



Harsco Track Technologies

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SERVICE BULLETIN MAINTENANCE OF WAY EQUIPMENT

DATE: 10-30-2003 **BULLETIN NO:** 03-021

TITLE: 2007256 JACK-BEAM PRESSURE SWITCH CONVERSION

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: 6700 Tampers

SERIAL NO: All Models

SUMMARY: A conversion has been developed to replace the existing electro-mechanical clamp pressure switches with new electronic pressure switches to improve the reliability of the clamp pressure switch function.

OPERATIONAL IMPACT: The installation of this conversion will improve the reliability of the clamp pressure switch function.

ACTION: Order conversion #2007256 and install per the drawings and instructions. The installation of this conversion involves:

- Welding a new mounting bracket on the truss frame.
- Removing the existing pressure switches, piping and wiring.
- Installing the new pressure switches, piping and wiring.
- Adjusting the new pressure switches to the correct setting.

CONTACT: If you have any questions or if we can be of any service, please contact Jim Merritt at the Ludington, MI. facility, (231) 843-3431.

SAFETY INFORMATION

- **FOLLOW APPLICABLE RAILROAD LOCKOUT - TAGOUT PROCEDURE TO REMOVE ALL ENERGY SOURCES FROM MACHINE. FAILURE TO COMPLY COULD RESULT IN SEVERE BODILY INJURY.**

PRESSURE SWITCH CONVERSION

- See Drawing #2007256 Sheet #1, Sheet #2, Sheet #3 and Sheet #4

1. **Important:** Before welding on machine, refer to your Operator's Manual for all Welding Precautions pertaining to the disconnecting of electrical cables and wires to prevent damage to the machine electrical components.
2. **Important:** Before disconnecting and/or removing hydraulic lines and fittings, be sure to depressurize the hydraulic system and catch all hydraulic fluid in a leak-proof container.
3. Remove the existing two clamp pressure switches, hydraulic piping, and electrical wiring.
4. Weld the new mounting bracket on the machine truss frame per the dimensions and weld symbol as shown on Sheet #2.
5. Install the two new pressure switches and hydraulic piping as shown on Sheet #1 and Sheet #3. Route the hydraulic lines away from all moving parts on the machine and secure with the supplied ty-raps. Be sure to tighten all hydraulic lines and fittings securely.
6. Install the new electrical cables and make the wiring modifications as shown on Sheet #4. Route the electrical cables away from all moving parts on the machine and secure with the supplied ty-raps.
7. Reconnect all electrical cables and/or wires that were disconnected before welding on machine.

CHECK FOR LEAKS

8. Start the machine engine and pressurize the clamp hydraulic lines.
9. Check all new hydraulic lines and fittings for hydraulic leaks using cardboard, wood, etc. **DO NOT USE YOUR BARE HANDS.**

ADJUST PRESSURE SWITCH SETTINGS - See Figure 1

10. Adjust the new pressure switches per the instructions in Figure 1. Refer to your Operator's Manual for the recommended pressure settings.

PRESSURE SWITCH CONVERSION

**FIGURE 1
PRESSURE SWITCH ADJUSTMENT**

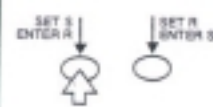
702918/00

Electronic Pressure Switch - PB Series 5000 PSI

Set Point Adjustment

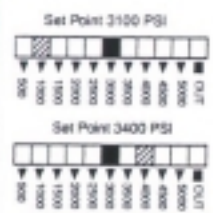
Set Point: level where increasing pressure causes output to change state.

- 1**



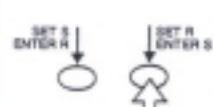
Press SET S button and hold for 5 seconds. A blinking green LED will "run" from left to right. Each successive LED represents a 50 PSI increase in pressure.

Note: To increment the Set Point, press and release the Set S button after the LEDs begin to "run". Each time the Set S button is pressed, the value is increased by 50 PSI.
- 2**



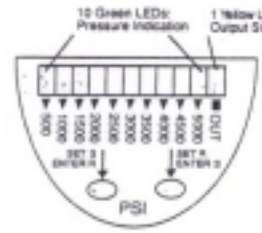
When the blinking LED reaches the right end, a steady LED will light on the left end of the display. Each successive steady LED represents a 500 PSI increase in Set Point.

LED ON
 LED BLINKING
 LED OFF
- 3**



Release the Set S button when the LEDs indicate the desired value. Press the Enter S button once to save the Set Point. If Enter S is not pressed within 30 seconds, the original Set Point will be retained and the display will return to the Operation mode. If the Set Point desired is less than the display pressure, continue to hold the SET button for another complete cycle.

Pressure Switch Display



12 Green LEDs: Pressure Indication
1 Yellow LED: Output Status

Lock Set Point and Reset Point

The ability to lock Set Point and Reset Point can be achieved by an electronic lock.

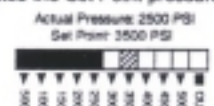
To lock, press both Set S and Set R buttons for 10 seconds. The Set Point and Reset Point lock when all the green LEDs go out. To unlock, repeat the procedure. Removal of power will not affect the lock function.

Operation and Failure Indication

The pressure switch display indicates System Pressure, Set Point, and Switch Output status. Additionally, failures are indicated for short circuit or self check errors.


- 1**

Steady LEDs indicate the actual pressure within 10%. The blinking LED indicates the Set Point pressure within 10%.



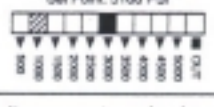
LED ON
 LED BLINKING
 LED OFF
- 2**

To display the Set Point within 1%, press the Set S button once.




LED ON
 LED BLINKING
 LED OFF
- 3**

To display the Reset Point within 1%, press the Set R button once.




LED ON
 LED BLINKING
 LED OFF
- 4**

A short circuit or current overload error is indicated by all green LEDs blinking. Remove the short circuit.



LED ON
 LED BLINKING
 LED OFF
- 5**

Self check errors are indicated when the five leftmost LEDs are blinking. Contact the factory for assistance.



LED ON
 LED BLINKING
 LED OFF

Reset Point Adjustment

Reset Point: level where decreasing pressure causes the output to revert to its normal state. The Reset Point must be lower than the Set Point by at least 100 PSI. When the Set Point is changed, the Reset Point will automatically change to maintain the previously established difference, or hysteresis.

- 1**

Press the Set R button and hold for 5 seconds. A blinking green LED will "run" from left to right. Each successive LED represents an increase in Reset Point of 50 PSI.

Note: To increment the Reset Point, press and release the Set R button after the LEDs begin to "run". Each time the Set R button is pressed, the value is incremented by 50 PSI.
- 2**

When the blinking LED reaches the right end, a steady LED will light on the left end of the display. Each successive steady LED represents an increase in Reset Point of 500 PSI.
- 3**

Release the SET R button when the LEDs indicate the desired value. If the Reset Point desired is less than the display pressure, continue to hold the Set R button for another complete cycle. Press the Enter R button once to save the Reset Point. If Enter R is not pressed within 30 seconds, the original Reset Point will be retained and the display will return to the operation mode.

PARTS LIST

Note: The quantities listed are for one machine.

See Drawing #2007256 Sheet #1, Sheet #2, Sheet #3 and Sheet #4.

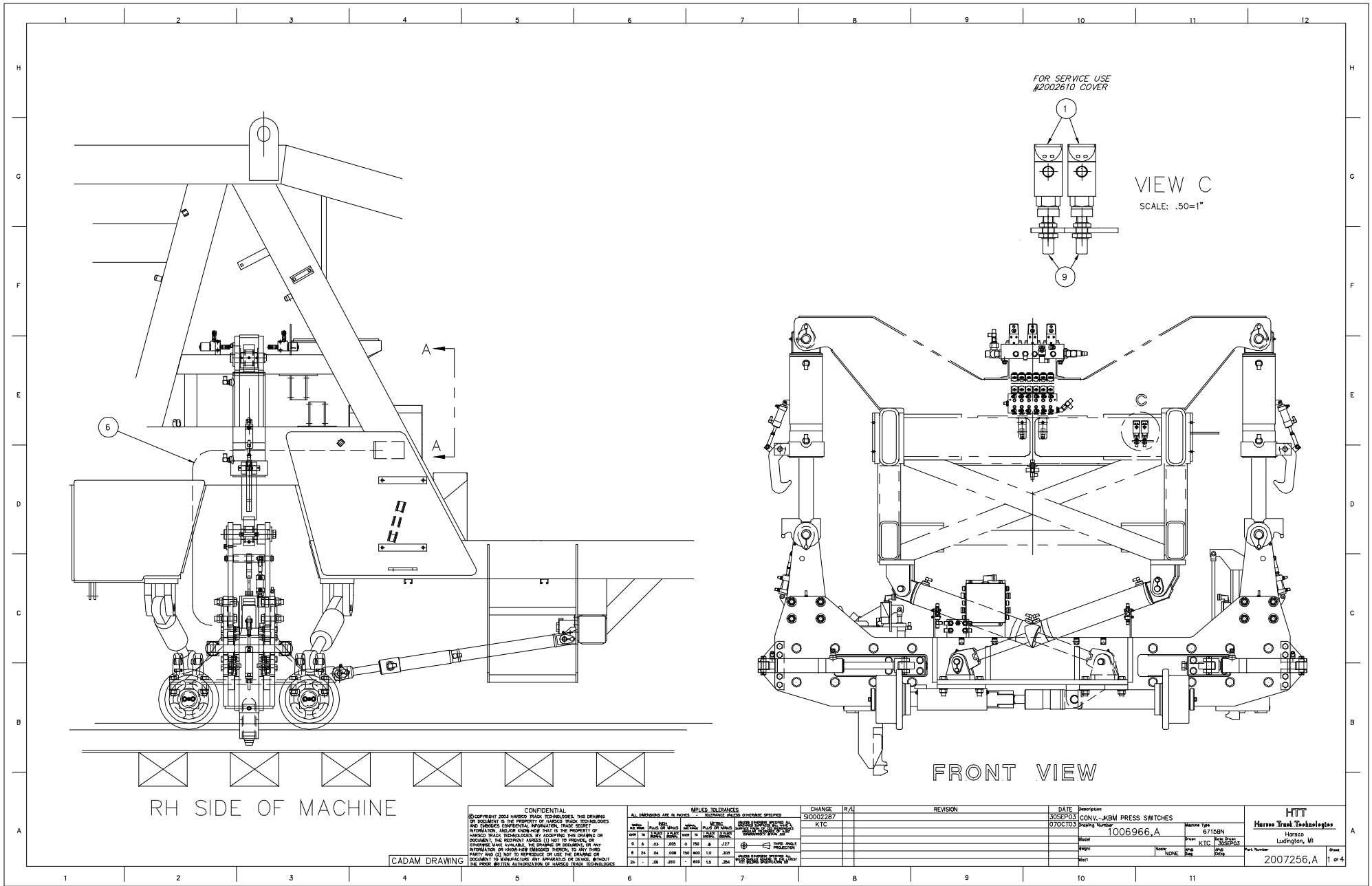
| ITEM | PART NO | DESCRIPTION | QTY |
|------|-------------|--|-----|
| 1 | 2002609 | Pressure Switch | 2 |
| 2 | 253123-4 | Cord Set Induct Prox Female | 2 |
| 3 | 150146-8 | 90° Squeeze Connector | 2 |
| 4 | 151132-1 | Seal Ring w/ Retainer | 2 |
| 5 | 2235 | Conduit Lock Nut | 2 |
| 6 | 600148-017 | Hose Assembly | 2 |
| 7 | 157112-1 | Pidge Term | 12 |
| 8 | 2007257 | Mounting Bracket | 1 |
| 9 | 155372-1 | Bulk Head | 2 |
| 10 | 600804-020 | Hose Assembly | 2 |
| 11 | 252236-1 | Cable Tie | 12 |
| 12 | 2007256-DWG | Hard Copy of Drawing / Bill of Material | 1 |
| 13 | 2007256-PP | Parts Page of Drawing / Bill of Material | 1 |

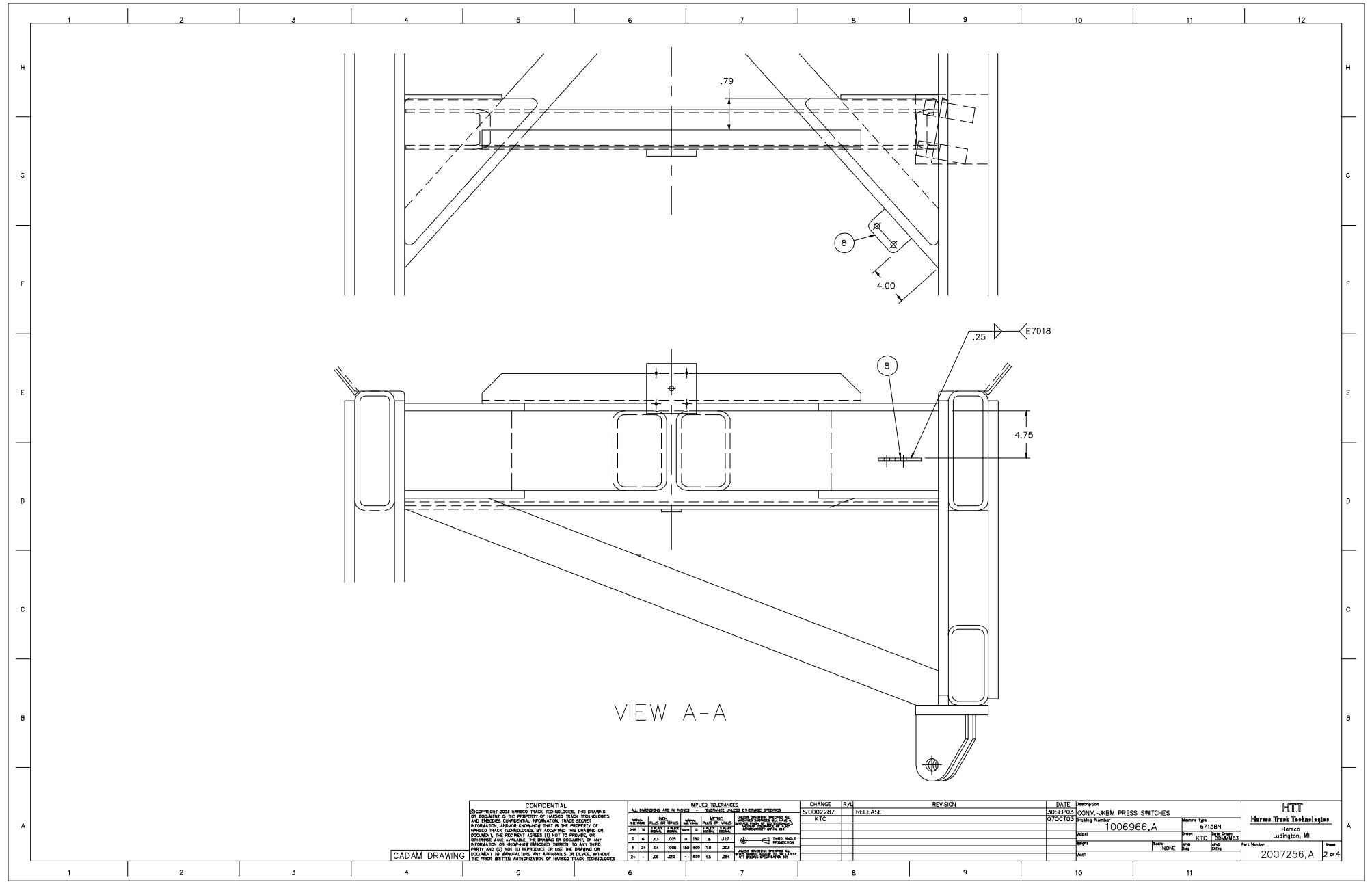
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VIEW A-A

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| MATERIALS | | MATERIALS | | MATERIALS | | MATERIALS | |
|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|
| QTY | DESCRIPTION | QTY | DESCRIPTION | QTY | DESCRIPTION | QTY | DESCRIPTION |
| 1 | STEEL | 1 | STEEL | 1 | STEEL | 1 | STEEL |
| 1 | BRASS | 1 | BRASS | 1 | BRASS | 1 | BRASS |
| 1 | COPPER | 1 | COPPER | 1 | COPPER | 1 | COPPER |

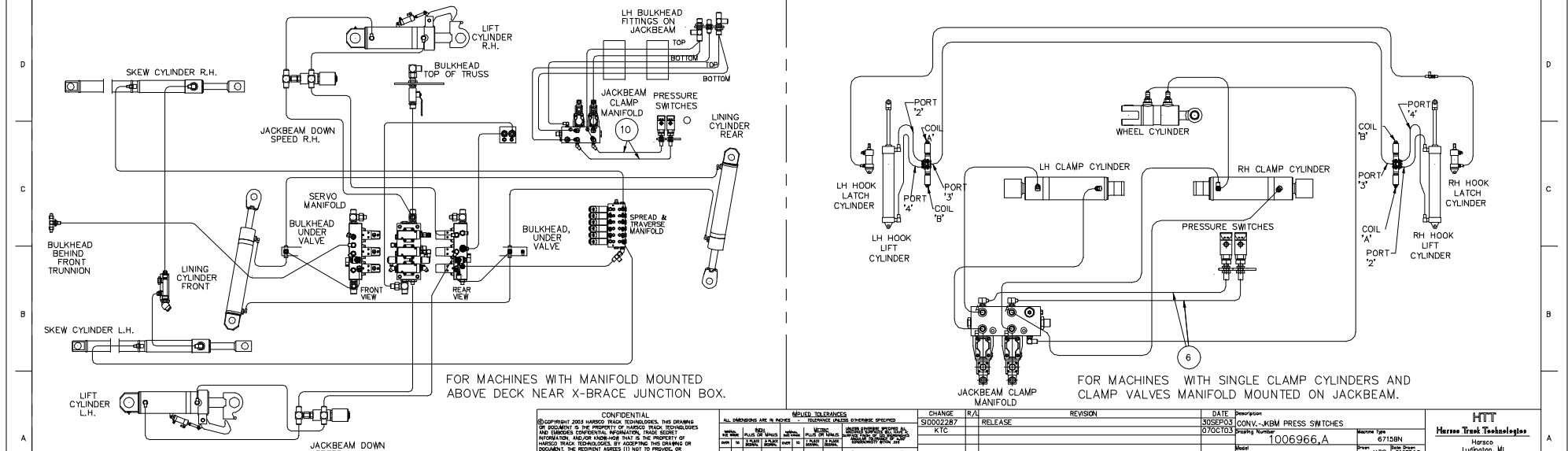
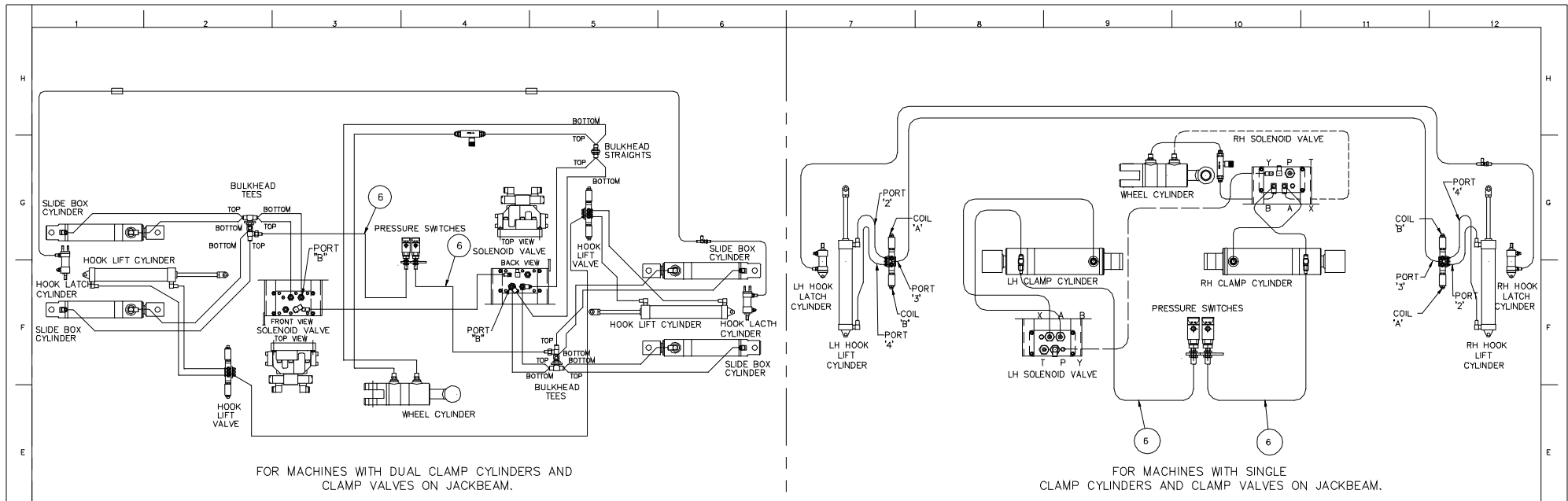
| CHANGE | R/A | REVISION | DATE | DESCRIPTION |
|----------|-----|----------|---------|----------------------------|
| S0002287 | | RELEASE | 05SEP03 | CONV. - KEM PRESS SWITCHES |
| | | | 07OCT03 | Drawing Number |

| | | | |
|-----------|-----------|-----------|-------------|
| 1006966,A | Part Name | 1006966,A | Part Number |
| 6715BN | Part Name | 6715BN | Part Number |
| KTC | Part Name | KTC | Part Number |
| 1006966,A | Part Name | 1006966,A | Part Number |

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Harsco Track Technologies
 Harsco
 Ludington, MI

CADAM DRAWING

Sheet Number
 2 of 4



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| REV. | DATE | DESCRIPTION |
|------|----------|--|
| 1 | 07/20/05 | REVISED TO ADD PORTS 2, 3, 4 TO THE MANIFOLD |
| 2 | 08/10/05 | REVISED TO ADD PORT 1 TO THE MANIFOLD |
| 3 | 10/20/05 | REVISED TO ADD PORT 5 TO THE MANIFOLD |
| 4 | 12/01/05 | REVISED TO ADD PORT 6 TO THE MANIFOLD |
| 5 | 02/15/06 | REVISED TO ADD PORT 7 TO THE MANIFOLD |
| 6 | 04/01/06 | REVISED TO ADD PORT 8 TO THE MANIFOLD |
| 7 | 06/01/06 | REVISED TO ADD PORT 9 TO THE MANIFOLD |
| 8 | 08/01/06 | REVISED TO ADD PORT 10 TO THE MANIFOLD |
| 9 | 10/01/06 | REVISED TO ADD PORT 11 TO THE MANIFOLD |
| 10 | 12/01/06 | REVISED TO ADD PORT 12 TO THE MANIFOLD |

| DATE | DESCRIPTION | REVISED BY | APPROVED BY |
|----------|-----------------------------------|------------|-------------|
| 07/20/05 | ADD PORTS 2, 3, 4 TO THE MANIFOLD | KTC | KTC |
| 08/10/05 | ADD PORT 1 TO THE MANIFOLD | KTC | KTC |
| 10/20/05 | ADD PORT 5 TO THE MANIFOLD | KTC | KTC |
| 12/01/05 | ADD PORT 6 TO THE MANIFOLD | KTC | KTC |
| 02/15/06 | ADD PORT 7 TO THE MANIFOLD | KTC | KTC |
| 04/01/06 | ADD PORT 8 TO THE MANIFOLD | KTC | KTC |
| 06/01/06 | ADD PORT 9 TO THE MANIFOLD | KTC | KTC |
| 08/01/06 | ADD PORT 10 TO THE MANIFOLD | KTC | KTC |
| 10/01/06 | ADD PORT 11 TO THE MANIFOLD | KTC | KTC |
| 12/01/06 | ADD PORT 12 TO THE MANIFOLD | KTC | KTC |

CHANGE S0002287 RELEASE

DATE 10/06/06
DESCRIPTION 1006966,A
PART NUMBER 2007256,A
REVISED BY KTC
APPROVED BY KTC

PRESSURE SWITCH (1995 & EARLIER) WIRING INSTRUCTIONS.

OVERHEAD TO X-BRACE BOX

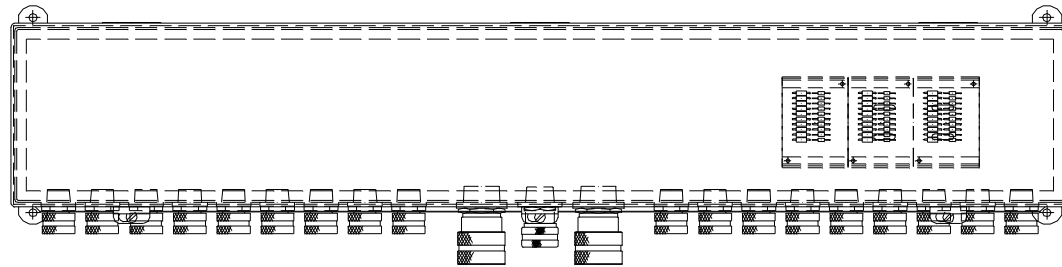
- CONNECT A SPARE WIRE FROM C104 BETWEEN X-BRACE BOX (TERMINAL BOARD AND THE OVERHEAD TB-6 TERMINAL 602, LABEL WIRE 602.

RT. RAIL CLAMP P.S. CABLE

- AT X-BRACE BOX:
- CONNECT BLACK WIRE TO 617
 - CONNECT BLUE WIRE TO 603
 - CONNECT BROWN WIRE TO 602

LT. RAIL CLAMP P.S. CABLE

- AT X-BRACE BOX:
- CONNECT BLACK WIRE TO 618
 - CONNECT BLUE WIRE TO 603
 - CONNECT BROWN WIRE TO 602



X-BRACE JUNCTION
BOX

PRESSURE SWITCH (1996 & NEWER) WIRING INSTRUCTIONS.

OVERHEAD TO X-BRACE BOX

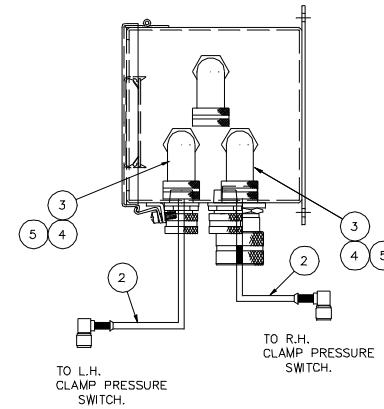
- CONNECT A WIRE (CONDUCTOR 31 FROM CABLE C103) BETWEEN X-BRACE BOX (TERMINAL BOARD 3, TERMINAL 75) AND OVERHEAD (TERMINAL BOARD 2, TERMINAL 142) AND LABEL AS 1924A

RT. RAIL CLAMP P.S. CABLE

- AT X-BRACE BOX:
- CONNECT BLACK WIRE TO TERMINAL 63 & LABEL 2029A
 - CONNECT BLUE WIRE TO TERMINAL 61 & LABEL 2025B
 - CONNECT BROWN WIRE TO TERMINAL 75 & LABEL 1924A

LT. RAIL CLAMP P.S. CABLE

- AT X-BRACE BOX:
- CONNECT BLACK WIRE TO TERMINAL 62 & LABEL 2027A
 - CONNECT BLUE WIRE TO TERMINAL 61 & LABEL 2025B
 - CONNECT BROWN WIRE TO TERMINAL 75 & LABEL 1924A



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| MATERIALS | | QUANTITY | | UNIT | | REVISION | |
|-----------|---|----------|---|------|---|----------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| CHANGE | R/A | REVISION | DATE | DESCRIPTION |
|----------|-----|----------|----------|----------------------------|
| 50002287 | | RELEASE | 07/02/03 | CONV. - KBM PRESS SWITCHES |

| | | | |
|-----------|--------|-----|-----------|
| 1006966,A | 6715BN | KTC | 2007256,A |
|-----------|--------|-----|-----------|

| | | |
|---|--------------------------|-----------------|
| HTT Hawso Track Technologies Ludington, MI | Part Number 2007256,A | Sheet 4 of 4 |
|---|--------------------------|-----------------|