Eurodrive catalogs for these values. Release the brake mechanically, reset the air gap if needed, or disconnect the load from the output shaft.

   If the brake is at fault electrically see #4 below.

   If the current differs significantly from the rated locked rotor current, the motor is either an incorrect voltage, or it is jumpered for the wrong voltage.
4. If the brake can be released mechanically, but does not respond to voltage, check the brake for electrical problems.

   Make sure the wiring is according to the instructions. Pay special attention to the brake voltage.

   Energize the brake circuit and measure the AC voltage on the rectifier terminals 2 and 3 (BG/BGE rectifiers). The measured voltage should correspond to the nameplate inscription: "Brake V."

   Measure the DC voltage across terminals 3 and 5 of the brake rectifier which should be about 35% to 45% of the previously measured AC voltage.

   If there is no fault found to this point, measure the resistance of the brake coils. Disconnect the coil from the rectifier for this measurement. See the table on Page 2 for the brake coil resistance values.

   Measure the resistance of each brake coil lead to the brake coil body. This test should show an open circuit. If a short is found, the brake coil is damaged.

If the results of all these checks (electrical connection, mechanical checks and adjustments, and electrical tests) indicate that the brake should work, then the most likely cause of the brake's failure to release is a damaged brake rectifier.

Fault: Brake stopping time is too slow

If the brake has been operating well for some time and a gradual increase in stopping time has occurred, the release arm may have come in contact with the coil body. Verify that the brake release arm end play is correct, and check for excessive brake disc wear, (see previous instructions).

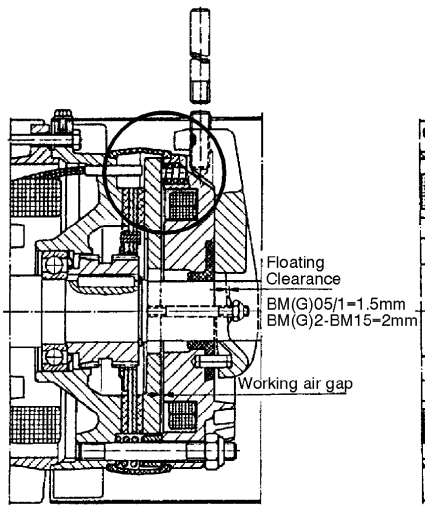
If the brake has been in operation for some time, and the stopping has become erratic, dust accumulation around the stationary disc guides may be the cause. Remove the brake's rubber sealing collar and clean with an air hose.

If the application is new, check the brake's wiring and air gap. If the brake is not wired for fast response, then changing the brake wiring to fast response will decrease the stopping time. Vertical motion and indexing applications may also require the fast response connection. Increasing the brake's torque may remedy the situation, but will also increase stress on the transmission.

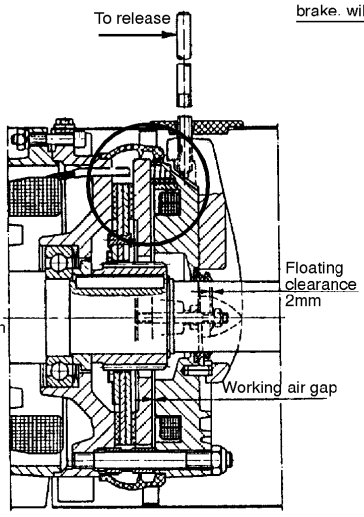
On applications requiring excessive brake work, the lining's surface may become glazed due to extreme heat. The application of a BGE rectifier will improve this situation dramatically. BGE rectifiers are standard equipment on motors size DV 112 - DV225, but optional on the smaller sizes DT71-DT100. Contact SEW-Eurodrive for more information.

BM(G) Brake Cross Section and Exploded Views

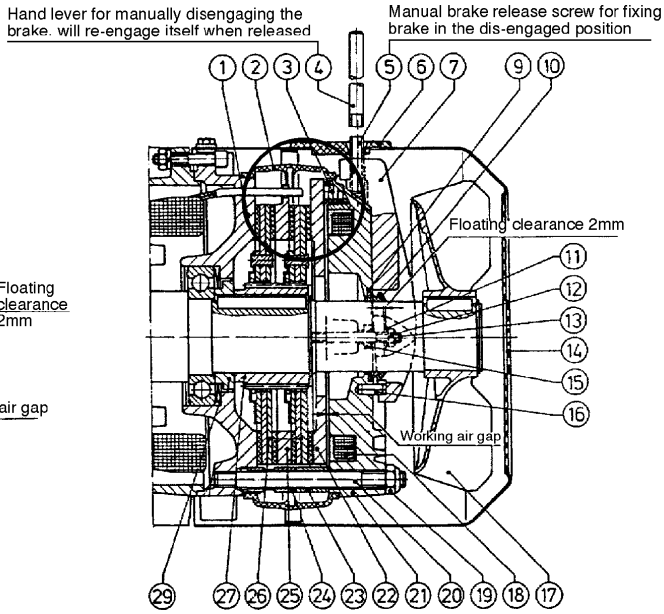
BM(G) 05 - BM 15

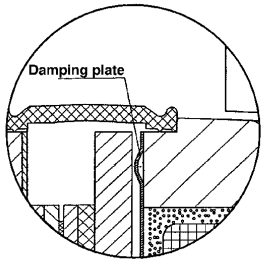


BM 30/31



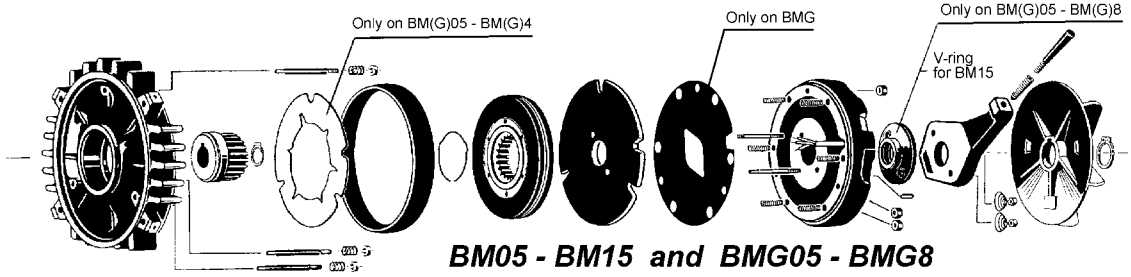
BM 32/62





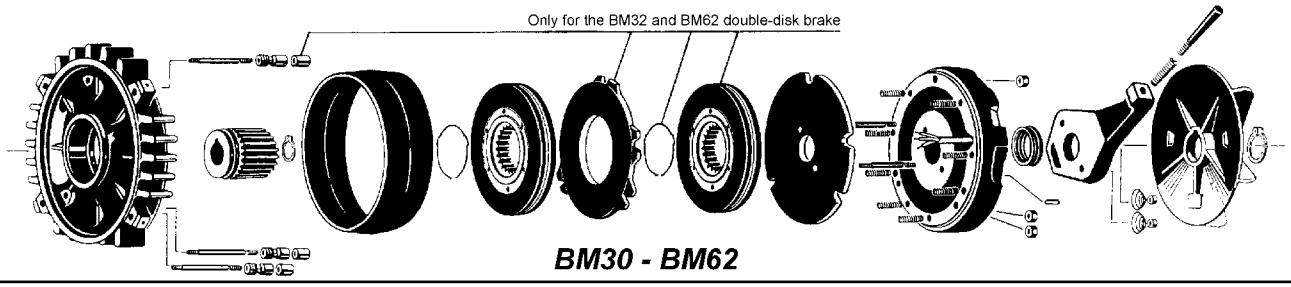
(1) Brake end shield
(2) Rubber sealing collar
(3) Braking springs
(4) Hand release lever
(5) Releasing screw
(6) Closing plate
(7) Release arm
(9) Sealing ring
(10) V-ring
(11) Conical spring
(12) Release
(13) Stud
(14) Fanguard
(15) Grommet
(16) Dowel pin
(17) Fan
(18) N/A
(19) Brake adjustment nut
(20) Retaining stud
(21) Brake coil body
(22) Stationary disc
(23) Pressure ring
(24) Setting sleeve
(25) Dual brake pad stationary disc
(26) Brake disc complete
(27) Carrier
(29) Cup Spring

Exploded view of the BM and BMG single-disk brake (motor sizes 71-160M)



BM05 - BM15 and BMG05 - BMG8

Exploded view of the BM single-disk and double-disk brake (motor sizes 160L-225)



BM30 - BM62

Troubleshooting Chart

SEW MOTOR/BRAKE

PROBLEM	CAUSE	REMEDY
Motor Overheats (Check temperature with instrumentation)	Motor not connected for proper supply voltage	Check connection diagram on conduit box cover and correct the wiring.
	Supply voltage varies outside the allowable tolerance causing an undervoltage or overvoltage condition.	Assure correct supply voltage.
	Insufficient cooling air volume due to: a. Low frequency operation on variable frequency drive. b. Obstructed air flow.	Increase air flow: a. Continuous running auxiliary fan. b. Ensure unobstructed air flow.
	Ambient temperature is too high.	Ensure cool air gets to the motor. Ducting may be required.
	Overload at rated voltage. Unit will draw current in excess of nameplate rating and run below rated speed.	Select a larger unit.
	Motor's allowable duty cycle is exceeded (too many starts per hour required).	The problem may or may not be solved with a larger motor. Contact SEW-Eurodrive.
	Single phasing due to break or loose connection in supply line or blown fuse.	Repair supply lines. Replace fuses.
Motor does not run.	Blown fuse.	Determine and correct cause of failure and replace fuse.
	Motor protection device activated.	Reset protective device. Identify and correct cause for device activation.
	Motor protection device faulty or will not reset.	Check protection device for faults.
Motor will not start or starts sluggishly.	Motor not connnected for proper voltage.	Check connection diagram in conduit box cover and correct the wiring.
	Large voltage and/or frequency fluctuation at starting.	Ensure stable power supply.
For reduced voltage starting, motor will not start in Star Connection but will start in Delta connection.	Insufficient torque in Star Connection.	Start motor directly in Delta Connection if possible. Otherwise use a larger motor.
	Faulty contact in Star/Delta starter.	Correct fault condition.
Motor hums and draws high current.	Faulty or defective winding.	Have motor repaired by qualified service shop.
	Rotor dragging.	
Fuses blow or motor overcurrent protection trips immediately.	Short circuit in power supply conductors or in the motor.	Correct the fault condition.
	Motor has ground fault or winding to winding short circuit.	Have motor repaired by qualified service shop.
	Motor improperly connected.	Check connection diagram in conduit box cover and correct the wiring.
Motor runs in wrong direction.	Motor supply leads misconnected.	Switch two supply leads.

Note: If, after proceeding through the Troubleshooting Chart, the motor is found to be defective, contact your nearest SEW-Eurodrive Assembly Center for warranty assistance or replacement parts.

Procedure

For safety and convenience: POST COPIES OF OPERATING INSTRUCTIONS AT EACH LEVEL OF OPERATION.

READ AND UNDERSTAND ALL WARNING AND CAUTION INFORMATION.

If at any time you have questions concerning operation or performance of Wildeck Lift Products, DO NOT OPERATE THE LIFT PRODUCT. Notify your supervisor and/or qualified maintenance personnel.

DO NOT HESITATE TO CALL WILDECK, INC., WAUKESHA, WI DIRECTLY — 262-549-4000 — WHENEVER QUESTIONS PERSIST OR CANNOT BE ANSWERED ON SITE.

Operating Instructions

WARNING: *Do not ride on this equipment. Riding may result in death or serious injury.*

WARNING: *Do not operate this lift if gate interlocks are damaged or not functioning properly.*

CAUTION: *Do not exceed rated load capacity for the lift. Exceeding rated capacity can result in a dangerous operating condition.*

ALWAYS: *Maintain optimum weight distribution balance when lifting and lowering loads.*

NOTE: *Carriage will NOT raise or lower when safety gates are open.*

NOTE: *Contact your supervisor if the carriage stops during travel or will not raise or lower when the gates are closed.*

Up Operation

Be sure all gates are closed. Press and release UP button to raise carriage. Carriage will stop at next upper level.

Down Operation

Be sure all gates are closed. Press and release DOWN button to lower carriage. Carriage will stop at next lower level.

Multi-Level Operation

Multi-level lifts have numbered buttons for each operating level. Press the button that matches the level you wish for the next carriage stop and the carriage will proceed to that destination. Press the numbered button that corresponds with your location level and the carriage will return to you.

Emergency Stop Operation

Press the EMERGENCY STOP button to stop the carriage between levels.

NOTE: *The EMERGENCY STOP button will keep the lift inoperative until it is pulled back to its original position.*

Trouble-Shooting Procedures

A systematic trouble-shooting procedure will help reduce downtime should a problem occur.

A complete understanding of the How It Works section will help you make efficient trouble-shooting progress.

WARNING: ***HIGH VOLTAGE! BE CAREFUL.***

ONLY QUALIFIED CONTROLS ELECTRICIANS ARE TO INSPECT AND REPAIR WILDECK LIFT PRODUCTS' ELECTRICAL CIRCUITS.

ALL INSTRUCTIONS THAT APPLY TO ELECTRICAL PROCEDURES APPLY TO QUALIFIED ELECTRICIANS ONLY.

Trouble-Shooting Procedures

1. Activated controls do not start lift motor.

	SITUATION	RESPONSE
A.	Safety gates open:	Close gate(s).
B.	Main electrical disconnect off:	Consult maintenance staff before turning on.
C.	Thermal overload tripped:	Press reset button. Determine cause if it trips again. Motor is overheating.
D.	Blown control fuse:	Determine cause. Replace fuse.
E.	Power circuit between disconnect and starter is dead:	WARNING: Dangerous high voltage potential exists. Use extreme care when testing. Check voltage with voltmeter. Repair as needed.

2. Motor starts, carriage raises, but both stop before second level is reached.

	SITUATION	RESPONSE
A.	Safety gate(s) open:	Close gate(s).
B.	Object encountered:	Remove; repair as required.
C.	Thermal overload tripped:	Motor binding. Repair or replace as required.
D.	Chain interference or chain off sprocket:	Determine cause. Repair if cable is off sprocket. Correct interference.

Trouble-Shooting Procedures, continued

3. Rough or noisy operation.

	SITUATION	RESPONSE
A.	Travel interference:	Remove obstructions or correct problem. Make repairs if required.
B.	Drive component interference:	Remove obstructions or correct problem. Make repairs if required.
C.	Worn wheel guide rollers:	Inspect, lubricate, and replace as needed. Determine cause and correct.
D.	Slide shoe rubbing against main beams:	Determine cause and correct.
E.	Carriage is not level:	Determine cause and correct.
F.	Interference between chain and beams:	Determine cause and correct.
G.	Inadequate lubrication:	Lubricate chain bearings and rollers properly.

4. Carriage does not stop even with floor.

	SITUATION	RESPONSE
A.	Misaligned floor level limit switch:	Re-adjust floor level switch.

5. Motor runs but lift does not operate.

	SITUATION	RESPONSE
A.	Mechanical failure:	Examine all drive and lift components for breakage.

Safety Checklist

The Wildeck Vertical Reciprocating Conveyor (VRC) has been built to include all required safety equipment in accordance with the AMSE B20.1 safety standard. To insure proper worker safety, it is the owner's responsibility to make sure that the safety of the equipment is checked, and maintained in proper working condition.

DAILY INSPECTION

The following safety checks should be made on an ongoing daily basis:

1. Visually check for any damage to the VRC or its safety enclosure

2. Operate the VRC and check that all emergency stop buttons will stop the unit when pressed. Also check that when the buttons are pulled back to the run position that the unit does not automatically restart.

3. For each safety gate, check that the gate cannot be opened after the VRC carriage leaves that floor. Also check that the VRC will not operate with the gate open.

If a problem is found, the VRC is to be taken out of service until proper repairs are made.

PERIODIC MAINTENANCE & INSPECTION

The mechanical components of the VRC must have periodic maintenance and be kept in good condition to prevent potential safety problems.

Follow the "Maintenance Schedule & Location Diagram" provided in the VRC manual. Periodic maintenance will include the following:

1. Lubrication of all components.

2. Inspection of all components for wear and damage.

3. Replacement of any damaged or badly worn parts.

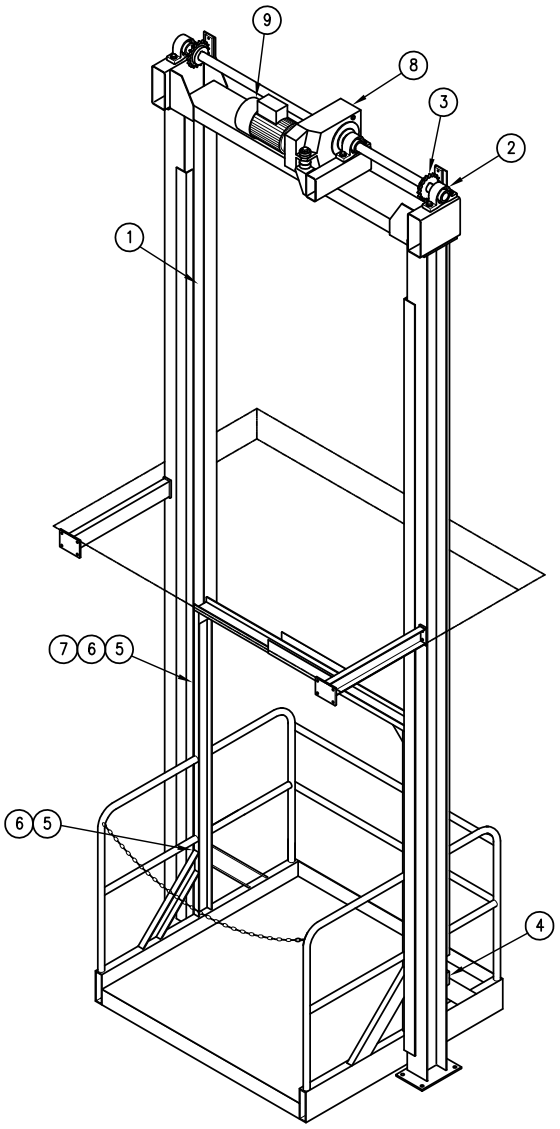
4. Adjustment (as needed) of drive components and safety gate interlocks.

5. For chain driven VRCs, verify proper operation of each chain-tension limit switch. Temporarily secure each switch in the tripped position, and verify that the VRC is inoperable. (If equipped with a diagnostic display screen, verify that it reads "chain fault".)

BROKEN CABLE/CHAIN SAFETY INSPECTION

When the VRC is equipped with safety cams which will lock the carriage in place in the event of a broken lifting cable or chain, this equipment is typically tested on an annual basis. In some areas, this test must be witnessed by the local safety authority.

Follow the Wildeck test procedure for your specific model VRC.



	LUBRICATE	INSPECT	ADJUST	NUMBER OF CYCLES/DAYS[1]	MAINTENANCE SCHEDULE	
					ITEM	DUTY
1	▨	▨		3000/90	LIFT CHAINS	INSPECT FOR WEAR/DAMAGE COAT WITH OIL.[3]
2	▨	▨		3000/90	PILLOW BLOCK BEARINGS	GREASE THROUGH FITTINGS.[2] INSPECT FOR WEAR.
3		▨		3000/90	SPROCKETS	INSPECT FOR WEAR/DAMAGE
4		▨	▨	2000/60	CHAIN TENSIONERS	INSPECT FOR PROPER OPERATION, ADJUST IF CHAIN TENSION DOES NOT TRIP SWITCH.[5]
5	▨	▨		2000/60	WHEELBLOCK WHEELS	GREASE THROUGH FITTINGS.[2] INSPECT FOR WEAR.
6		▨		2000/60	GUIDE ROLLERS	INSPECT FOR WEAR AND ROTATION INTERFERENCE.
7		▨		2000/60	SAFETY CAMS	INSPECT FOR WEAR OR DAMAGE.
8	▨	▨		10000/720	GEAR BOX	DRAIN AND REFILL OIL.[4]
9		▨	▨	3000/90	BRAKE MOTOR	INSPECT FOR .012–.024 INCH AIR GAP BETWEEN STATIONARY DISC AND COIL.

1.) Observe cycle or days schedule based on whichever comes first.

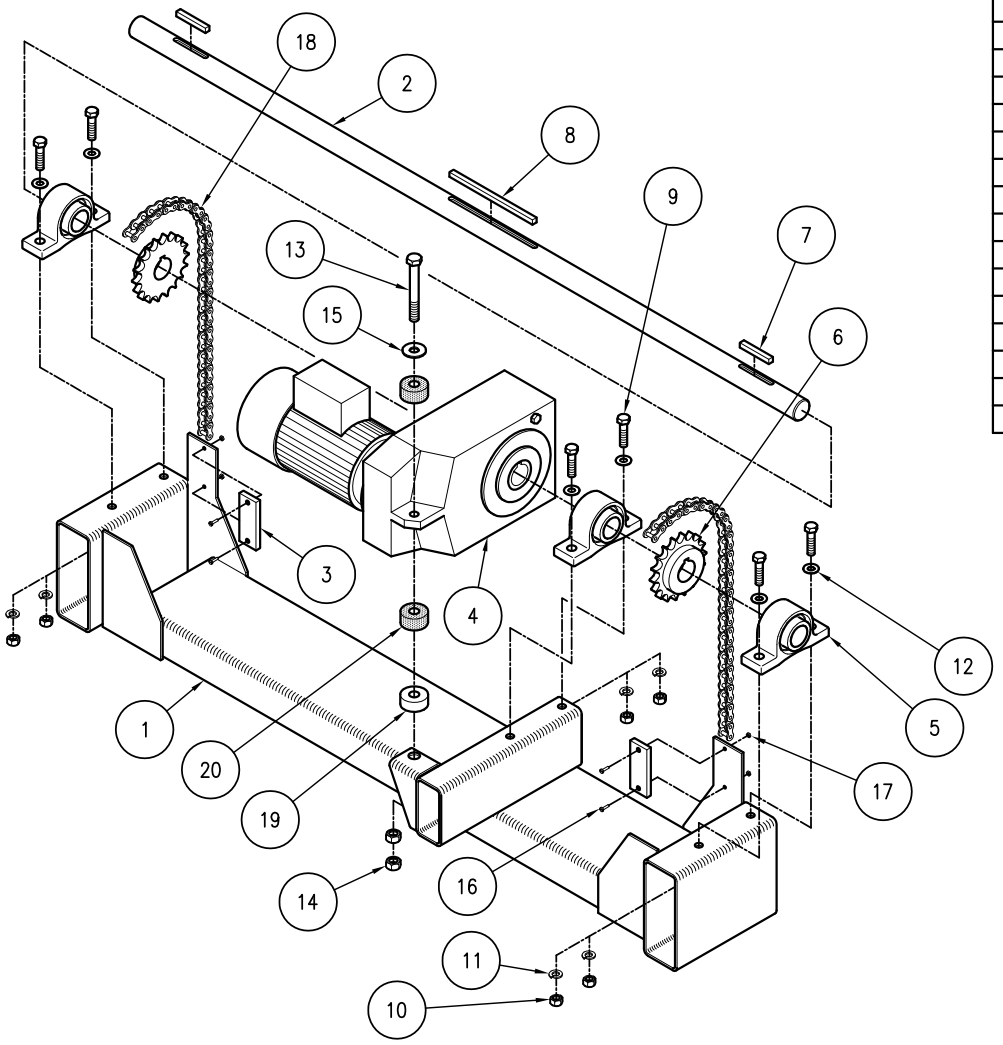
2.) Use Lithium axle grease.

3.) Use non–detergent, petroleum base SAE 10 to 50 as specified in Maintenance Manual.

4.) Choose oil to match site temperature as specified in Maintenance Manual.

5.) Chain will stretch during initial VRC use; chain tensioner adjustment will be required.

WILDECK™	MAINTENANCE SCHEDULE & LOCATION DIAGRAM FOR MECHANICAL LIFT	DATE: 11–1–91 DRN BY RSC	1708	REV 3



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	DRIVE BASE WELDMENT		
2	1	DRIVE SHAFT		
3	2	CHAIN JUMP GUIDE		
4	1	EURODRIVE GEARMOTOR		
5	3	PILLOW BLOCK		
6	2	SPROCKET		
7	2	KEY		
8	1	KEY		
9	6	HHCS, 5/8–11 x 2 1/2" LG. GRADE 5		
10	6	HEX NUT, 5/8–11		
11	6	LOCK WASHER, 5/8"		
12	6	FLAT WASHER, 5/8"		
13	1	HHCS, 3/4–10 x 6" LG.		
14	2	HEX NUT, 3/4–10		
15	6	TYPE "A" FLATWASHER, 3/4" WIDE SERIES		
16	4	PAN HEAD MACH. SCREW, #10–32 x 3/4" LG.		
17	4	HEX NUT, #10–32		
18	2	CHAIN ASSEMBLY	1321	
19	1	MOTOR MOUNT SPACER	1401	
20	2	RUBBER BUSHING (SUPPLIED BY MOTOR MANUF.)		

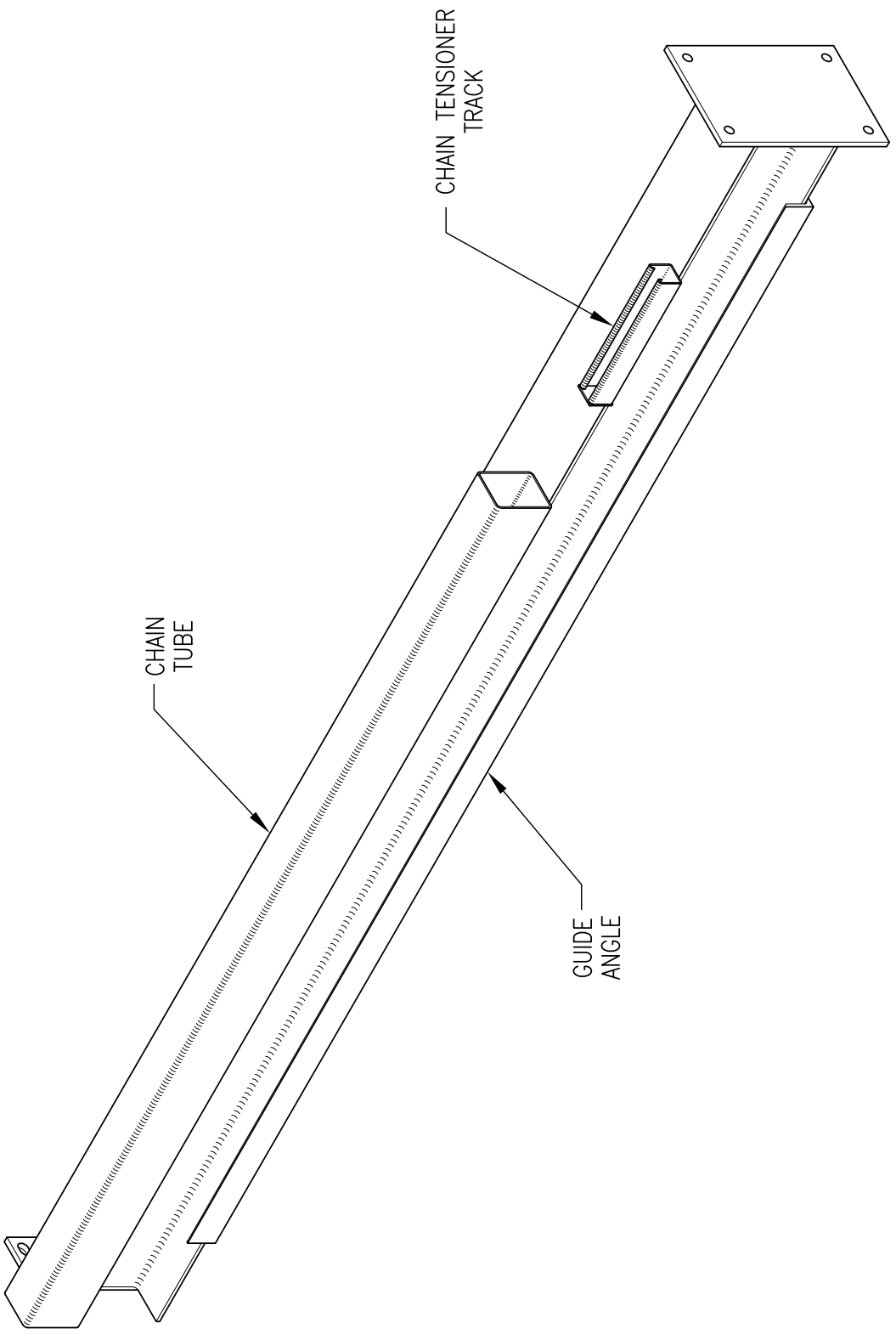
WIL-DECK™

MECHANICAL STRADDLE LIFT
DRIVE BASE ASSEMBLY

DATE: 3–31–92
DRN BY DFK

1319

REV



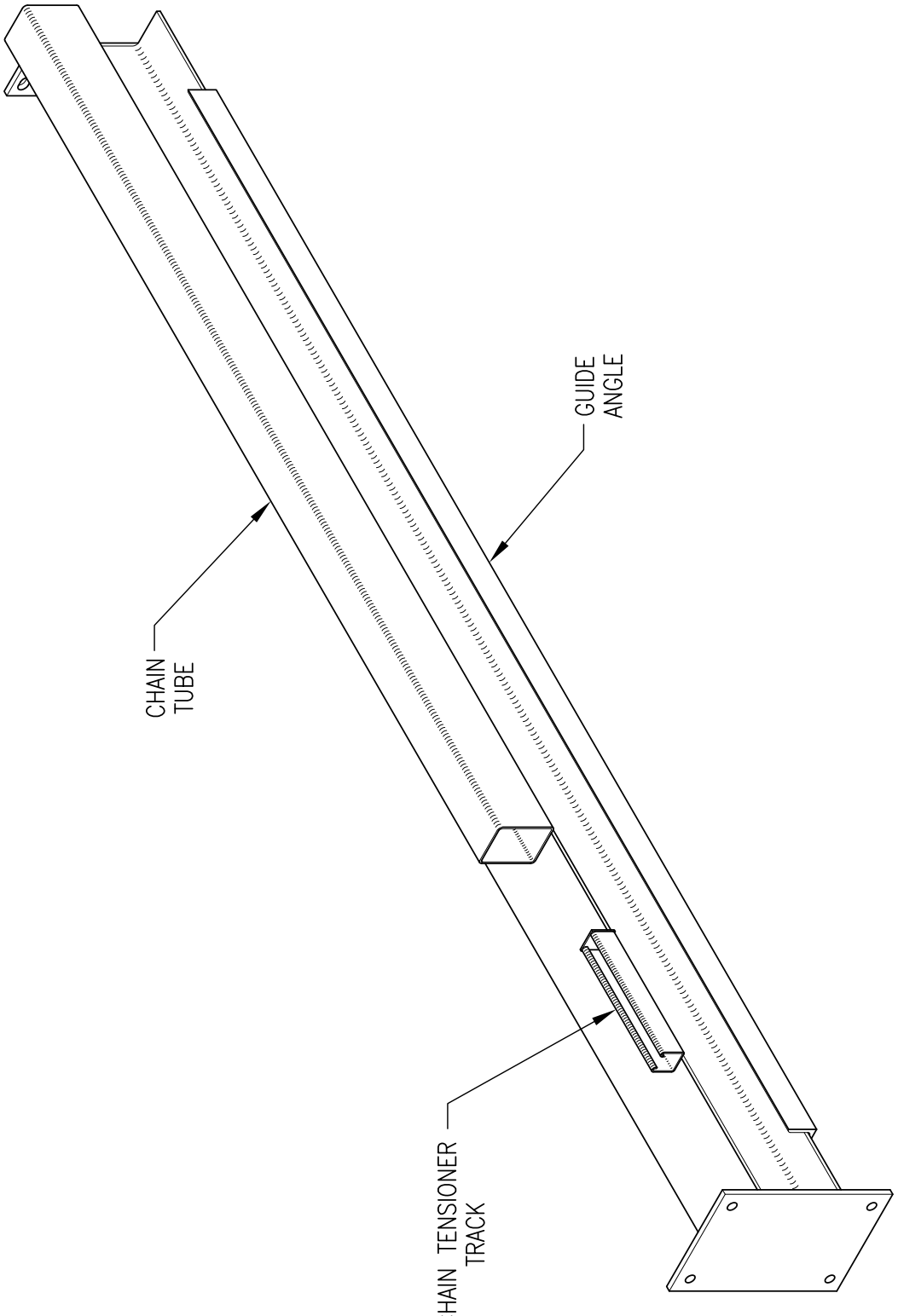
WILDECK™

LEFT HAND MAST FOR MECHANICAL STRADDLE LIFT

DATE: 3–26–92
DRN BY DFK

1290

REV



WILDECK™

RIGHT HAND MAST FOR MECHANICAL STRADDLE LIFT

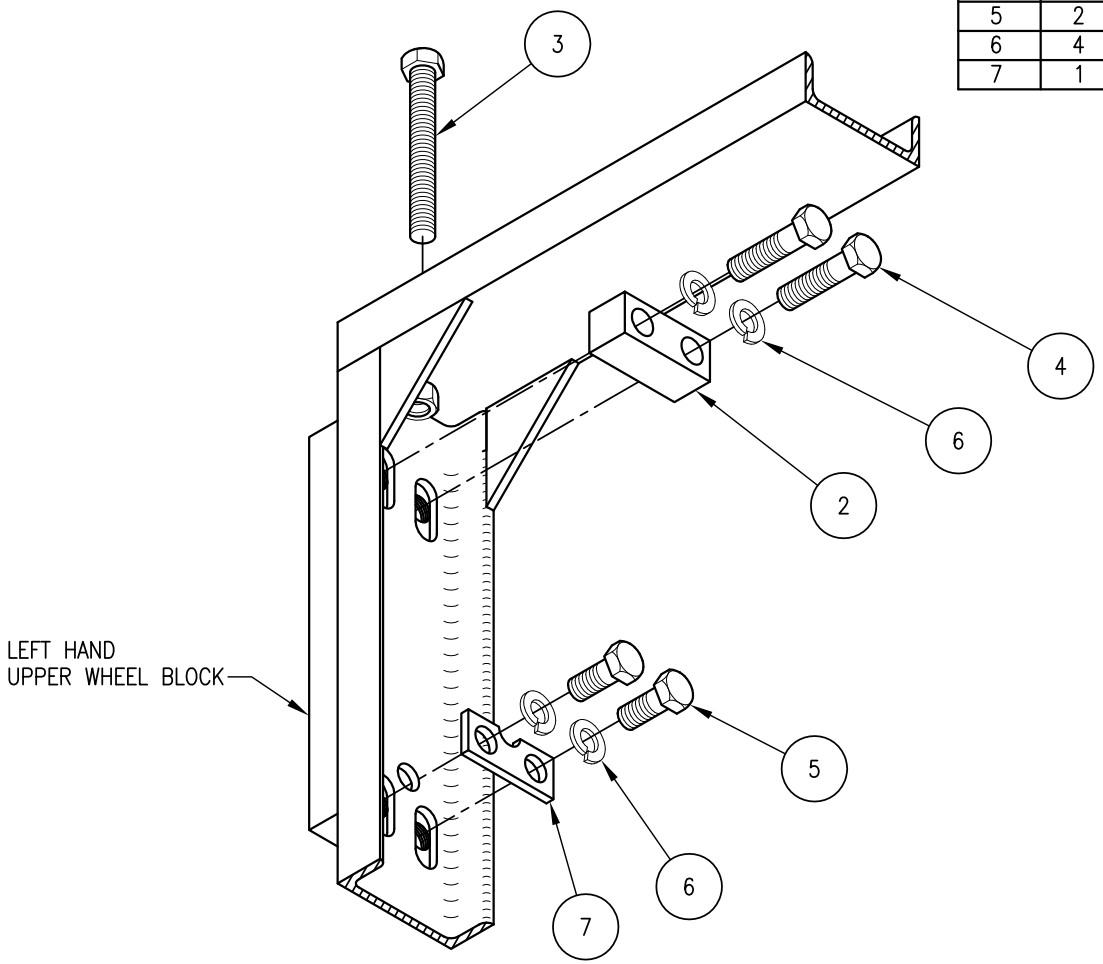
DATE: 3-26-92
DRN BY DFK

1291

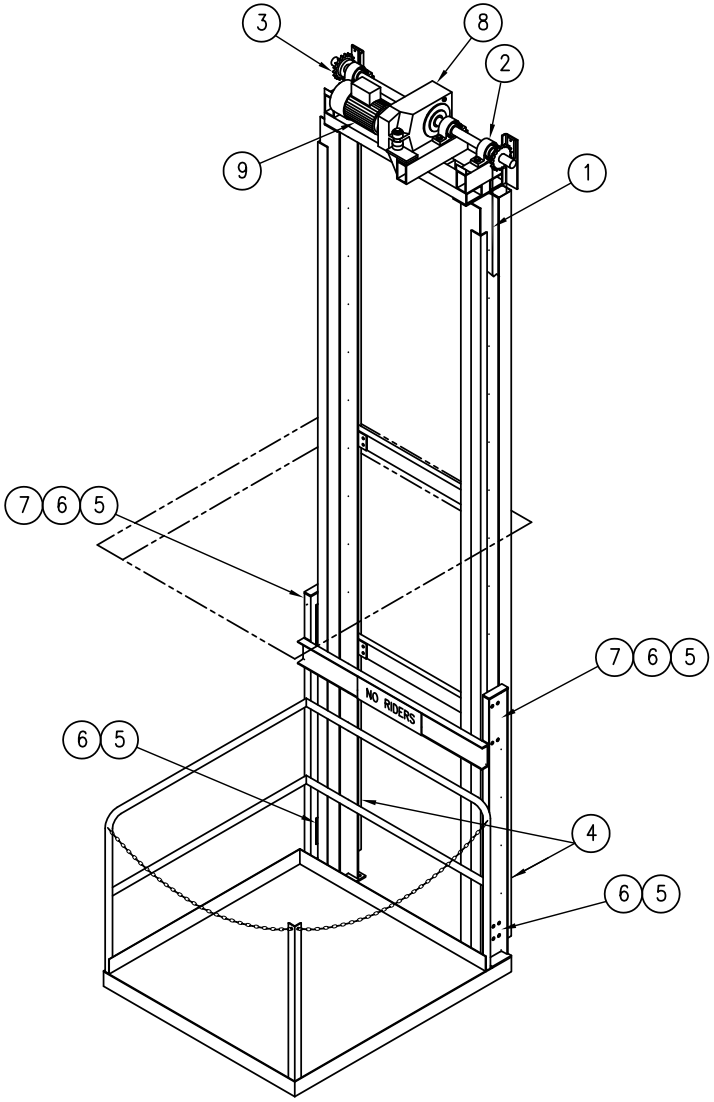
REV

BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1				
2	1	LOWER LEVELING BLOCK	1310	
3	1	HHCS, 5/8-11 x 5" LG (FULLY THREADED)		
4	2	HHCS, 5/8-11 x 2 1/2" LG		
5	2	HHCS, 5/8-11 x 1 1/4" LG		
6	4	LOCK WASHER, 5/8"		
7	1	WHEEL BLOCK BACKING PLATE	2203	



WILDECK™	LEVELING BLOCK ASSEMBLY FOR MECHANICAL STRADDLE LIFT	DATE: 4-6-92 DRN BY DFK	1325	REV 3



	LUBRICATE	INSPECT	ADJUST	NUMBER OF [1] CYCLES/DAYS	MAINTENANCE SCHEDULE	
					ITEM	DUTY
1	▨	▨		3000/90	LIFT CHAINS	INSPECT FOR WEAR/DAMAGE COAT WITH OIL.[3]
2	▨	▨		3000/90	PILLOW BLOCK BEARINGS	GREASE THROUGH FITTINGS.[2] INSPECT FOR WEAR.
3		▨		3000/90	SPROCKETS	INSPECT FOR WEAR/DAMAGE
4		▨	▨	2000/60	CHAIN TENSIONERS	INSPECT FOR PROPER OPERATION, ADJUST IF CHAIN TENSION DOES NOT TRIP SWITCH.[5]
5	▨	▨		2000/60	WHEELBLOCK WHEELS	GREASE THROUGH FITTINGS.[2] INSPECT FOR WEAR.
6		▨		2000/60	GUIDE ROLLERS	INSPECT FOR WEAR AND ROTATION INTERFERENCE.
7		▨		2000/60	SAFETY CAMS	INSPECT FOR WEAR OR DAMAGE.
8	▨	▨		10000/720	GEAR BOX	DRAIN AND REFILL OIL.[4]
9		▨	▨	3000/90	BRAKE MOTOR	INSPECT FOR .012–.024 INCH AIR GAP BETWEEN STATIONARY DISC AND COIL.

1.) Observe cycle or days schedule based on whichever comes first.

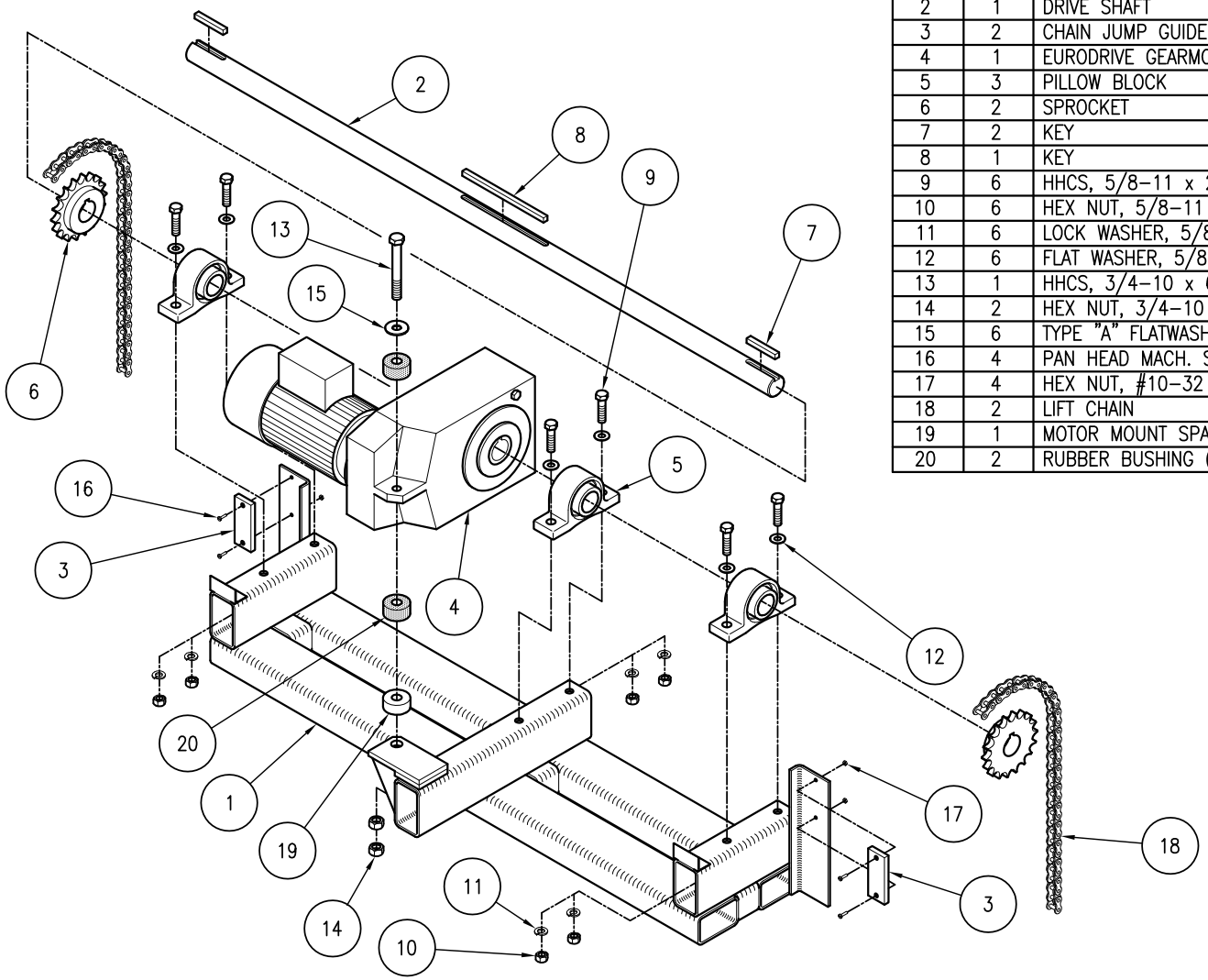
2.) Use Lithium axle grease.

3.) Use non–detergent, petroleum base SAE 10 to 50 as specified in Maintenance Manual.

4.) Choose oil to match site temperature as specified in Maintenance Manual.

5.) Chain will stretch during initial VRC use; chain tensioner adjustment will be required.

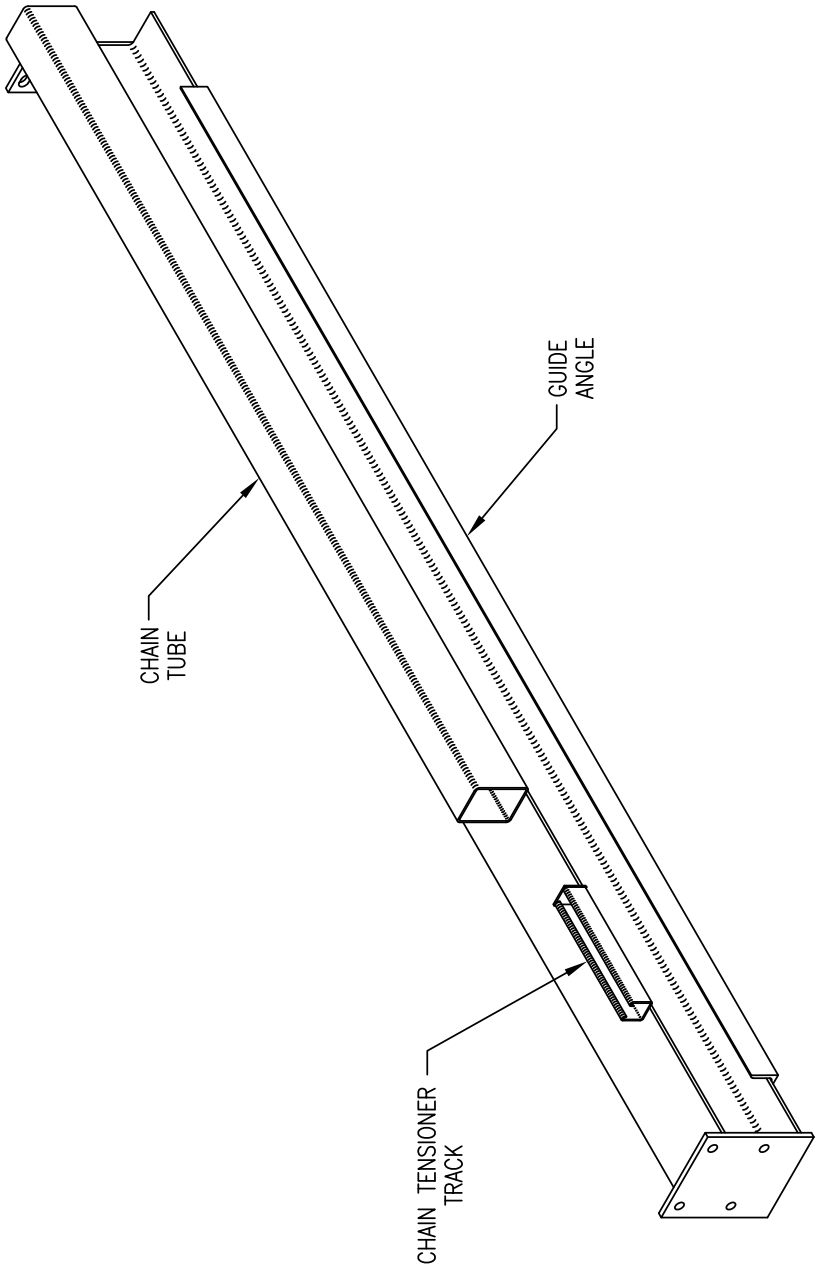
WILDECK™	MAINTENANCE SCHEDULE & LOCATION DIAGRAM FOR MECHANICAL CANTILEVER	DATE: 11–1–91 DRN BY RSC	1722	REV 2



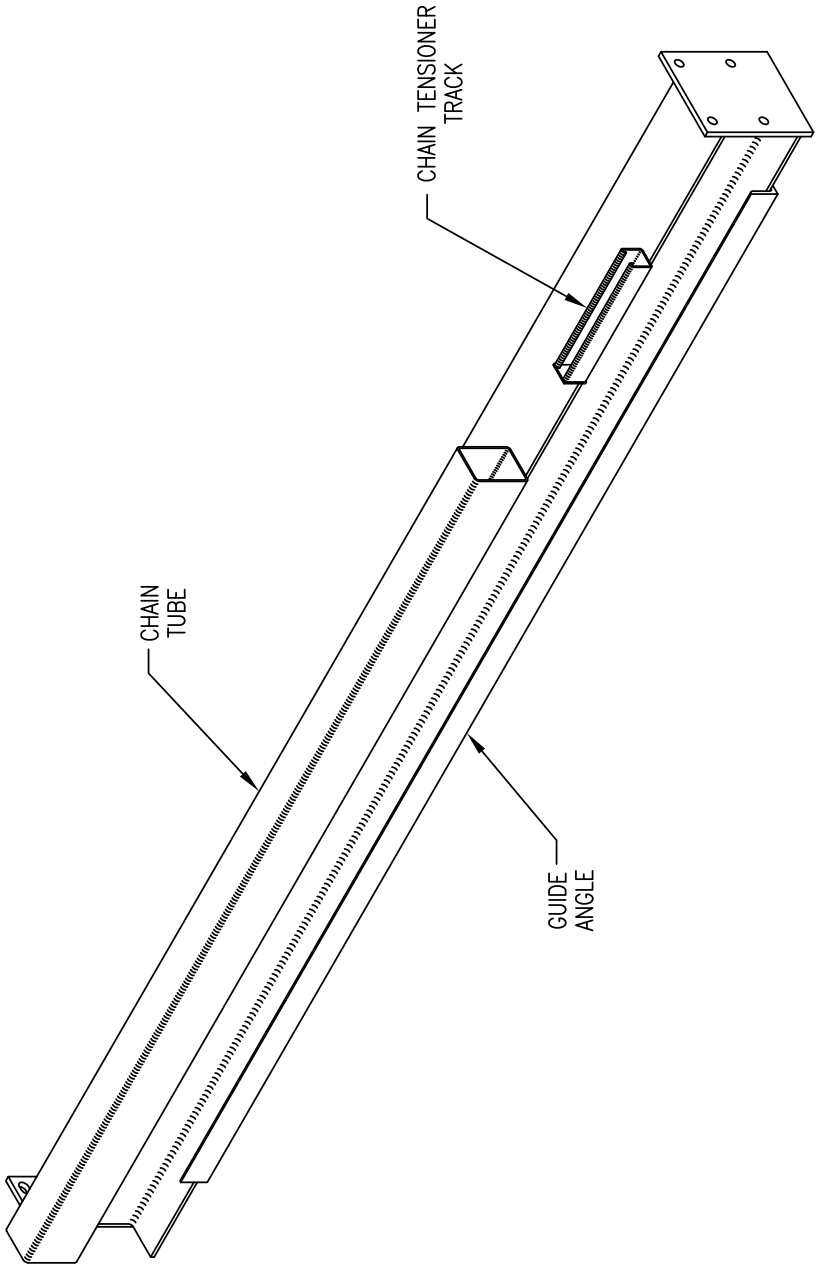
BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	DRIVE BASE WELDMENT		
2	1	DRIVE SHAFT		
3	2	CHAIN JUMP GUIDE		
4	1	EURODRIVE GEARMOTOR		
5	3	PILLOW BLOCK		
6	2	SPROCKET		
7	2	KEY		
8	1	KEY		
9	6	HHCS, 5/8-11 x 2 1/2" LG. GRADE 5		
10	6	HEX NUT, 5/8-11		
11	6	LOCK WASHER, 5/8"		
12	6	FLAT WASHER, 5/8"		
13	1	HHCS, 3/4-10 x 6" LG.		
14	2	HEX NUT, 3/4-10		
15	6	TYPE "A" FLATWASHER, 3/4" WIDE SERIES		
16	4	PAN HEAD MACH. SCREW, #10-32 x 3/4" LG.		
17	4	HEX NUT, #10-32		
18	2	LIFT CHAIN		
19	1	MOTOR MOUNT SPACER	1401	
20	2	RUBBER BUSHING (SUPPLIED BY MOTOR MANUF.)		

WILDECK™	MECHANICAL CANTILEVER LIFT DRIVE BASE ASSEMBLY	DATE: 5-6-92 DRN BY DFK	1390	REV 1



REV		
1338		
DATE: 3-26-92 DRN BY: DFK		
RIGHT HAND BEAM FOR MECHANICAL CANTILEVER LIFT		
WILDECK™		



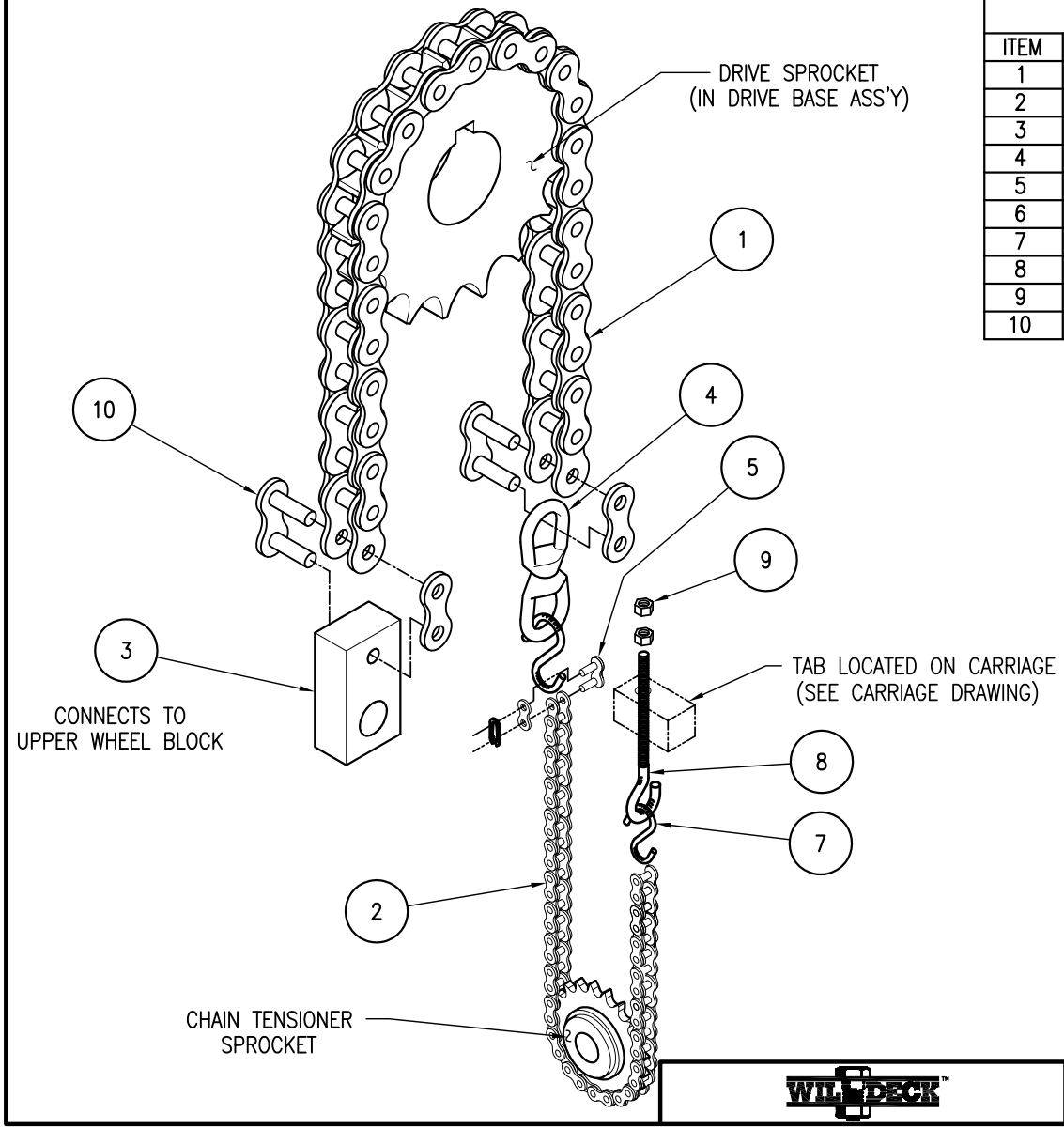
WILDECK™

LEFT HAND BEAM FOR MECHANICAL CANTILEVER LIFT

DATE: 3-26-92
DRN BY: DFK

1337

REV



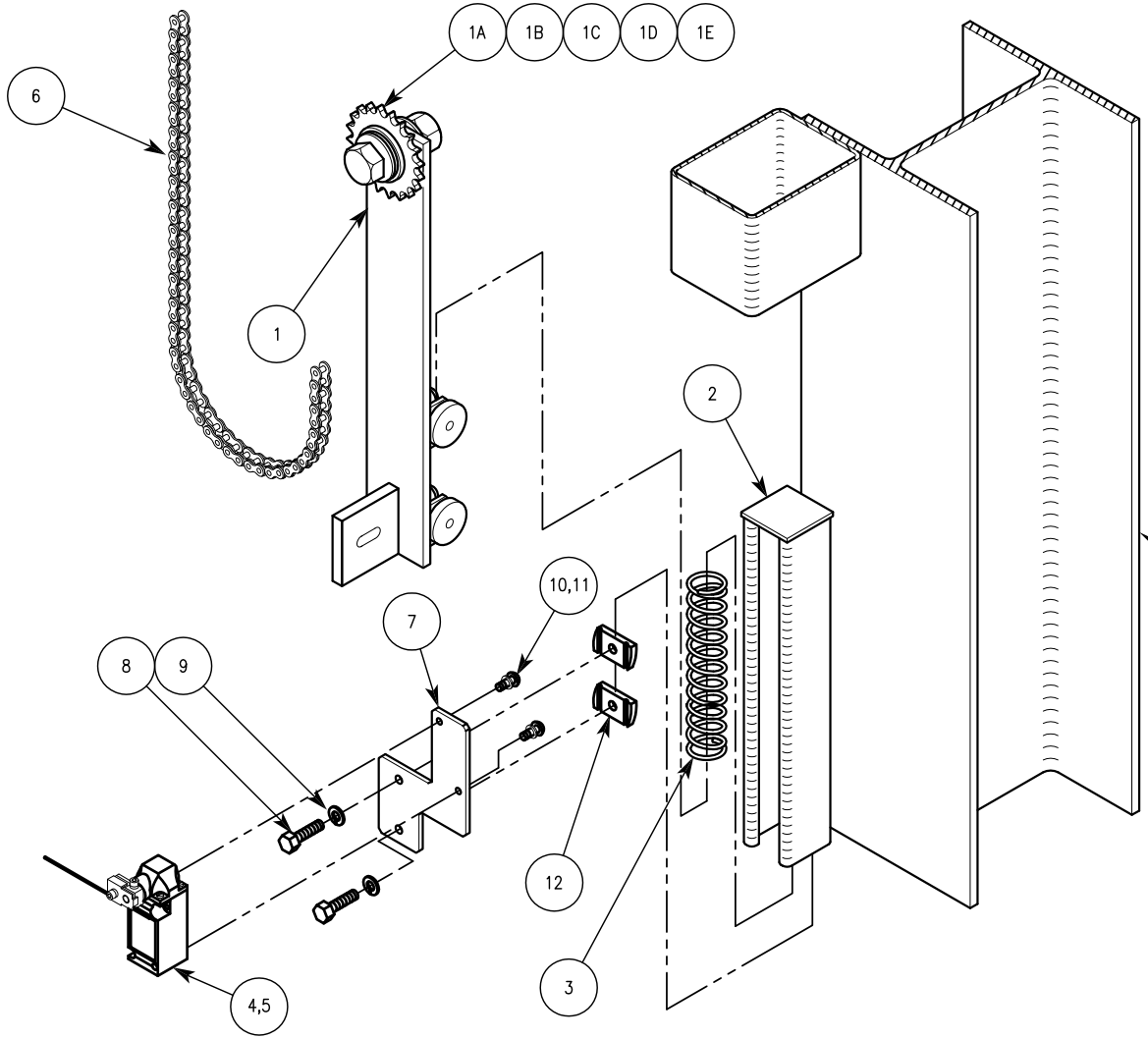
BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	DRIVE CHAIN (SIZE VARIES)		
2	1	#35 CHAIN		
3	1	CONNECTION BLOCK FOR DRIVE CHAIN	VARIES	
4	1	1/4" CHAIN SWIVEL	1488	
5	1	MASTERLINK, #35 TENSION CHAIN	2244	
6	1	S-HOOK, 1 3/4" LG.	HW0515	
7	1	S-HOOK, 1 3/8" LONG	HW0515	
8	1	EYEBOLT, 1/4"-20 X 4" LG.	HW0485	
9	2	HEX NUT, 1/4"-20		
10	2	MASTER LINK FOR DRIVE CHAIN	VARIES	

NOTE:
2 CHAINS REQ'D.
FOR CANTILEVER AND
STRADDLE LIFTS

4 CHAINS REQ'D.
FOR 4-POST LIFT

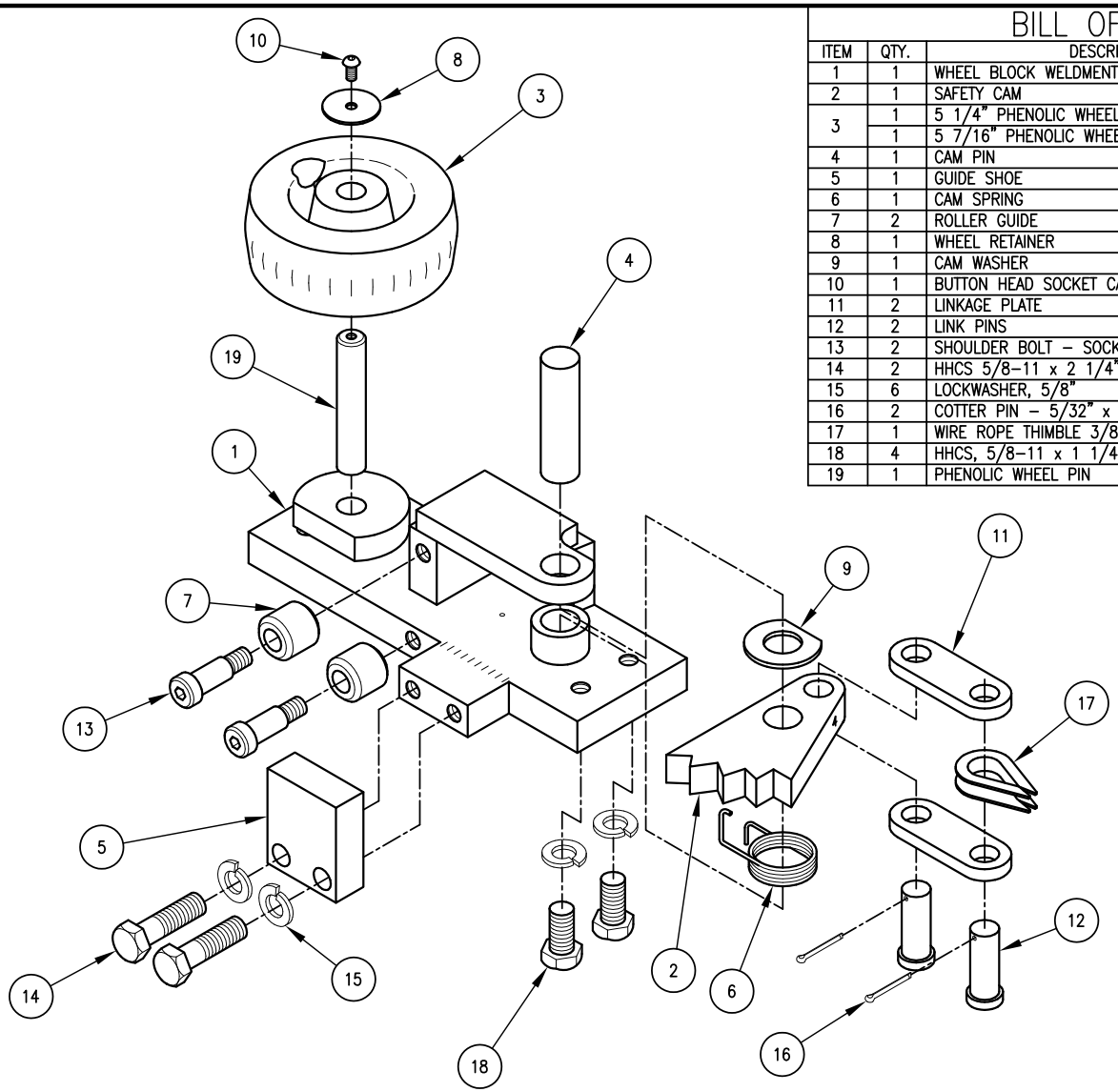
WILDECK™	CHAIN ASSEMBLY	DATE: 5-11-92 DRN BY: DFK	1321	REV 1



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	CHAIN TENSIONER SUB ASSEMBLY	1621-A	
1A	1	BALL BEARING IDLER SPROCKET B3520H	1303-A	
1B	1	HHCS, 5/8-11 x 1 3/4" LG.		
1C	1	HEX NUT, 5/8-11		
1D	3	FLAT WASHER, 5/8"		
1E	1	LOCK WASHER, 5/8"		
2	1	CHAIN TENSIONER BASE WELDMENT	1294	
3	1	SPRING	1302-A	
4	1	LIMIT SWITCH, WITH ROD ARM	3508	
5	1	CORD, 17-3 (NOT SHOWN)	3579	
6	1	CHAIN ASSEMBLY (#35 END)	1321-B	
7	1	CHAIN TENSIONER BRACKET	3505	
8	2	1/4"-20 x 3/4" BOLT		
9	2	LOCK WASHER, 1/4"		
10	2	SCREW, PAN, MACHINE, M5 X 16, .8 PITCH, ZINC PLATED		
11	2	WASHER, SPRING LOCK, M5, ZINC PLATED		
12	2	UNISTRUT NUT		

WILDECK™	CHAIN TENSIONER ASSEMBLY	DATE: 12-28-93 DRN BY: RWM	1295	REV 2



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	WHEEL BLOCK WELDMENT (LEFT HAND)	1068	
2	1	SAFETY CAM	1014	
3	1	5 1/4" PHENOLIC WHEEL	1036	
	1	5 7/16" PHENOLIC WHEEL	3336	
4	1	CAM PIN	1028	
5	1	GUIDE SHOE	1022	
6	1	CAM SPRING	1029	
7	2	ROLLER GUIDE	1017	
8	1	WHEEL RETAINER	1030	
9	1	CAM WASHER	1031	
10	1	BUTTON HEAD SOCKET CAP SCR 1/4-20 x 1/2"	2583	
11	2	LINKAGE PLATE	1032	
12	2	LINK PINS	1033	
13	2	SHOULDER BOLT - SOCKET HEAD 5/8"ø x 1 1/4"	2340	
14	2	HHCS 5/8-11 x 2 1/4", GRADE 8		
15	6	LOCKWASHER, 5/8"		
16	2	COTTER PIN - 5/32" x 1 1/4"		
17	1	WIRE ROPE THIMBLE 3/8"ø ROPE - GALV.	1034	
18	4	HHCS, 5/8-11 x 1 1/4"		
19	1	PHENOLIC WHEEL PIN	1058	

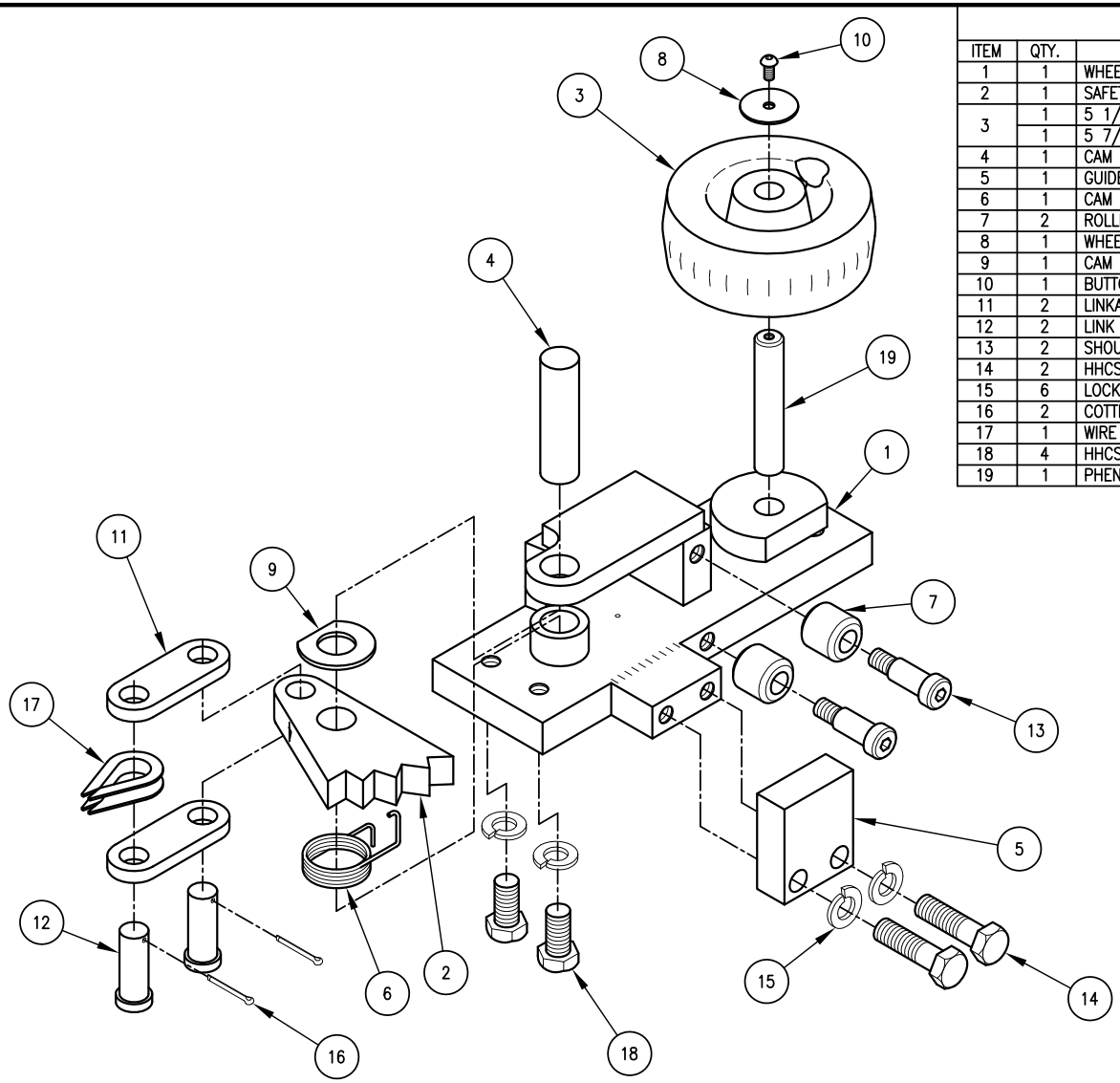
WILDECK™

UPPER WHEEL BLOCK/SAFETY ASSEMBLY
PHENOLIC WHEEL

DATE: 8-13-91
DRN BY: DFK

1069

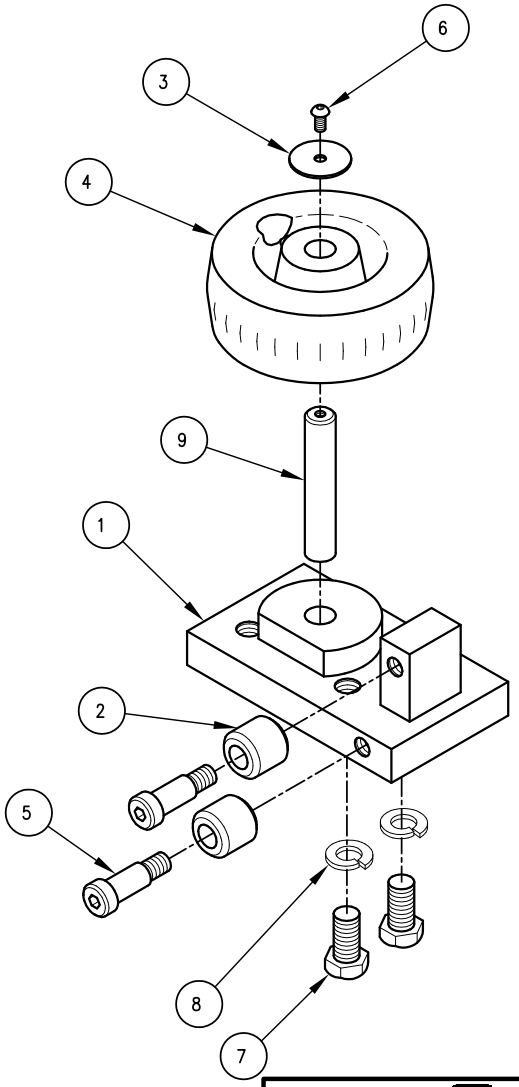
REV 1



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	WHEEL BLOCK WELDMENT (RIGHT HAND)	1026	
2	1	SAFETY CAM	1014	
3	1	5 1/4" PHENOLIC WHEEL	1036	
	1	5 7/16" PHENOLIC WHEEL	3336	
4	1	CAM PIN	1028	
5	1	GUIDE SHOE	1022	
6	1	CAM SPRING	1029	
7	2	ROLLER GUIDE	1017	
8	1	WHEEL RETAINER	1030	
9	1	CAM WASHER	1031	
10	1	BUTTON HEAD SOCKET CAP SCR 1/4-20 x 1/2"	2583	
11	2	LINKAGE PLATE	1032	
12	2	LINK PINS	1033	
13	2	SHOULDER BOLT - SOC. HEAD 5/8"ø x 1 1/4"	2340	
14	2	HHCS 5/8-11 x 2 1/4", GRADE 8		
15	6	LOCKWASHER - STD 5/8		
16	2	COTTER PIN - 5/32" x 1 1/4"		
17	1	WIRE ROPE THIMBLE 3/8"ø ROPE - GALV.	1034	
18	4	HHCS, 5/8-11 x 1 1/4"		
19	1	PHENOLIC WHEEL PIN	1058	

WILDECK™	UPPER WHEEL BLOCK/SAFETY ASSEMBLY PHENOLIC WHEEL	DATE: 2-18-91 DRN BY: DFK	1027	REV 1



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	LOWER WHEEL BLOCK WELDMENT (L.H.)	1280	
2	2	ROLLER GUIDE	1017	
3	1	WHEEL RETAINER	1030	
4	1	5 1/4" PHENOLIC WHEEL	1036	
	1	5 7/16" PHENOLIC WHEEL	3336	
5	2	SOCKET HEAD SHOULDER BOLT 5/8ø x 1 1/4"	2340	
6	1	BUTTON HEAD SOCKET CAP SCR 1/4-20 x 1/2"	2583	
7	4	HHCS, 5/8-11 x 1 1/4", GRADE 8		
8	4	LOCK WASHER, 5/8"		
9	1	PHENOLIC WHEEL PIN	1058	

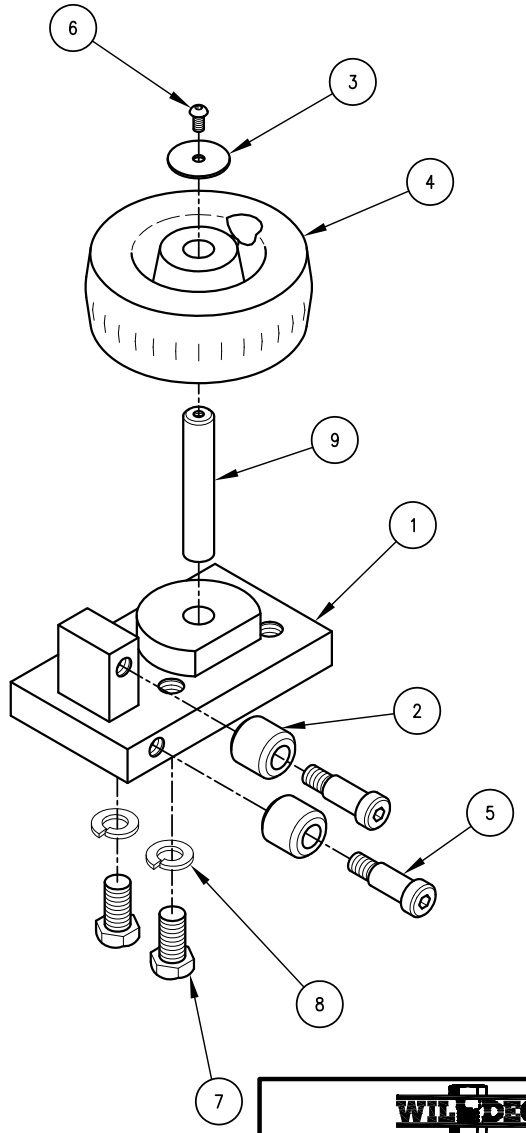
WILDECK™

L.H. LOWER WHEEL BLOCK ASSEMBLY
PHENOLIC WHEEL

DATE: 8-13-91
DRN BY: DFK

1071

REV 1



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	LOWER WHEEL BLOCK WELDMENT (R.H.)	1039	
2	2	ROLLER GUIDE	1017	
3	1	WHEEL RETAINER	1030	
4	1	5 1/4" PHENOLIC WHEEL	1036	
	1	5 7/16" PHENOLIC WHEEL	3336	
5	2	SOC HD SHOULDER BOLT 5/8ø x 1 1/4"	2340	
6	1	BUTTON HEAD SOCKET CAP SCR 1/4-20 x 1/2"	2583	
7	4	HHCS, 5/8-11 x 1 1/4", GRADE 8		
8	4	LOCK WASHER, 5/8"		
9	1	PHENOLIC WHEEL PIN	1058	

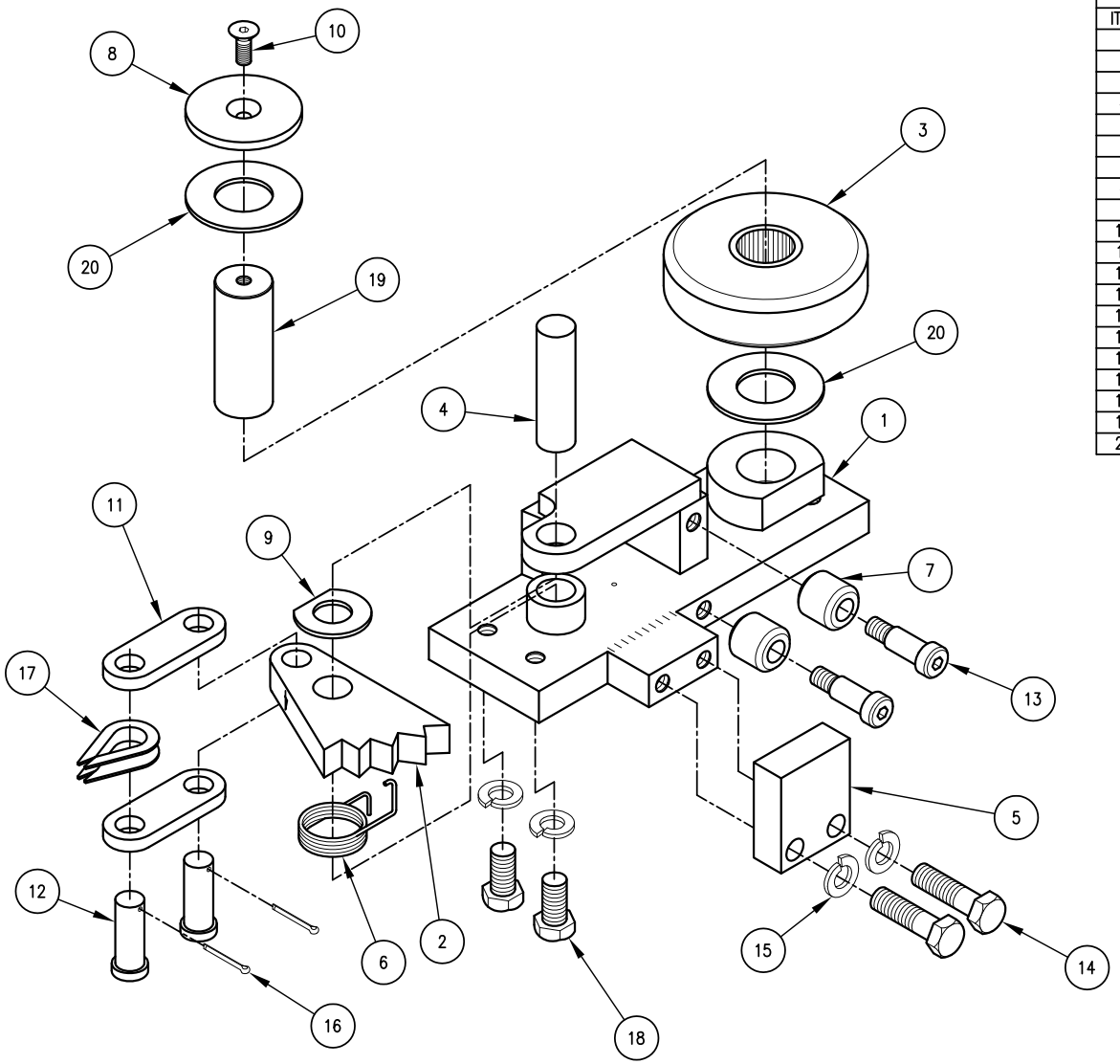
WILDECK™

R.H. LOWER WHEEL BLOCK ASSEMBLY
PHENOLIC WHEEL

DATE: 2-19-91
DRN BY: DFK

1041

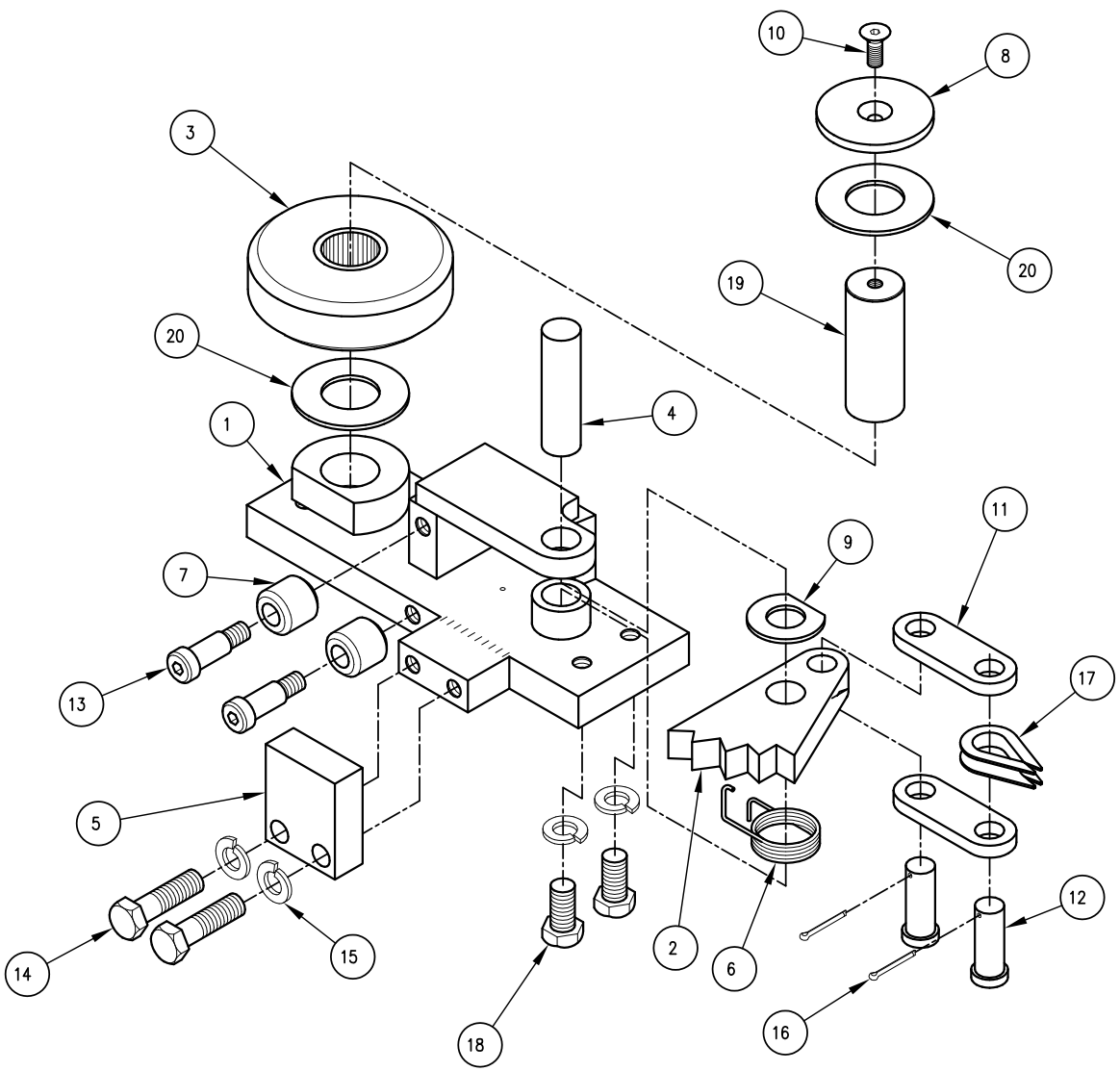
REV 1



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	WHEEL BLOCK WELDMENT (RIGHT HAND)	1245	
2	1	SAFETY CAM	1014	
3	1	5 1/4" STEEL WHEEL ASSEMBLY	1241	
4	1	CAM PIN	1028	
5	1	GUIDE SHOE	1022	
6	1	CAM SPRING	1029	
7	2	ROLLER GUIDE	1017	
8	1	STEEL WHEEL RETAINER	1244	
9	1	CAM WASHER	1031	
10	1	FHSHCS, 3/8-16 x 3/4" LG.	3084	
11	2	LINKAGE PLATE	1032	
12	2	LINK PINS	1033	
13	2	SHOULDER BOLT-SOC. HD. 5/8"ø x 1 1/4" LG.	2340	
14	2	HHCS 5/8-11 x 2 1/4" LG., GR. 8		
15	6	LOCKWASHER - STD 5/8		
16	2	COTTER PIN - 5/32" x 1 1/4" LG.		
17	1	WIRE ROPE THIMBLE 3/8"ø ROPE - GALV.	1034	
18	4	HHCS, 5/8-11 x 1 1/4" LG.		
19	1	STEEL WHEEL SHAFT	1242	
20	2	STEEL WHEEL SPACER WASHER	1243	

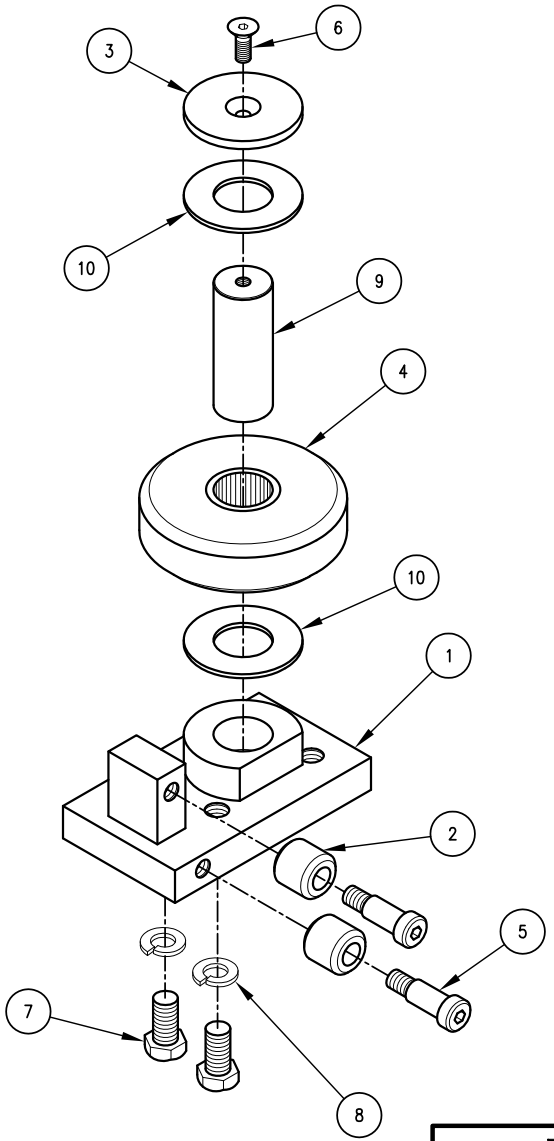
WILDECK™	UPPER WHEEL BLOCK/SAFETY ASSEMBLY STEEL WHEEL	DATE: 8-13-91 DRN BY: DFK	1072	REV 1



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	WHEEL BLOCK WELDMENT (LEFT HAND)	1246	
2	1	SAFETY CAM	1014	
3	1	5 1/4" STEEL WHEEL ASSEMBLY	1241	
4	1	CAM PIN	1028	
5	1	GUIDE SHOE	1022	
6	1	CAM SPRING	1029	
7	2	ROLLER GUIDE	1017	
8	1	STEEL WHEEL RETAINER	1244	
9	1	CAM WASHER	1031	
10	1	FHSHCS, 3/8-16 x 3/4" LG.	3084	
11	2	LINKAGE PLATE	1032	
12	2	LINK PINS	1033	
13	2	SHOULDER BOLT-SOC. HD. 5/8"ø x 1 1/4" LG.	2340	
14	2	HHCS 5/8-11 x 2 1/4" LG., GR. 8		
15	6	LOCKWASHER - STD 5/8		
16	2	COTTER PIN - 5/32" x 1 1/4" LG.		
17	1	WIRE ROPE THIMBLE 3/8"ø ROPE - GALV.	1034	
18	4	HHCS, 5/8-11 x 1 1/4" LG.		
19	1	STEEL WHEEL SHAFT	1242	
20	2	STEEL WHEEL SPACER WASHER	1243	

WILDECK™	UPPER WHEEL BLOCK/SAFETY ASSEMBLY STEEL WHEEL	DATE: 8-13-91 DRN BY: DFK	1073	REV 1



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	LOWER WHEEL BLOCK WELDMENT (R.H.)	1247	
2	2	ROLLER GUIDE	1017	
3	1	STEEL WHEEL RETAINER	1244	
4	1	5 1/4" STEEL WHEEL ASSEMBLY	1241	
5	2	SOC HD SHLD BOLT 5/8"ø x 1 1/4" LG.	2340	
6	1	FHSHCS, 3/8-16 x 3/4" LG.	3084	
7	4	HHCS, 5/8-11 x 1 1/4" LG., GR. 8		
8	4	LOCK WASHER, 5/8" STD.		
9	1	STEEL WHEEL SHAFT	1242	
10	2	STEEL WHEEL SPACER WASHER	1243	

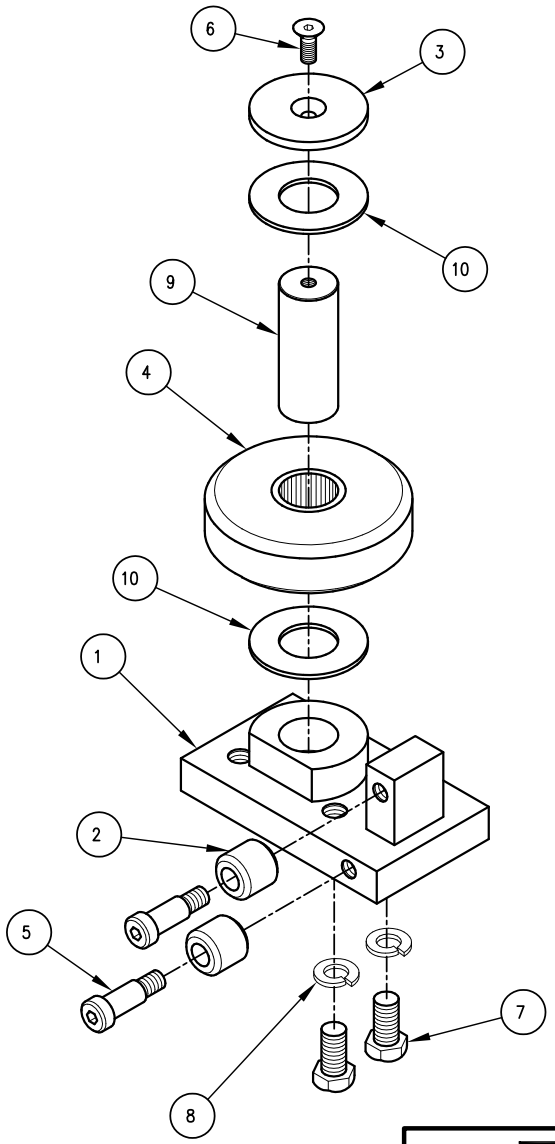
WILDECK™

R.H. LOWER WHEEL BLOCK ASSEMBLY
STEEL WHEEL

DATE: 8-13-91
DRN BY: DFK

1074

REV 1



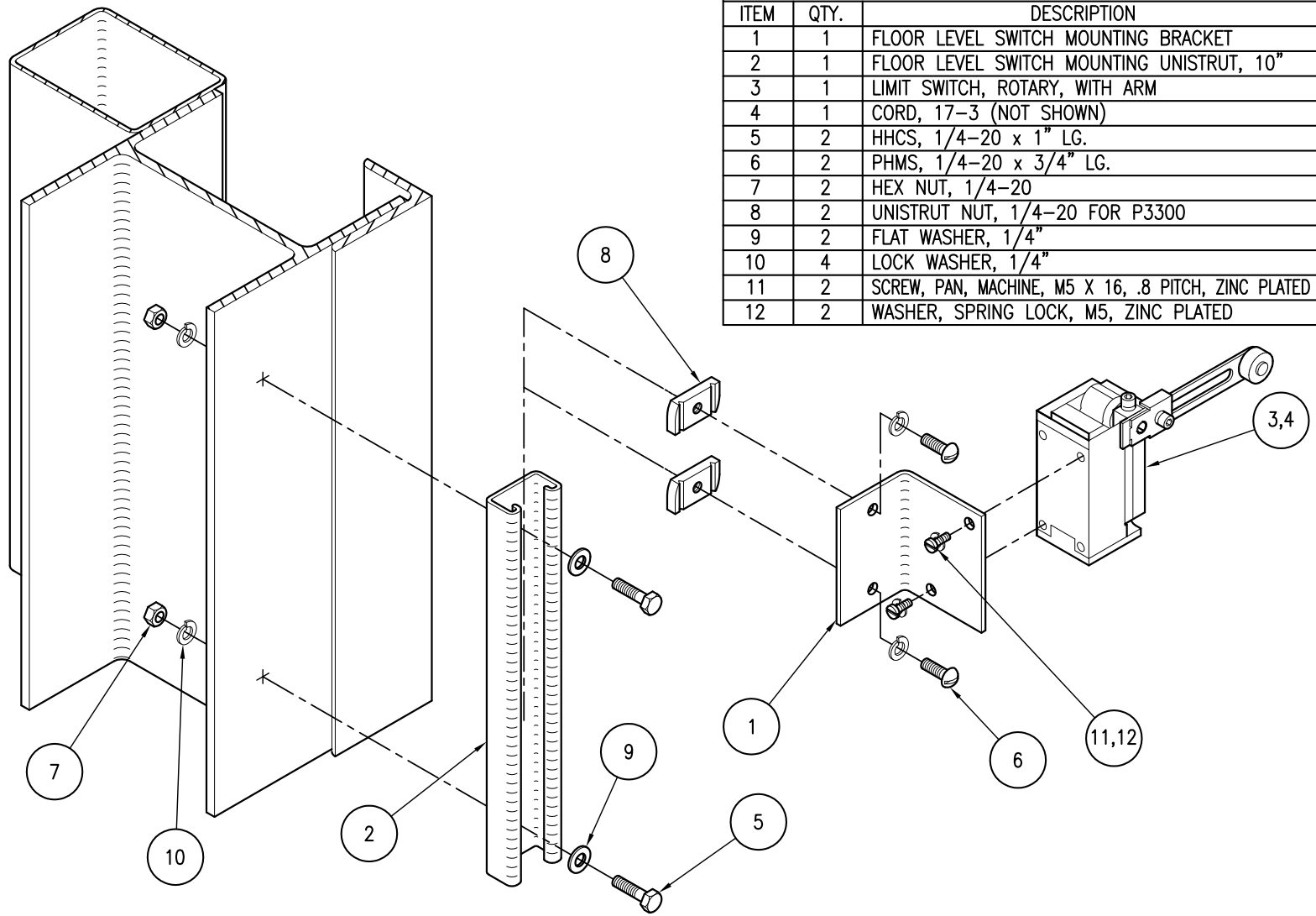
BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	LOWER WHEEL BLOCK WELDMENT (L.H.)	1279	
2	2	ROLLER GUIDE	1017	
3	1	STEEL WHEEL RETAINER	1244	
4	1	5 1/4" STEEL WHEEL ASSEMBLY	1241	
5	2	SOC HD SHLD BOLT 5/8"ø x 1 1/4" LG.	2340	
6	1	FHSHCS, 3/8-16 x 3/4" LG.	3084	
7	4	HHCS, 5/8-11 x 1 1/4" LG., GR. 8		
8	4	LOCK WASHER, 5/8" STD.		
9	1	STEEL WHEEL SHAFT	1242	
10	2	STEEL WHEEL SPACER WASHER	1243	

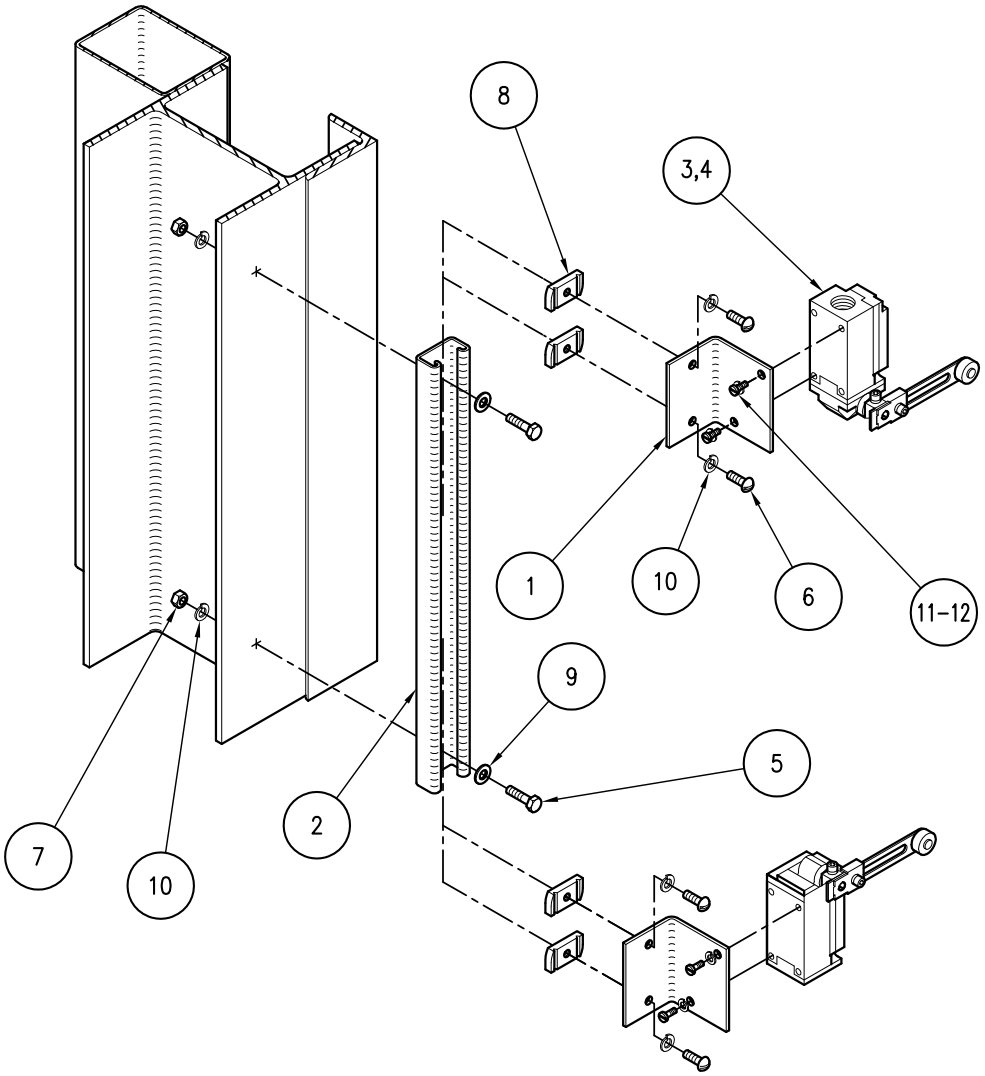
WILDECK™	L.H. LOWER WHEEL BLOCK ASSEMBLY STEEL WHEEL	DATE: 8-13-91 DRN BY: DFK	1075	REV 1

BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	FLOOR LEVEL SWITCH MOUNTING BRACKET	3504	
2	1	FLOOR LEVEL SWITCH MOUNTING UNISTRUT, 10"	1323-A	
3	1	LIMIT SWITCH, ROTARY, WITH ARM	3507	
4	1	CORD, 17-3 (NOT SHOWN)	3579	
5	2	HHCS, 1/4-20 x 1" LG.		
6	2	PHMS, 1/4-20 x 3/4" LG.		
7	2	HEX NUT, 1/4-20		
8	2	UNISTRUT NUT, 1/4-20 FOR P3300		
9	2	FLAT WASHER, 1/4"		
10	4	LOCK WASHER, 1/4"		
11	2	SCREW, PAN, MACHINE, M5 X 16, .8 PITCH, ZINC PLATED		
12	2	WASHER, SPRING LOCK, M5, ZINC PLATED		



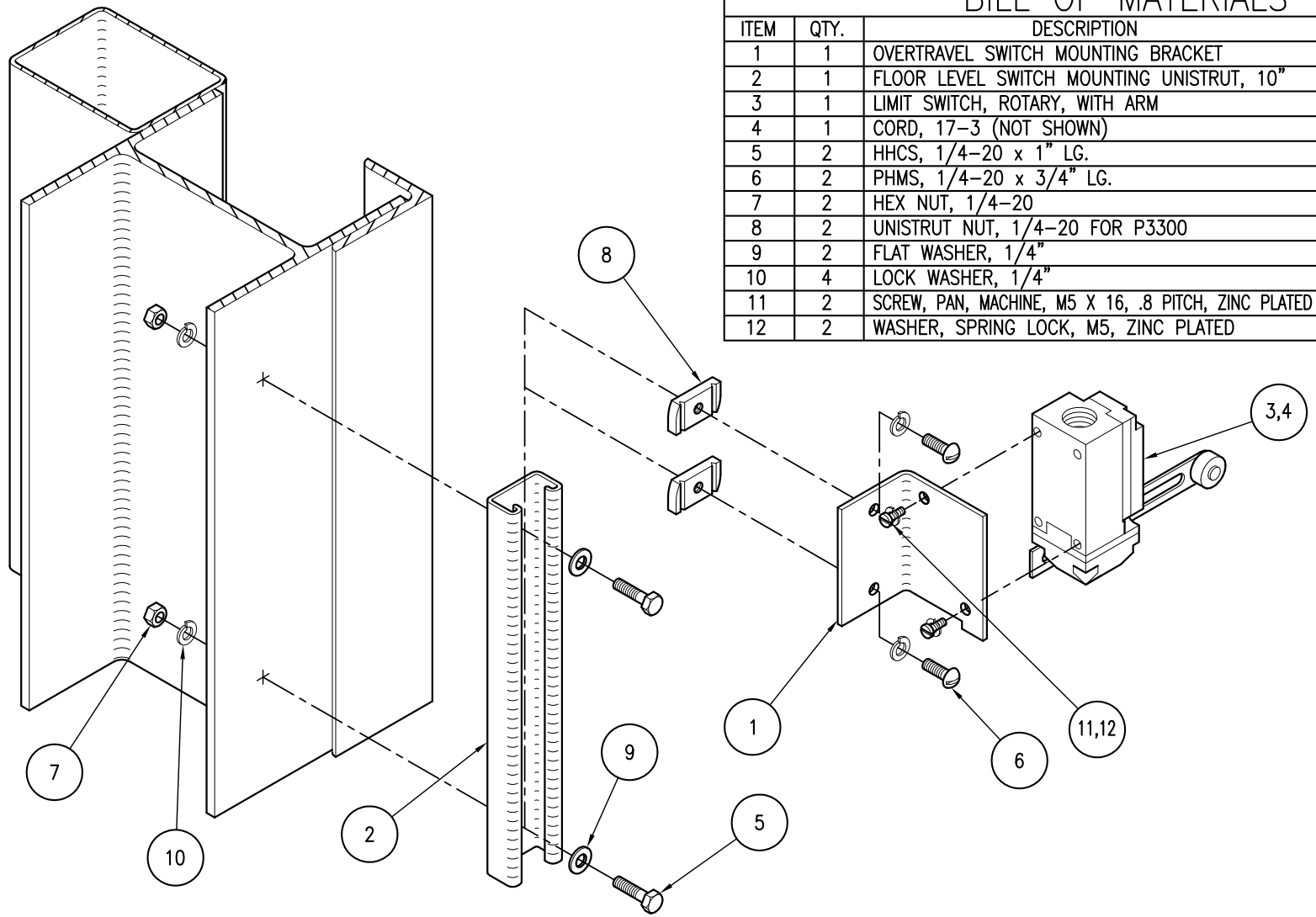
WILDECK™	FLOOR LEVEL LIMIT SWITCHES UPPER & LOWER LEVEL	DATE: 5-19-92 DRN BY: DFK	1386	REV 2



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	2	FLOOR LEVEL SWITCH MOUNTING BRACKET	3504	
2	1	FLOOR LEVEL SWITCH MOUNTING UNISTRUT, 21 3/4"	3518	
3	2	LIMIT SWITCH, ROTARY, WITH ARM	3507	
4	2	CORD, 17-3 (NOT SHOWN)	3579	
5	2	HHCS, 1/4-20 x 1" LG.		
6	4	PHMS, 1/4-20 x 3/4" LG.		
7	2	HEX NUT, 1/4-20		
8	4	UNISTRUT NUT, 1/4-20 FOR P3300		
9	2	FLAT WASHER, 1/4"		
10	6	LOCK WASHER, 1/4"		
11	4	SCREW, PAN, MACHINE, M5 X 16, .8 PITCH, ZINC PLATED		
12	4	WASHER, SPRING LOCK, M5, ZINC PLATED		

WILDECK™	FLOOR LEVEL LIMIT SWITCHES INTERMEDIATE LEVEL(S)	DATE: 5-19-92 DRN BY: DFK	1387	REV 2



BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	PART No.	SUFFIX
1	1	OVERTRAVEL SWITCH MOUNTING BRACKET	3506	
2	1	FLOOR LEVEL SWITCH MOUNTING UNISTRUT, 10"	1323-A	
3	1	LIMIT SWITCH, ROTARY, WITH ARM	3507	
4	1	CORD, 17-3 (NOT SHOWN)	3579	
5	2	HHCS, 1/4-20 x 1" LG.		
6	2	PHMS, 1/4-20 x 3/4" LG.		
7	2	HEX NUT, 1/4-20		
8	2	UNISTRUT NUT, 1/4-20 FOR P3300		
9	2	FLAT WASHER, 1/4"		
10	4	LOCK WASHER, 1/4"		
11	2	SCREW, PAN, MACHINE, M5 X 16, .8 PITCH, ZINC PLATED		
12	2	WASHER, SPRING LOCK, M5, ZINC PLATED		

WILDECK™	OVERTRAVEL LIMIT SWITCH	DATE: 5-19-92 DRN BY: DFK	1388	REV 2

Lift Products:
WARRANTY

Wildeck, Inc. warrants its manufactured VRC's to be free of defects. The warranty begins at completion of installation or thirty (30) days after shipment from Wildeck's factory, whichever comes first.

1. Structural Components – five (5) years parts and labor.
2. Non-Structural Components – one (1) year parts and ninety (90) days labor.

This warranty is valid only if the Wildeck Lift has been installed in complete accordance with Wildeck instructions and Wildeck must have a completed sign-off sheet in its possession.

Improprieties including but not limited to overloading, abuse, negligence, or failure to maintain or adjust the equipment properly, will void the equipment warranty.

The warranty is also voided if unauthorized parts or equipment are installed, or modifications are made to the Wildeck Lift without prior written authorization.

WILDECK SHALL NOT IN ANY EVENT BE LIABLE FOR ANY DAMAGES, WHETHER BASED ON CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, INCLUDING WITHOUT LIMITATION ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES, ARISING WITH RESPECT TO THE EQUIPMENT OR ITS FAILURE TO OPERATE, EVEN IF WILDECK HAS BEEN ADVISED OF THE POSSIBILITY THEREOF.

WILDECK MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND, EXCEPT THAT OF TITLE, AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED.

Order No._____

P.O. Box 89 • 405 Commerce Street
Waukesha, WI USA 53186
262-549-4000 • 800-325-6939
FAX 262-549-3466 • info@wildeck.com
www.wildeck.com

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