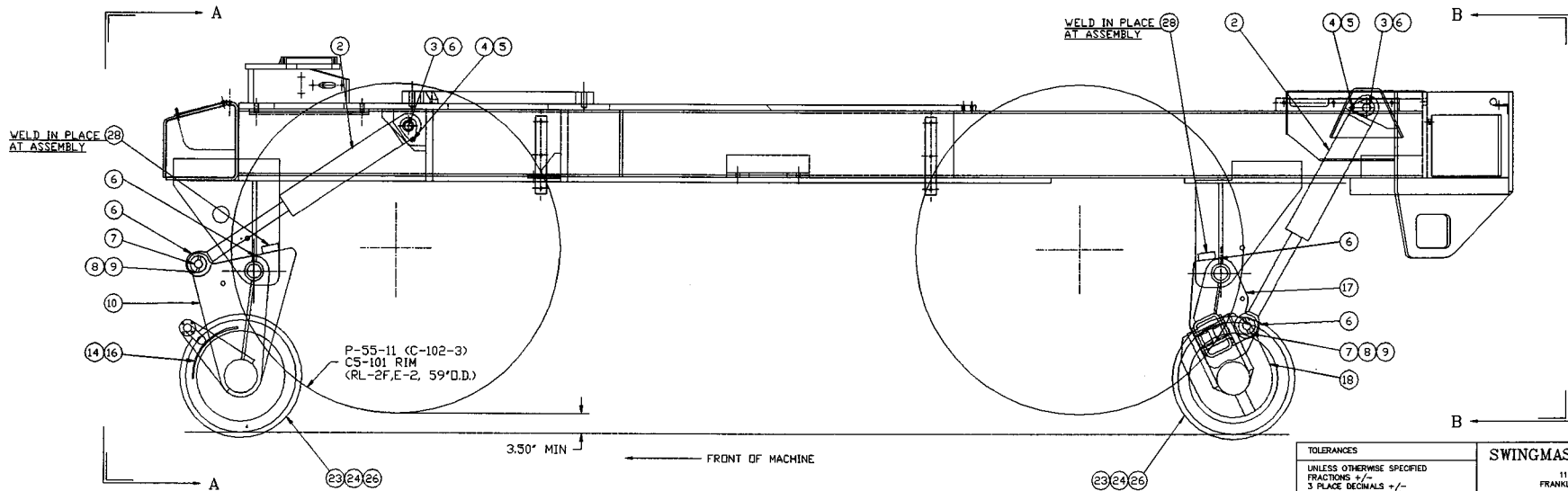


VIEW "A-A"

VIEW "B-B"



3.50" MIN

① ASSEMBLY

TOLERANCES  
 UNLESS OTHERWISE SPECIFIED  
 FRACTIONS +/-  
 3 PLACE DECIMALS +/-  
 2 PLACE DECIMALS +/-  
 1 PLACE DECIMALS +/-  
 ANGLES  
 SEE SWINGMASTER SPECIFICATION  
 0-1 FOR TOLERANCES NOT SPECIFIED  
 DIMENSIONS ARE IN INCHES  
 DO NOT SCALE DRAWING  
 SCALE 1=10

SWINGMASTER CORPORATION  
 11415 MELROSE AVENUE  
 FRANKLIN PARK, ILLINOIS 60131  
 HI-RAIL INSTALLATION  
 56 1/2 INCH GAGE  
 MODEL SL180  
 DRAWN BY: J.K.  
 DATE: 10-14-98  
 DRAWING NO. D-816

MACHINE

SECTION

27

MODEL SL180 SWINGLOADER

HI-RAIL RAILROAD WHEEL EQUIP.

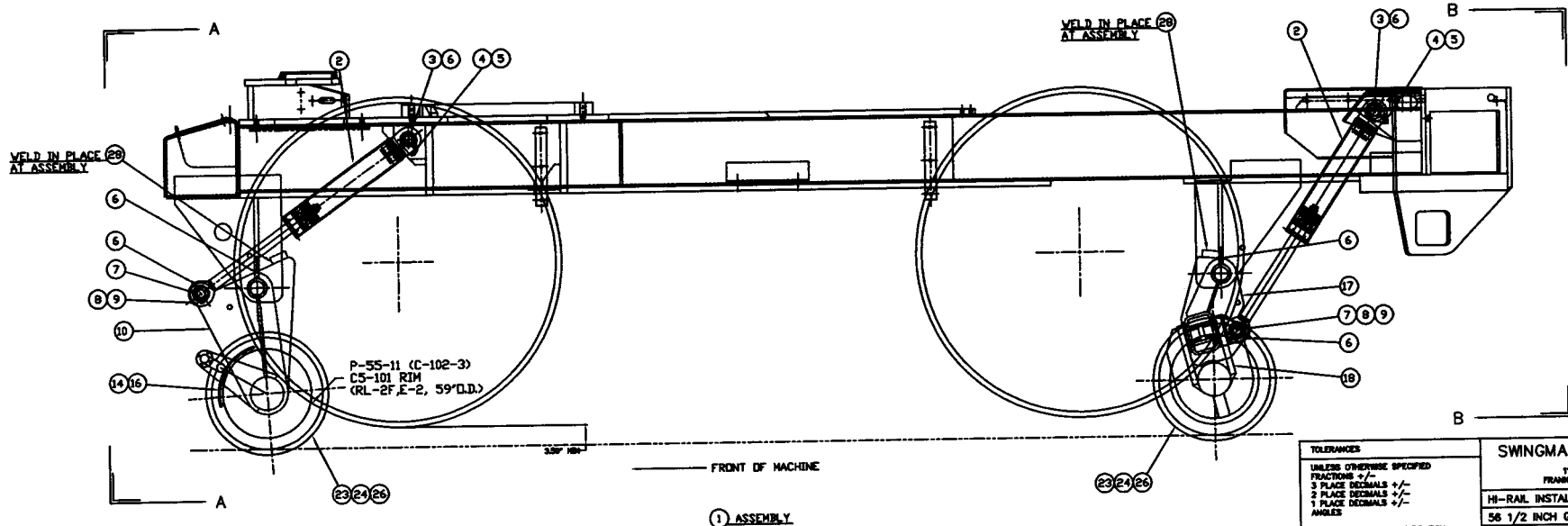
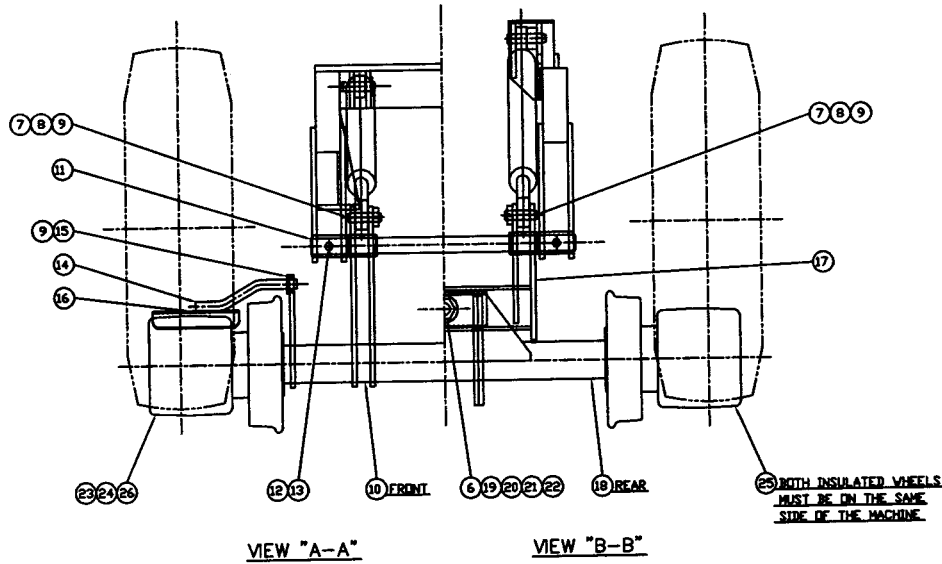
ASSEMBLY  
NUMBER

DESCRIPTION

1806203

HI-RAIL INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY. USED
2	1802100	HI-RAIL CYLINDER	4.00
3	1802101	PIN - 1 1/2" DIA. X 4 7/8" LONG	4.00
4	1800452	H.H.C.S. 3/8-16 X 1" LONG	4.00
5	1800568	3/8" LOCK WASHER	4.00
6	1800663	STRAIGHT 1/8" MALE-PIPE GREASE FITTING	13.00
7	1802561	PIN - 1 1/2" DIA. X 5 1/4" LONG	4.00
8	1802103	H.H.C.S. 3/8-24 X 4" LONG	4.00
9	1802104	ESNA NUT 3/8-24	12.00
10	1806201	FRONT HI-RAIL ROCKER ARM & AXLE TUBE WDT	1.00
11	1802106	PIN - 2 1/2" DIA. X 43" LONG	2.00
12	1800498	H.H.C.S. 3/4-10 X 5" LONG	2.00
13	1800522	ESNA HEX NUT 3/4-10	2.00
14	1802107	HI-RAIL GUARD WELDMENT	2.00
15	1802108	H.H.C.S. 3/8-24 X 1 3/4" LONG	8.00
16	1801050	LABEL- DANGER PINCH POINTS	2.00
17	1806202	REAR HI-RAIL ROCKER ARM WLD'T	1.00
18	1802110	REAR HI-RAIL AXLE TUBE WELDMENT	1.00
19	1800260	PIN WELDMENT	1.00
20	1800181	BRONZE BUSHING - 2" x 2-1/2"	2.00
21	1800561	1 1/2" FLAT WASHER	1.00
22	1800542	ESNA HEX NUT 1 1/2-12	1.00
23	1801455	TRACK WHEEL END ASSEMBLY	4.00
27	1800266	WRENCH ASSEMBLY (FOR BEARING LOCKNUT)	1.00
28	1802111	HI-RAIL TRAVEL STOP BLOCK	4.00



NOTE: 1. SEE D4-764 FOR 3RD HI-RAIL MAIN FRAME, IF REQUESTED.  
2. SEE SPECIAL DRIVE WHEEL D-599 AND D1-599.

TOLERANCES

UNLESS OTHERWISE SPECIFIED  
FRACTIONS  $\pm$  1/16  
3 PLACE DECIMALS  $\pm$  .001  
2 PLACE DECIMALS  $\pm$  .005  
1 PLACE DECIMALS  $\pm$  .015  
ANGLES

SEE SWINGMASTER SPECIFICATION  
D-1 FOR TOLERANCES NOT SPECIFIED

DIMENSIONS ARE IN INCHES  
DO NOT SCALE DRAWING  
SCALE: 1"=10"

SWINGMASTER CORPORATION

11415 MELROSE AVENUE  
FRANKLIN PARK, ILLINOIS 60131

HI-RAIL INSTALLATION

56 1/2 INCH GAGE

MODEL SL18D

DRAWN BY: J.K.

DATE: 10-14-90

DRAWING NO.

D-816

MACHINE

SECTION

9

MODEL SL180 SWINGLOADER  
SEE KIWIT SPECIAL D-599  
AND METRO-H. SPECIAL D1-599

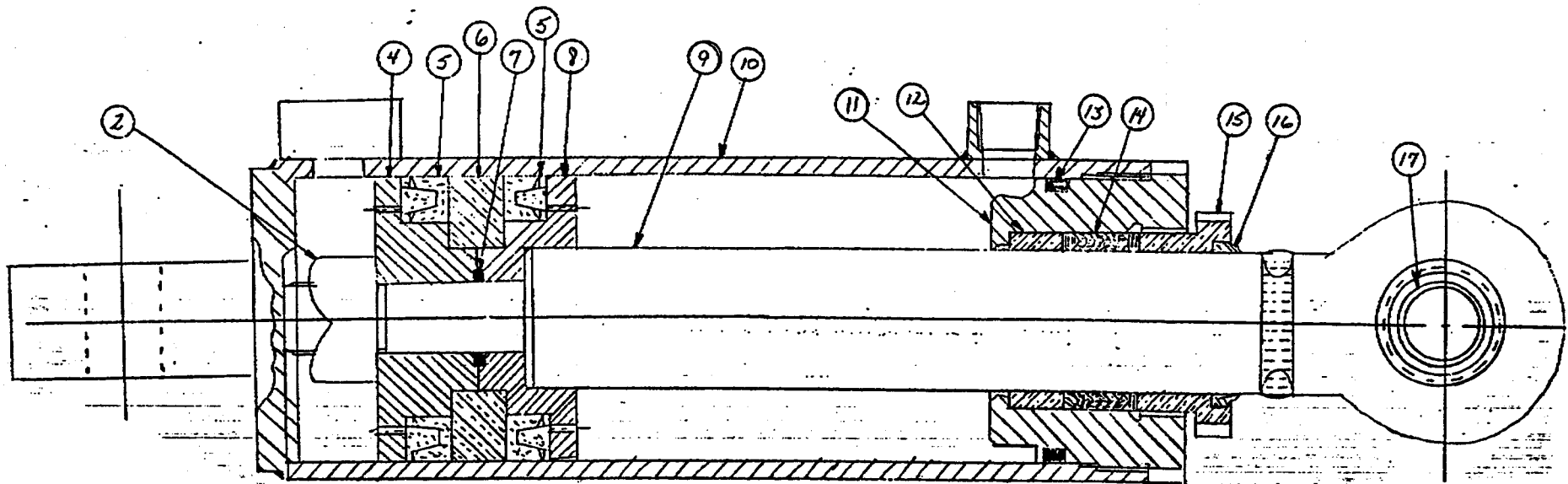
ELECTRICAL SYSTEM

ASSEMBLY  
NUMBER

DESCRIPTION

1806744 3RD HI-RAIL INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY USED
1	1806744	3RD HI-RAIL INSTALLATION	1
2	1802100	HI-RAIL CYLINDER	4
3	1802101	PIN - 1 1/2" DIA. X 4 7/8" LONG	4
4	1800452	H.H.C.S. 3/8-16 X 1" LONG	4
5	1800568	3/8" LOCK WASHER	4
6	1800663	STRAIGHT 1/8" MALE-PIPE GREASE FITTING	13
7	1802561	PIN - 1 1/2" DIA. X 5 1/4" LONG	4
8	1802103	H.H.C.S. 3/8-24 X 4" LONG	4
9	1802104	ESNA NUT 3/8-24	12
10	1806201	FRONT HI-RAIL ROCKER ARM & AXLE TUBE WDT	1
11	1802106	PIN - 2 1/2" DIA. X 43" LONG	2
12	1800498	H.H.C.S. 3/4-10 X 5" LONG	2
13	1800522	ESNA HEX NUT 3/4-10	2
14	1802107	HI-RAIL GUARD WELDMENT	2
15	1802108	H.H.C.S. 3/8-24 X 1 3/4" LONG	8
16	1801050	LABEL- DANGER PINCH POINTS	2
17	1806202	REAR HI-RAIL ROCKER ARM WLD'T	1
18	1802110	REAR HI-RAIL AXLE TUBE WELDMENT	1
19	1800260	PIN WELDMENT	1
20	1800181	BRONZE BUSHING - 2" x 2-1/2"	2
21	1800561	1 1/2" FLAT WASHER	1
22	1800542	ESNA HEX NUT 1 1/2-12	1
23	1801655	TRACK WHEEL END ASSEMBLY- FOR THIRD RAIL	4
24	1800266	WRENCH ASSEMBLY (FOR BEARING LOCKNUT)	1
25	1802111	HI-RAIL TRAVEL STOP BLOCK	4
26	1806818	MAIN FRAME - 3RD HI-RAIL	1



MACHINE

SECTION

27

MODEL 361 SWINGLOADER

HI-RAIL RAILROAD WHEEL EQUIP.

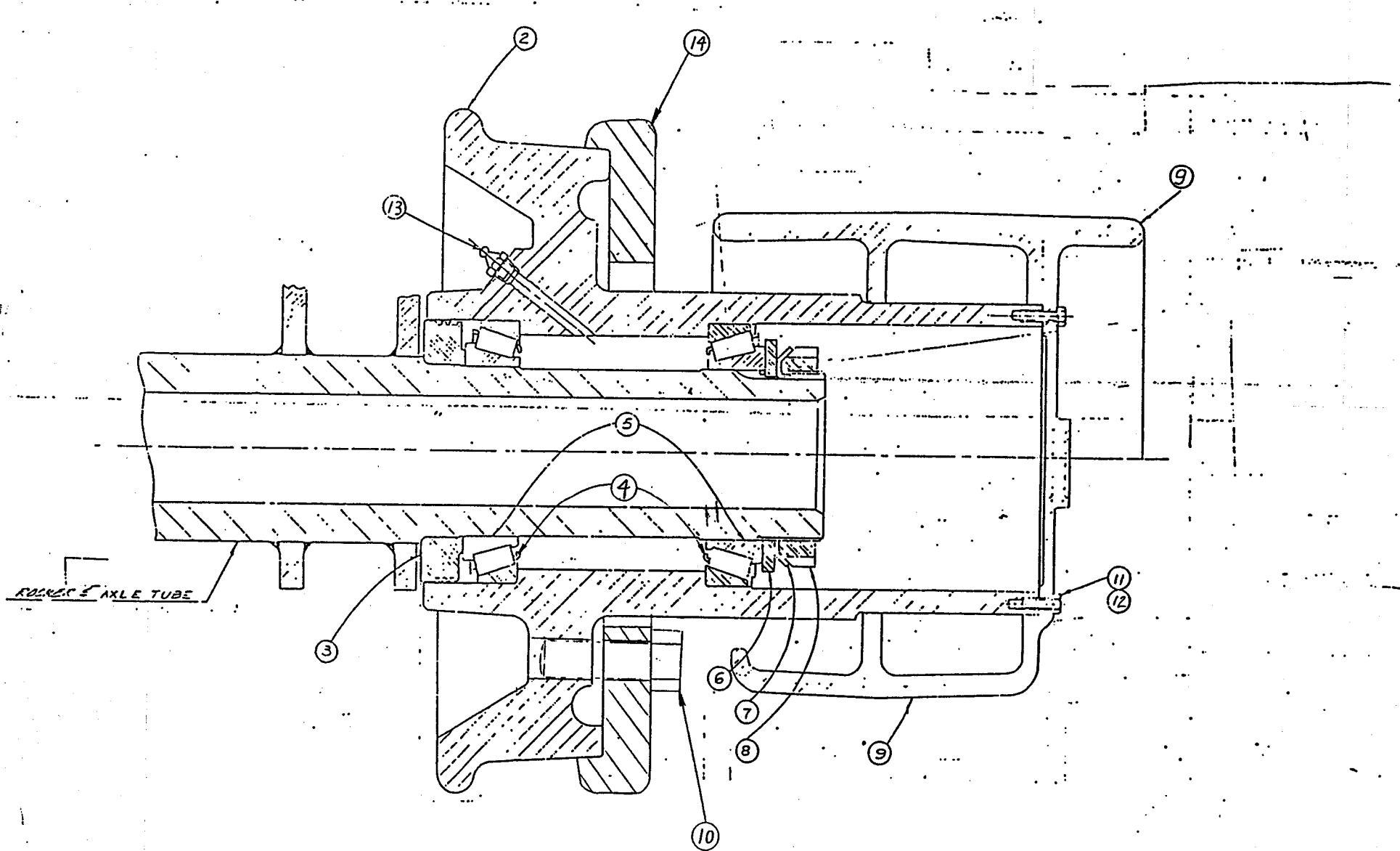
ASSEMBLY  
NUMBER

DESCRIPTION

1802100

HI-RAIL CYLINDER ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY. USED
2	8703296	STOP NUT 1-14	1
4	8700723	PISTON END	1
5	8700726	"U" PACKING	2
6	8700725	CENTER PISTON	1
7	8700727	O-RING	1
8	8700724	PISTON END	1
9	8703306	PISTON ROD	1
10		TUBE	1
11	8700716	PACKING GLAND	1
12	8700718	GUIDE BUSHING	1
13	8700721	O-RING	1
14	8700719	PACKING SET	1
15	8700717	GLAND NUT	1
16	8700720	WIPER RING	1
17	1803626	SPHERICAL BUSHING	2



① ASS'Y.

MACHINE

SECTION

27

MODEL 361 SWINGLOADER

HI-RAIL RAILROAD WHEEL EQUIP.

ASSEMBLY  
NUMBER

DESCRIPTION

1801455

TRACK WHEEL END ASSEMBLY - STANDARD GAGE

1801655

TRACK WHEEL END ASSEMBLY- FOR THIRD RAIL

1801807

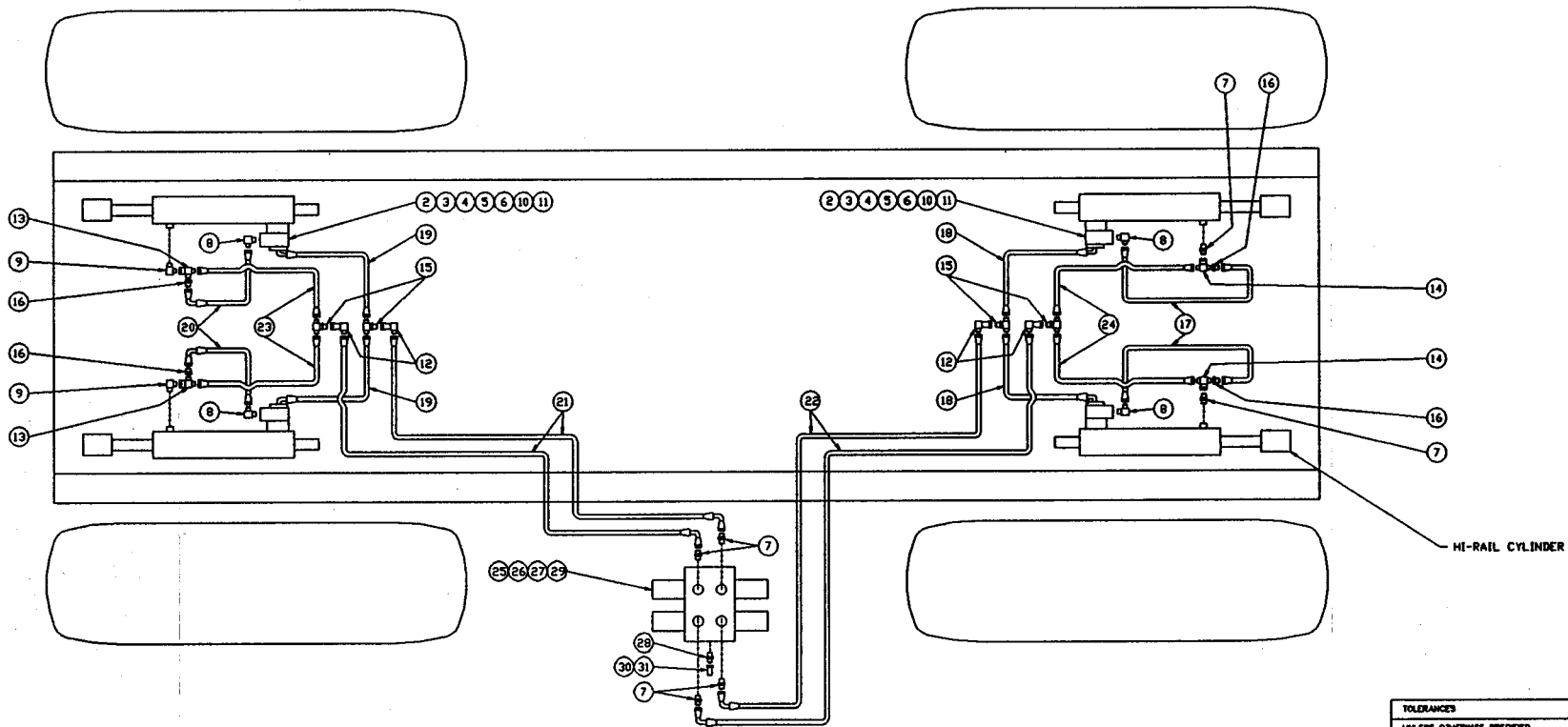
TRACK WHEEL END ASSEMBLY-FOR DUAL FLANGE

ITEM NO.	PART NUMBER	DESCRIPTION	QTY. USED
2	1800242	TRACK WHEEL - STANDARD GAGE	1
2	1801656	TRACK WHEEL - FOR THIRD RAIL	1
2	1800243	TRACK WHEEL - FOR DUAL FLANGE	1
3	1801401	DUST COLLAR	1
4	1800208	BEARING CUP - 5 1/2" BORE	2
5	1800207	BEARING CONE - 5 1/2" BORE	2
6	1801407	TONGUED STEEL WASHER	1
7	1800271	BEARING LOCK WASHER	1
8	1800211	LOCK NUT	1
9	1800238	DRIVE WHEEL	1
9	1803118	WIDE DRIVE WHEEL	1
10*	1800480	H.H.C.S. 3/4-16 X 2 1/2" LG	8
11	1800473	H.H.C.S. 1/2-20 X 1 3/4" LONG	8
12	1800570	1/2" LOCK WASHER	8
13	1800661	STRAIGHT 1/4" PIPE-M GREASE FITTING	1
14*	1800358	FLANGE	1

\* - FOR DUAL FLANGE USE ONLY



← FRONT OF MACHINE



1 INSTALLATION

<b>TOLERANCES</b> UNLESS OTHERWISE SPECIFIED FRACTIONS +/- 3 PLACE DECIMALS +/- 2 PLACE DECIMALS +/- 1 PLACE DECIMALS +/- ANGLES	<b>SWINGMASTER CORPORATION</b>	
	11415 MELROSE AVENUE FRANKLIN PARK, ILLINOIS 60131	
SEE SWINGMASTER SPECIFICATION G-1 FOR TOLERANCES NOT SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE DRAWING SCALE: 1:10	<b>HI-RAIL CONTROL VALVE LINES &amp; FITTINGS</b>	
	MODEL 361	
	DRAWN BY: R.O. DATE: 2-9-89	DRAWING NO. <b>D-257</b>

MACHINE

SECTION

27

MODEL 361 SWINGLOADER

HI-RAIL RAILROAD WHEEL EQUIP.

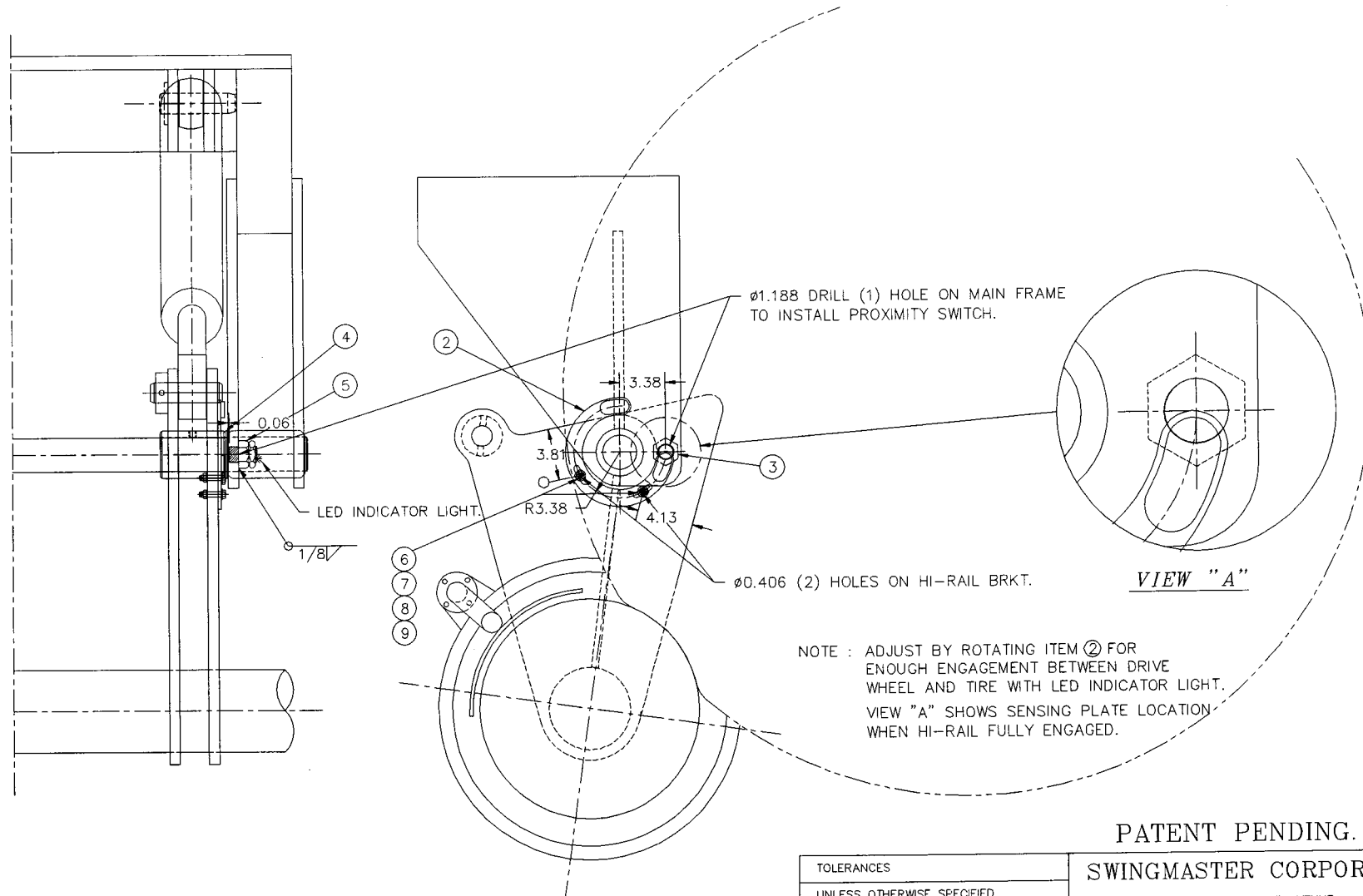
ASSEMBLY  
NUMBER

DESCRIPTION

1802511

HI-RAIL CONTROL VALVE LINES & FITTINGS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY. USED
2	1800210	COUNTERBALANCE VALVE	4.00
3	1800454	H.H.C.S. 3/8-16 X 1 1/4" LONG	8.00
4	1800462	H.H.C.S. 3/8-16 X 3" LONG	8.00
5	1800463	H.H.C.S. 3/8-16 X 3 1/2" LONG	8.00
6	1800568	3/8" LOCK WASHER	24.00
7	1800765	STRAIGHT MALE 1/2 O-RING TO 1/2 TUBE	6.00
8	1800794	90 DEG MALE ELBOW 3/8 O-RING TO 3/8 TUBE	4.00
9	1800796	90 DEG MALE ELBOW 1/2 O-RING TO 1/2 TUBE	2.00
10	1800817	3/4" O-RING FOR SPLIT FLANGE HEAD	4.00
11	1800823	3/4" SPLIT FLANGE CLAMP HALF	8.00
12	1800853	90 DEG TUBE ELBOW 1/2 M TO 1/2 F SWIVEL	4.00
13	1800859	1/2 TUBE RUN TEE M-F SWIVEL-M	2.00
14	1800883	1/2 TUBE BRANCH TEE M-M-F-SWIVEL	2.00
15	1801009	1/2 TUBE MALE BULKHEAD BRANCH TEE	4.00
16	1802381	STRAIGHT TUBE ADAPTER 3/8-M TO 1/2-F	4.00
17	1802512	HOSE ASSEMBLY 1503-6	2.00
18	1802513	HOSE ASSEMBLY 2781-8	2.00
19	1802514	HOSE ASSEMBLY 2781-8	2.00
20	1801602	HOSE ASSEMBLY 1503-6	2.00
21	1802515	HOSE ASSEMBLY 2781-8	2.00
22	1802516	HOSE ASSEMBLY 2781-8	2.00
23	1802517	HOSE ASSEMBLY 2781-8	2.00
24	1802518	HOSE ASSEMBLY 2781-8	2.00
25	1800443	H.H.C.S. 5/16-18 X 1" LONG	4.00
26	1800512	HEX NUT 5/16-18	4.00
27	1800074	5/16" LOCK WASHER	4.00
28	1800764	STRAIGHT MALE 1/2 O-RING TO 3/8 TUBE	1.00
29	1802562	HI-RAIL CONTROL VALVE	1.00
30	1800876	DUST CAP	1.00
31	1801668	PRESSURE SENSING COUPLING - 3/8 TUBE	1.00



Ø1.188 DRILL (1) HOLE ON MAIN FRAME TO INSTALL PROXIMITY SWITCH.

0.06

1/8

LED INDICATOR LIGHT

3.38

3.8

R3.38

4.13

Ø0.406 (2) HOLES ON HI-RAIL BRKT.

VIEW "A"

NOTE : ADJUST BY ROTATING ITEM ② FOR ENOUGH ENGAGEMENT BETWEEN DRIVE WHEEL AND TIRE WITH LED INDICATOR LIGHT. VIEW "A" SHOWS SENSING PLATE LOCATION WHEN HI-RAIL FULLY ENGAGED.

PATENT PENDING.

<p>TOLERANCES</p> <p>UNLESS OTHERWISE SPECIFIED</p> <p>FRACTIONS +/-</p> <p>3 PLACE DECIMALS +/-</p> <p>2 PLACE DECIMALS +/-</p> <p>1 PLACE DECIMALS +/-</p> <p>ANGLES</p> <p>SEE SWINGMASTER SPECIFICATION</p> <p>G-1 FOR TOLERANCES NOT SPECIFIED</p> <p>DIMENSIONS ARE IN INCHES</p> <p>DO NOT SCALE DRAWING</p> <p>SCALE: 1/6</p>	<p><b>SWINGMASTER CORPORATION</b></p> <p>11415 MELROSE AVENUE FRANKLIN PARK, ILLINOIS 60131</p>	
	<p>DRIVER SIDE FRONT SENSOR INSTALLATION</p>	
	<p>HI-RAIL FREE WHEEL PROTECTION SYSTEM</p>	
	<p>MODEL SL180</p>	
	<p>DRAWN BY: J.K.</p> <p>DATE: 10-17-02</p>	<p>DRAWING NO.</p> <p style="font-size: 2em;">C-410</p>

MACHINE

SECTION

27

MODEL SL180 SWINGLOADER

HI-RAIL RAILROAD WHEEL EQUIP.

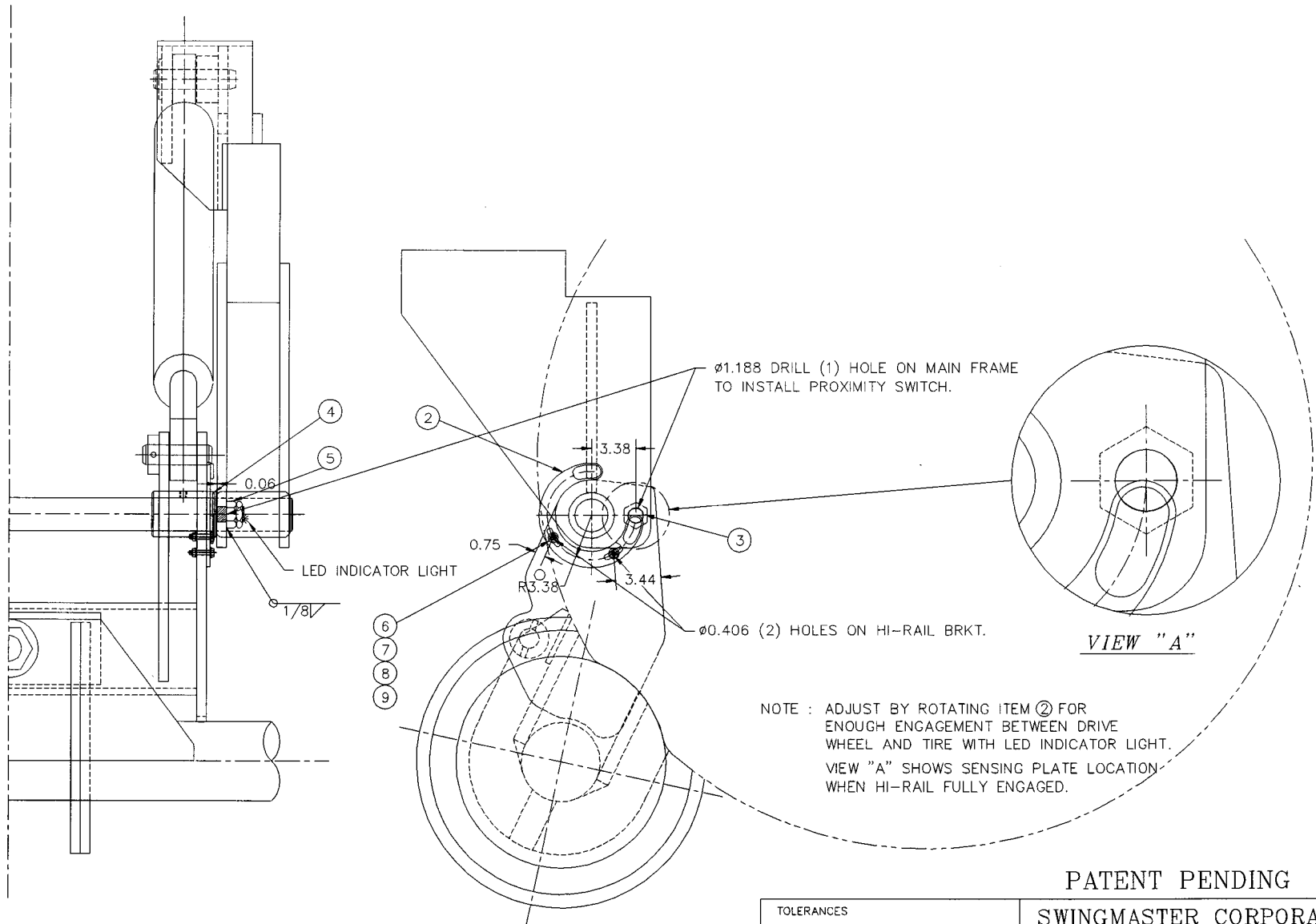
ASSEMBLY  
NUMBER

DESCRIPTION

1806253

DRIVER SIDE FRONT SENSOR INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY. USED
2	1806255	SENSING PLATE WELDMENT	1.00
3	1806256	PROXIMITY SWITCH	1.00
4	1806257	SPECIAL SPACER	1.00
5	1806258	METRIC HEX NUT M30-1.50	1.00
6	1800459	H.H.C.S. 3/8-16 X 1 3/4" LONG	2.00
7	1800552	3/8" FLAT WASHER	2.00
8	1800568	3/8" LOCK WASHER	2.00
9	1800514	HEX NUT 3/8-16	2.00



Ø1.188 DRILL (1) HOLE ON MAIN FRAME TO INSTALL PROXIMITY SWITCH.

Ø0.406 (2) HOLES ON HI-RAIL BRKT.

*VIEW "A"*

NOTE : ADJUST BY ROTATING ITEM ② FOR ENOUGH ENGAGEMENT BETWEEN DRIVE WHEEL AND TIRE WITH LED INDICATOR LIGHT.  
VIEW "A" SHOWS SENSING PLATE LOCATION WHEN HI-RAIL FULLY ENGAGED.

PATENT PENDING

<p>TOLERANCES</p> <p>UNLESS OTHERWISE SPECIFIED</p> <p>FRACTIONS +/-</p> <p>3 PLACE DECIMALS +/-</p> <p>2 PLACE DECIMALS +/-</p> <p>1 PLACE DECIMALS +/-</p> <p>ANGLES</p> <p>SEE SWINGMASTER SPECIFICATION G-1 FOR TOLERANCES NOT SPECIFIED</p> <p>DIMENSIONS ARE IN INCHES</p> <p>DO NOT SCALE DRAWING</p> <p>SCALE: 1/6</p>	<p>SWINGMASTER CORPORATION</p> <p>11415 MELROSE AVENUE FRANKLIN PARK, ILLINOIS 60131</p>	
	<p>PASSENGER SIDE REAR SENSOR INSTALLATION</p>	
	<p>HI-RAIL FREE WHEEL PROTECTION SYSTEM</p>	
	<p>MODEL SL180</p>	
<p>DRAWN BY: J.K.</p> <p>DATE: 10-17-02</p>	<p>DRAWING NO.</p> <p>C1-410</p>	

MACHINE

SECTION

27

MODEL SL180 SWINGLOADER

HI-RAIL RAILROAD WHEEL EQUIP.

ASSEMBLY  
NUMBER

DESCRIPTION

1806254

PASSENGER SIDE REAR SENSOR INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY. USED
2	1806255	SENSING PLATE WELDMENT	1.00
3	1806256	PROXIMITY SWITCH	1.00
4	1806257	SPECIAL SPACER	1.00
5	1806258	METRIC HEX NUT M30-1.50	1.00
6	1800459	H.H.C.S. 3/8-16 X 1 3/4" LONG	2.00
7	1800552	3/8" FLAT WASHER	2.00
8	1800568	3/8" LOCK WASHER	2.00
9	1800514	HEX NUT 3/8-16	2.00