



Harsco Track Technologies

Harsco

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SERVICE BULLETIN MAINTENANCE OF WAY EQUIPMENT

DATE: 6-3-2005 **BULLETIN NO:** 05-007

TITLE: 4008715 SQUEEZE-IN RELIEF KIT

RATING:

<input type="checkbox"/>	DIRECTIVE (Action Is Required)	<input type="checkbox"/>	ALERT (Potential Problem)
<input type="checkbox"/>	INFORMATION (Action Is Optional)	<input checked="" type="checkbox"/>	PRODUCT IMPROVEMENT (Enhance Product)

PRODUCT SERIES / MODEL: MARK IV Tampers

SERIAL NO: All Mark IV Tampers Models With Jupiter 2002 and Later
All Mark IV Tampers Models Without Jupiter 2001 and Before

SUMMARY: The squeeze pressure on a Mark IV is normally set at around 1,200 PSI. However, during troubleshooting or normal operation, pressure in the squeeze circuit can spike to much higher levels, potentially damaging the workhead and vibrator components. The purpose of this kit is to relieve potential pressure spikes while allowing for proper squeeze pressures.

OPERATIONAL IMPACT: This kit provides a relief valve in the squeeze-in circuit that is set for 1,750 PSI. This is high enough that it does not cause a conflict with the squeeze pressure setting, but will relieve potentially damaging pressure spikes.

ACTION: This kit was installed for evaluation on a Mark IV early in 2004. The results were positive so it was decided to make this feature standard on all new Mark IV's beginning in 2005. Similarly, we are now offering this feature in kit form for older Mark IV's. Order one HTT part #4008715 Squeeze-In Relief Kit per each machine.

CONTACT: If you have any questions or if we can be of any service, please contact the Service Department at the Columbia, SC. facility, 803-822-9160.

SAFETY INFORMATION

- FOLLOW APPLICABLE RAILROAD LOCKOUT - TAGOUT PROCEDURE TO REMOVE ALL ENERGY SOURCES FROM MACHINE.
- BEFORE WELDING ON MACHINE, DISCONNECT ALL ELECTRICAL CABLES FROM BATTERY AND FROM ALTERNATOR.

FAILURE TO COMPLY COULD RESULT IN SEVERE BODILY INJURY.

SQUEEZE-IN RELIEF KIT INSTALLATION - See Figure 1, Figure 2 and Drawing #4008715

1. **Important:** Before welding on the machine, disconnect all electrical cables from the battery and from the alternator.
2. Thoroughly clean the area on the upper traverse beam of all dirt, grease, rust, etc. where the new valve bracket (1) will be welded to.
3. Weld the new valve bracket (1) on the upper traverse beam per the dimensions and weld symbol as shown on Drawing #4008715.
4. After welding, wire brush and clean all welds. Then prime and paint all welds to prevent rust.
5. Install the new squeeze-in relief valve (2) to the new bracket (1) that was just welded on using two 1/4" x 3/4" hex head cap screws (9) and lock washers (10).
6. When disconnecting hydraulic lines and fittings, be sure to catch all hydraulic fluid in a leak-proof container.
7. **Machines With Jupiter:** Locate the existing tee that the squeeze pressure transducer is connected to on the Upper Traverse Beam. Then follow the instructions on Drawing #4008715 and Figure 1 to install the Squeeze Relief Kit components.
8. **Machines Without Jupiter:** Locate the existing tee that the squeeze pressure switch is connected to on the Upper Traverse Beam. Then follow the instructions on Drawing #4008715 and Figure 2 to install the Squeeze Relief Kit components.
9. After installing the Squeeze Relief Kit components, install a 3,000 PSI hydraulic pressure gauge on the test port of the new relief valve (2).
10. Reconnect all electrical cables to the battery and to the alternator that were disconnected.
11. Start the machine engine.
12. Activate the Squeeze-In function for either work-head to pressurize the hydraulic circuit.
13. Note the pressure gauge installed on the relief valve. The recommended squeeze in hydraulic pressure is 1,750 PSI. If not, loosen the jam nut on the adjusting screw in the relief valve. Turn the adjusting screw clockwise to increase the pressure or counter-clockwise to decrease the pressure. Stop when the pressure remains steady at 1,750 PSI. Then re-tighten the jam nut.
14. Check all hydraulic hose and fitting connections for leaks. Use cardboard or wood when checking for hydraulic leaks, DO NOT USE YOUR BARE HANDS.
15. Stop the machine engine.
16. Remove the hydraulic pressure gauge from the test port on the new squeeze pressure switch.

SQUEEZE-IN RELIEF KIT INSTALLATION

FIGURE 1
MACHINES WITH JUPITER - 2002 AND LATER

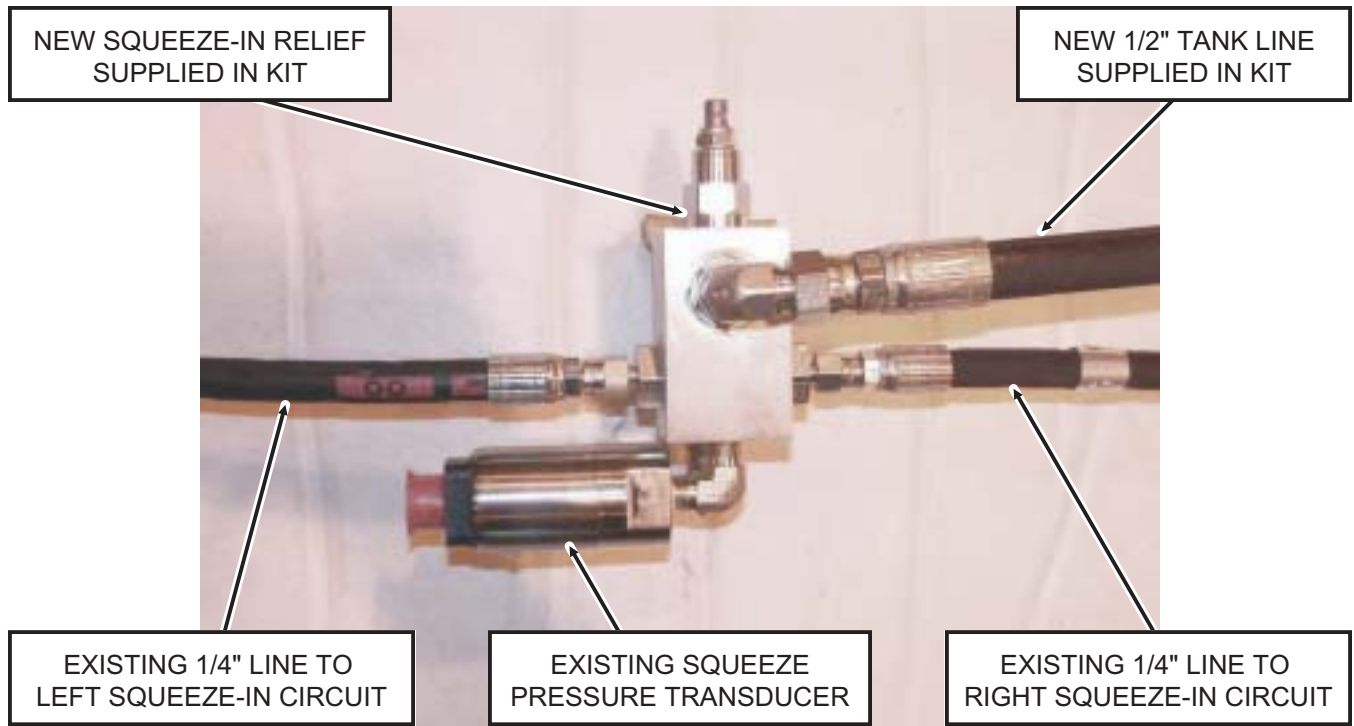
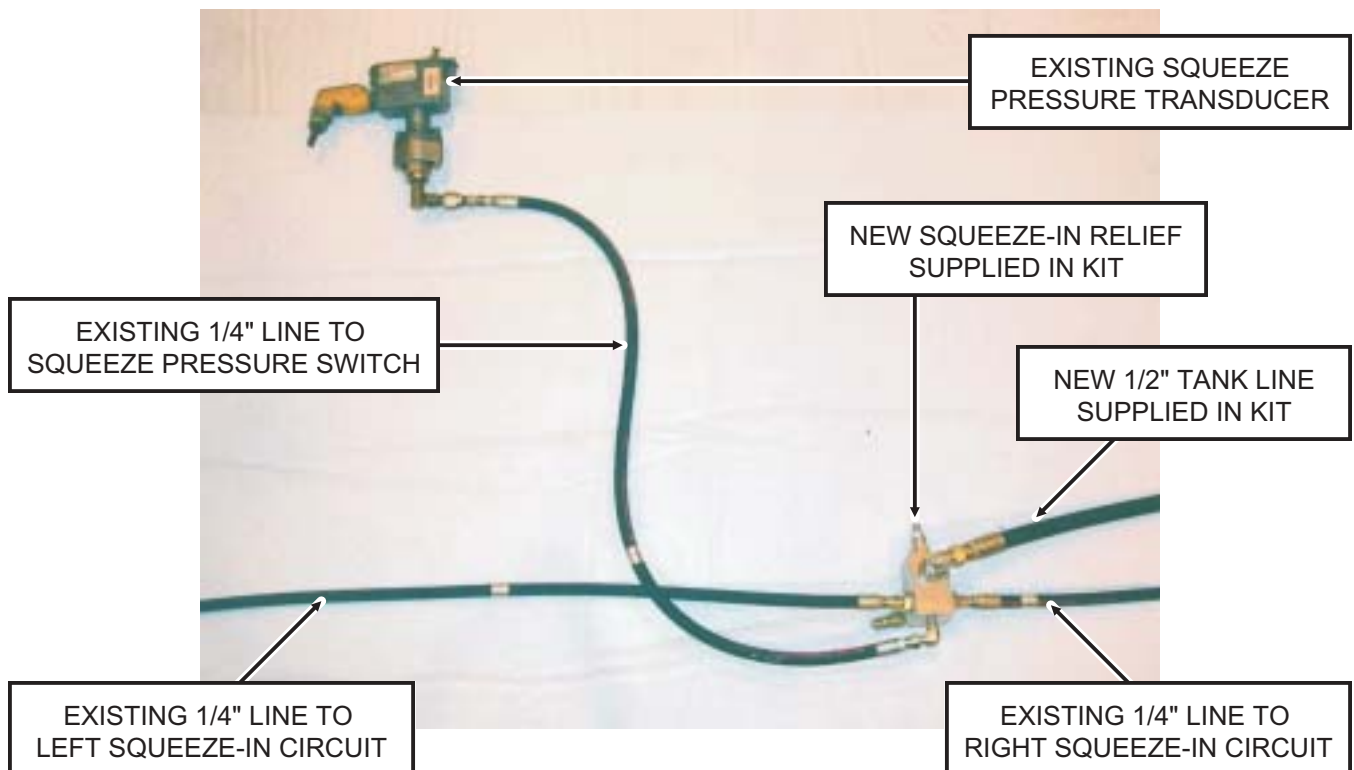


FIGURE 2
MACHINES WITHOUT JUPITER - 2001 AND BEFORE



SQUEEZE-IN RELIEF KIT PARTS LIST

Note: See Drawing #4008715 for Item Numbers.

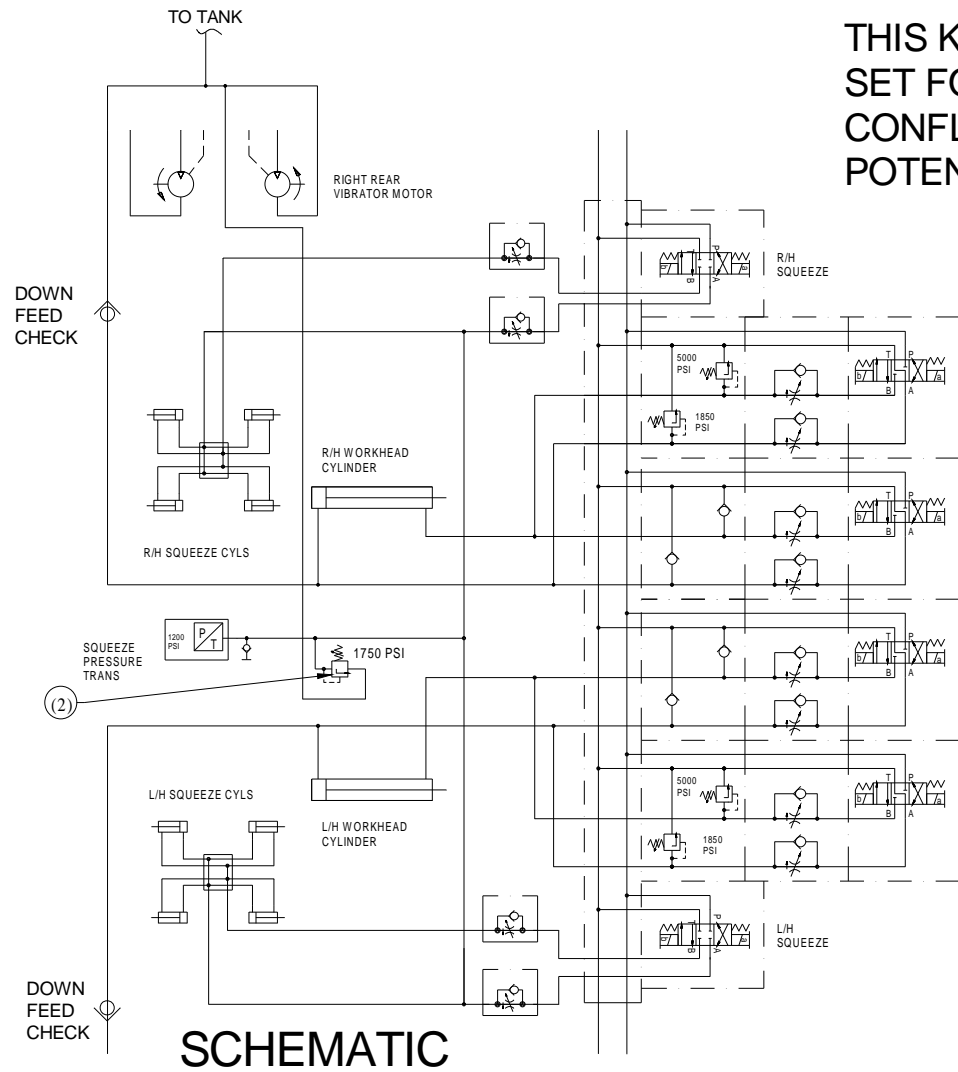
ITEM	PART NO.	DESCRIPTION	QTY
	4008715	SQUEEZE-IN RELIEF KIT	1
1	D0334Y09	Bracket, Valve	1
2	0-3334049-0-12	Relief Valve	1
3	L420270	Adapter	1
4	L423028	Adapter	2
5	L420087	MP-MP 90 1/4"	2
6	L41228	Plug, Quick Coupling	1
7	L425923	Fitting	1
8	0-3304132-0-08	Reducer	1
9	A0036003	Hex Head Cap Screw, 1/4"-20 x 3/4"	2
10	A0061008	Lock Washer, 1/4" Medium	2
11	L420002	90 JIC Male Pipe	1
12	G7281Y11	MK IV Hose Assembly	1
	4008715	Drawing, Squeeze Relief Kit.	1

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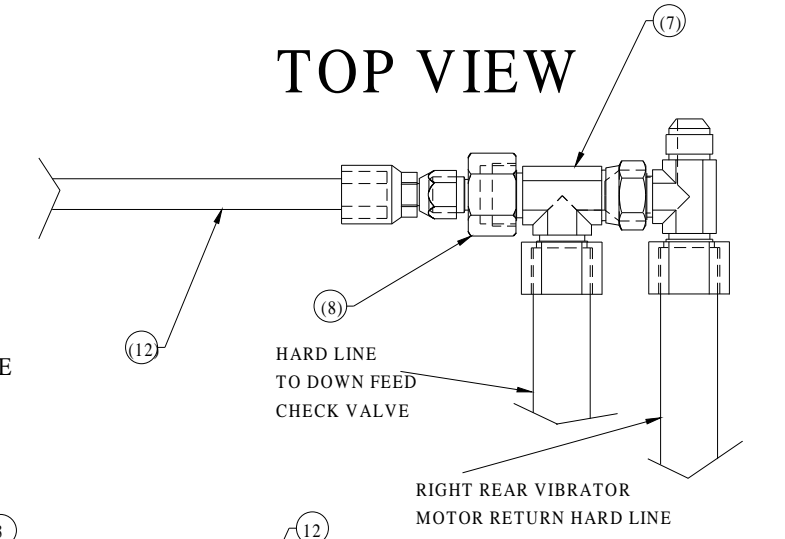
2401 Edmund Road, Box 20
 Cayce-West Columbia, SC
 29171-0020
 Tel: (803) 822-9160
 Fax: (803) 822-7471

200 South Jackson Road
 Ludington, MI
 49431
 Tel: (231) 843-3431
 Fax: (231) 843-1644

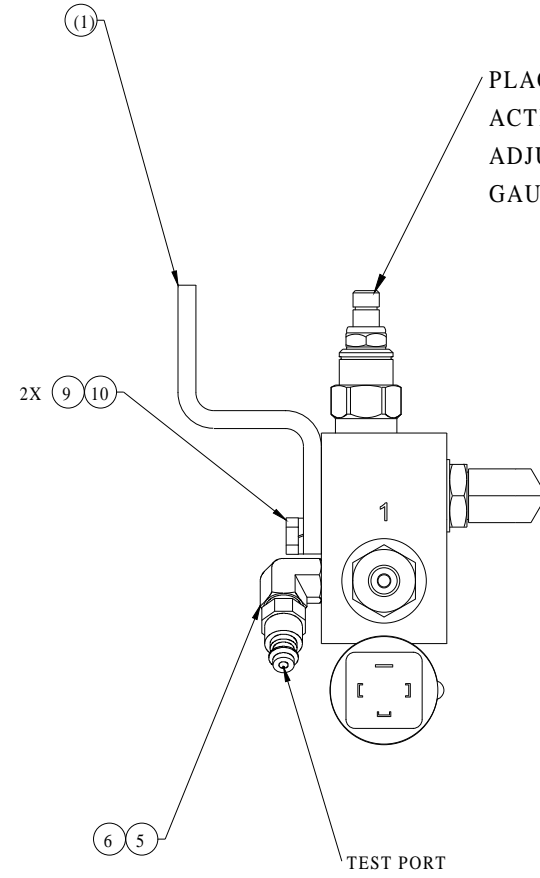


SCHEMATIC

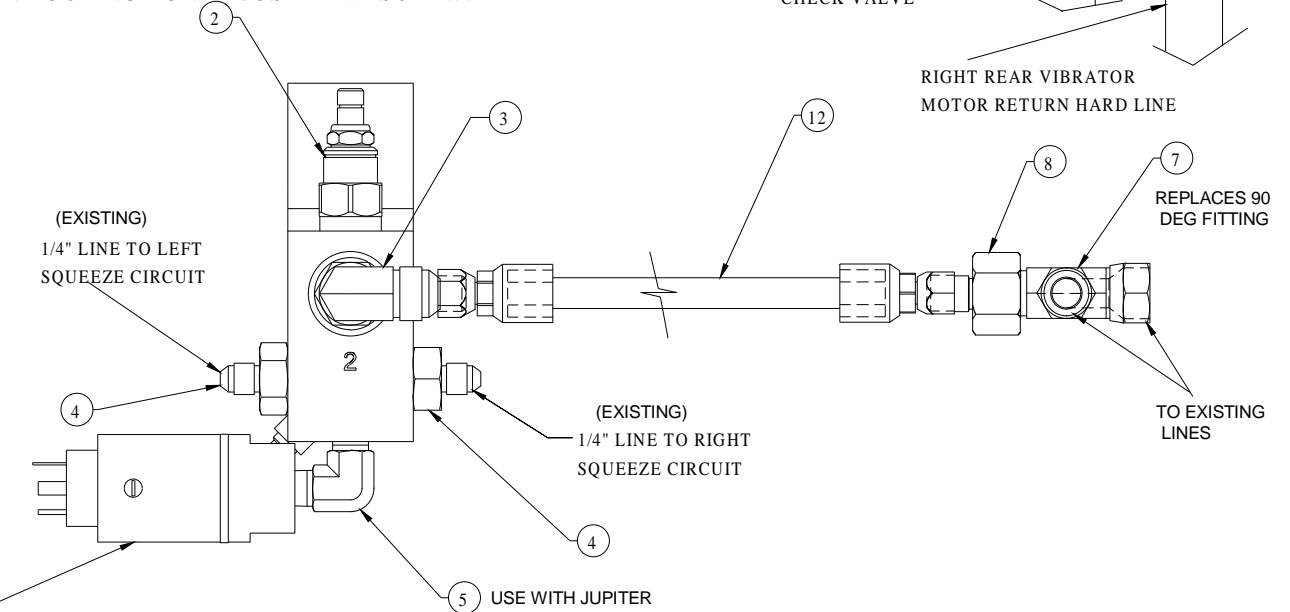
THIS KIT PROVIDES A RELIEF VALVE IN THE SQUEEZE-IN CIRCUIT THAT IS SET FOR 1750 P.S.I. THIS IS HIGH ENOUGH THAT IT DOES NOT CAUSE A CONFLICT WITH THE SQUEEZE PRESSURE SETTING, BUT WILL RELIEVE POTENTIALLY DAMAGING PRESSURE SPIKES.



TOP VIEW

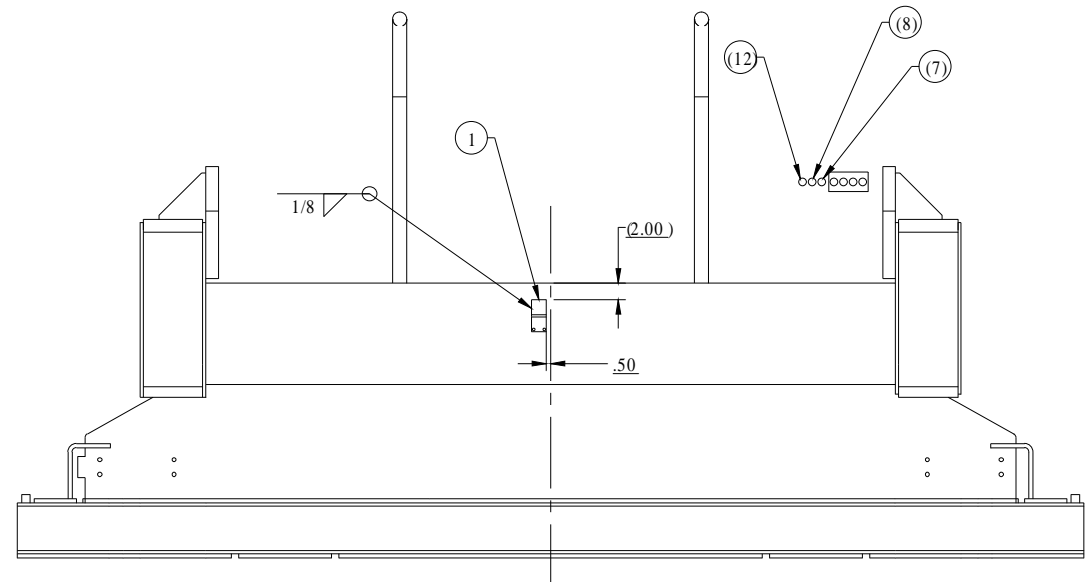


PLACE GAUGE ON TEST PORT, ITEM 6, START MACHINE, ACTIVATE "SQUEEZE-IN" FOR EITHER WORKHEAD AND ADJUST THE RELIEF VALVE UNTIL 1750 PSI SHOWS ON THE GAUGE. TIGHTEN LOCK NUT ON ADJUSTMENT SCREW.



ON JUPITER MACHINES, INSTALL EXISTING SQUEEZE PRESSURE TRANSDUCER AS SHOWN. FOR NON-JUPITER MACHINES, RECONNECT HOSE GOING TO SQUEEZE PRESSURE SWITCH INCLUDING ANY RESTRICTOR FITTINGS THAT WERE PRESENT AT THE TEE THAT IS BEING REPLACED BY THE RELIEF VALVE.

SQUEEZE RELIEF INSTALLED ON STRUCTURE SUPPORTING UPPER TRAVERSE BEAM (VIEWED FROM CAB SIDE)



UPPER TRAVERSE BEAM VIEWED FROM CAB

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IMPLIED TOLERANCES		ALL DIMENSIONS ARE IN INCHES - TOLERANCE UNLESS OTHERWISE SPECIFIED	
NOMINAL SIZE RANGE	PLUS OR MINUS	NOMINAL SIZE RANGE	PLUS OR MINUS
OVER 10	.005	OVER 10	.005
6 TO 10	.008	6 TO 10	.008
3 TO 6	.010	3 TO 6	.010
1 TO 3	.015	1 TO 3	.015

CHANGE	R/L	REVISION	DATE
13060.7	A	RELEASE	03-30-05

SQUEEZE-IN RELIEF KIT	
Drawing Number	4008715
Machine Type	METRA MK IV
Drawn	PJG
Checked	JOC
Scale	1:4

HTT	
Harsco Track Technologies	
Harsco Columbia, SC	
Part Number	4008715
Size	D
Sheet	1 of 1

SOLID EDGE DRAWING