HIGH BOY-LOW RIDER INSTALLATION MANUAL

Part # HIGHBOY[.....]

(ALL COLORS)

TABLE OF CONTENT

Equipment Specifications

	HYDRAULIC DRIVE HIGHBOY[.....] LOWRIDR[.....]	ELECTRIC DRIVE HIGHBOY[.....] LOWRIDR[.....]
ELECTRICAL	**N/A**	**MOTORS: 2 HP (2 X 1.0 HP)** **9.2-4.2 AMP @ 208-460 VAC, 3 PH** **UL® RECOGNIZED, CSA CERTIFIED, CE MARK, IEC IP 55**
HYDRAULIC	**3 GPM @ 1000 PSI LOW RIDER** **6 GPM @ 1000 PSI HIGH BOY**	**N/A**
PNEUMATICS	**N/A**	**N/A**
WATER	**RECLAIMED OR FRESH:** **2 GPM @ 40 PSI**	**RECLAIMED OR FRESH:** **2 GPM @ 40 PSI**

Equipment Features

- ☐ Color Skinz™ Snap On Structure Wrap
- ☐ Bulk head utility connection fittings
- ☐ Available either C-Channel Foam or Cotton Cloth™ wash material

Suggested Installation Tools and Materials

- ☑ Hammer Drill with 5/8” Drill Bit
- ☐ Sledge Hammer
- ☐ Set of Standard Combo Wrenches
- ☐ Measuring Tape
- ☐ (8) Wedge Anchor Bolts 5/8” x 6”
- ☐ Safety Goggles
- ☐ Torpedo Level
- ☐ Safety Goggles

Notes and safety Symbols

Where necessary, important points will be highlighted in this manual, using the following symbols:

NOTES: **PROVIDES FURTHER INFORMATION!**

STOP! **PRECAUTION TO TAKE TO AVOID EQUIPMENT MALFUNCTION OR ERROR!**

WARNING! **DANGEROUS SITUATION WHICH MAY CAUSE EQUIPMENT DAMAGES, PERSONAL INJURIES OR FATALITIES!**

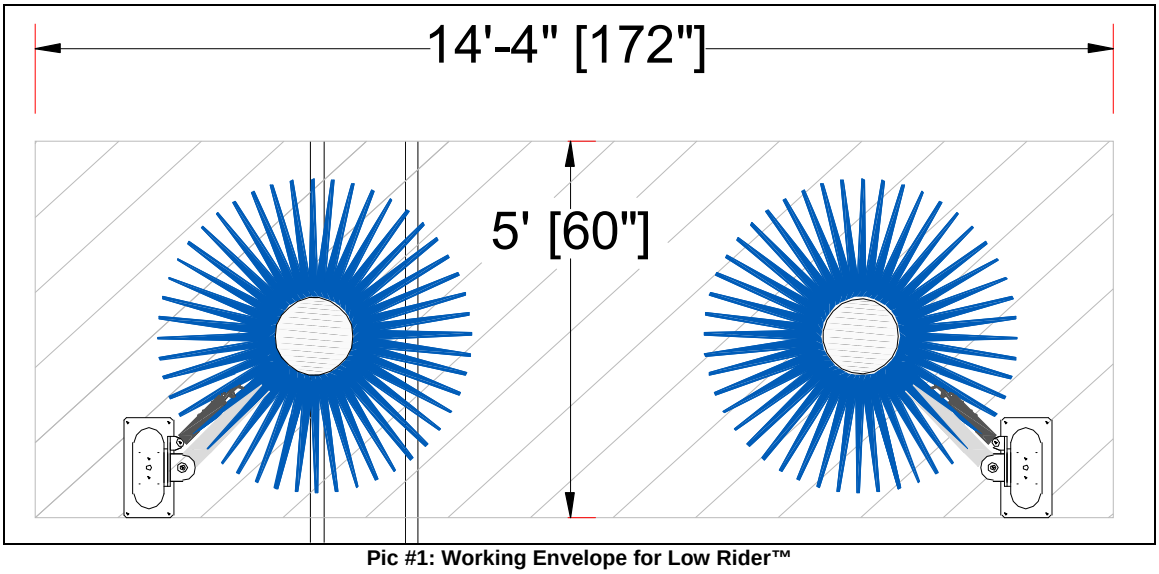
Always follow all "Notes", "Warnings" and instructions. Not doing so may have serious consequences on the overall performance of the equipment and/or the safety of the people working on the equipment!

Installation Procedures

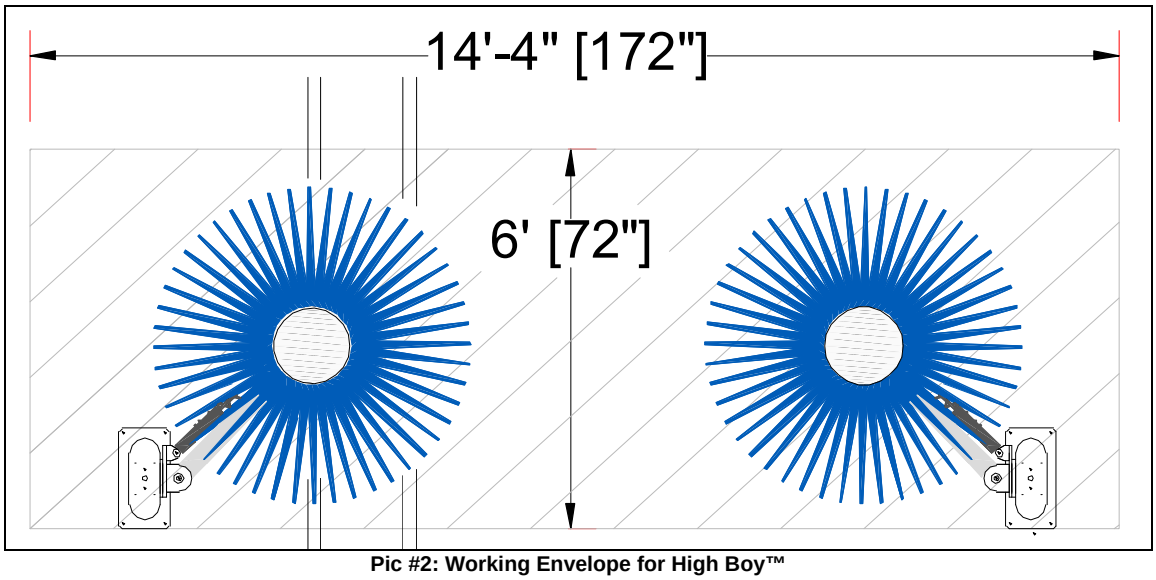
☑ **Upon** receiving your MCWW equipment, open all boxes and crates and verify that you have all the required components as well as there are no damages to the equipment. Verify also that you have all your installation material.

PLEASE COMMUNICATE WITH YOUR LOCAL MOTOR CITY WASH WORKS REPRESENTATIVE FOR ANY DAMAGES TO YOUR EQUIPMENT!

☐ **Remove** packaging material covering your **MOTOR CITY HIGH BOY™** or **LOW RIDER™** and bring them in the wash in the area where they will be installed and verify that the area is sufficiently large for the equipment **WORKING ENVELOPE** and **DIMENSIONS** (see Picture #1 and 2).

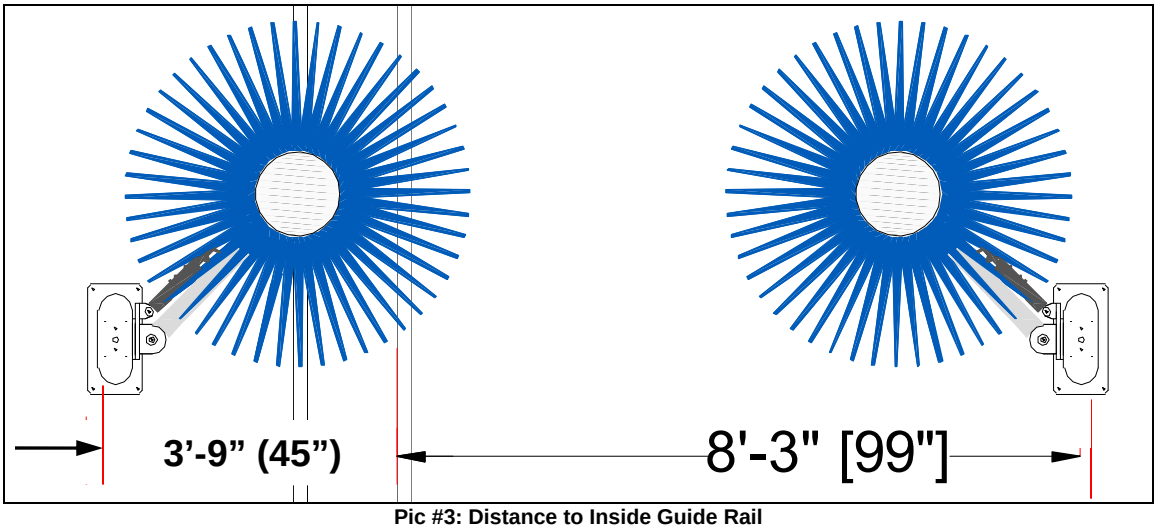


Pic #1: Working Envelope for Low Rider™

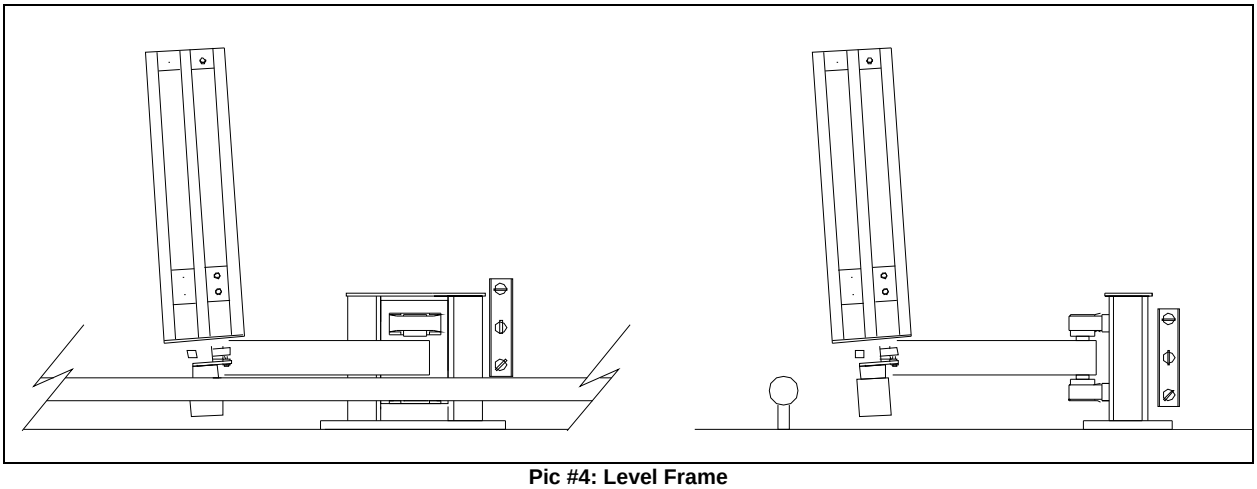


Pic #2: Working Envelope for High Boy™

☐ **Remove** the **DRIVER SIDE** wheel from the pallet, locate in place and position the back of the leg **45 INCHES** from the **INSIDE EDGE OF THE INSIDE GUIDE RAIL** (see Picture #3). Position the base plate parallel to the conveyor guide rail and secure the base plate with four 5/8" x 6" wedge anchor bolts.



Pic #3: Distance to Inside Guide Rail



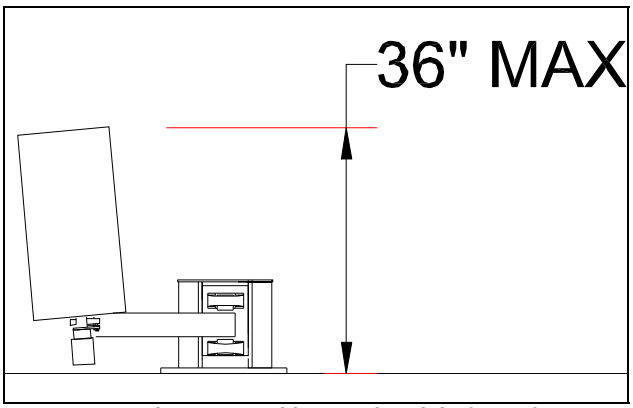
Pic #4: Level Frame

☐ **Level** the frame in both directions (see Picture #4). Locate the **PASSENGER SIDE** wheel and position the back of the leg **99" FROM THE INSIDE EDGE OF THE INSIDE GUIDE RAIL** (see Picture #3). Secure with 5 anchor bolts and level like previously shown.

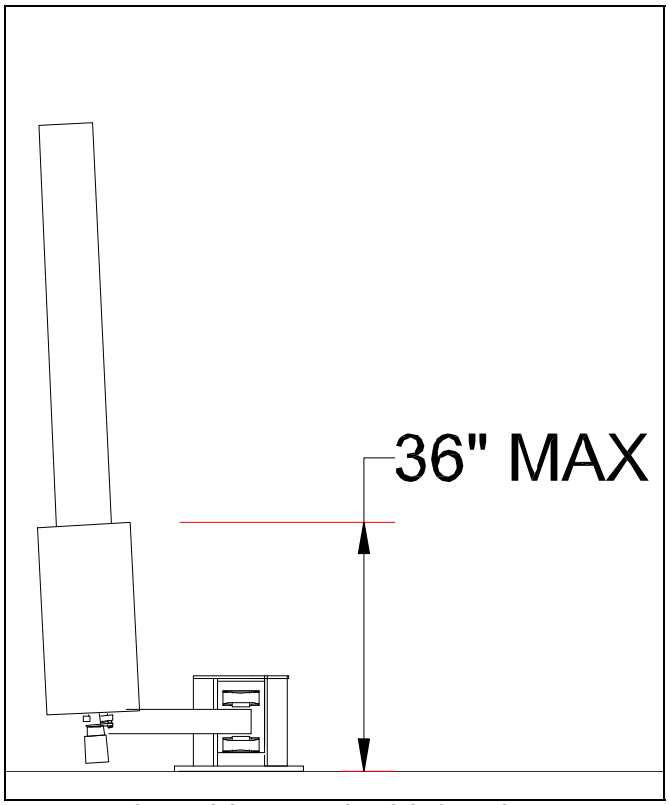
☐ **Remove** the shipping straps from both arms and verify the height of each hub: The top of the hub should be located **36"INCHES FROM THE FLOOR** (see Picture #5 and 6).

STOP!

IF YOU HAVE PURCHASE A SET OF HIGH BOY™ WITH STAR FOAM AND COTTON CLOTH™ WHEEL, YOU WILL MEASURE THE HEIGHT OF THE HUB ONLY AFTER THE CLOTH IS INSTALLED

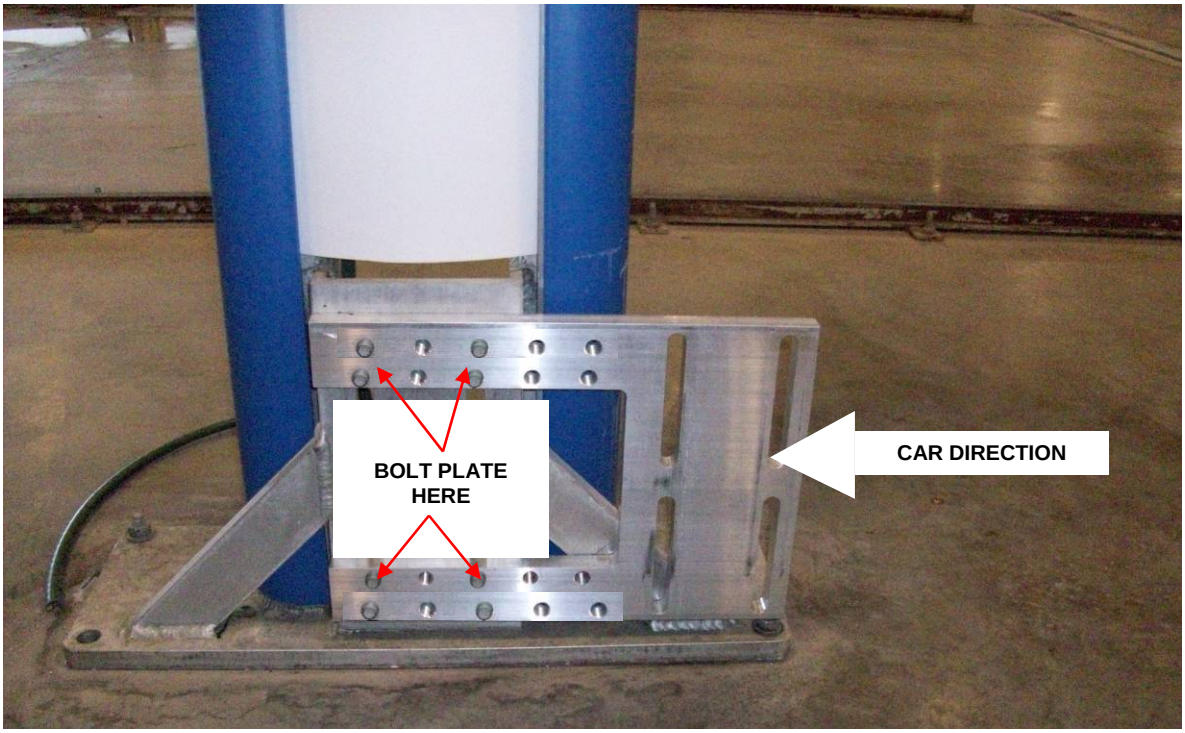


Pic #4: Low Rider™ Hub Height from Floor

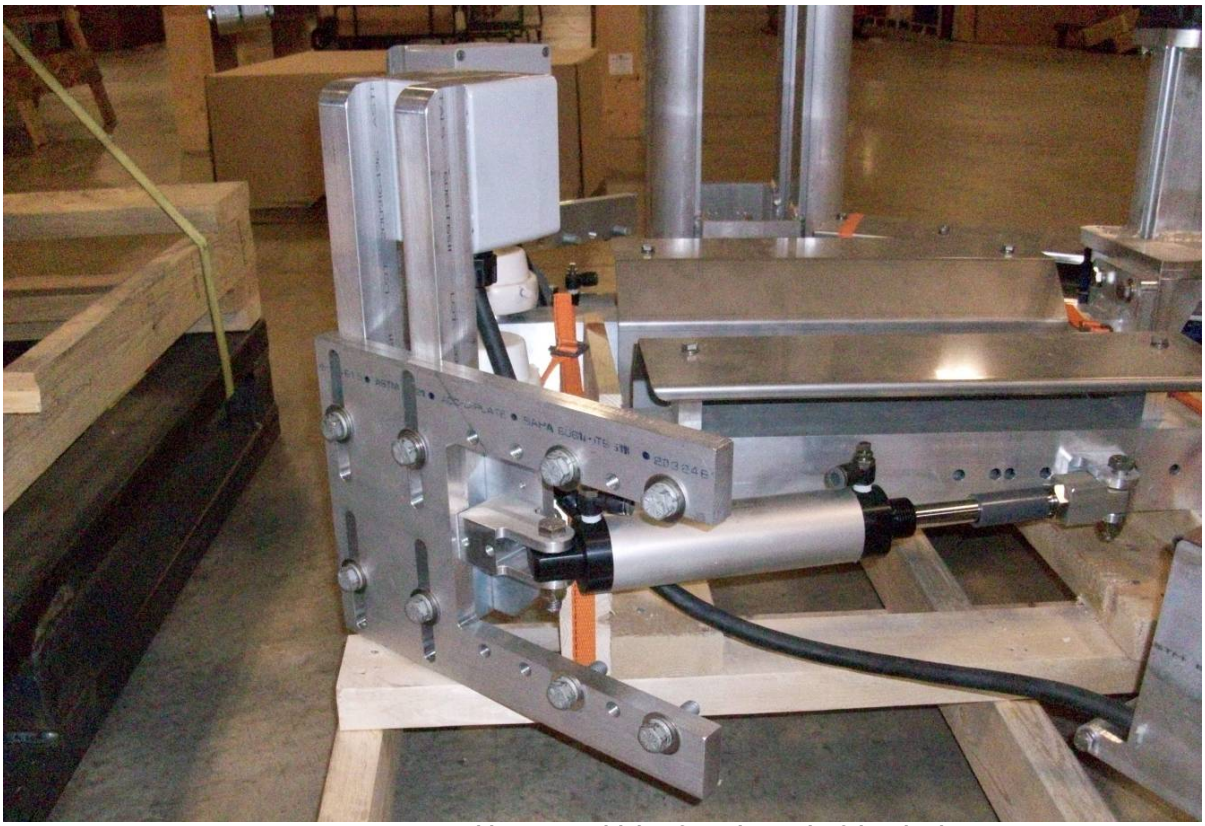


Pic #5: High Boy™ Hub Height from Floor

☐ **If** you have purchased the **LEG MOUNTED LOW RIDERS/HIGH BOYS** mount the wheel with the adaptor plate pointing toward the entrance of the wash like shown below.



PICTURE #5.1: Adaptor Plate

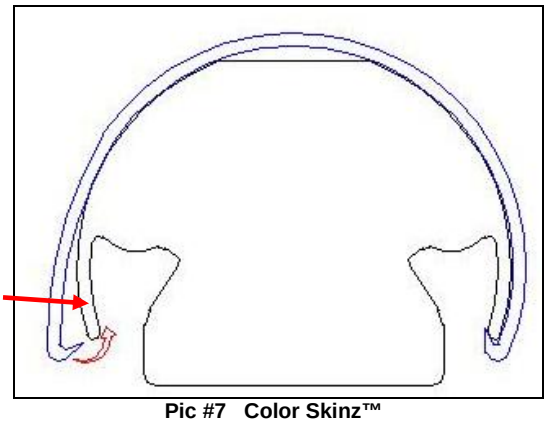


PICTURE #5.2: Low Rider Mounted (View from the Back of the Plate)

☐ **Locate** the boxes containing the **COLOR SKINZ™** covers and install on each legs.

Pic #6 Color Skinz™

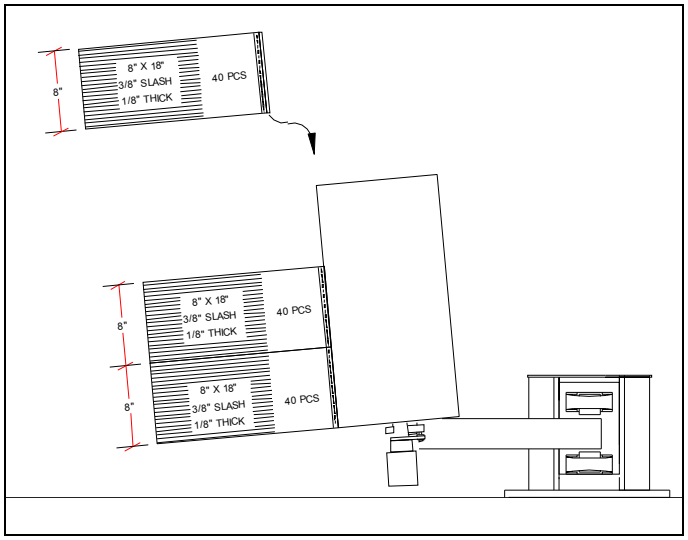
SELECT THE PROPER COLOR SKINZ™ COVER. SNAP ONE SIDE OF THE LIP, SLIDE THE COVER AROUND THE LEG AND FINALLY SNAP THE SECOND LIP PASSED THE EXTRUSION EDGE (see Picture #7)



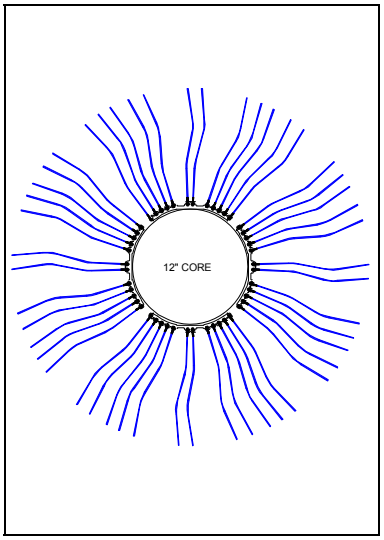
Pic #7 Color Skinz™

LOW RIDER™ Bottom Hub Loading Instruction

☐ **Open** the washing material boxes and load in the **C-CHANNEL FOAM** into the bottom hub like shown on Pictures below.

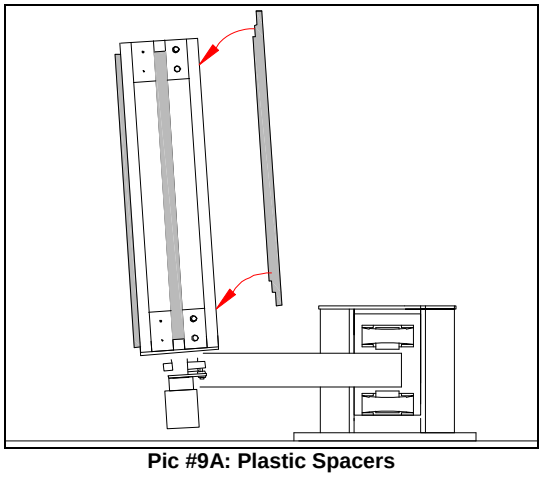


Pic #8: Low Rider™ C-Channel Hub Fill



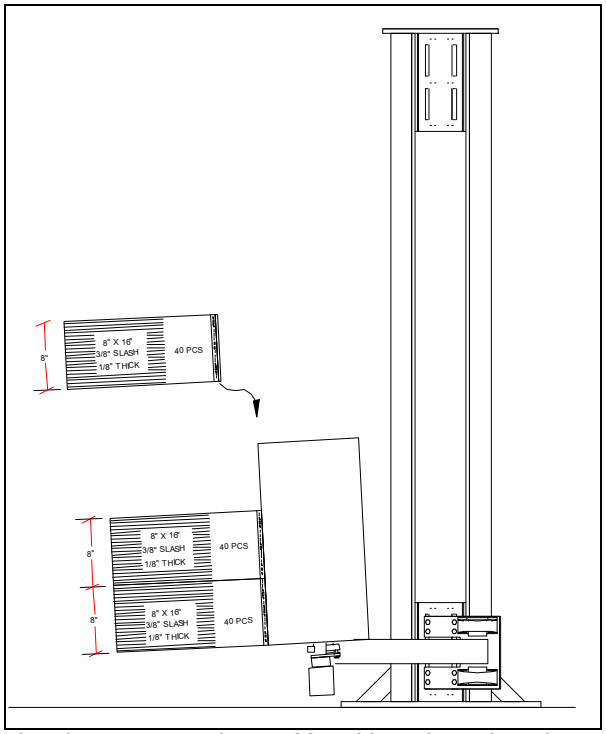
Pic #9: Low Rider™ 12" Hub Core

☐ **If** you have purchase your **LOW RIDER™** with **COTTON CLOTH,** verify that the hub has four spacers inserted in each of the hub's channel.

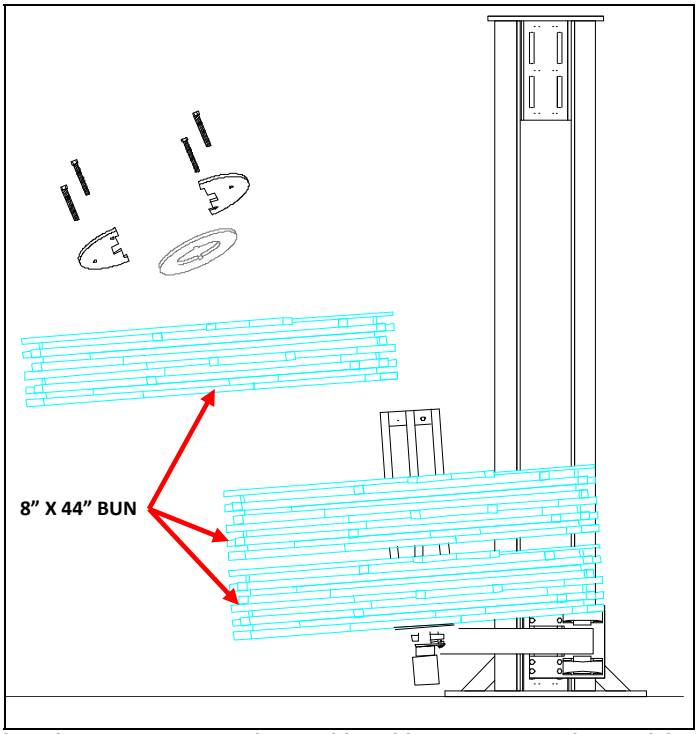


Pic #9A: Plastic Spacers

☐ **If** you have a **LEG MOUNTED LOW RIDER**, follow the loading instruction shown below according to your wash media.

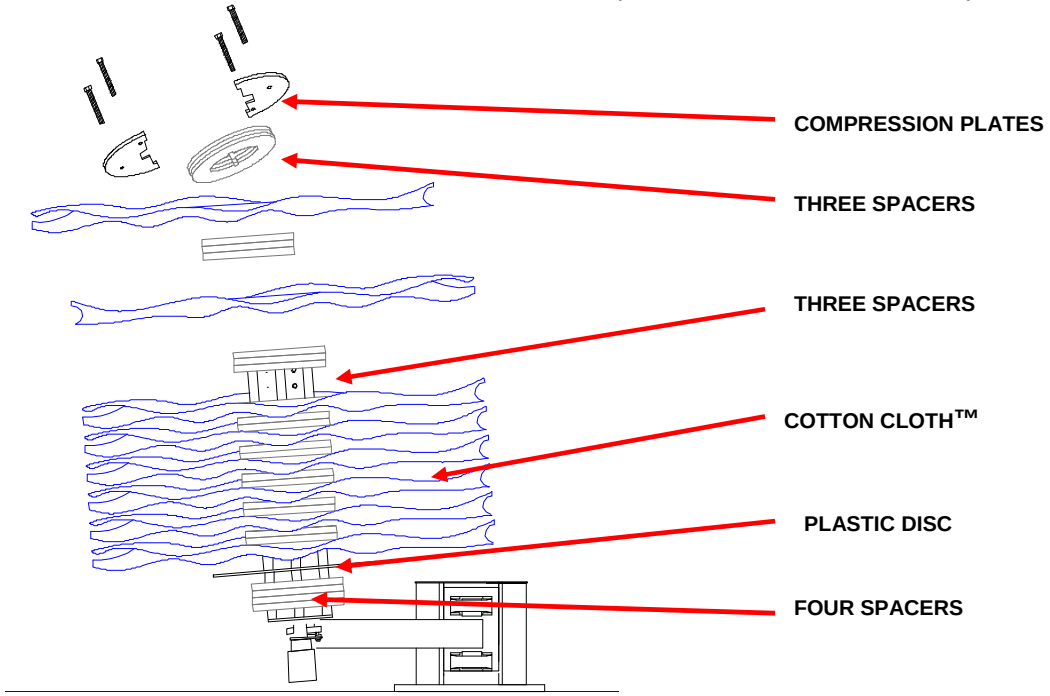


Pic #9b: Leg Mounted Low Rider with C-Channel Wash Material



Pic #9c: Leg Mounted Low Rider with Star FoamWash Material

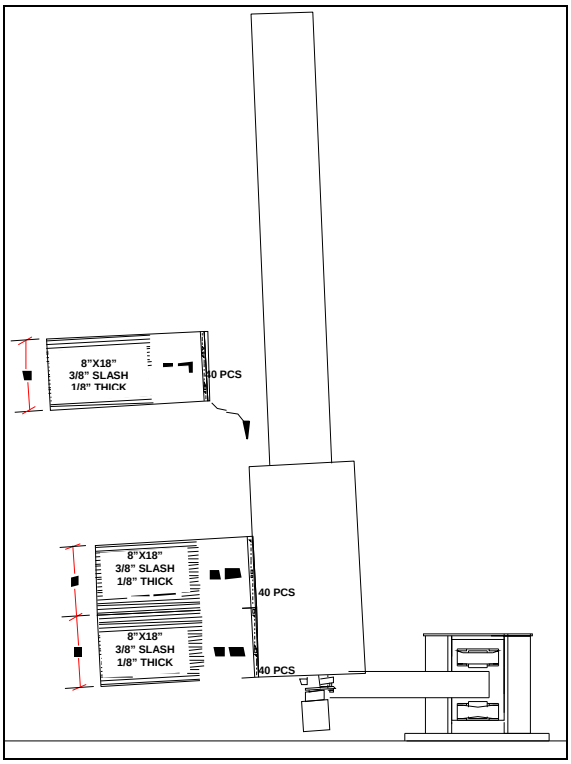
☐ **Load** in first **FOUR 3/4" THICK SPACERS** and the **PLASTIC DISC**. Then, **ONE COTTON CLOTH™** onto the hub assembly. Load **THREE** more spacers on top of the cloth and slide an additional **COTTON CLOTH™** (see Picture #10). Alternate between three spacers and the cloth rings until you have filled **8 COTTON CLOTH TOTAL**. Terminate with **THREE** spacers. Reinstall the two compression plates.



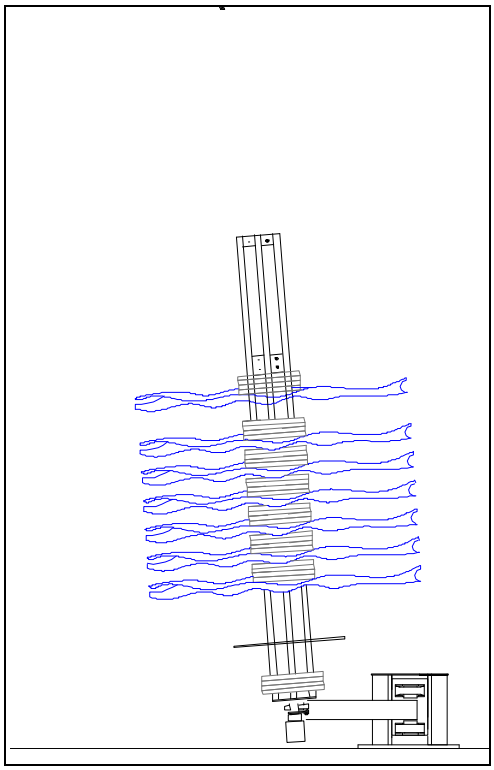
Pic #10: Low Rider™ Cotton Cloth Hub Fill

HIGH BOY™ Bottom Hub Loading Instruction

☐ **If** you have purchase your **HIGH BOY™** with **C-CHANNEL** foam follow the same procedure than for the **LOW RIDER™ HUB.**



Pic #11: High Boy™ C-Channel Foam Hub Fill

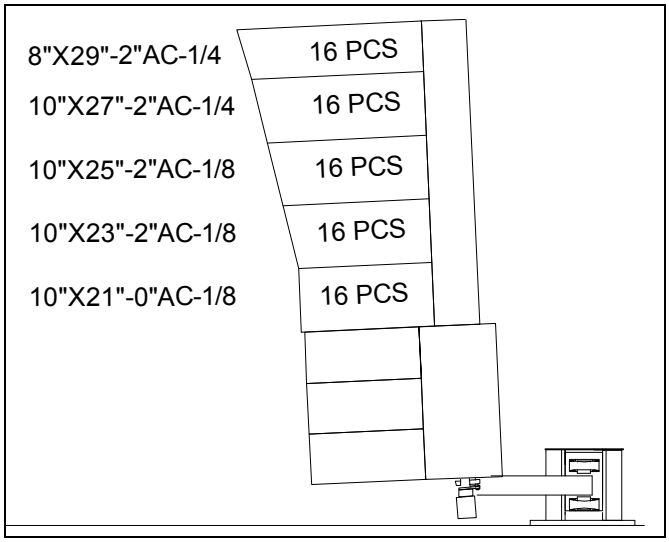


Pic #12: High Boy™ Cotton Cloth™ Hub Fill

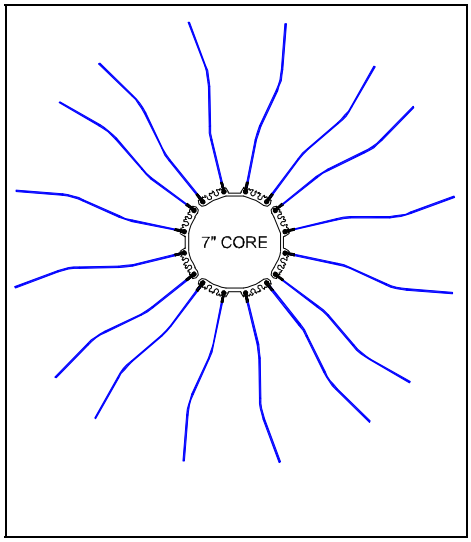
☐ **If** you have purchase your **HIGH BOY™** with **COTTON CLOTH™** start loading the bottom hub (or the bottom part of the hub) with cloth rings following the same procedure than for the **LOW RIDER™ HUB FILLED WITH COTTON CLOTH** (see Picture #12) until all rings are installed.

HIGH BOY™ Top Hub C-Channel Foam Loading Instruction

☐ **Starting** with the **10" X 21" FOAM SECTIONS** (see Picture #13) load onto the top hub **EVERY OTHER CHANNEL** like shown on Picture #14. Complete on row with **16 PCS** and then move to the next size until the hub is completely filled. Next move to the other side hub following the same procedure.



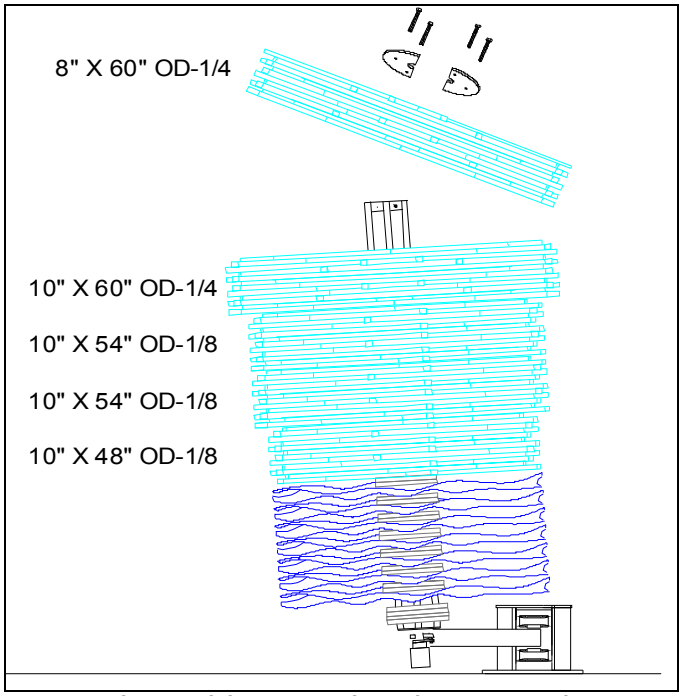
Pic #13: High Boy™ C-Channel Foam Top Hub Fill



Pic #14: High Boy™ 7" Hub

HIGH BOY™ Star Foam Top Hub Loading Instruction

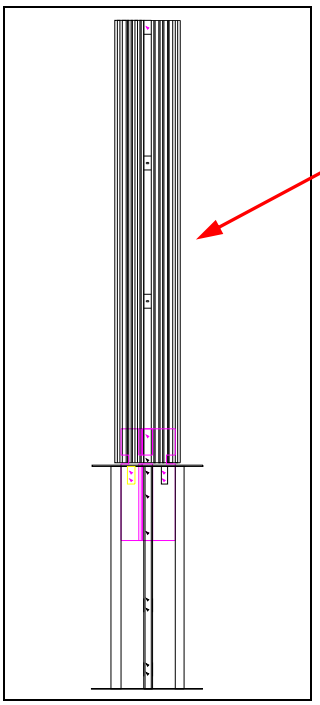
☐ **Load ONE 10” X 48”OD-1/8” BUNS, TWO 10” X 54”OD-1/8” BUN, ONE 10” X 60” OD-1/4”** and finally **ONE 8” X 60”OD-1/4” BUN.** Reinstall the two compression plate.



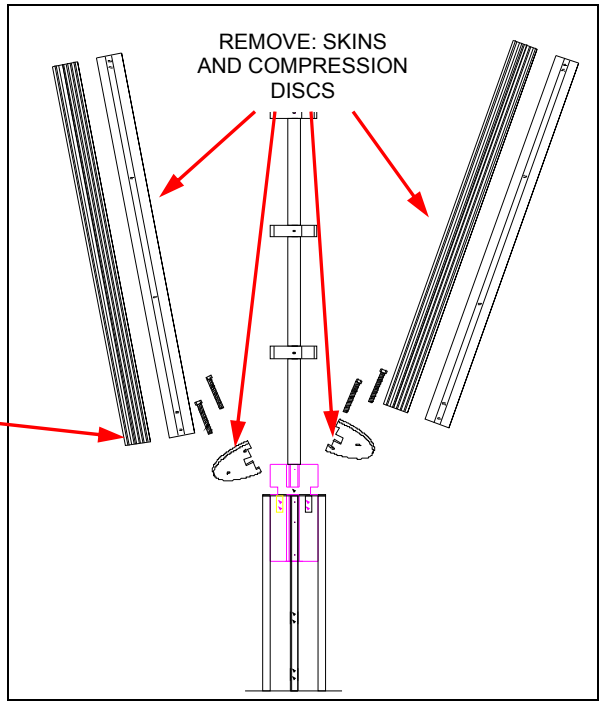
Pic #15: High Boy™ C-Channel Foam Top Hub

HIGH BOY™ C-Channel Top Hub-Cotton Cloth Bottom Hub Loading Instruction

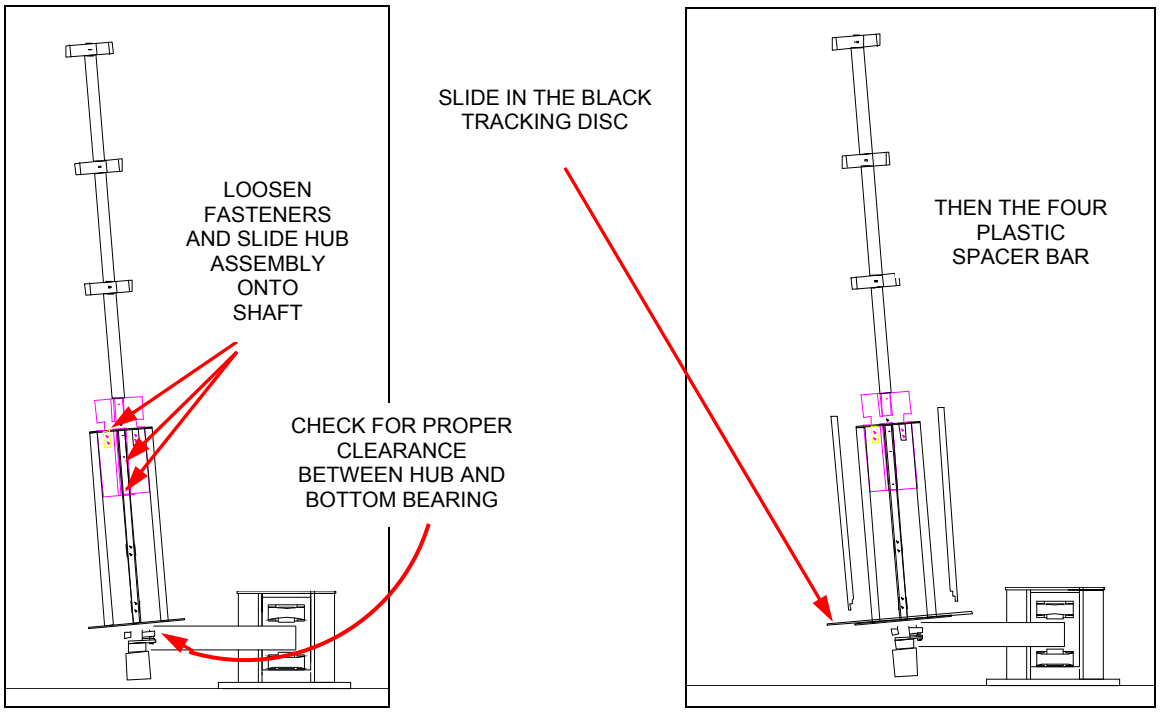
☐ **Locate** the hub assembly and remove the four skins and the compression discs (see Picture #15B). Loosen the boss clamp fasteners and slide onto the brush shaft. Check for proper clearance between hub and bottom bearing base (see Picture #15C). Tighten the boss clamp securely to the shaft.



Pic #15A: Hub Assembly



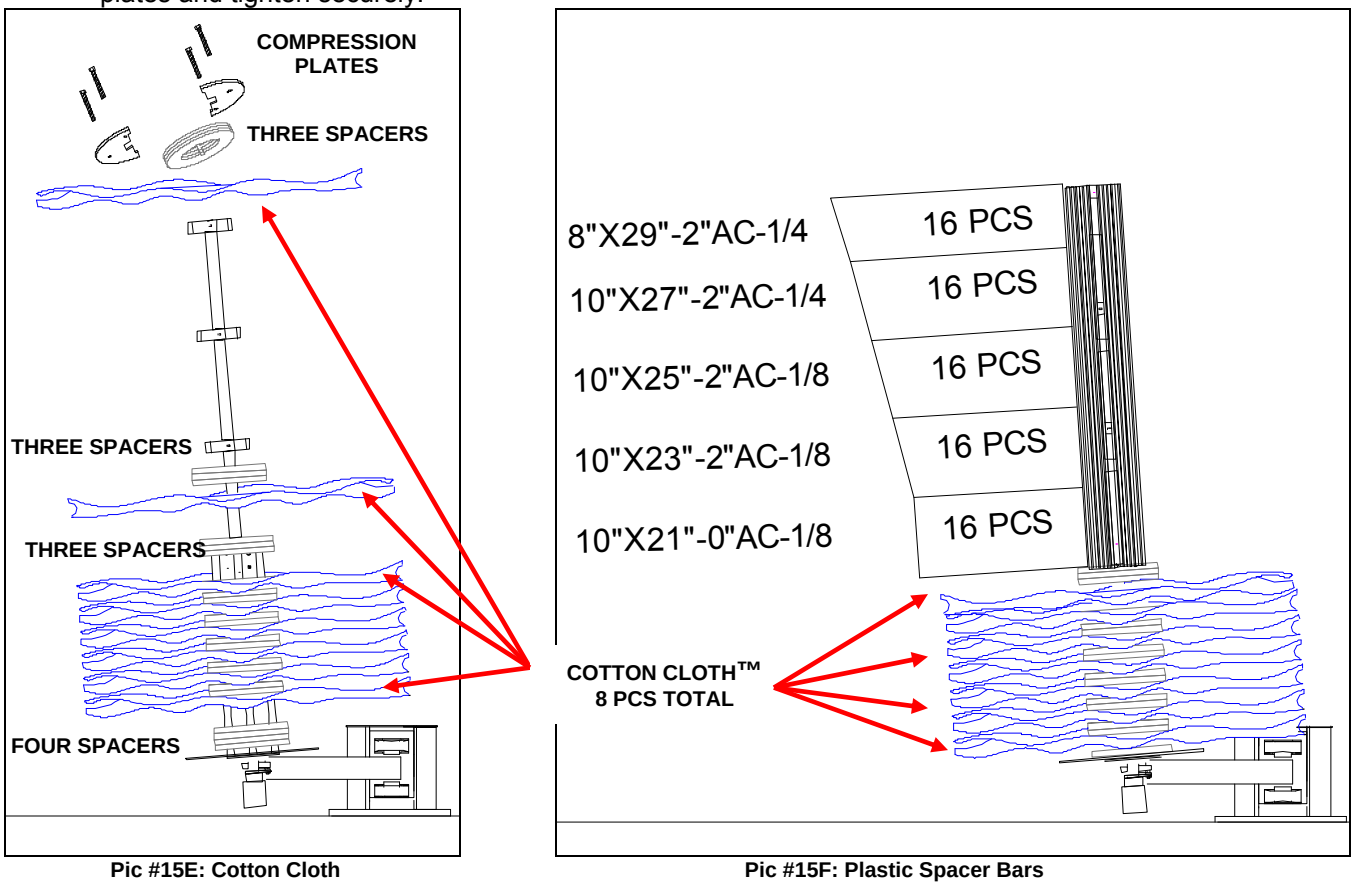
Pic #15B: Remove Skins



Pic #15C: Hub Assembly

Pic #15D: Plastic Spacer Bars

☐ **Load** in first the **PLASTIC DISC**S and then **FOUR 3/4" THICK SPACERS.** Follow then with **ONE COTTON CLOTH™** onto the bottom hub assembly. Load **THREE** more spacers on top of the cloth and slide an additional **COTTON CLOTH™** (see Picture #25E). Alternate between three spacers and the cloth rings until you have filled **8 COTTON CLOTH TOTAL**. Terminate with **THREE** spacers. Reinstall the two compression plates and tighten securely.



Pic #15E: Cotton Cloth

Pic #15F: Plastic Spacer Bars

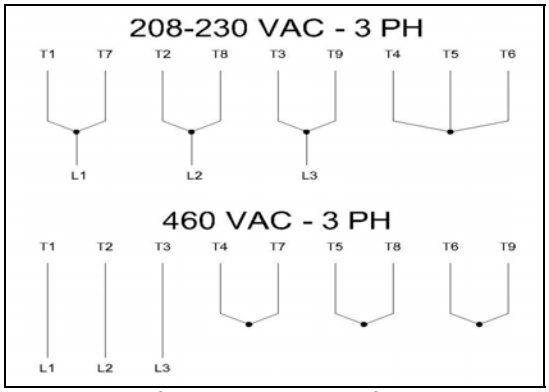
☐ **Finally,** reinstall the four skins and start with the **10" X 21" FOAM SECTIONS,** load onto the top hub **EVERY OTHER CHANNEL** like shown on Picture #15F. Complete EACH row with **16 PCS** and then move to the next size until the hub is completely filled. Next move to the other side hub following the same procedure.

Electrical Installation:

☐ **If** you have purchased the **ELECTRIC DRIVE WHEELS** connect each **1.0 HP MOTOR** to a separate starter unit. Each motor has to be protected with an **OVERLOAD RELAY SET A THE MOTOR RATED FULL LOAD CURRENT FOR THE PROPER VOLTAGE.**

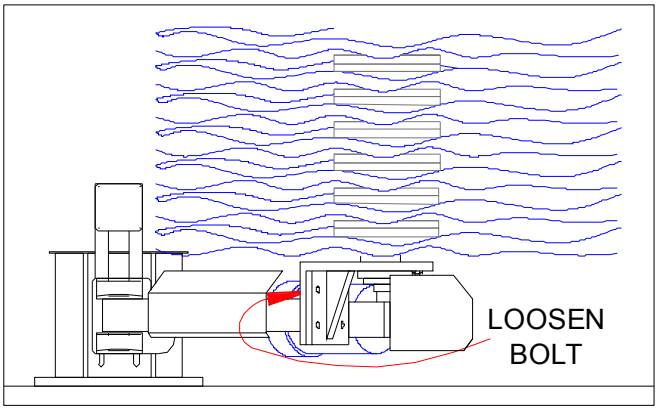
NOTES:

MOTOR ARE NOT CONNECTED WHEN SHIPPED FROM MCWW FACTORY.
OPEN THE MOTOR BOX AND CONNECT FOLLOWING THE CONNECTION DIAGRAM BELOW OR ON THE MOTOR PLATE (PICTURE #16) FOR PROPER VOLTAGE

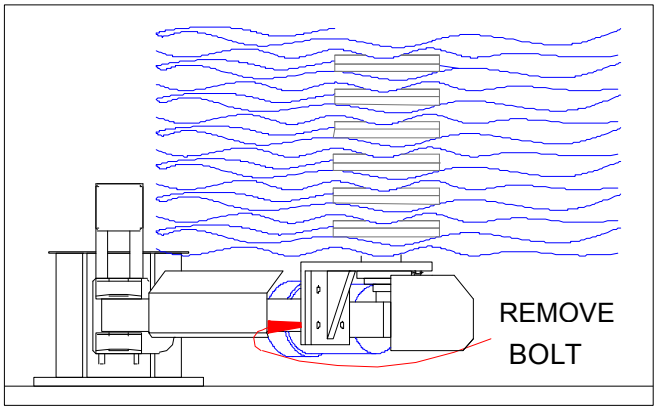


Pic #16 Motor Connection

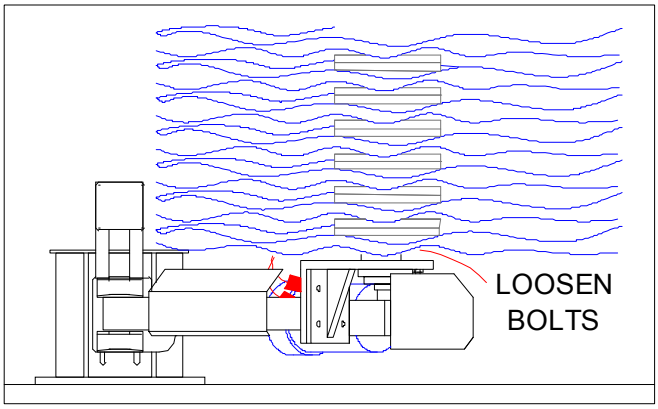
☐ **To** access the electrical motor, loosen the top bolt located on the entrance side of the head flange (see Picture #17 below) and remove the three other bolts secured through the flange (see Pictures# 18 and 19) and then **TILT THE HEAD ASSEMBLY DOWNWARD TOWARD THE ENTRANCE OF THE WASH** until the brush is laying flat on the floor. Remove the cover from the motor (see Picture #20) and connect the cable into the motor. Reinstall the cover and reposition the head assembly.



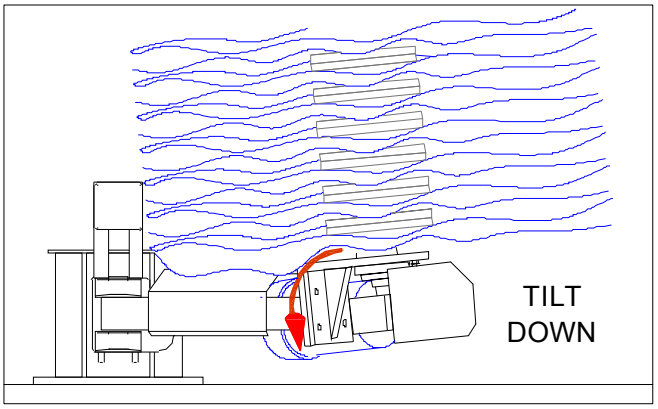
Pic #17: Loosen Head Bolt



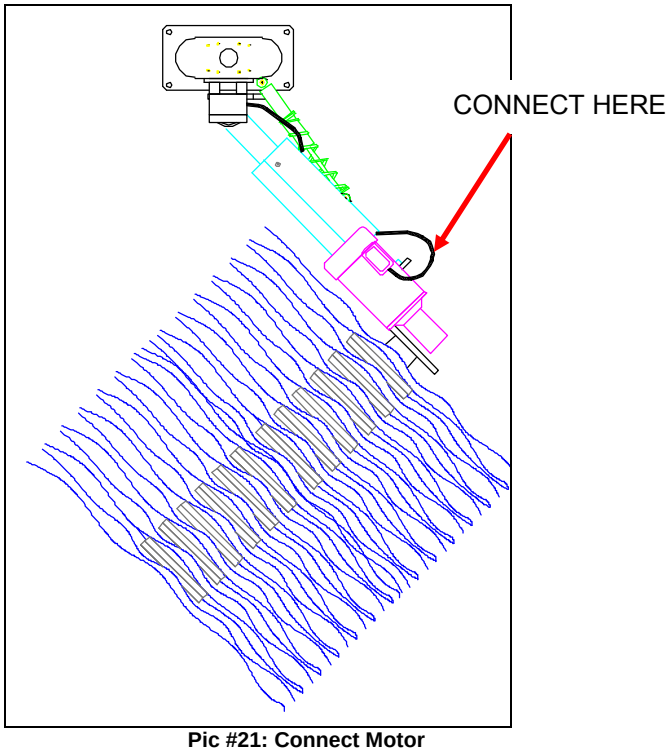
Pic #18: Remove Head bolt



Pic #19: Loosen Head Bolt s



Pic #20: Tilt Head Down



Pic #21: Connect Motor

STOP!

EACH MOTOR HAS TO BE PROTECTED WITH AN OVERLOAD RELAY SET TO THE MOTOR RATED FULL LOAD CURRENT FOR THE PROPER VOLTAGE:

4.6 AMPS @ 208 VAC - 3PH

4.2 AMPS @ 230 VAC – 3PH

2.1 AMPS @ 460 VAC – 3PH

Hydraulic Installation:

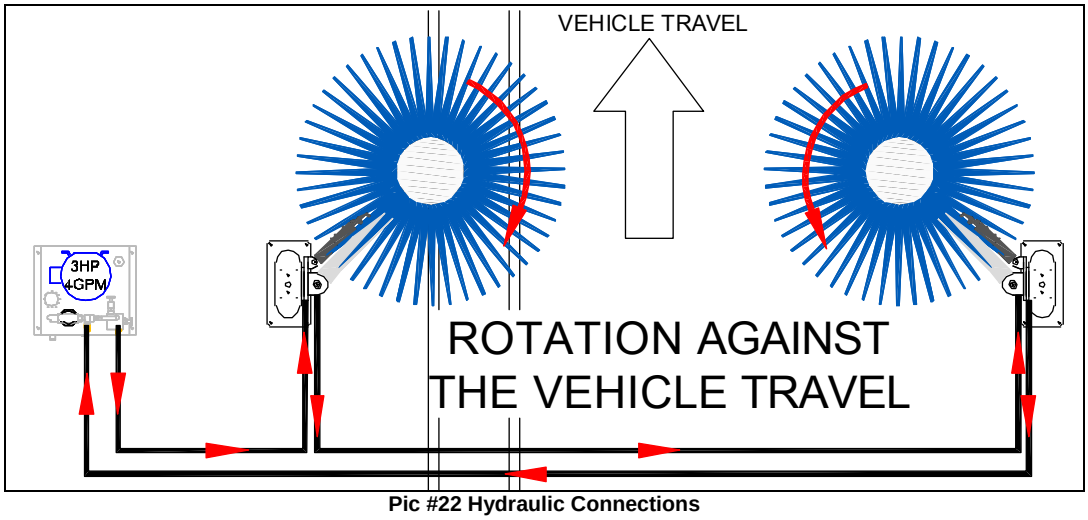
☐ **If** you have purchased the **HYDRAULIC DRIVEN WHEELS** it requires a **SUPPLY CAPABLE OF AT LEAST 3 GPM @ 1000 PSI** for the **LOW RIDER™** and **AT LEAST 6 GPM @ 1000 PSI** for the **HIGH BOYS™** connected to two hoses (one pressure and one return line).

☐ **Use HYDRAULIC SCHEMATIC** shown on Picture #22 as installation guide.

WARNING!

DO NOT OPERATE YOUR MCWW LOW RIDER™ OR HIGH BOY™ UNIT WITH A HYDRAULIC SYSTEM OPERATING AT A PRESSURE HIGHER THAN 1000 PSI!

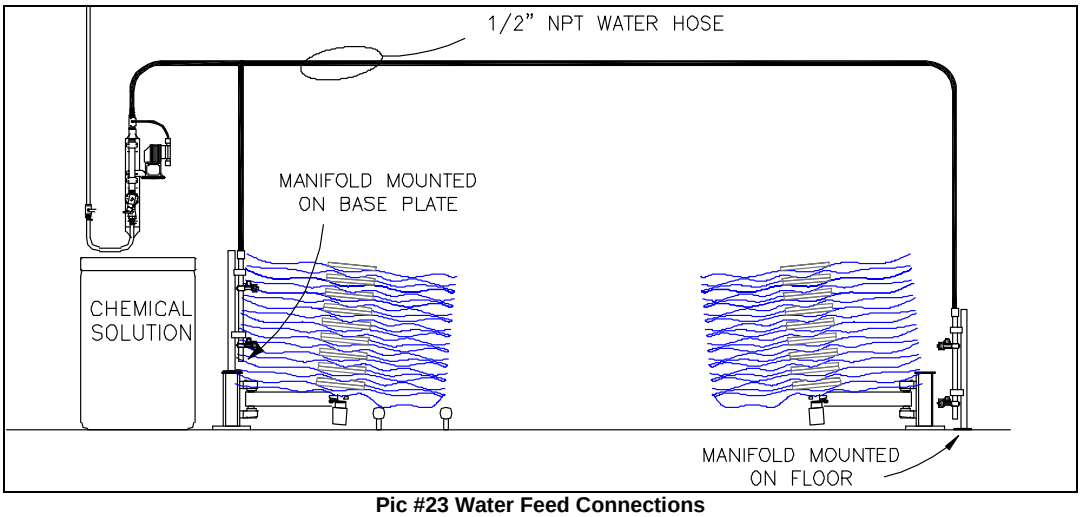
OPERATING AT PRESSURE ABOVE 1000 PSI MAY AFFECT THE PERFORMANCE OF THE EQUIPMENT AND LEAD TO PREMATURE WEAR OR MAJOR DAMAGES TO THE HYDRAULIC SYSTEM OR ITS COMPONENTS



Pic #22 Hydraulic Connections

Water Feed Installation:

☐ **Your LOW RIDER™ and HIGH BOY™** requires a water supply of **2 GPM** for each wheels. Reclaim or fresh water can be used. Install a 1/2" water hose from a dilution station to the **WATER MANIFOLD** (Picture # 23) located inside the leg.



Pic #23 Water Feed Connections

NOTES:

THE WATER MANIFOLD CAN BE MOUNTED EITHER ON THE WHEEL BASE PLATE OR DIRECTLY ON THE FLOOR

NOTES: **THE DILUTION STATION SHOWN ON PICTURE #14 IS NOT INCLUDED WITH YOUR ROCKERZ™ SIDE WHEELS UNIT**

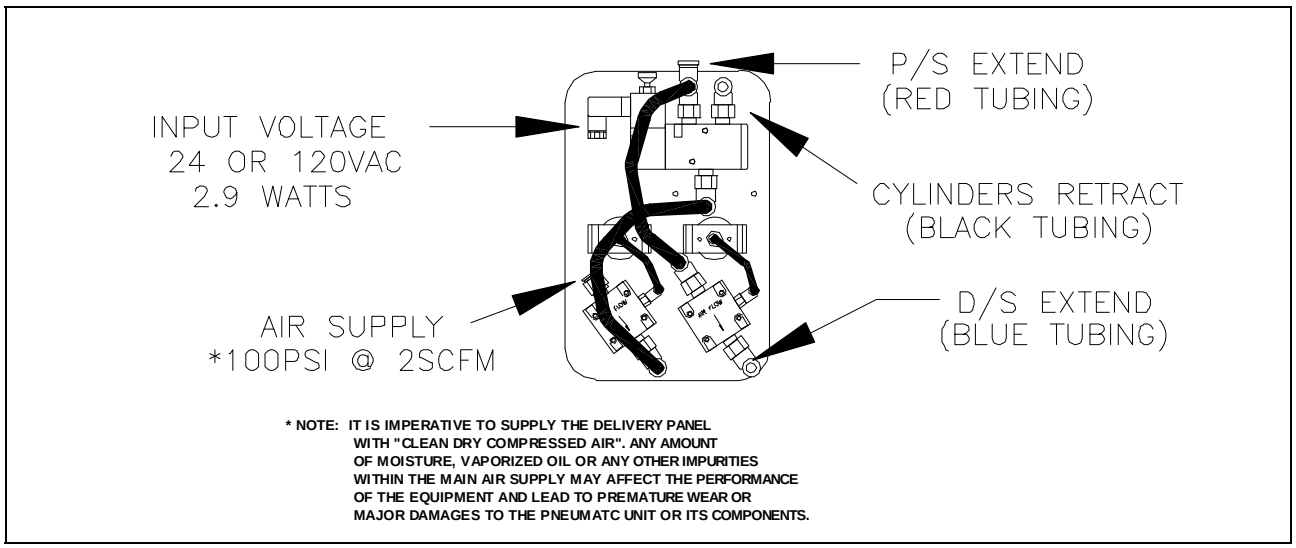
IT CAN BE PURCHASE SEPARATELY THROUGH YOURE LOCAL MCWW DISTRIBUTOR PART# APPLDLNSTN004

Optional Air Panel:

☑ **The** Side Wheel Air Panel requires **ONE ELECTRICAL CIRCUIT (CHANNEL)** coming from the Car Wash Controller The circuit has to be **24 or 120VAC**.

NOTE: Verify the voltage on the side on the air solenoid valve before apply power to the unit.

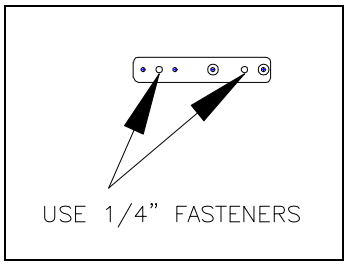
☐ **The** Air Panel also requires Compressed Air at **100 PSI and capable of at least 2 SCFM** (See Picture #24).



Pic #24: Air Panel View from the Back

☐ **Mount** the Air Panel in the mechanical room or on any wall in a **CLEAN AND DRY AREA.** Remove the air panel from the frame by unscrewing the two front knobs.

☐ **Secure** the frame to the wall using the two 1/4" mounting holes as shown in Picture #25.



Pic #25: Air Panel Utilities

Pneumatic Installation:

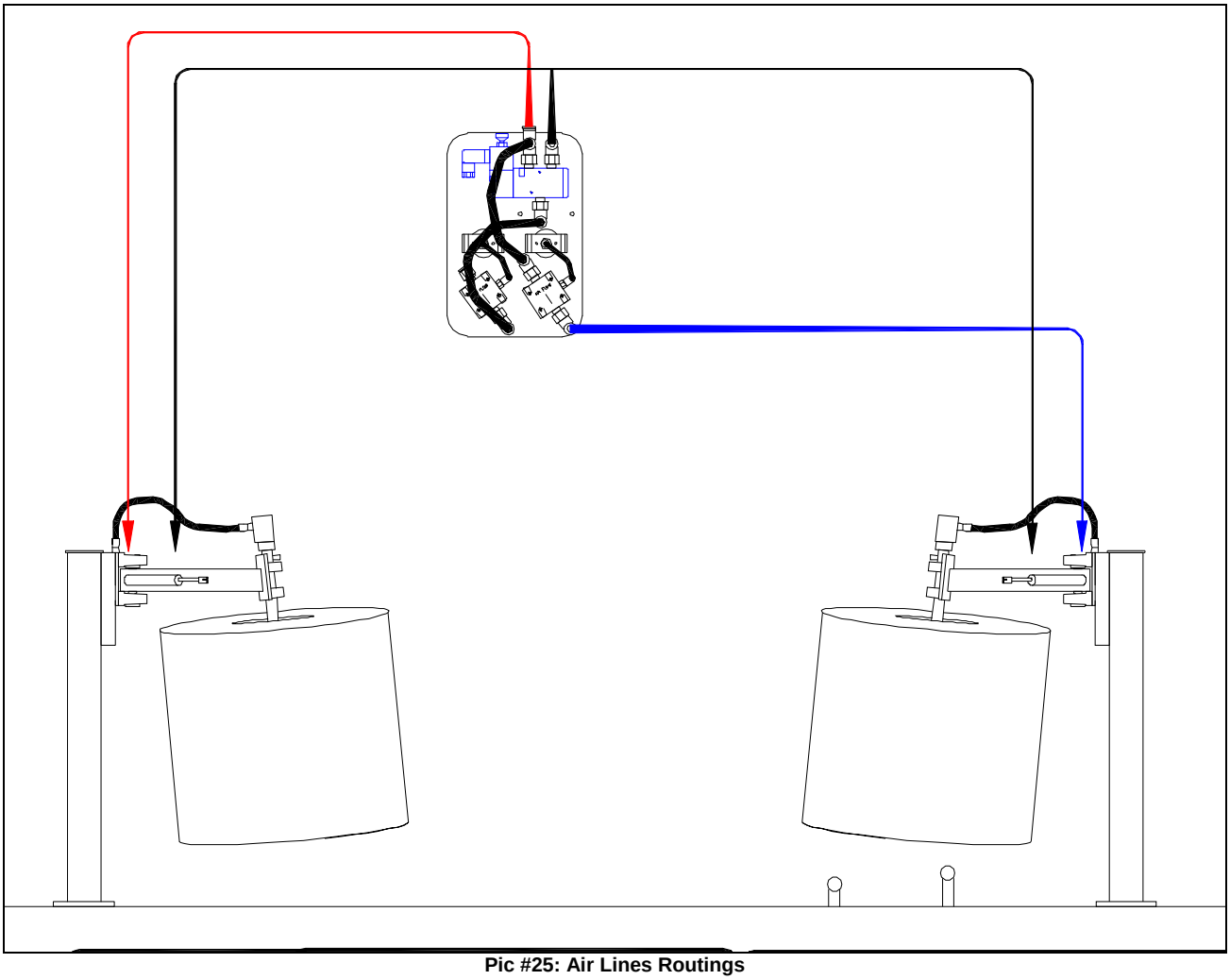
☑ **Locate** your source of compressed air and install a **3/8" AIRLINE TUBE** from the supply air valve to the air panel inlet port (see picture #24).

NOTE: IT IS IMPERATIVE TO SUPPLY THE DELIVERY PANEL WITH "CLEAN DRY COMPRESSED AIR". ANY AMOUNT OF MOISTURE, VAPORIZED OIL OR ANY OTHER IMPURITIES WITHIN THE MAIN AIR SUPPLY MAY AFFECT THE PERFORMANCE OF THE EQUIPMENT AND LEAD TO PREMATURE WEAR OR MAJOR DAMAGES TO THE DELIVERY UNIT OR ITS COMPONENTS.

☐ **Using** the schematic shown on Picture #11, pull and connect **ONE 3/8" RED AIRLINE TUBE** from the **P-S EXTEND AIR REGULATOR** located on the air Panel to the exit side base plate of the **P-S BRUSH.**

☐ **Pull** and connect **ONE 3/8" BLUE AIRLINE TUBE** from the **D-S EXTEND AIR REGULATOR** located on the air Panel to the exit side base plate of the **D-S BRUSH.**

☐ **Pull** and connect **ONE 3/8" BLACK AIRLINE TUBE** from the **4 WAY SOLENOID AIR VALVE** to the wash bay, **BETWEEN THE TWO BRUSHES** and tee off to **EACH BRUSH**.



Pic #25: Air Lines Routings

☐ **Connect ONE 3/8" BLACK AIRLINE TUBE** from the **4 WAY SOLENOID AIR VALVE** to the wash bay, **BETWEEN THE TWO BRUSHES** and tee off to **EACH BRUSH**.

Start Up and Operation:

☐ Manually **turn ON** your **HYDRAULIC POWER UNIT** and set the hydraulic flow control valve for a **WHEEL SPEED OF 88 TO 100 RPM**

☐ **Check** all hydraulic lines for leaks. Turn the hydraulic power unit OFF.

NOTES: **IF THE SIDE WHEELS ARE ELECTRIC DRIVE, THE WHEEL SPEED IS PRESET AT 88 RPM. USING A VARIABLE SPEED DRIVE (VFD) INSTEAD OF STARTER UNITS ALLOWS FOR WHEEL SPEED ADJUSTMENT. REFER TO RECOMMENDATIONS ABOVE FOR OPTIMAL WHEEL SPEED ADJUSTMENT**

☐ Manually **turn ON** the **WATER DILUTION STATION** and confirm that the **SPRAY NOZZLES COVERS** the wheel from top to bottom**.** Turn OFF your dilution station. Consult your MCWW Dilution Station Installation manual for adjustment.

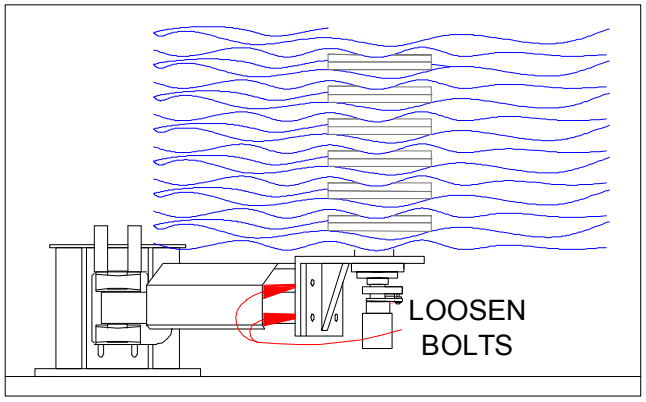
☐ **Run** a car through the wash and verify proper operation of both **SIDE WHEELS.** Confirm wheel speed under vehicle load with the **HYDRAULIC POWER UNIT SET AT 1000 PSI.** Open hydraulic flow control valve to reach recommended speed value previously specified.

WARNING!

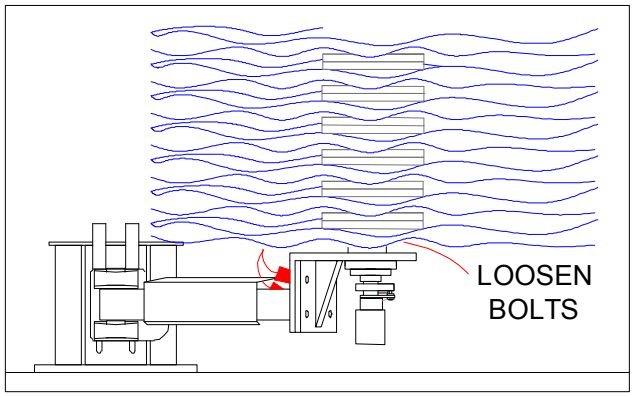
VERIFY FOR PROPER ROTATION!
EACH WHEEL HAS TO ROTATE AGAINST
THE VEHICLE DIRECTION

OPERATING THE WHEELS WITH THE WRONG DIRECTION
WILL LEAD TO DAMAGES TO VEHICLE
AND WASHING EQUIPMENT!

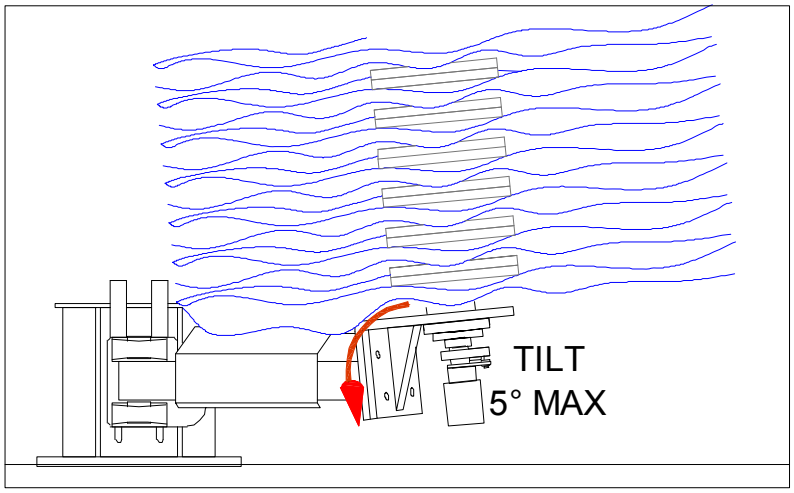
☐ **If** desired, the wheel can be **TILTED AWAY FROM THE VEHICLE** for a different coverage on the vehicle. To tilt the wheel away from the vehicle, loosen the bolts holding the head assembly (see Picture #24 and 25) and tilt the head toward the exit of the wash. Tighten the bolts. Test a car.



Pic #24: Loosen Front Head Bolt



Pic #25: Loosen Back Head bolts



Pic #25: Tilt Head

Maintenance:

DAILY:

- Check for hydraulic leaks, chaffed hoses electrical cable, ect.
- Visually inspect for any sign of wear.
- Move the arms manually and duplicate its regular motion and look for abnormalities: A loose fastener may allow some parts to move or rub and may create a dark "stain" running down the equipment.
- Start the day with a "TEST WASH" and check for proper operation.
- While you are watching the TEST WASH, check for clogged nozzles. If a nozzle is clogged, remove the nozzle body and clean the nozzle by inserting a small piece of wire (a small paper clip wire can do fine!) in the nozzle opening.
- Check also for proper coverage of the two Streamer™ Foamers if applicable.
- Check for the overall performance of the equipment on the vehicle: Profiling, cleaning, ect.
- Wash down your equipment and the area around at the end of each day.

MONTHLY:

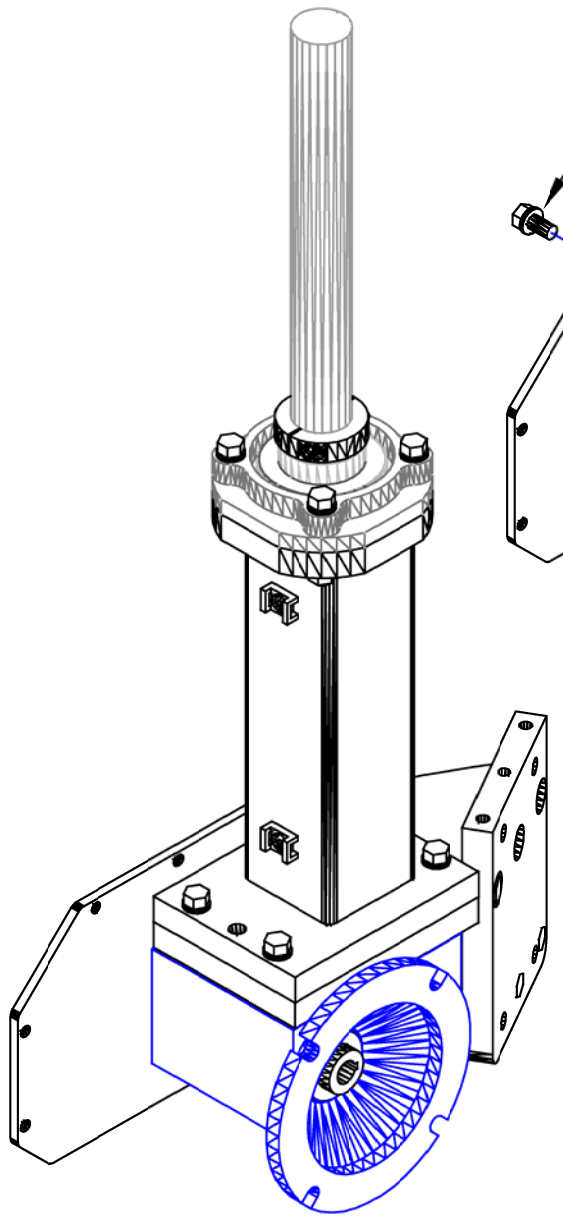
Each MCWW equipment are assembled with the highest quality bearings and have been factory pre-lubricated, therefore, do not require supplemental grease for the first month of operation.
Use any lithium-based NLGI #2 grease (ex: Exxon Mobil MOBILITH AW2).

WARNING!
OVERLUBRICATION IS A MAJOR CAUSE OF BEARINGFAILURES!
LUBRICATE CONSERVATIVELY!

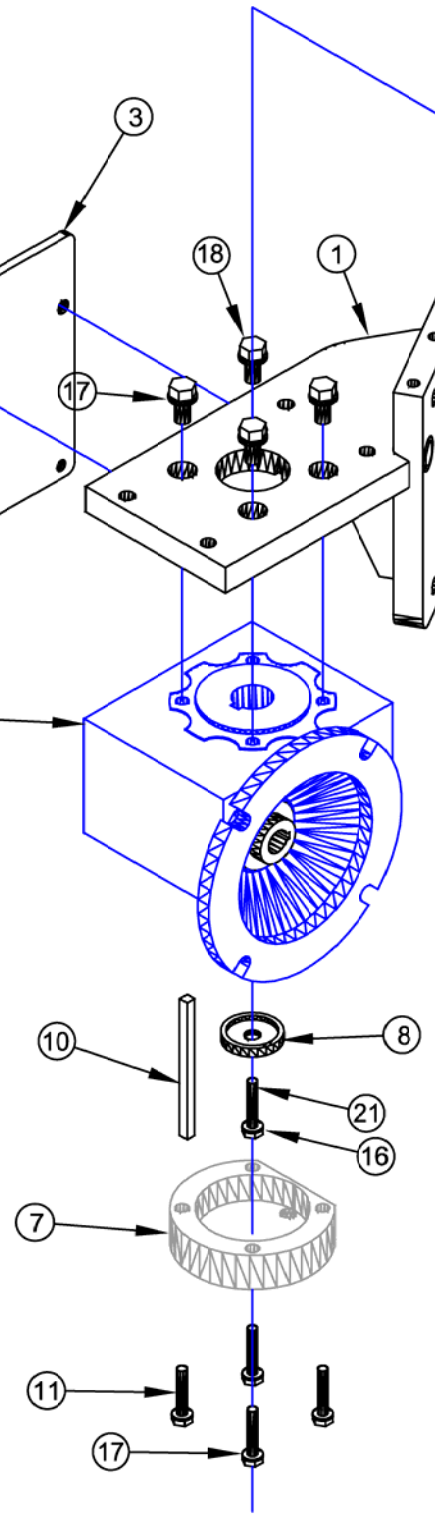
- After the first month of operation, grease each bearing.
- Wash your equipment with a solution made of a mild degreaser and water. Rinse thoroughly.
- Perform a daily maintenance.

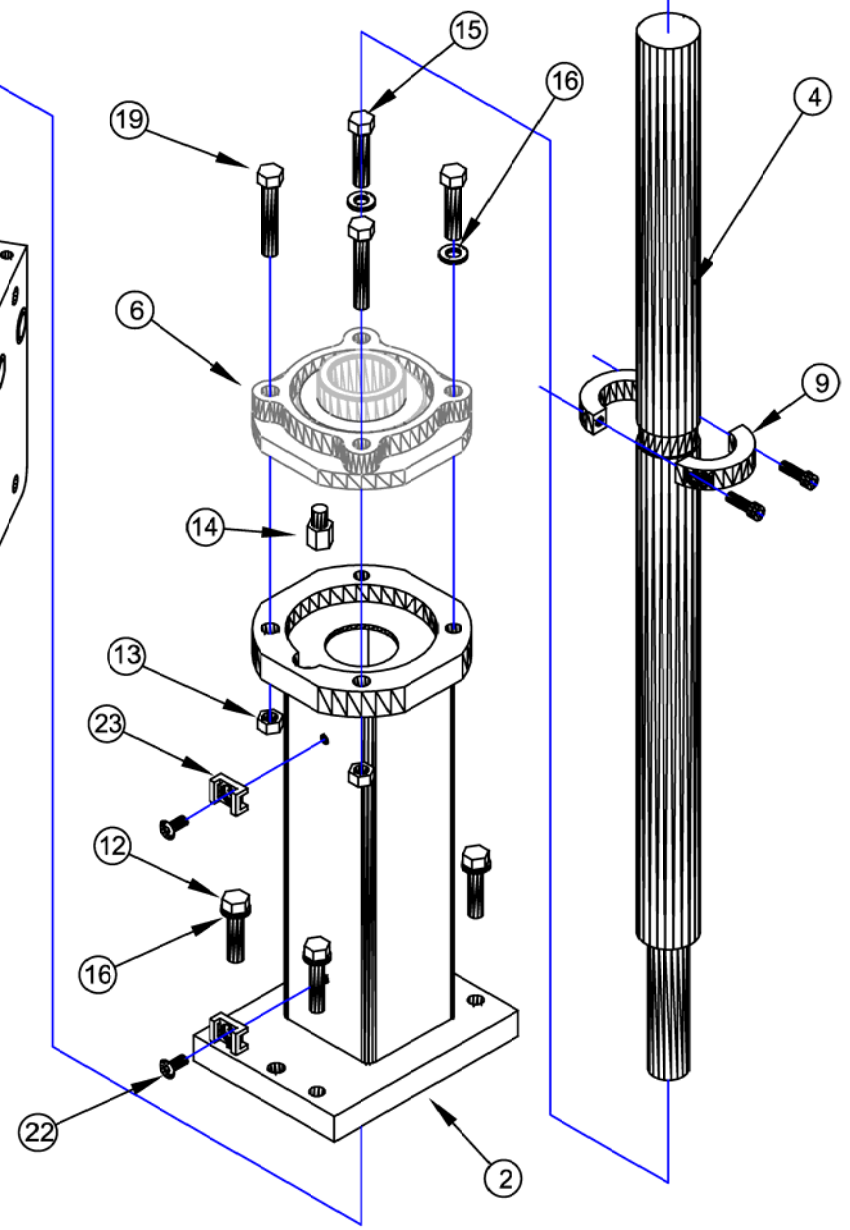
Warranty and Return Procedure:

Motor City Wash Works warrant this product to be free of defect in material and/or workmanship for a period of **one year** from the date of the purchase by the customer from MCWW. During the warranty period MCWW will at its discretion, at no charge to the customer, repair or replace this product if found defectives, with a new or refurbished unit, but not to include costs of removal or installation. Any product returned to MCWW for warranty has to have a **Return Material Authorization Number**. All shipping cost to MCWW is assumed by the customer. This is only a summary of **MCWW Limited Warranty**. Please, communicate with MCWW for our complete warranty.
Prior to returning any product to MCWW, the customer must call in for **Return Material Authorization Number** and a copy of our **Return Material Authorization** Form filled and completed. The **RMA** number must be written clearly on the outside of the shipping package and copy of the form must be included in the package.



NOTE:APPLY VIBRATITE 12150 (BLUE) OR EQUVILANT TO ALL THREADS ON FASTENERS AND TORQUE TO (50FT LBS





REQ	#	PART NUMBER	DESCRIPTION	QTY
X	1	7LOSWGBXASY0001	LOSW GRBX MNT	1
X	2	7LOSWBRGHSG0003	LOSW BEARING HSG	1
X	3	8LOSWPLTALM0007	GUARD END PLT	1
	4	8SHAFLSWSTS0002	LR/HB ELEC SHAFT	1
	5	8GRBXWRMDBL0002	20:1 GEARBOX	1
	6	7BRNG4BPIRN0024	4 BOLT IRN BEARING	1
X	7	8GRBXWRMCAP0003	GRBX END CAP	1
	8	8FASTWSHFLT0012	FLT WSH RETAINER	1
	9	8COLRSPTLOC0001	SPLIT LOCK COLLAR	1
	10	8KEYSTCKSTL0001	¼" KEY X 3-½"	1
X	11	8FASTBLTHEX0059	8MMX35MM BOLT	4
	12	8FASTBLTHEX0027	⅜X16X1-½" BOLT ARM	5
	13	8FASTNUTLOC0008	⅜X16 LOCK NUT	2
	14	8FTNGGRSSRT0001	¼X28 X ¼ TB AIR	1
	15	8FASTBLTHEX0014	⅜X16X1-¾ SS BOLT	2
X	16	8FASTWSHLOC0002	⅜" LOC WASHER	9
X	17	8FASTWSHLOC0001	5/16" LOC WASHER	8
X	18	8FASTBLTHEX0054	8MMX20MM BOLT	4
	19	8FASTBLTHEX0028	⅜X16X2 -½ BOLT ARM	2
X	20	8FASTBLTHEX0001	⅜X16X¾" BOLT SS	2
	21	8FASTBLTHEX0013	⅜X16X1-1/4" BOLT SS	1
	22	8FASTBLTBHD0002	¼"X20X½" FHSH SS	2
	23	8FASTCBLTIE0002	CABLE TIE HOLDER	2

Support Documents:

NOTES:
XXXXX

Tools List:
1– XXXXX
2– XXXXX
3– XXXXX
4– XXXXX
5– XXXXX
6– XXXXX
7– XXXXX
8– XXXXX

.XX ± .010
.XXX ± .005
.XXXX ± .001
Fract. ± 1/32"
Unless otherwise specified

Scale: 1:X in

MasterCAM # XXX

Date:

B

Drawn By: DJC

Date: 01/08/14

Modified By: XXX

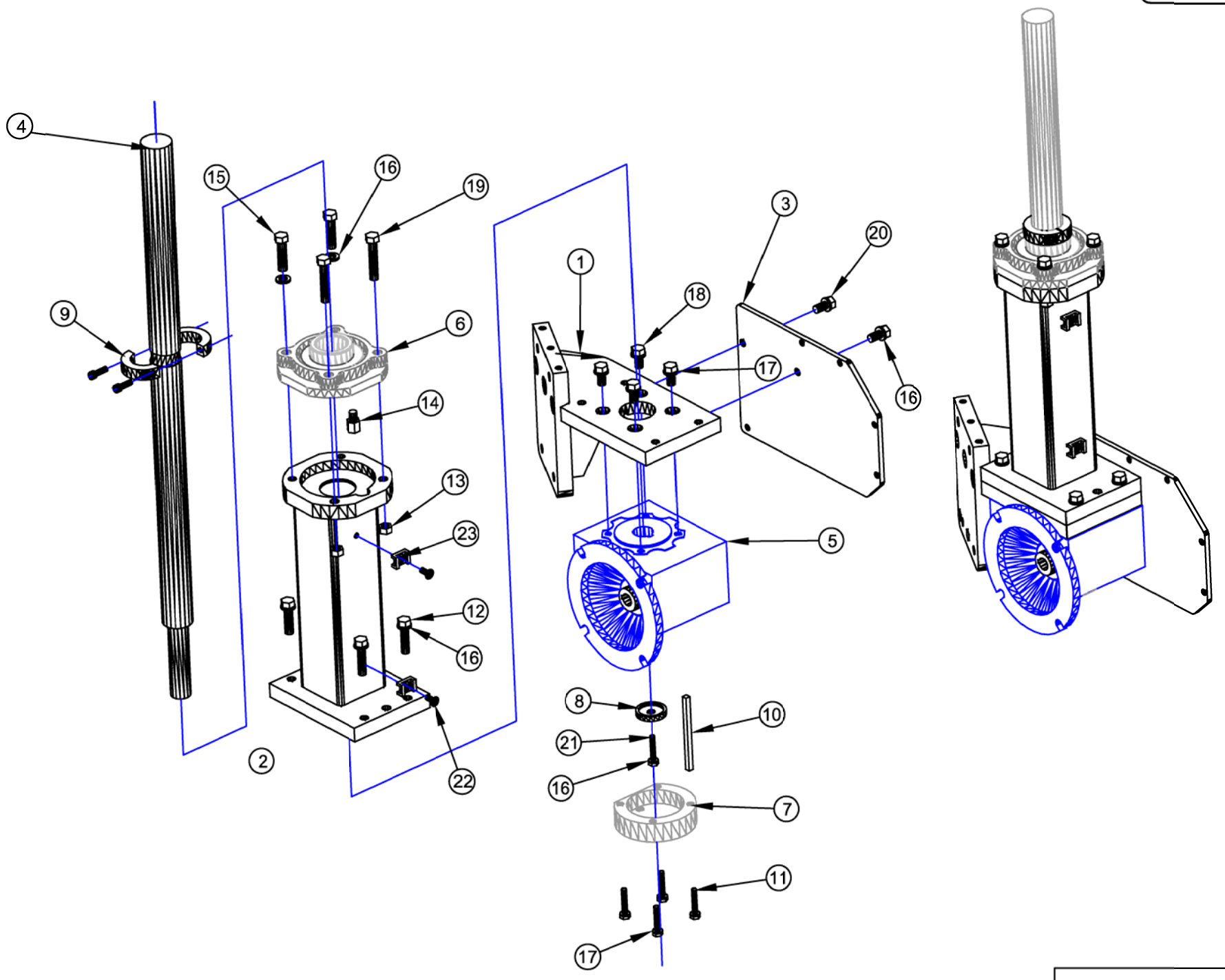
Date:

MECHANICAL TEMPLATE

Part Number: 7LOSWGBXKITDS01

Description: DS LR/HB GEARBOX WELDMENT UPGRADE REPLACEMENT KIT (FIELD INSTALL)

REQ	#	PART NUMBER	DESCRIPTION	QTY
X	1	7LOSWGBXASY0002	LOSW GRBX MNT	1
X	2	7LOSWBRGHSG0003	LOSW BEARING HSG	1
X	3	8LOSWPLTALM0007	GUARD END PLT	1
	4	8SHAFLSWSTS0002	LR/HB ELEC SHAFT	1
	5	8GRBXWRMDBL0002	20:1 GEARBOX	1
	6	7BRNG4BPIRN0024	4 BOLT IRN BEARING	1
X	7	8GRBXWRMCAP0003	GRBX END CAP	1
	8	8FASTWSHFLT0012	FLT WSH RETAINER	1
	9	8COLRSPTLOC0001	SPLIT LOCK COLLAR	1
	10	8KEYSTCKSTL0001	¼" KEY X 3-½"	1
X	11	8FASTBLTHEX0059	8MMX35MM BOLT	4
	12	8FASTBLTHEX0027	⅜X16X1-½" BOLT ARM	5
	13	8FASTNUTLOC0008	⅜X16 LOCK NUT	2
	14	8FTNGGRSSRT0001	¼X28 X ¼ TB AIR	1
	15	8FASTBLTHEX0014	⅜X16X1-¾ SS BOLT	2
X	16	8FASTWSHLOC0002	⅜" LOC WASHER	9
X	17	8FASTWSHLOC0001	5/16" LOC WASHER	8
X	18	8FASTBLTHEX0054	8MMX20MM BOLT	4
	19	8FASTBLTHEX0028	⅜X16X2 -½ BOLT ARM	2
X	20	8FASTBLTHEX0001	⅜X16X¾" BOLT SS	2
	21	8FASTBLTHEX0013	⅜X16X1-1/4" BOLT SS	1
	22	8FASTBLTBHD0002	¼"X20X½" FHSH SS	2
	23	8FASTCBLTIE0002	CABLE TIE HOLDER	2



NOTE:APPLY VIBRATITE 12150 (BLUE) OR EQUVILANT TO ALL THREADS ON FASTENERS AND TORQUE TO (50FT LBS

NOTES:
XXXXX

Tools List:
1– XXXXX
2– XXXXX
3– XXXXX
4– XXXXX
5– XXXXX
6– XXXXX
7– XXXXX
8– XXXXX

.XX ± .010
.XXX ± .005
.XXXX ± .001
Fract. ± 1/32"
Unless otherwise specified

Scale: 1:X in

MasterCAM # XXX

Date:

B

Drawn By: DJC

Date: 01/08/14

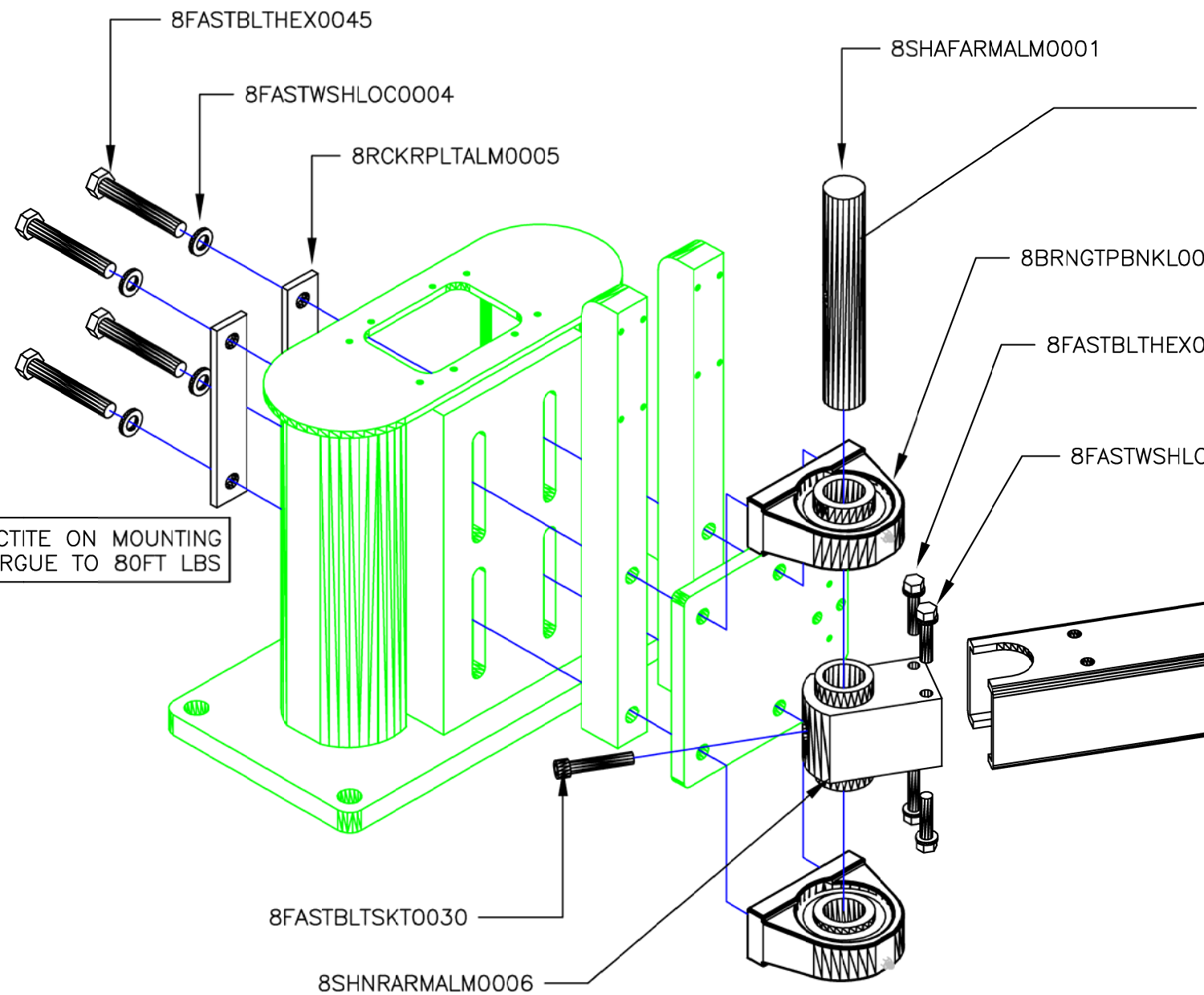
Modified By: XXX

Date:

Part Number: 7LOSWGBXKITPS01

Description: PS LR/HB GEARBOX WELDMENT UPGRADE REPLACEMENT KIT (FIELD INSTALL)

MECHANICAL TEMPLATE



KIT MATERIAL LIST

PART NUMBER	DESCRIPTION	QTY
8SHNRARMALM0006	PIVOT BLOCK	1
8SHAFARMALM0001	PIVOT SHAFT	1
7LOSWARMALM0003	DS LR/HB ARM	1
8RCKRPLTALM0005	BEARING BOLT SUPPORT BAR	2
8FASTBLTHEX0045	HHCS 1/2–13 X 3–½ ARMOR	4
8FASTWSHLOC0004	LOCK WASHER ½ SS18–8	4
8FASTBLTHEX0015	HHCS 3/8–16 X 1 SS18–8	4
8FASTWSHLOC0002	LOCK WASHER ⅜ SS18–8	5
8FASTBLTSKT0030	SHCS 3/8–16 X 2 ARMOR	1
8BRNGTPBNKL0020	NICKEL BEARING 1–¼ TB	2

NOTES:
XXXXX

Tools List:
1– XXXXX
2– XXXXX
3– XXXXX
4– XXXXX
5– XXXXX
6– XXXXX
7– XXXXX
8– XXXXX

.XX ± .010
.XXX ± .005
.XXXX ± .001
Fract. ± 1/32"
Unless otherwise specified

Scale: 1:X in

MasterCAM # XXX

Date:

B

Drawn By: DJC

Date: 01/08/14

Modified By: XXX

Date:

MECHANICAL TEMPLATE

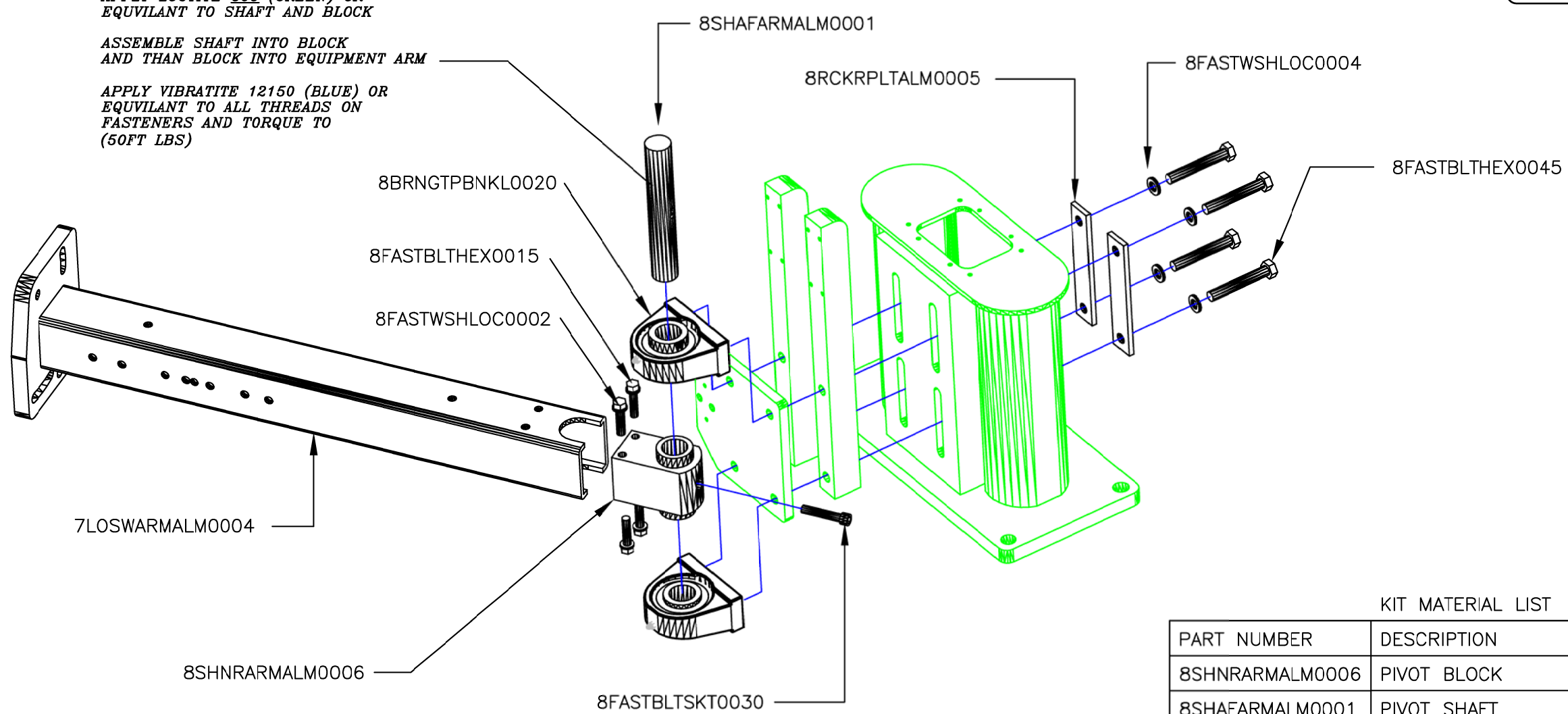
Part Number: 7SHFKTNKLDS0003

Description: DS LR/HB FREE STANDING NICKEL BEARING/ARM UPGRADE REPLACEMENT KIT (FIELD INSTALL)

APPLY LOCTITE 609 (GREEN) OR EQUVILANT TO SHAFT AND BLOCK

ASSEMBLE SHAFT INTO BLOCK AND THAN BLOCK INTO EQUIPMENT ARM

APPLY VIBRATITE 12150 (BLUE) OR EQUVILANT TO ALL THREADS ON FASTENERS AND TORQUE TO (50FT LBS)



KIT MATERIAL LIST

PART NUMBER	DESCRIPTION	QTY
8SHNRARMALM0006	PIVOT BLOCK	1
8SHAFARMALM0001	PIVOT SHAFT	1
7LOSWARMALM0004	PS LR/HB ARM	1
8RCKRPLTALM0005	BEARING BOLT SUPPORT BAR	2
8FASTBLTHEX0045	HHCS 1/2–13 X 3–½ ARMOR	4
8FASTWSHLOC0004	LOCK WASHER ½ SS18–8	4
8FASTBLTHEX0015	HHCS 3/8–16 X 1 SS18–8	4
8FASTWSHLOC0002	LOCK WASHER ⅜ SS18–8	5
8FASTBLTSKT0030	SHCS 3/8–16 X 2 ARMOR	1
8BRNGTPBNKL0020	NICKEL BEARING 1–¼ TB	2

NOTES:
XXXXX

Tools List:
1– XXXXX
2– XXXXX
3– XXXXX
4– XXXXX
5– XXXXX
6– XXXXX
7– XXXXX
8– XXXXX

.XX ± .010
.XXX ± .005
.XXXX ± .001
Fract. ± 1/32"
Unless otherwise specified

Scale: 1:X in

MasterCAM # XXX

Date:

B

Drawn By: DJC

Date: 01/08/14

Modified By: XXX

Date:

MECHANICAL TEMPLATE

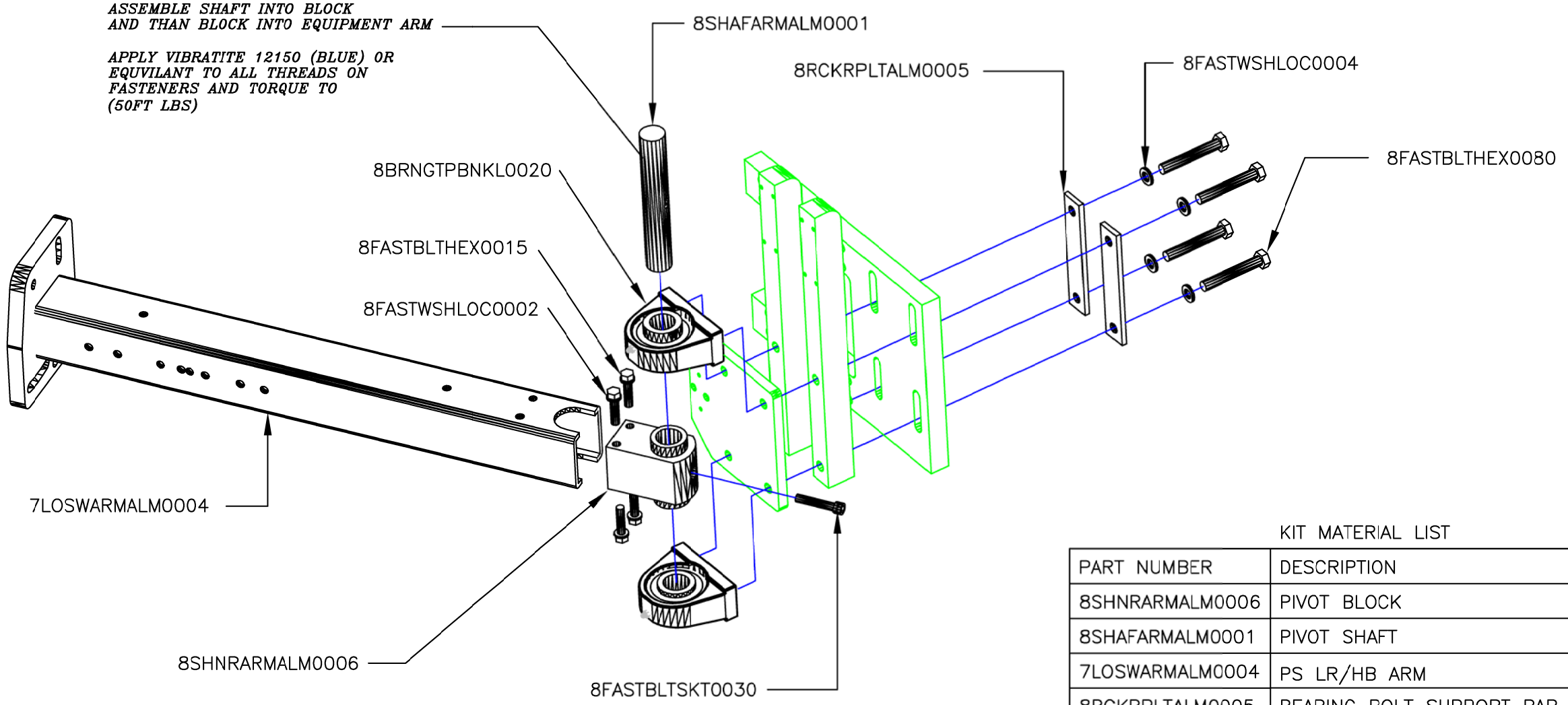
Part Number: 7SHFKTNKLPS0003

Description: PS LR/HB FREE STANDING NICKEL BEARING/ARM UPGRADE REPLACEMENT KIT (FIELD INSTALL)

APPLY LOCTITE 609 (GREEN) OR EQUVILANT TO SHAFT AND BLOCK

ASSEMBLE SHAFT INTO BLOCK AND THAN BLOCK INTO EQUIPMENT ARM

APPLY VIBRATITE 12150 (BLUE) OR EQUVILANT TO ALL THREADS ON FASTENERS AND TORQUE TO (50FT LBS)



KIT MATERIAL LIST

PART NUMBER	DESCRIPTION	QTY
8SHNRARMALM0006	PIVOT BLOCK	1
8SHAFARMALM0001	PIVOT SHAFT	1
7LOSWARMALM0004	PS LR/HB ARM	1
8RCKRPLTALM0005	BEARING BOLT SUPPORT BAR	2
8FASTBLTHEX0080	HHCS 1/2–13 X 4 ARMOR	4
8FASTWSHLOC0004	LOCK WASHER ½ SS18–8	4
8FASTBLTHEX0015	HHCS 3/8–16 X 1 SS18–8	4
8FASTWSHLOC0002	LOCK WASHER ⅜ SS18–8	5
8FASTBLTSKT0030	SHCS 3/8–16 X 2 ARMOR	1
8BRNGTPBNKL0020	NICKEL BEARING 1–¼ TB	2

NOTES:
XXXXX

Tools List:
1– XXXXX
2– XXXXX
3– XXXXX
4– XXXXX
5– XXXXX
6– XXXXX
7– XXXXX
8– XXXXX

.XX ± .010
.XXX ± .005
.XXXX ± .001
Fract. ± 1/32"
Unless otherwise specified

Scale: 1:X in

Part Number: 7SHFKTNKLPS0004

Description: PS LR/HB WRAP/MITTER MNT NICKEL BEARING/ARM UPGRADE REPLACEMENT KIT (FIELD INSTALL)

MasterCAM # XXX *Date:*

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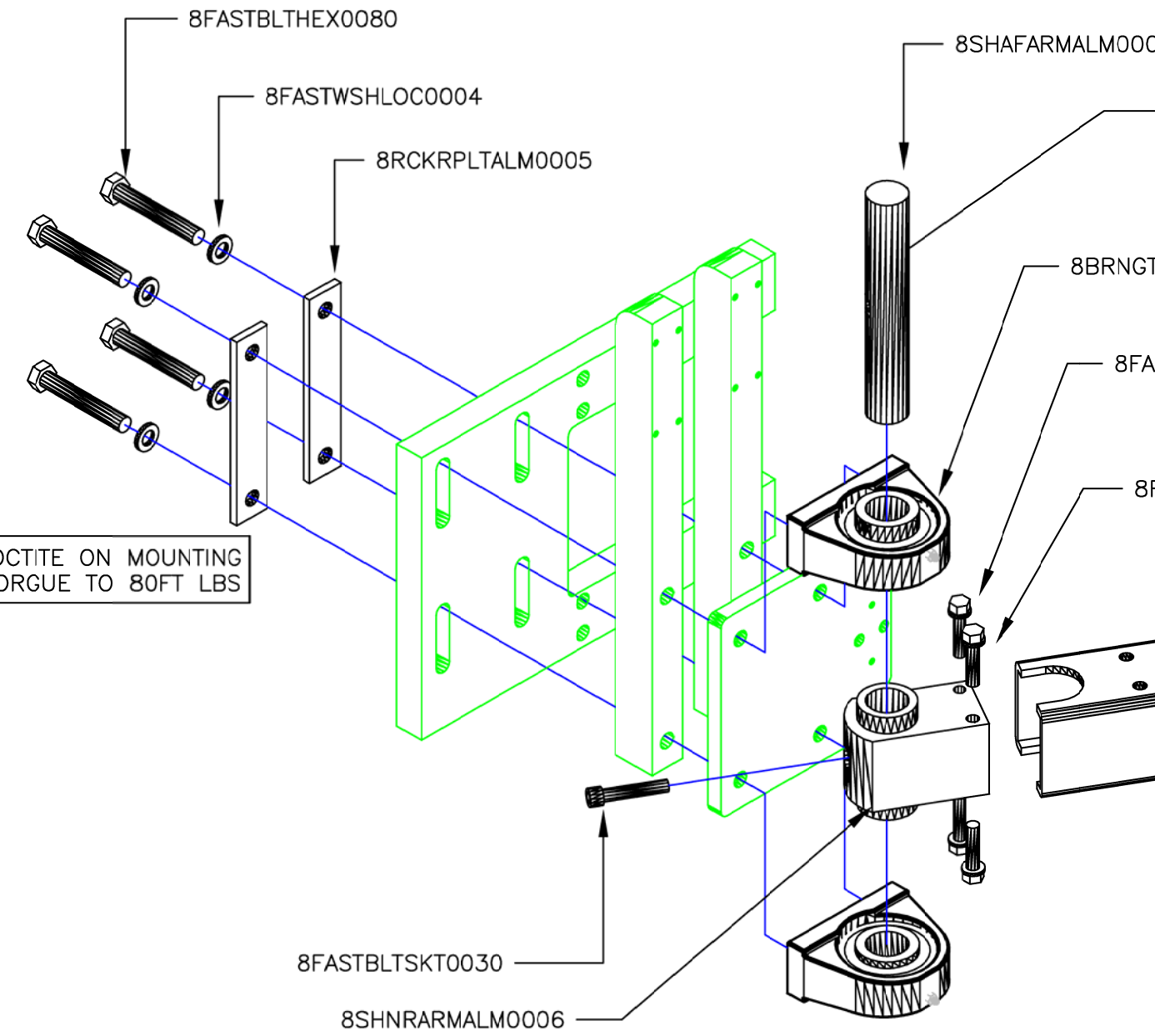
Drawn By: DJC *Date:* 01/08/14

Modified By: XXX *Date:*

MECHANICAL TEMPLATE



KIT MATERIAL LIST

PART NUMBER	DESCRIPTION	QTY
8SHNRARMALM0006	PIVOT BLOCK	1
8SHAFARMALM0001	PIVOT SHAFT	1
7LOSWARMALM0003	DS LR/HB ARM	1
8RCKRPLTALM0005	BEARING BOLT SUPPORT BAR	2
8FASTBLTHEX0080	HHCS 1/2–13 X 4 ARMOR	4
8FASTWSHLOC0004	LOCK WASHER ½ SS18–8	4
8FASTBLTHEX0015	HHCS 3/8–16 X 1 SS18–8	4
8FASTWSHLOC0002	LOCK WASHER ⅜ SS18–8	5
8FASTBLTSKT0030	SHCS 3/8–16 X 2 ARMOR	1
8BRNGTPBNKL0020	NICKEL BEARING 1–¼ TB	2

NOTES:
XXXXX

Tools List:
1– XXXXX
2– XXXXX
3– XXXXX
4– XXXXX
5– XXXXX
6– XXXXX
7– XXXXX
8– XXXXX

.XX ± .010
.XXX ± .005
.XXXX ± .001
Fract. ± 1/32"
Unless otherwise specified

Scale: 1:X in

MasterCAM # XXX | Date:

B

Drawn By: DJC | Date: 01/08/14

Modified By: XXX | Date:

Part Number: 7SHFKTNKLDS0004

Description: DS LR/HB WRAP/MITTER MNT NICKEL BEARING/ARM UPGRADE REPLACEMENT KIT (FIELD INSTALL)

MECHANICAL TEMPLATE