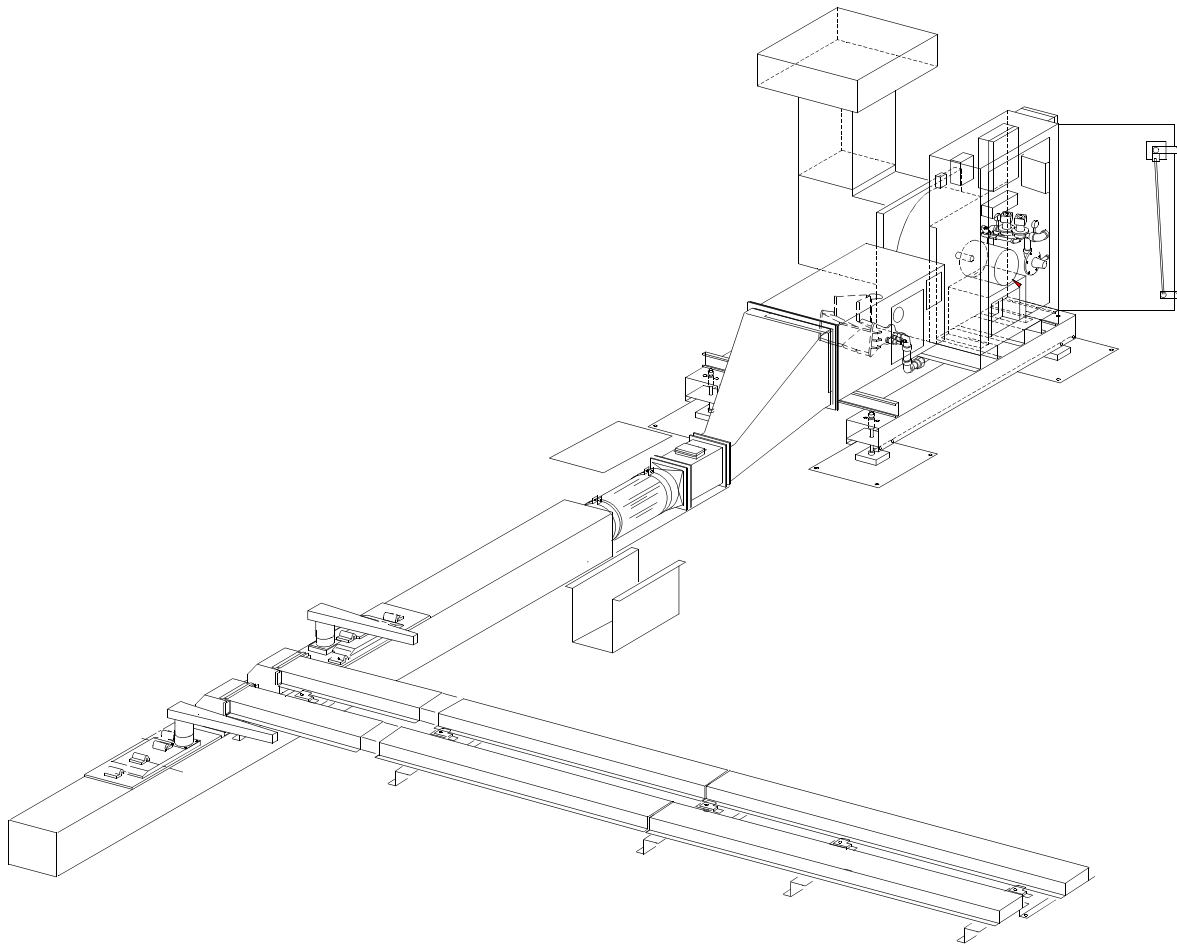


# SMALL ENCLOSURE GAS FIRED SWITCH HEATERS MARK 6 SERIES Spare Parts Manual

as supplied to



## UNION PACIFIC RAILROAD



**Fastrax**™  
Track and Switch Heaters

1500 W. Campus Drive  
Littleton, Colorado  
USA 80120

Ph: (303) 979-7339  
Fax: (303) 979-7350  
Toll Free: 1-855-244-3128  
[www.fastraxind.com](http://www.fastraxind.com)

The following spreadsheet identifies the various standard tieduct systems that UPR orders.

A duct system is composed of three basic sub assemblies;

- 1) a Tieduct Assembly
- 2) a Track duct assembly
- 3) and a Transition duct

plus any additional features, such as tie bar assemblies, track duct deflectors etc.

To find a spare part, first identify the Duct System, then the sub assembly from the duct system drawing, then the specific part number from the detailed sub assembly drawing.

The MPF Tieduct systems however have all the parts identified on the system drawing.

## Ductwork

### Safelok Tieduct Systems

10"X10" Tieduct and 8"X4" track duct,

c/w transition duct, dragging equipment deflectors and tie bar kit

#### 6" Base rail

| Track duct<br>Coverage (switch size) | Heater Type                         | Mark 5 |                     | Mark 6S |                     | Mark 6   |                     |       |                     |
|--------------------------------------|-------------------------------------|--------|---------------------|---------|---------------------|----------|---------------------|-------|---------------------|
|                                      | Enclosure                           | Micro  |                     | Small   |                     | Bungalow |                     |       |                     |
|                                      | Clearance                           | 90"    |                     | 136"    |                     | 131"     |                     | 155"  |                     |
|                                      | Tie                                 | Wood   | Nortrak<br>Concrete | Wood    | Nortrak<br>Concrete | Wood     | Nortrak<br>Concrete | Wood  | Nortrak<br>Concrete |
|                                      | 16'(#10B)                           |        |                     |         |                     |          |                     |       |                     |
|                                      | 24'(#12B)                           |        |                     | 15061   | 15062               |          |                     |       |                     |
|                                      | 28'(#14B & 16B)                     |        | -----               |         |                     |          |                     |       |                     |
|                                      | 36'(#20B)                           |        | -----               | 15063   | 15064               |          |                     |       |                     |
|                                      | 40'(#20)                            | -----  | -----               | 15066   | 15067               |          |                     |       |                     |
|                                      | 80'(#30)                            | -----  | -----               |         | 15065               |          |                     |       |                     |
|                                      | Nortrak MPF#20                      | -----  |                     | 16222   | 15273               | -----    |                     | ----- |                     |
|                                      | Conversion kit, from 14556 to 15273 |        |                     |         | 15272               |          |                     |       |                     |
|                                      | Nortrak MPF#30                      | -----  |                     | -----   | 15296               | -----    |                     | ----- |                     |

TIEDUCT ASSY  
10 X 10" TO 8" X 4"  
P/N 14838

TO MOUNT TO SMALL ENCLOSURE HEATER  
FOR 136" CLEARANCE, SEE MANUAL 13150

TRANSITION DUCT  
P/N 13372

TRACKDUCT SET  
8" X 4" X 24'  
P/N 10424

TRACKDUCT BRKT  
P/N 15157@2.19" (X2)

TRACKDUCT BRKT  
P/N 15157@3.19" (X12)

TRACKDUCT  
DEFLECTOR KIT  
P/N 12249-01

72" TIEBAR HDW KIT  
P/N 12234

TIE PLATE TO SUIT 6" BASE RAIL ONLY

WOOD-TIE CONFIGURATION

|                               |                                    |      |         |         |          |          |
|-------------------------------|------------------------------------|------|---------|---------|----------|----------|
| C                             | OBSOLETE, MEP, ECN 1361, 1 OCT 01  |      |         |         |          |          |
| B                             | PRODUCTION RELEASE REVISED ECN 527 |      |         |         |          |          |
| LTR                           | DESCRIPTION                        |      |         |         | DATE     | APPL     |
| CCI Thermal Technologies Inc. |                                    |      |         |         |          |          |
| DRAWING NUMBER                |                                    |      |         |         | 15061    |          |
| OWN                           | CCB                                | DATE | 04JUN97 | CHECKED | DATE     |          |
| TITLE                         |                                    |      |         |         | DWG SIZE | REV C    |
| TIEDUCT SYS,UP#14 SW, 10"X10" |                                    |      |         |         | A1       | SHT 1 OF |
| TIEDUCT TO 8X4"X24' TD        |                                    |      |         |         |          |          |

|                    |             |                         |
|--------------------|-------------|-------------------------|
| MATERIAL           | APPLICATION | UNLESS OTHERWISE SPEC'D |
| SEE DRAWING DETAIL |             | ARE IN                  |
|                    |             | XX                      |
|                    |             | XXX                     |
|                    |             | HOLES                   |
|                    |             | ANGLES                  |
| SCALE              | 1/12        |                         |

TO MOUNT TO SMALL ENCLOSURE HEATER  
FOR 136" CLEARANCE, SEE MANUAL 13150

TIEDUCT ASSY  
10 X 10" TO 8" X 4"  
P/N 14838

TRANSITION DUCT  
P/N 13372

TRACKDUCT  
MOUNTING BRACKET  
ONTO CONCRETE  
RAIL TIES

TRACKDUCT SET  
8" X 4" X 24'  
P/N 10424

TRACKDUCT BRKT  
P/N 15157@2.19" (X2)

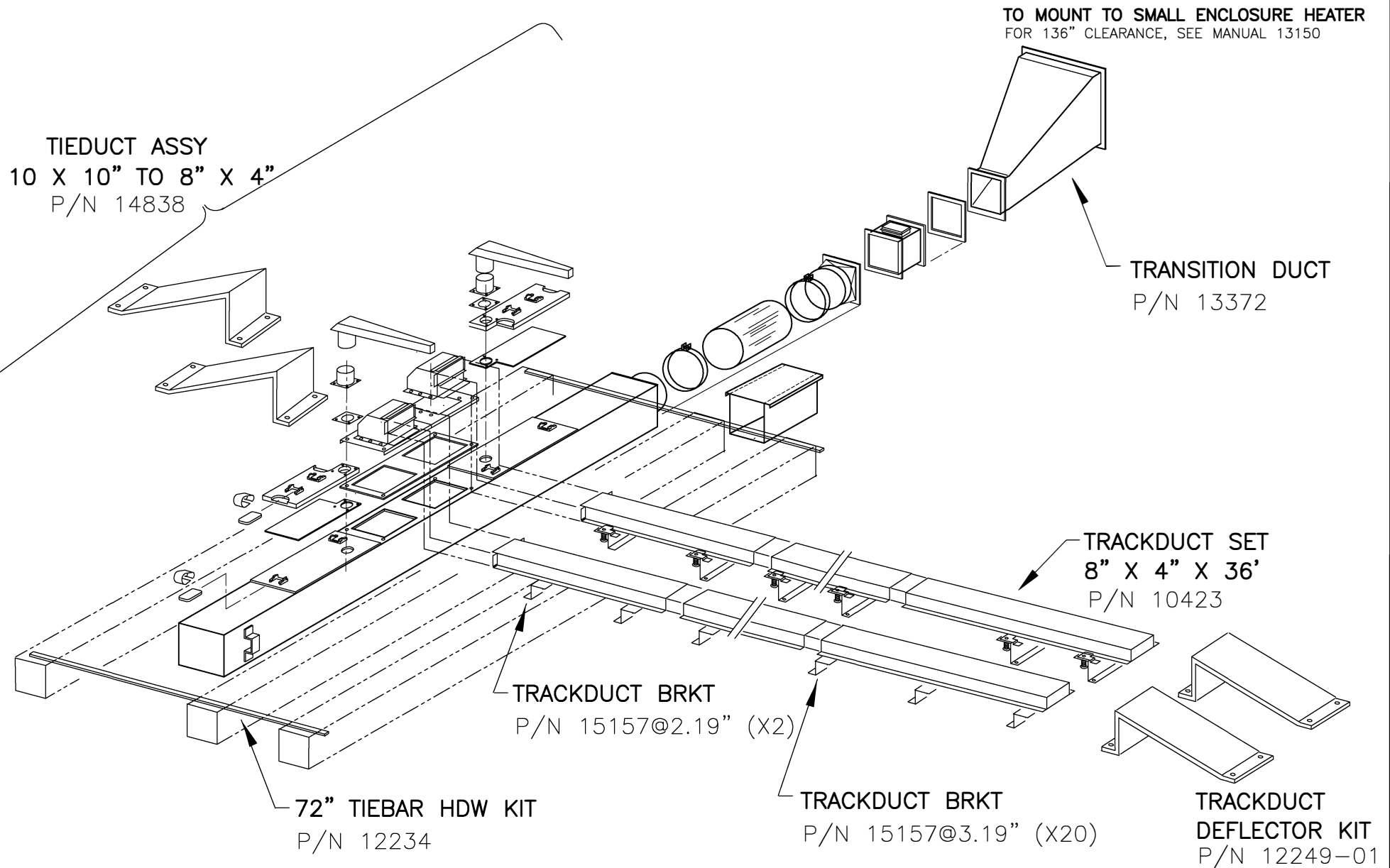
TRACKDUCT BRKT  
P/N 15157@3.19" (X12)

TRACKDUCT  
DEFLECTOR KIT  
P/N 12249-02

TIE PLATE TO SUIT 6" BASE RAIL ONLY  
CONCRETE TIE CONFIGURATION

|                                |                                     |      |         |      |       |                |        |
|--------------------------------|-------------------------------------|------|---------|------|-------|----------------|--------|
| C                              | OBSOLETE, MEP, ECN 1361, 1 OCT 01   |      |         |      |       |                |        |
| B                              | PRODUCTION RELEASE REVISED, ECN 527 |      |         |      |       |                |        |
| LTR                            | DESCRIPTION                         |      |         |      |       | DATE           | APPROV |
| CCI Thermal Technologies Inc.  |                                     |      |         |      |       | DRAWING NUMBER |        |
| DWN                            | CCB                                 | DATE | CHECKED | DATE | 15062 |                |        |
| TITLE                          |                                     |      |         |      |       | DWG SIZE       | REV    |
| TIEDUCT SYS, UP#14 SW, 10"X10" |                                     |      |         |      |       | A1             | C      |
| TIEDUCT TO 8X4"X24' TD         |                                     |      |         |      |       | SHT            | 1 OF 1 |

|                                      |             |                                                            |
|--------------------------------------|-------------|------------------------------------------------------------|
| MATERIAL<br>SEE<br>DRAWING<br>DETAIL | APPLICATION | UNLESS OTHERWISE<br>SPECIFIED<br>DIMENSIONS<br>ARE IN INCH |
|                                      |             | XX ± .03                                                   |
|                                      |             | XXX ± .010                                                 |
|                                      |             | HOLES ± .010                                               |
|                                      |             | ANGLES ± 1°                                                |



|                               |                                    |              |         |            |                |       |
|-------------------------------|------------------------------------|--------------|---------|------------|----------------|-------|
| C                             | OBSOLETE, MEP, ECN 1361, 1 OCT 01  |              |         |            |                |       |
| B                             | PRODUCTION RELEASE REVISED,ECN 527 |              |         |            |                |       |
| LTR                           | DESCRIPTION                        |              |         |            | DATE           | APPLY |
| CCI THERMAL TECHNOLOGIES INC. |                                    |              |         |            | DRAWING NUMBER |       |
| DWN                           | CCB                                | DATE 04JUN97 | CHECKED | DATE       | 15063          |       |
| TITLE                         |                                    |              |         | DWG A1     | REV C          |       |
| TIEDUCT SYS,UP#20 SW, 10"X10" |                                    |              |         |            |                |       |
| TIEDUCT TO 8X4"X36' TD        |                                    |              |         |            |                |       |
|                               |                                    |              |         | SHT 1 OF 1 |                |       |

TIEDUCT ASSY  
10 X 10" TO 8" X 4"  
P/N 14838

TO MOUNT TO SMALL ENCLOSURE HEATER  
FOR 136" CLEARANCE, SEE MANUAL 13150

TRANSITION DUCT  
P/N 13372

TRACKDUCT  
MOUNTING BRACKET  
ONTO CONCRETE  
RAIL TIES

TRACKDUCT SET  
8" X 4" X 36'  
P/N 10423

TRACKDUCT BRKT  
P/N 15157@2.19" (X2)

TRACKDUCT BRKT  
P/N 15157@3.19" (X20)

TRACKDUCT  
DEFLECTOR KIT  
P/N 12249-02

TIE PLATE TO SUIT 6" BASE RAIL ONLY

CONCRETE TIE CONFIGURATION

|                                 |                                    |      |           |         |      |                |            |
|---------------------------------|------------------------------------|------|-----------|---------|------|----------------|------------|
| C                               | OBSOLETE, MEP, ECN 1361, 1 OCT 01  |      |           |         |      |                |            |
| B                               | PRODUCTION RELEASE REVISED,ECN 527 |      |           |         |      |                |            |
| LTR                             | DESCRIPTION                        |      |           |         |      | DATE           | APPROV     |
| ● CCI THERMAL TECHNOLOGIES INC. |                                    |      |           |         |      | DRAWING NUMBER |            |
| DWN                             | CCB                                | DATE | 04/JUN/97 | CHECKED | DATE | 15064          |            |
| TITLE                           |                                    |      |           |         |      | DWG SIZE       | REV C      |
| TIEDUCT SYS,UP#20 SW, 10"X10"   |                                    |      |           |         |      | A1             | SHT 1 OF 1 |
| TIEDUCT TO 8X4"X36" TD          |                                    |      |           |         |      |                |            |

| MATERIAL           | APPLICATION | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH |
|--------------------|-------------|---------------------------------------------------|
| SEE DRAWING DETAIL |             | XX ± .03                                          |
|                    |             | XXX ± .010                                        |
|                    |             | HOLE ± .010                                       |
|                    |             | ANGLES ± 1°                                       |
| SCALE              | 1/12        |                                                   |

TIEDUCT ASSY  
10 X 10" TO 23"X3.25"  
P/N 14214

TO MOUNT TO SMALL ENCLOSURE HEATER  
FOR 136" CLEARANCE, SEE MANUAL 13150

TRANSITION DUCT  
P/N 13372

TRACKDUCT SET  
23.0" X 3.25" X 80'  
P/N 10422

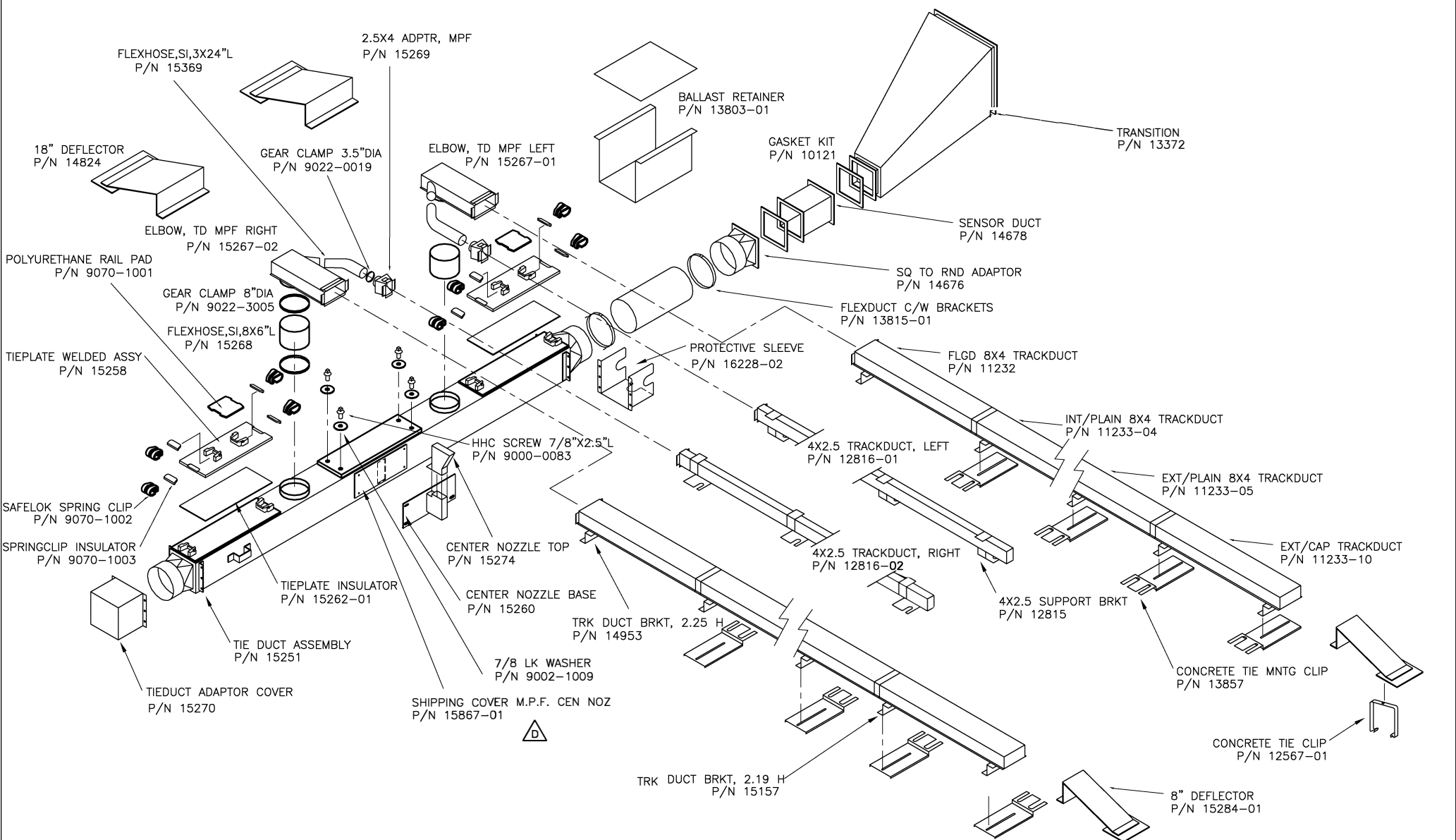
TRACKDUCT BRKT  
P/N 12081-02 (X9)

TRACKDUCT BRKT  
P/N 12081 (X12)

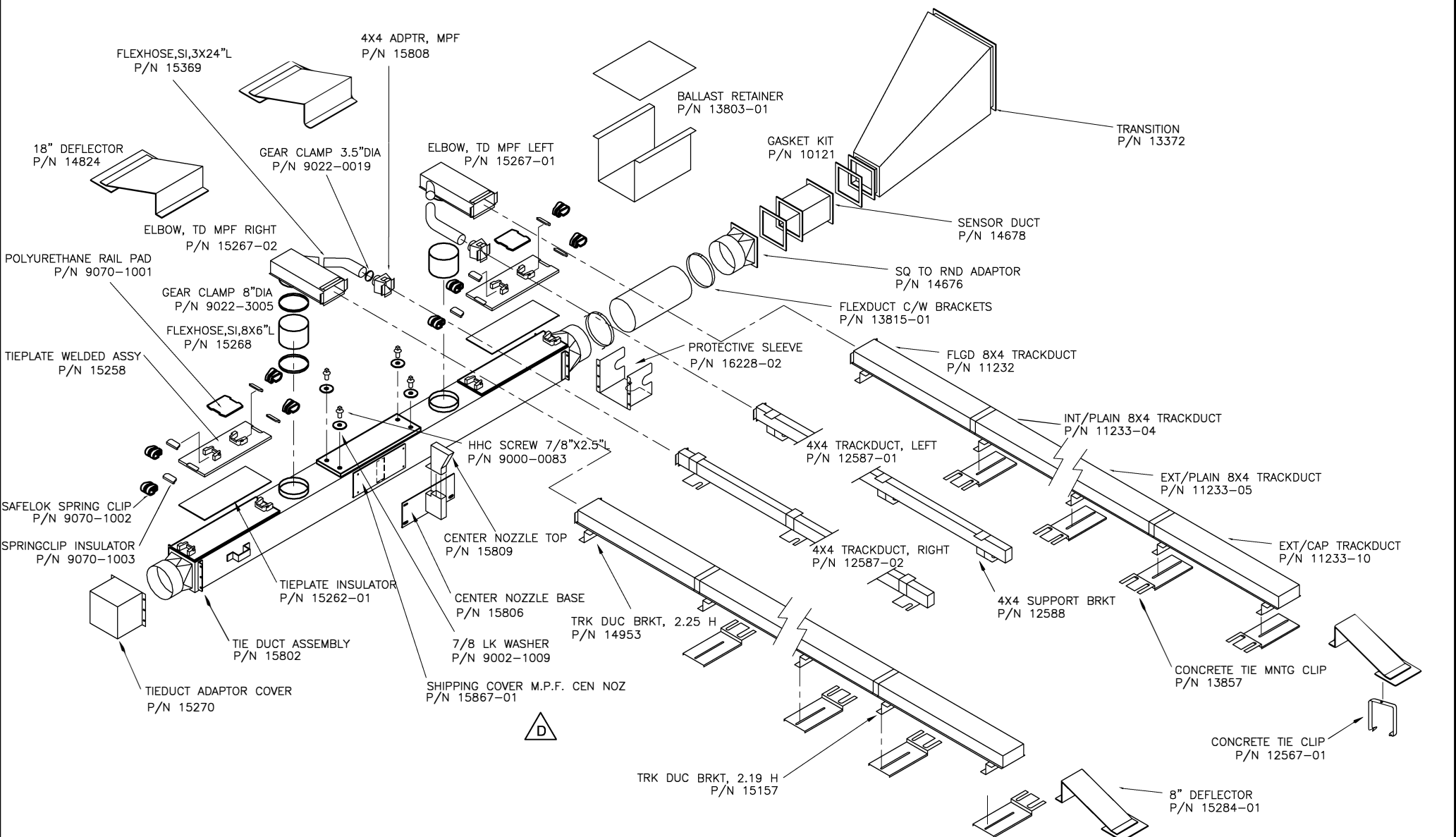
TRACKDUCT  
DEFLECTOR KIT  
P/N 12249-03

TIE PLATE TO SUIT 6" BASE RAIL ONLY

|                    |             |                                                       |                               |  |  |                |            |
|--------------------|-------------|-------------------------------------------------------|-------------------------------|--|--|----------------|------------|
| MATERIAL           | APPLICATION | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH     | CCI THERMAL TECHNOLOGIES INC. |  |  | DRAWING NUMBER |            |
|                    |             |                                                       | DWG 04JUN97                   |  |  | CHECKED        | DATE       |
|                    |             |                                                       | TITLE                         |  |  | DWG SIZE       | REV C      |
|                    |             |                                                       | TIEDUCT SYS,UP#30 SW, 10"X10" |  |  | A1             | SHT 1 OF 1 |
|                    |             |                                                       | TIEDUCT TO 23X3.25"X80' TD    |  |  |                |            |
| SEE DRAWING DETAIL |             | XX ± .03<br>XXX ± .010<br>HOLES ± .010<br>ANGLES ± 1" | SCALE 1/12                    |  |  |                |            |

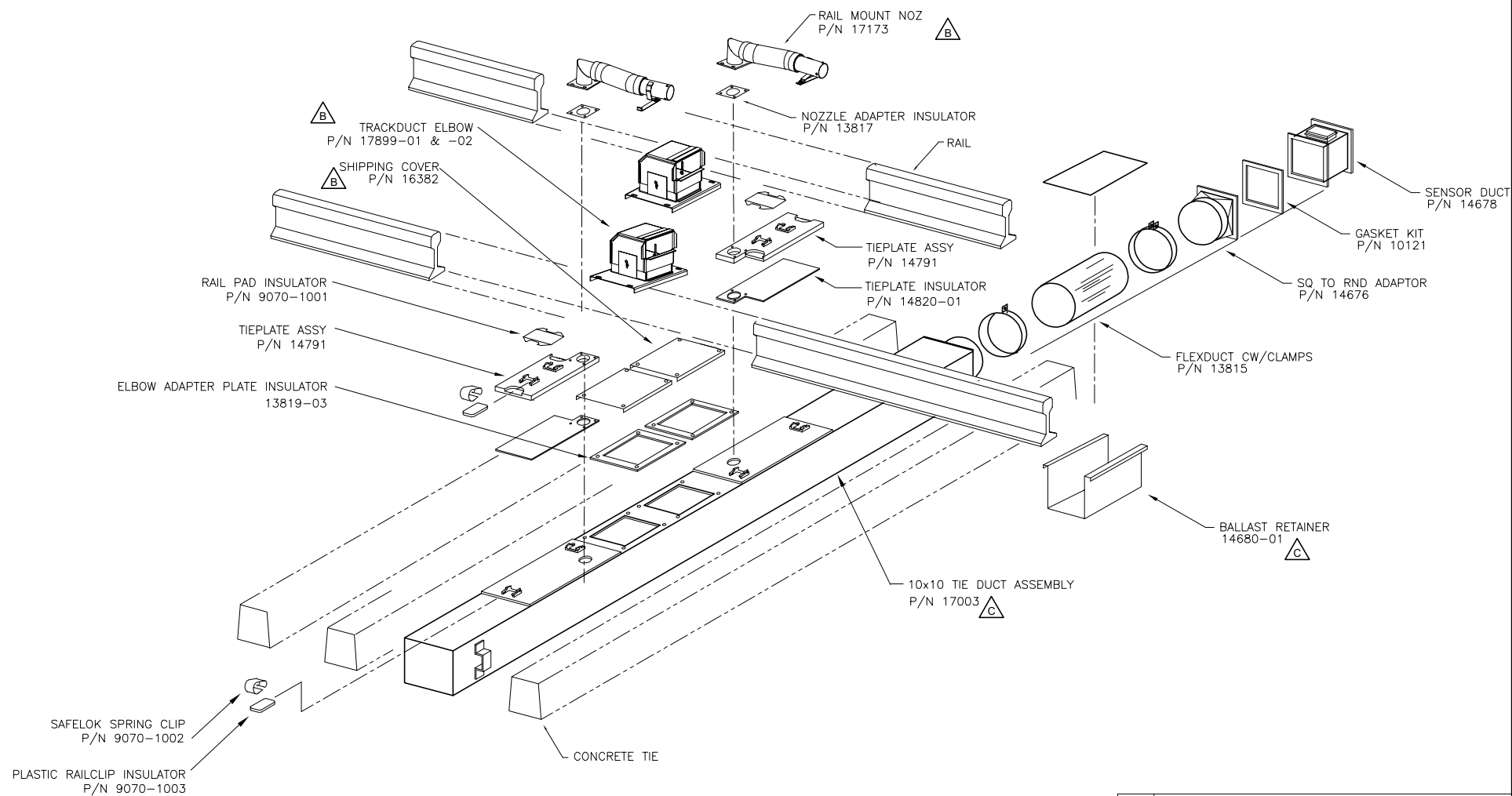


|                               |             |                                                                                                                          |         |      |       |            |
|-------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------|---------|------|-------|------------|
| D                             |             | PICTORIALLY UPDATED, SHIPPING COVER P/N 15867-01 ADDED<br>ECN 720,28MAY99,MEP (spelling corrections made, 8 Jan 02, ccb) |         |      |       |            |
| LTR                           | DESCRIPTION |                                                                                                                          |         |      | DATE  | APPL.      |
| CCI THERMAL TECHNOLOGIES INC. |             |                                                                                                                          |         |      |       |            |
| DWN                           | CCB         | DATE                                                                                                                     | CHECKED | DATE | 15273 |            |
| TITLE                         |             |                                                                                                                          |         |      | DWG   | REV        |
| ISO, 10S TIEDUCT SYS, NORTRAK |             |                                                                                                                          |         |      | A1    | D          |
| #20MPF SW, CONCRETE TIES      |             |                                                                                                                          |         |      | SIZE  | SHT 1 OF 1 |



|                               |                                                                               |         |         |      |                |        |
|-------------------------------|-------------------------------------------------------------------------------|---------|---------|------|----------------|--------|
| E                             | OBSOLETE, MEP, ECN 1496, 12 MAR 02                                            |         |         |      |                |        |
| D                             | PICTORIALLY UPDATED, SHIPPING COVER P/N 15867-01 ADDED<br>ECN720.28 MAY98.MEP |         |         |      |                |        |
| LTR                           | DESCRIPTION                                                                   |         |         |      | DATE           | APPL   |
| CCI THERMAL TECHNOLOGIES INC. |                                                                               |         |         |      | DRAWING NUMBER |        |
| DWN                           | CCB                                                                           | DATE    | CHECKED | DATE | 15296          |        |
|                               |                                                                               | 28SEP98 |         |      |                |        |
| TITLE                         |                                                                               |         |         |      | DWG SIZE       | REV    |
| #30MPF SW, CONCRETE TIES      |                                                                               |         |         |      | A1             | E      |
|                               |                                                                               |         |         |      | SHT            | 1 OF 1 |

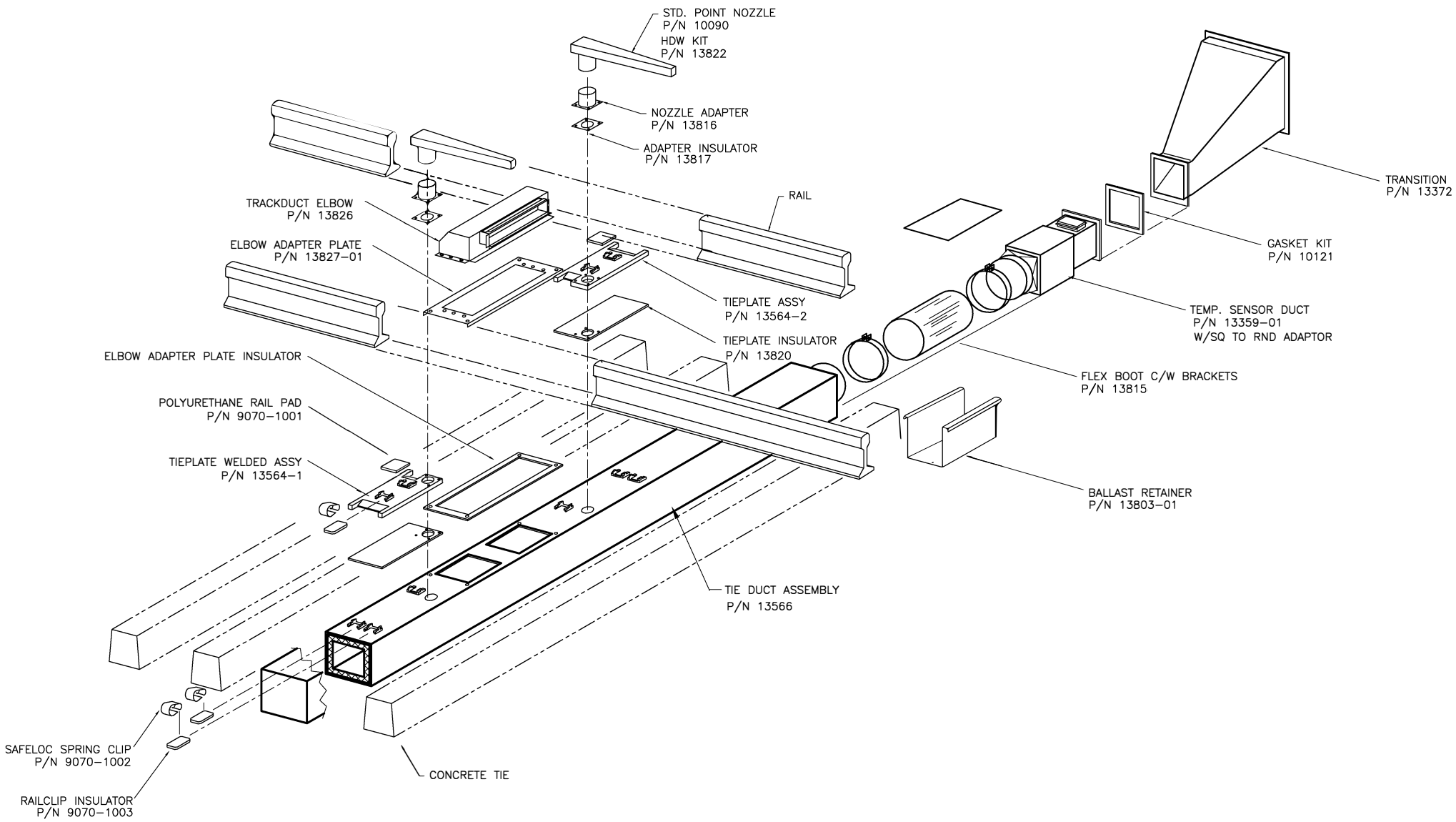
|                    |             |                                                   |
|--------------------|-------------|---------------------------------------------------|
| MATERIAL           | APPLICATION | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH |
| SEE DRAWING DETAIL |             | XX ± .03                                          |
|                    |             | XXX ± .010                                        |
|                    |             | HOLES ± .010                                      |
|                    |             | ANGLES ± 1°                                       |
| SCALE              | 1/15        |                                                   |



TIE PLATE TO SUIT 6" BASE RAIL ONLY

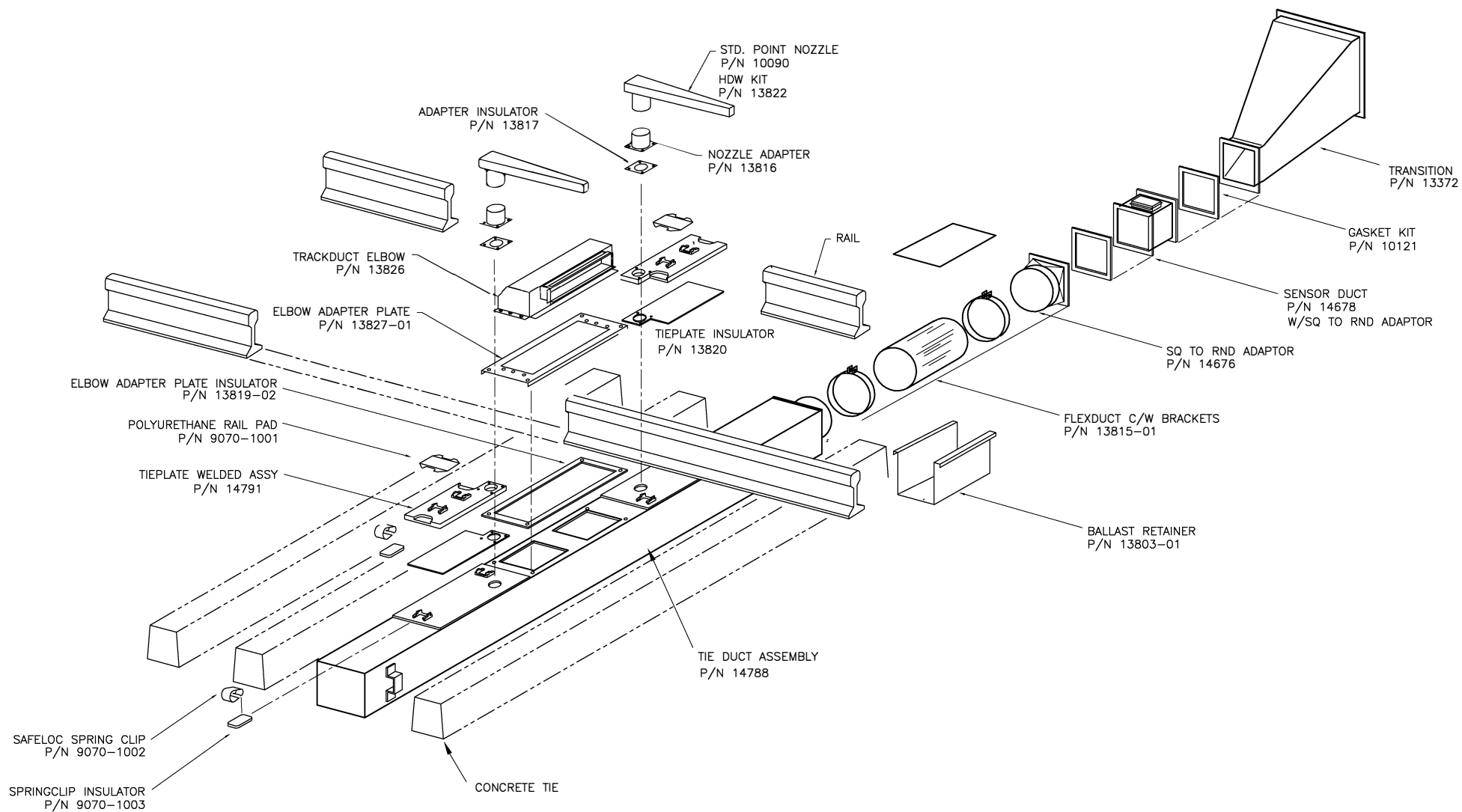
| MATERIAL           |  | APPLICATION |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN |  | CCI THERMAL TECHNOLOGIES INC. |  |            |  |
|--------------------|--|-------------|--|----------------------------------------------|--|-------------------------------|--|------------|--|
| SEE DRAWING DETAIL |  |             |  | INCH                                         |  | DRAWING NUMBER                |  |            |  |
|                    |  |             |  | XX ± .03                                     |  | 14838                         |  |            |  |
|                    |  |             |  | XXX ± .010                                   |  | TITLE                         |  |            |  |
|                    |  |             |  | HOLES ± .010                                 |  | TIEDUCT ASSY, 10"x10" SAFELOK |  |            |  |
|                    |  |             |  | ANGLES ± 1°                                  |  | W/O TRNSN 9X9X12>8X4TD        |  |            |  |
|                    |  | SCALE: 1/12 |  |                                              |  | DWG SIZE                      |  | REV C      |  |
|                    |  |             |  |                                              |  | A1                            |  | SHT 1 OF 1 |  |

|      |                                                                                      |
|------|--------------------------------------------------------------------------------------|
| C    | 17003 WAS 14788, 14680-01 WAS 13803-01, MEP, ECN 1414, 3 DEC 01                      |
| B    | 17173 WAS 10090 & 13816, 17899-01 & -02, 16382 WAS 13553-02, MEP, ECN 1363, 3 OCT 01 |
| A    | PRODUCTION RELEASE                                                                   |
| LTR  | DESCRIPTION                                                                          |
| DATE | APPL                                                                                 |



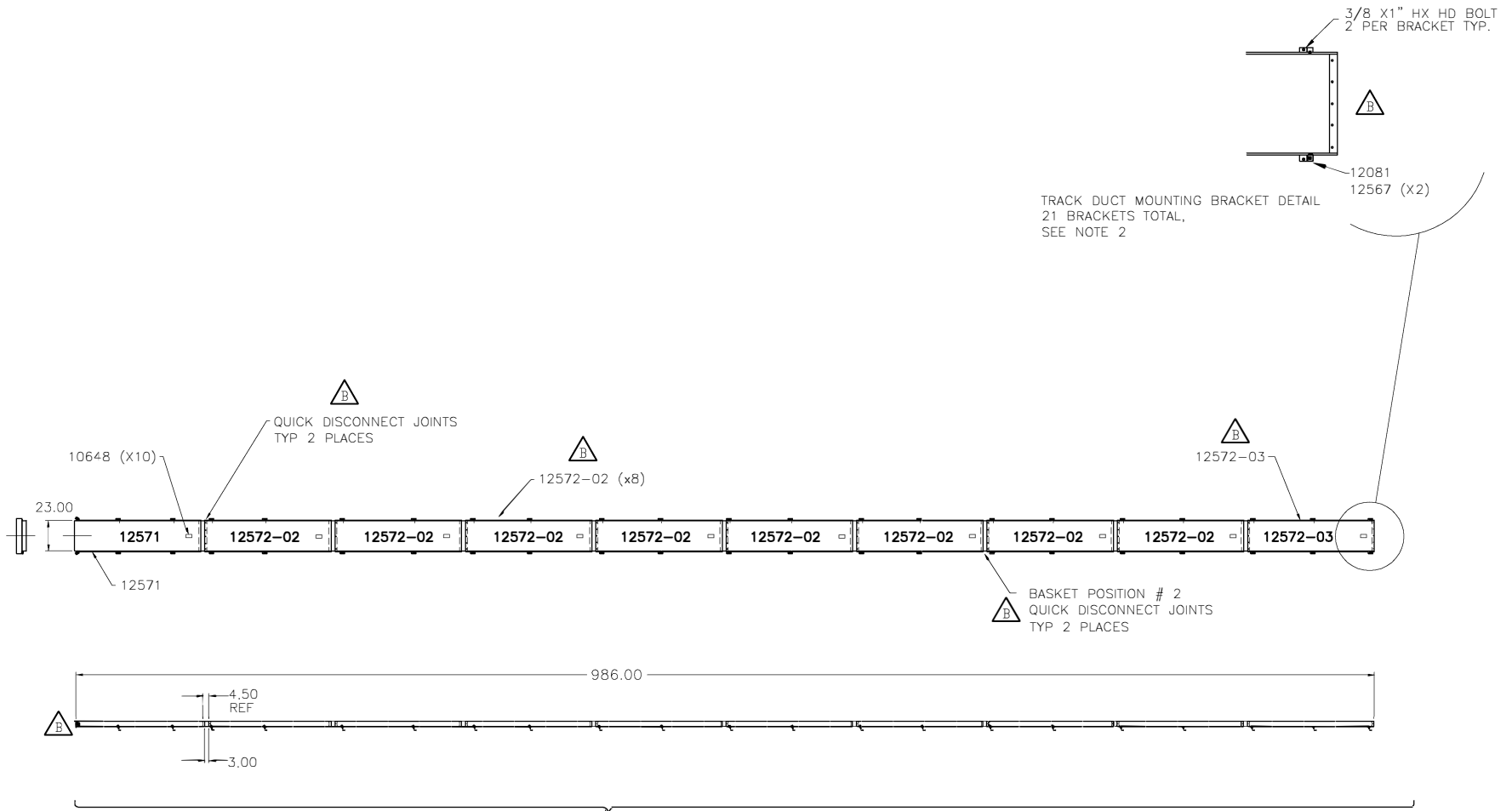
TIE PLATE TO SUIT 6" BASE RAIL ONLY

|                    |  |             |  |                                                   |  |  |  |                                           |  |            |  |
|--------------------|--|-------------|--|---------------------------------------------------|--|--|--|-------------------------------------------|--|------------|--|
|                    |  | B           |  | PICTORIALLY UPDATED                               |  |  |  | SQ TO RND ADDED,PER ECN 441,10,JULY96,CCB |  |            |  |
|                    |  | LTR         |  | DESCRIPTION                                       |  |  |  | DATE                                      |  | APPR.      |  |
|                    |  |             |  | CCI THERMAL TECHNOLOGIES INC.                     |  |  |  | DRAWING NUMBER                            |  |            |  |
| MATERIAL           |  | APPLICATION |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH |  |  |  |                                           |  |            |  |
| SEE DRAWING DETAIL |  |             |  | XX ± .03                                          |  |  |  |                                           |  | 14210      |  |
|                    |  |             |  | XXX ± .010                                        |  |  |  | DWN                                       |  | CCB        |  |
|                    |  |             |  | HOLES ± .010                                      |  |  |  | DATE                                      |  | 06APL96    |  |
|                    |  |             |  | ANGLES ± 1°                                       |  |  |  | CHECKED                                   |  | DATE       |  |
| SCALE              |  | 1/12        |  | TITLE                                             |  |  |  | TIEDUCT ASSEMBLY,SM ENCL                  |  |            |  |
|                    |  |             |  |                                                   |  |  |  | SH, SNGL DUCT TO 23 X 3.25"               |  |            |  |
|                    |  |             |  |                                                   |  |  |  | DWG SIZE                                  |  | REV B      |  |
|                    |  |             |  |                                                   |  |  |  | A1                                        |  | SHT 1 OF 1 |  |



TIE PLATE TO SUIT 6" BASE RAIL ONLY

|                    |  |             |  |                                                   |  |              |  |                |  |
|--------------------|--|-------------|--|---------------------------------------------------|--|--------------|--|----------------|--|
|                    |  | A           |  | PRODUCTION RELEASE                                |  |              |  |                |  |
|                    |  | LTR         |  | DESCRIPTION                                       |  |              |  | DATE           |  |
|                    |  |             |  | CCI THERMAL TECHNOLOGIES INC.                     |  |              |  | DRAWING NUMBER |  |
|                    |  | DWN         |  | CCB                                               |  | DATE 22SEP98 |  | CHECKED        |  |
|                    |  |             |  |                                                   |  | DATE         |  | 14214          |  |
|                    |  |             |  | TITLE                                             |  |              |  | DWG SIZE       |  |
|                    |  |             |  | 10X10 TIEDUCT ASSY,SM ENCL                        |  |              |  | REV A          |  |
|                    |  |             |  | SH, SNGL DUCT TO 23 X 3.25"                       |  |              |  | SHT 1 OF 1     |  |
| MATERIAL           |  | APPLICATION |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH |  |              |  |                |  |
| SEE DRAWING DETAIL |  |             |  | XX ± .03                                          |  |              |  |                |  |
|                    |  |             |  | XXX ± .010                                        |  |              |  |                |  |
|                    |  |             |  | HOLES ± .010                                      |  |              |  |                |  |
|                    |  |             |  | ANGLES ± 1°                                       |  |              |  |                |  |
| SCALE              |  | 1/12        |  |                                                   |  |              |  |                |  |



UNION PACIFIC, SPECIAL #30 T.O, 23" x 3.25", TRACK DUCT SET

### SPECIAL #20 TURNOUT

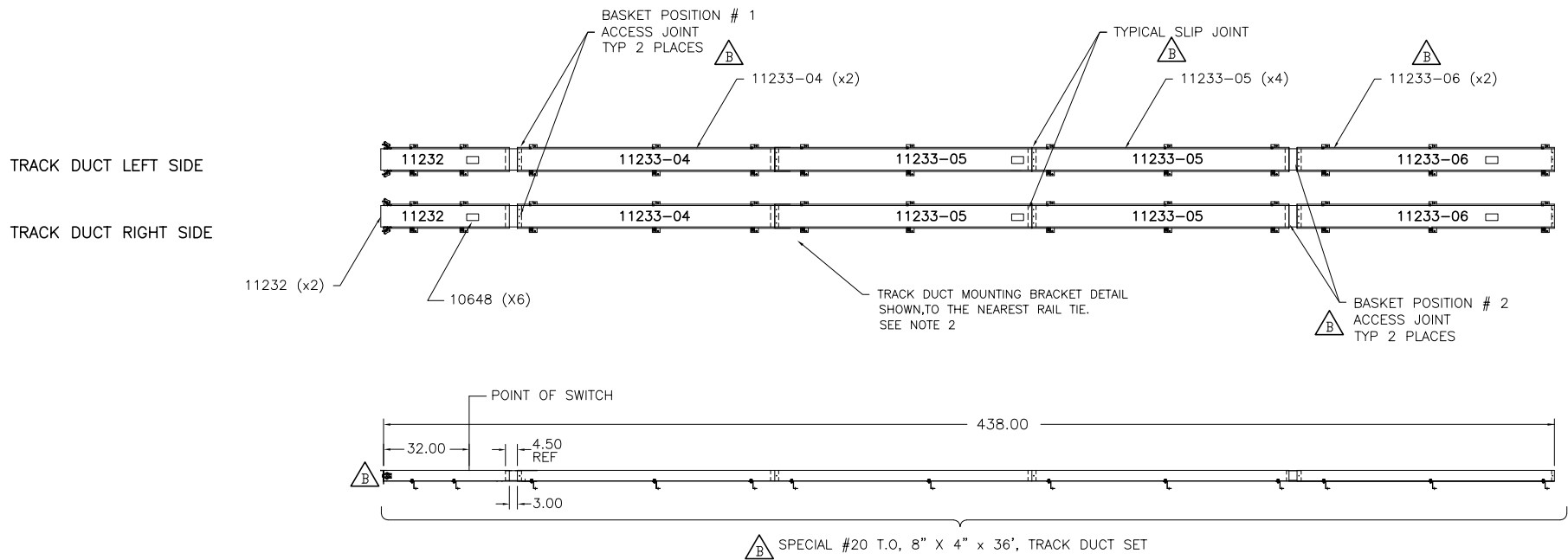
SWITCH POINT LENGTH = 80'-0" (960")  
 TRACK DUCT LENGTH = 82'-2" (986")  
 TRACK DUCT SIZE = 23"x3.25"

2. TRACKDUCT MNTG BRACKET AND HARDWARE ARE PART OF HARDWARE KIT P/N 12246-6 AND PACKAGED WITH SHIPPING KIT P/N 12490-1, TO BE INSTALLED AT TIME OF FINAL INSTALLATION. POSITION OF BRACKETS TO BE DETERMINED BY INSTALLER AT THAT TIME.

1. REFER TO SWITCH HEATER MANUAL AND ASSOCIATED DIAGRAMS FOR FIELD MODIFICATIONS RELATED TO ADDITION OF DISCHARGE SLOTS, PRIOR TO TRACK DUCT INSTALLATION USE CCI THERMAL GAPPING BLOCK P/N 11239 TO AID IN THIS PROCEDURE.

NOTES:

|                                          |  |                                                                                                                                                        |  |                                                            |  |                                                                        |  |       |      |                |            |              |       |
|------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------|--|------------------------------------------------------------------------|--|-------|------|----------------|------------|--------------|-------|
| B                                        |  | REMOVE 12573, 12574, 12575, 9046-0024, 9004-0010, 12572, NOTE 1, 2, ADD 12572-02, 12572-03, UPDATE 12571, NOTE 1 WAS 3, 2 WAS 4, ECN 256, MC, 3 JAN 95 |  |                                                            |  |                                                                        |  |       |      |                |            |              |       |
|                                          |  | A PRODUCTION RELEASE, REVISED                                                                                                                          |  |                                                            |  |                                                                        |  | SEP93 | CB   |                |            |              |       |
| LTR                                      |  | DESCRIPTION                                                                                                                                            |  |                                                            |  |                                                                        |  | DATE  | APPR |                |            |              |       |
| MATERIAL<br><br>SEE<br>SEPARATE<br>B O M |  | APPLICATION                                                                                                                                            |  | UNLESS OTHERWISE<br>SPECIFIED<br>DIMENSIONS<br>ARE IN INCH |  | CCI THERMAL TECHNOLOGIES INC.                                          |  |       |      | DRAWING NUMBER |            |              |       |
|                                          |  |                                                                                                                                                        |  |                                                            |  | DWN CCB                                                                |  |       |      | DATE 21APL93   | CHECKED GH | DATE 25MAY93 | 10422 |
|                                          |  |                                                                                                                                                        |  |                                                            |  | TITLE                                                                  |  |       |      |                |            |              |       |
|                                          |  |                                                                                                                                                        |  |                                                            |  | TRACKDUCT #30, T.O. U.P. SPECIAL,<br>23" x 3.25", W/QUICK RLSE, NO-HWD |  |       |      | DWG SIZE       | REV B      | SHT 1 OF 1   |       |
|                                          |  |                                                                                                                                                        |  |                                                            |  | SCALE 1/40                                                             |  |       |      | ANGLES ± 1°    |            |              |       |



SPECIAL #20 TURNOUT  
 SWITCH POINT LENGTH = 39'-0" (468")  
 TRACK DUCT LENGTH = 36'-6" (438")  
 TRACK DUCT SIZE = 8"x4"

2. TRACKDUCT MNTG BRACKET AND HARDWARE ARE PART OF HARDWARE KIT AND PACKAGED WITH SHIPPING KIT ,TO BE INSTALLED AT TIME OF FINAL INSTALLATION, POSITION OF BRACKETS,TO BE DETERMINED BY INSTALLER AT THAT TIME.

1. REFER TO SWITCH HEATER MANUAL AND ASSOCIATED DIAGRAMS FOR FIELD MODIFICATIONS RELATED TO ADDITION OF DISCHARGE SLOTS,PRIOR TO TRACK DUCT INSTALLATION

NOTES:

|  |  |                               |                                                                                                                                                                                             |         |      |       |          |                |
|--|--|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------|-------|----------|----------------|
|  |  | C                             | GAUGE BLOCK NOTE REMOVED,ECN 529,30OCT97,CB                                                                                                                                                 |         |      |       |          |                |
|  |  | B                             | REMOVE DETAIL 'A' (9046-0024), 10066, 10073, 10074, 11233-2, 9004-0010, NOTE 1, 2, (11238-2), ADD 11233-04, 11233-05, 11233-06, NOTE 1 WAS 3, 2 WAS 4, UPDATE 11232, ECN 256, MC, 19 DEC 94 |         |      |       |          |                |
|  |  | A                             | PRODUCTION RELEASE, REVISED                                                                                                                                                                 |         |      |       |          |                |
|  |  | LTR                           | DESCRIPTION                                                                                                                                                                                 |         |      |       | DATE     | APPL           |
|  |  | CCI THERMAL TECHNOLOGIES INC. |                                                                                                                                                                                             |         |      |       |          | DRAWING NUMBER |
|  |  | DWN                           | DATE                                                                                                                                                                                        | CHECKED | DATE | 10423 |          |                |
|  |  | C BALDI 26FEB93               |                                                                                                                                                                                             |         |      |       |          |                |
|  |  | TITLE                         |                                                                                                                                                                                             |         |      |       | DWG SIZE | REV            |
|  |  | TRACKDUCT SET 8X4X36'         |                                                                                                                                                                                             |         |      |       | A1       | C              |
|  |  | W/QUICK RLSE, NO HDW          |                                                                                                                                                                                             |         |      |       | SHT      | 1 OF 1         |

|                    |             |                                           |        |
|--------------------|-------------|-------------------------------------------|--------|
| MATERIAL           | APPLICATION | UNLESS OTHERWISE SPEC'D DIMENSIONS ARE IN | INCH   |
| SEE SEPARATE B O M |             | XX                                        | ± .03  |
|                    |             | XXX                                       | ± .010 |
|                    |             | HIDES                                     | ± .010 |
| SCALE              | 1/20        | ANGLES                                    | ± 1°   |

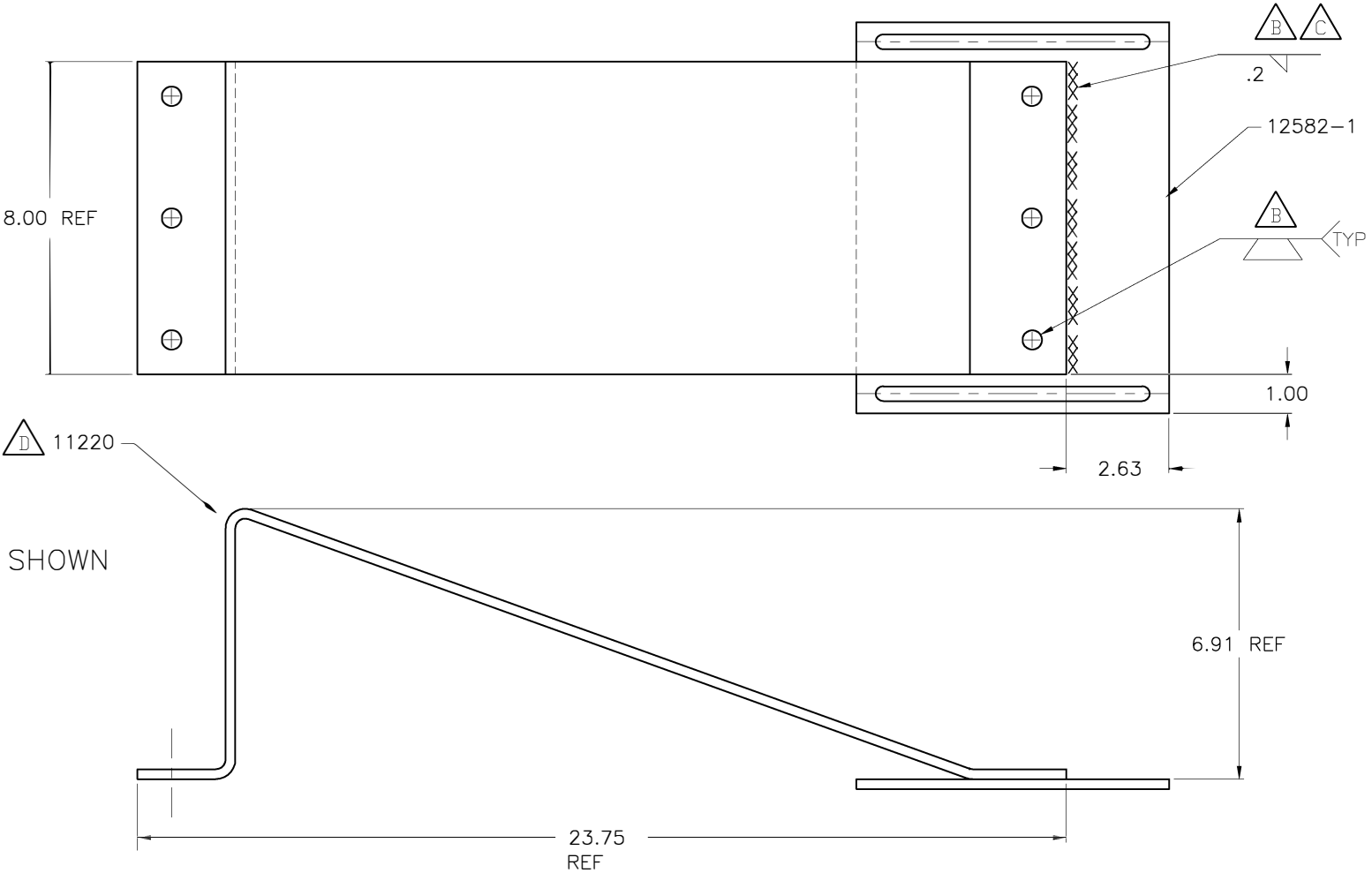




Diagram showing three triangles labeled B, E, and F.

|                                                 |                                                                      |                   |          |
|-------------------------------------------------|----------------------------------------------------------------------|-------------------|----------|
| G                                               | VARIANT -02 ADDED,ECN 1437,15 JAN 02, CCB                            |                   |          |
| F                                               | GREY PAINT AND ANTI SLIP TAPE REMOVED, ECN 1258, 7 MAY 01, CCB       |                   |          |
| E                                               | ANTI SLIP ADDED, PAINT GREY WAS RED OXIDE, ECN 1184, 5 JAN 2001, CCB |                   | GNW      |
| D                                               | ADD DIM .88, REMOVE FIELD MODIFICATION INFO, ECN 326, MC, 31MAR95    | 29JUL93           |          |
| LTR                                             | DESCRIPTION                                                          | DATE              | APPROV   |
| CCI THERMAL TECHNOLOGIES INC.                   |                                                                      | DRAWING NUMBER    |          |
| DWN<br>DHG                                      | DATE<br>APR 22 91                                                    | CHECKED           | DATE     |
| TITLE<br>DEFLECTOR, SMALL, TRACKDUCT,<br>SW HTR |                                                                      | DWG<br>SIZE<br>A2 | REV<br>G |
|                                                 |                                                                      | SHT               | 1 OF 2   |

| VARIANT TABLE |         |                                         |
|---------------|---------|-----------------------------------------|
| REV           | NUMBER  | DESCRIPTION                             |
| F             | 12584-1 | AS DEPICTED<br>#30 T.O. FROG END        |
| F             | 12584-2 | SEE SHEET 2<br>OBSOLETE #30 T.O. SW END |



NOTE:

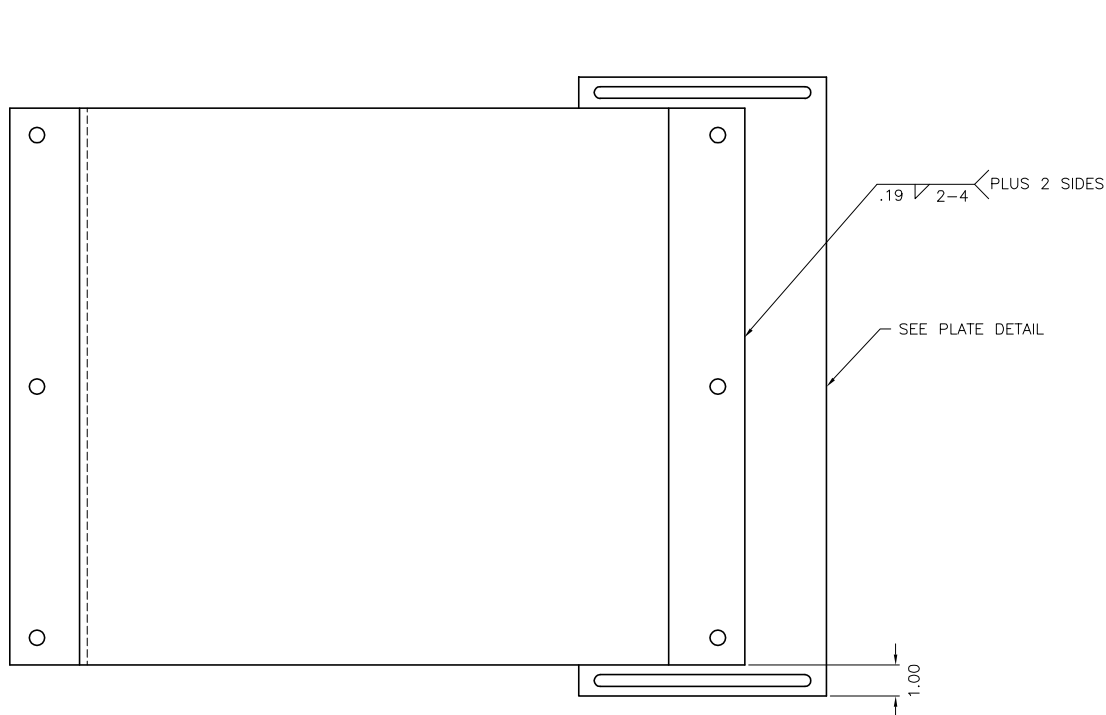
1. REMOVE ALL BURRS AND SHARP EDGES.



|                                                       |                                                                                                                                 |                   |         |                   |          |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|-------------------|----------|
| F                                                     | 10" VARIANT MADE OBSOLETE, 11220 ADDED AS DETAIL FOR 8" DEFLECTOR<br>8" DETAIL ON SHEET MADE REF ONLY, ECN 1521, 05 APR 02, CCB |                   |         |                   |          |
| E                                                     | GREY PAINT AND ANTI SLIP TAPE REMOVED, ECN 1258, 7 MAY 01, CCB                                                                  |                   |         |                   |          |
| D                                                     | SHEETS 3 AND 4 ADDED FOR DEFLECTOR MFG DETAILS<br>ANTI SLIP ADDED, PAINT GREY WAS RED OXIDE, ECN 1184, 5 JAN 2001, CCB          |                   |         |                   |          |
| C                                                     | FILLET WELD TO BE FULL LENGTH OF PLATE<br>ECN 481, CCB, 12 OCT 96                                                               |                   |         |                   |          |
| LTR                                                   | DESCRIPTION                                                                                                                     |                   |         | DATE              | APPVL    |
| CCI THERMAL TECHNOLOGIES INC.                         |                                                                                                                                 |                   |         | DRAWING NUMBER    |          |
| DWN                                                   | CCB                                                                                                                             | DATE<br>30JUN1993 | CHECKED | DATE              | 12584    |
| TITLE<br>DEFLECTOR/PLATE WELDED ASSY,<br>CONCRETE TIE |                                                                                                                                 |                   |         | DWG<br>SIZE<br>A2 | REV<br>F |
|                                                       |                                                                                                                                 |                   |         | SHT               | 1 OF 4   |

| MATERIAL   | APPLICATION | UNLESS OTHERWISE<br>SPECIFIED<br>DIMENSIONS<br>ARE IN | INCH   |
|------------|-------------|-------------------------------------------------------|--------|
| 1/4 IN HRS |             | XX                                                    | ± .03  |
|            |             | XXX                                                   | ± .010 |
|            |             | HOLES                                                 | ± .010 |
|            |             | ANGLES                                                | ± 1°   |
| SCALE      |             | 1/2                                                   |        |

|                |  |
|----------------|--|
| DRAWING NUMBER |  |
| 12584          |  |



SEE SHEET 2 FOR DETAIL

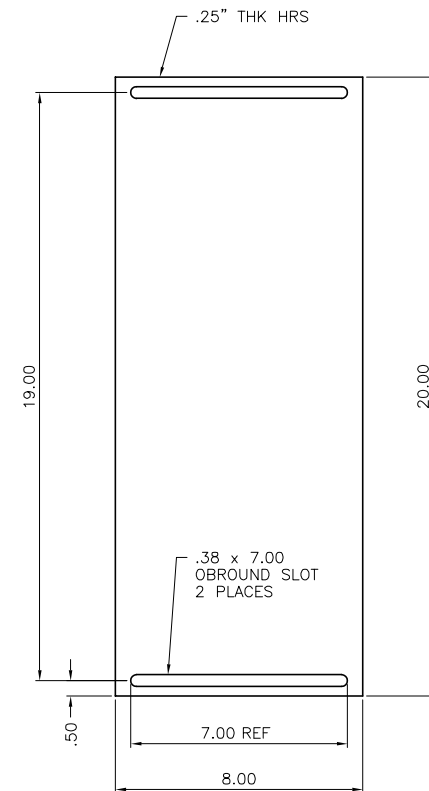
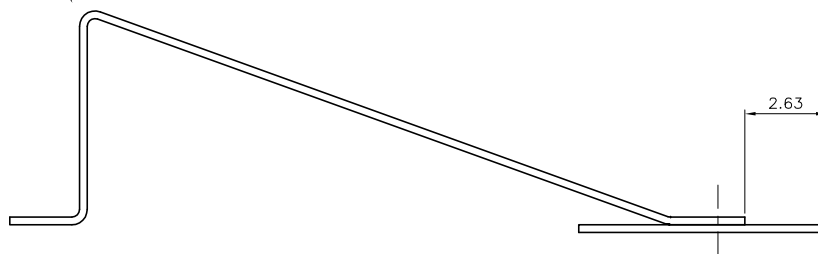


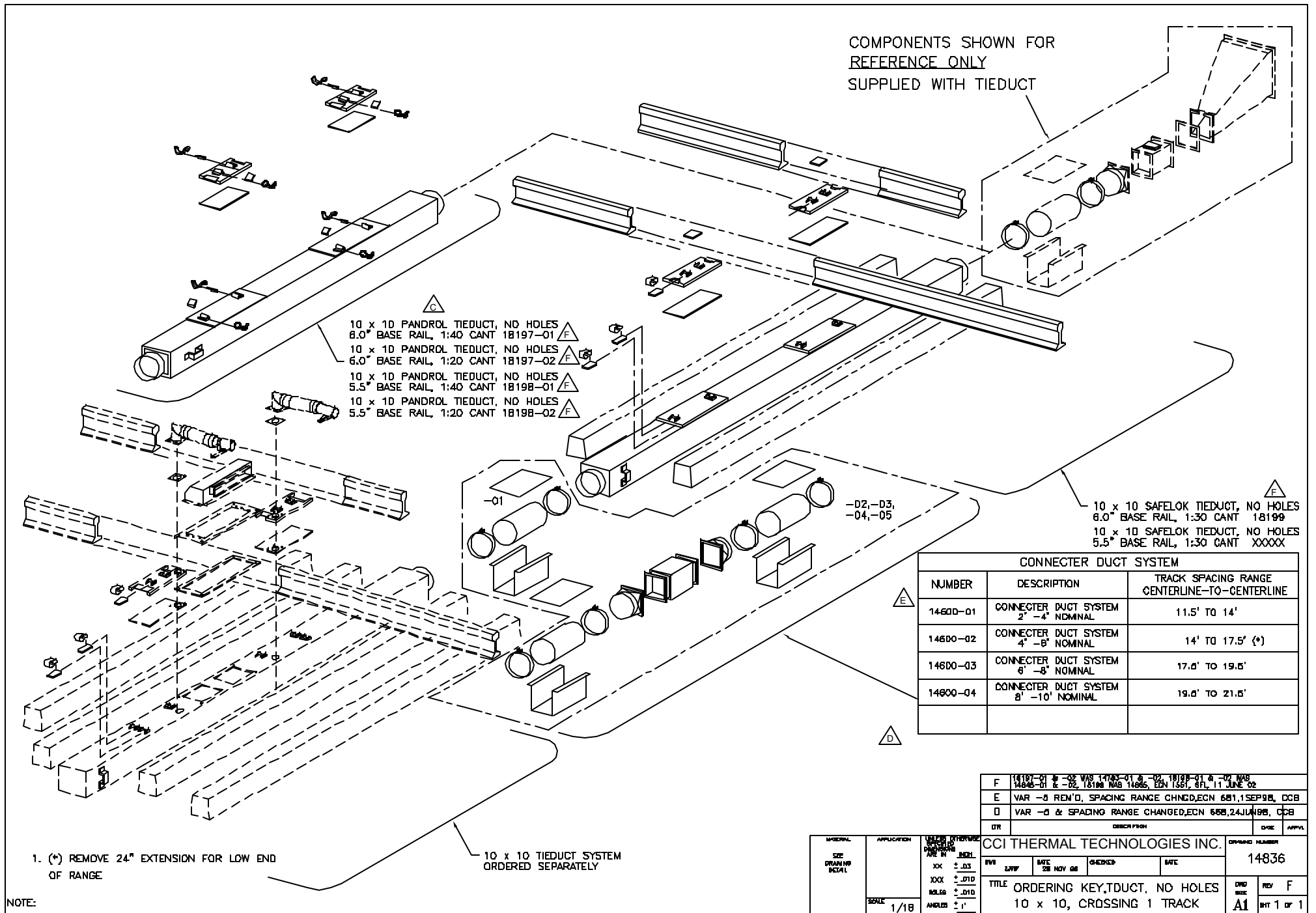
PLATE DETAIL

NOTE:

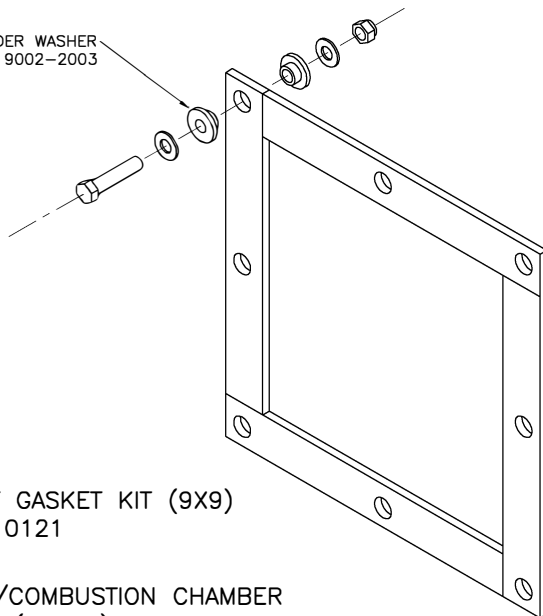
1. REMOVE ALL BURRS AND SHARP EDGES.



|                                                           |  |                               |  |                                                                                                                                                                              |  |                                                                                                            |  |      |  |                |  |
|-----------------------------------------------------------|--|-------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------|--|------|--|----------------|--|
| <div>MATERIAL</div> <div>SEE<br/>DRAWING<br/>DETAIL</div> |  | <div>APPLICATION</div>        |  | <div>UNLESS OTHERWISE<br/>SPECIFIED<br/>DIMENSIONS<br/>ARE IN</div> <div>INCH</div> <div>XX ± .03</div> <div>XXX ± .010</div> <div>HOLES ± .010</div> <div>ANGLES ± 1°</div> |  | C GREY PAINT AND ANTI SLIP TAPE REMOVED, ECN 1258, 7 MAY 01, CCB                                           |  |      |  | DATE           |  |
|                                                           |  |                               |  |                                                                                                                                                                              |  | B SHEET 2 ADDED FOR DEFLECTOR DETAILS<br>ANTI SLIP ADDED, PAINT GREY WAS OXIDE ED, ECN 1184, 8 JAN 01, CCB |  |      |  | DATE           |  |
|                                                           |  |                               |  |                                                                                                                                                                              |  | LTR DESCRIPTION                                                                                            |  |      |  | DATE           |  |
|                                                           |  |                               |  |                                                                                                                                                                              |  | CCI THERMAL TECHNOLOGIES INC.                                                                              |  |      |  | DRAWING NUMBER |  |
| <div>SCALE</div> <div>1/2</div>                           |  | <div>DWN</div> <div>L/W</div> |  | DATE                                                                                                                                                                         |  | CHECKED                                                                                                    |  | DATE |  | 14824          |  |
|                                                           |  |                               |  | 28 JAN 97                                                                                                                                                                    |  |                                                                                                            |  |      |  |                |  |
|                                                           |  |                               |  | TITLE                                                                                                                                                                        |  |                                                                                                            |  |      |  | DWG<br>SIZE    |  |
|                                                           |  |                               |  | 18"W DEFLECTOR BKT ASSY                                                                                                                                                      |  |                                                                                                            |  |      |  | C              |  |
|                                                           |  |                               |  | SWITCH HEATERS                                                                                                                                                               |  |                                                                                                            |  |      |  | A1             |  |
|                                                           |  |                               |  |                                                                                                                                                                              |  |                                                                                                            |  |      |  | SHT 1 OF 2     |  |

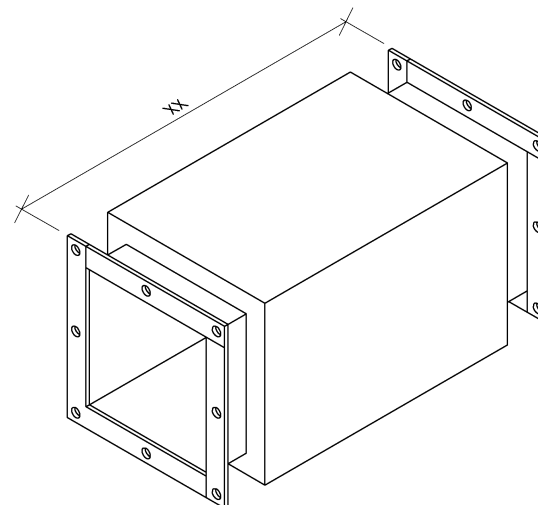


NYLON SHOULDER WASHER  
ORDER # 9002-2003



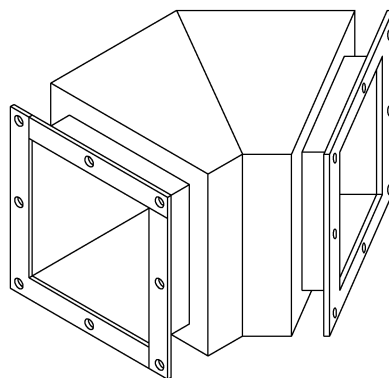
CROSSDUCT GASKET KIT (9X9)  
ORDER # 10121

TRANSITION/COMBUSTION CHAMBER  
GASKET KIT (25X22)  
ORDER # 13393



INSULATED EXTENSION DUCT  
ORDER # 13369-xx

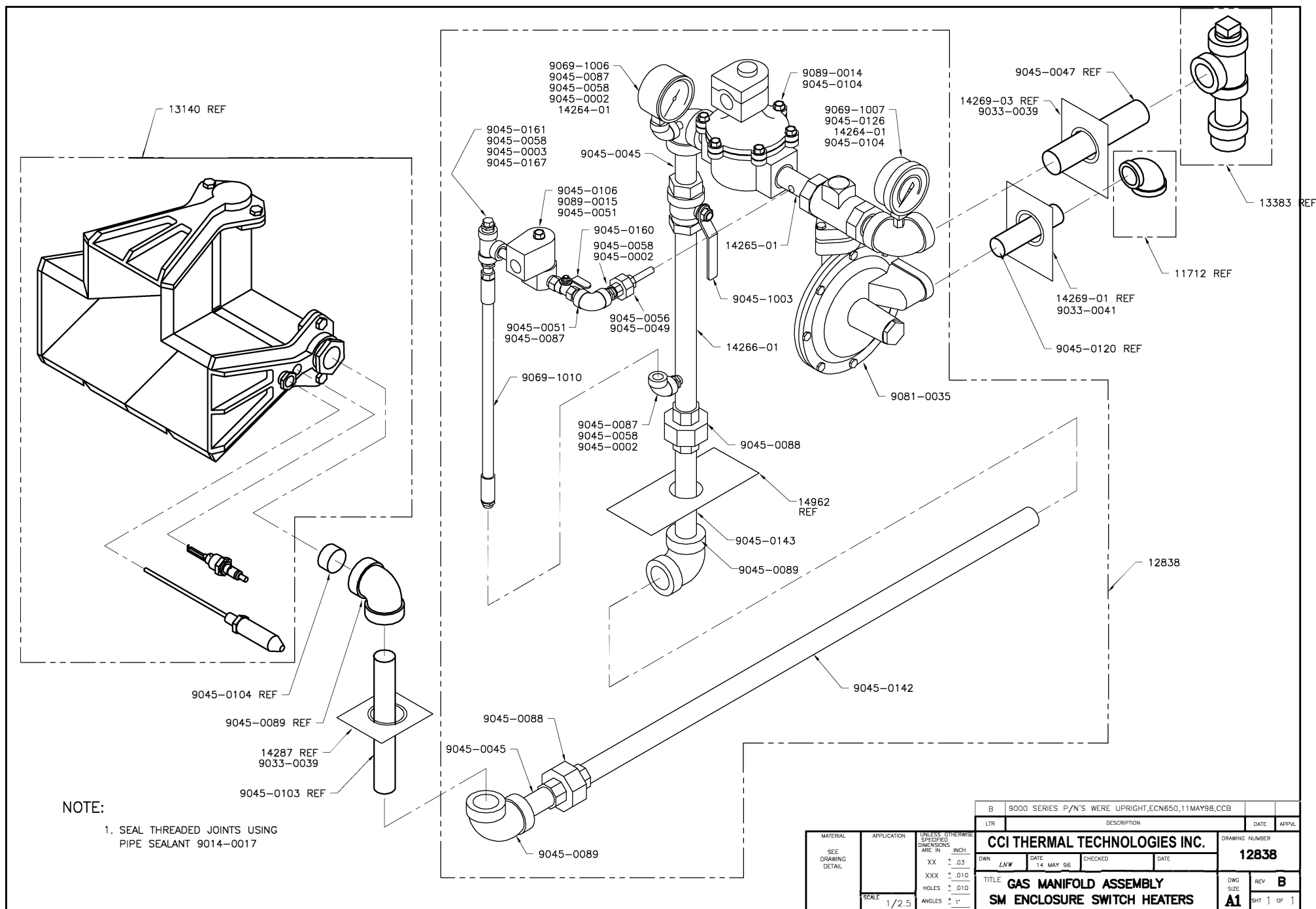
AVAILABLE IN 1 FOOT INCREMENTS, FROM 1 TO 10 FEET  
PLEASE SPECIFY LENGTH WHEN ORDERING

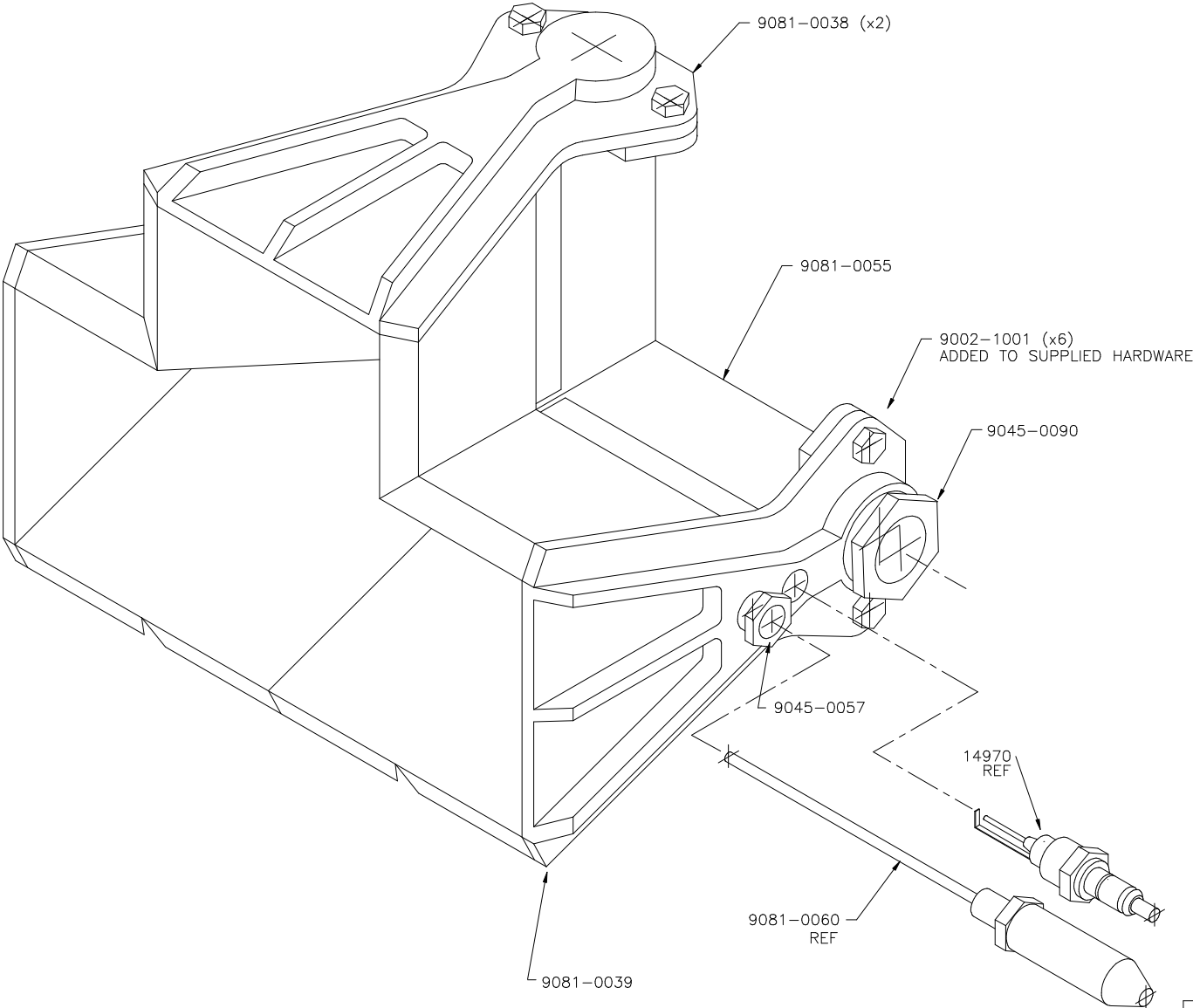


45° ELBOW  
ORDER # 10142

|                               |  |                    |  |         |  |      |  |                |  |
|-------------------------------|--|--------------------|--|---------|--|------|--|----------------|--|
| A                             |  | PRODUCTION RELEASE |  |         |  |      |  |                |  |
| LTR                           |  | DESCRIPTION        |  |         |  | DATE |  | APPRVL         |  |
| CCI THERMAL TECHNOLOGIES INC. |  |                    |  |         |  |      |  |                |  |
| DWN                           |  | DATE               |  | CHECKED |  | DATE |  | DRAWING NUMBER |  |
| LNW                           |  | 18 APR 97          |  |         |  |      |  | 15213          |  |
| TITLE                         |  |                    |  |         |  |      |  | DWG SIZE       |  |
| PRODUCT DECISION TREE         |  |                    |  |         |  |      |  | A1             |  |
| SWITCH HEATER SYSTEM OPTIONS  |  |                    |  |         |  |      |  | REV B          |  |
|                               |  |                    |  |         |  |      |  | SHT 2 OF 3     |  |

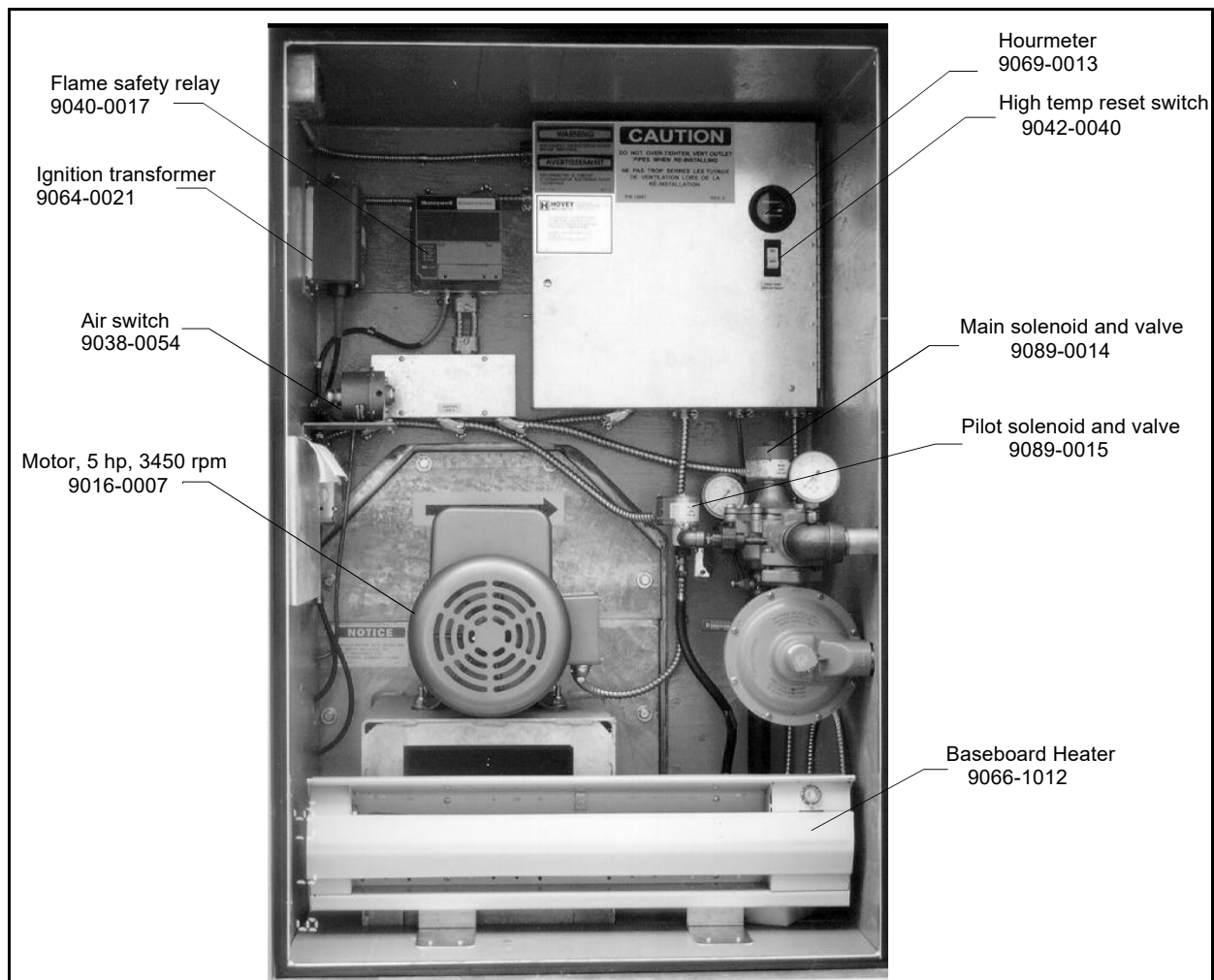
|                    |             |                                              |
|--------------------|-------------|----------------------------------------------|
| MATERIAL           | APPLICATION | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN |
| SEE DRAWING DETAIL |             | INCH                                         |
|                    |             | XX ± .03                                     |
|                    |             | XXX ± .010                                   |
|                    |             | HOLES ± .010                                 |
|                    |             | ANGLES ± 1°                                  |
| SCALE              |             | 1/1                                          |



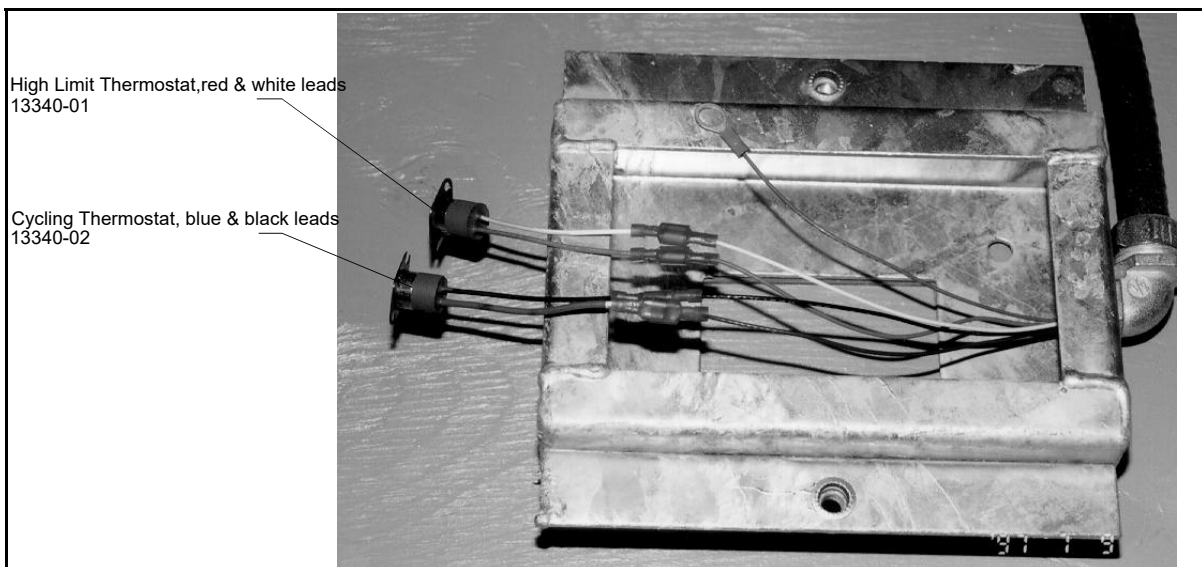


NOTE:  
1. SEAL THREADED JOINTS USING 9014-0020

|                               |  |             |  |                                                           |  |        |  |                |  |            |  |
|-------------------------------|--|-------------|--|-----------------------------------------------------------|--|--------|--|----------------|--|------------|--|
|                               |  | C           |  | FLSME ROD 0060 WAS 0053, REDUCER 9045-0057 ADDED, ECN 626 |  |        |  | CN 626         |  |            |  |
|                               |  | LTR         |  | DESCRIPTION                                               |  |        |  | DATE           |  | APPL       |  |
| CCI THERMAL TECHNOLOGIES INC. |  |             |  |                                                           |  |        |  |                |  |            |  |
| MATERIAL                      |  | APPLICATION |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN              |  | INCH   |  | DRAWING NUMBER |  |            |  |
| SEE DRAWING DETAIL            |  |             |  | XX                                                        |  | ± .03  |  | 13140          |  |            |  |
|                               |  |             |  | XXX                                                       |  | ± .010 |  |                |  |            |  |
|                               |  |             |  | HOLES                                                     |  | ± .010 |  |                |  |            |  |
|                               |  |             |  | ANGLES                                                    |  | ± 1°   |  |                |  |            |  |
| SCALE: 1/1                    |  |             |  | TITLE T-BURNER ASSEMBLY                                   |  |        |  | DWG SIZE       |  | REV C      |  |
|                               |  |             |  | BUNG P/NG                                                 |  |        |  | A1             |  | SHT 1 OF 1 |  |



Mark 6 series Small Enclosure 5 hp Switch Heater, Electrical, page 1 of 2



Thermostats

Fuse  
9077-0022

Relay  
9040-0024 & -0025

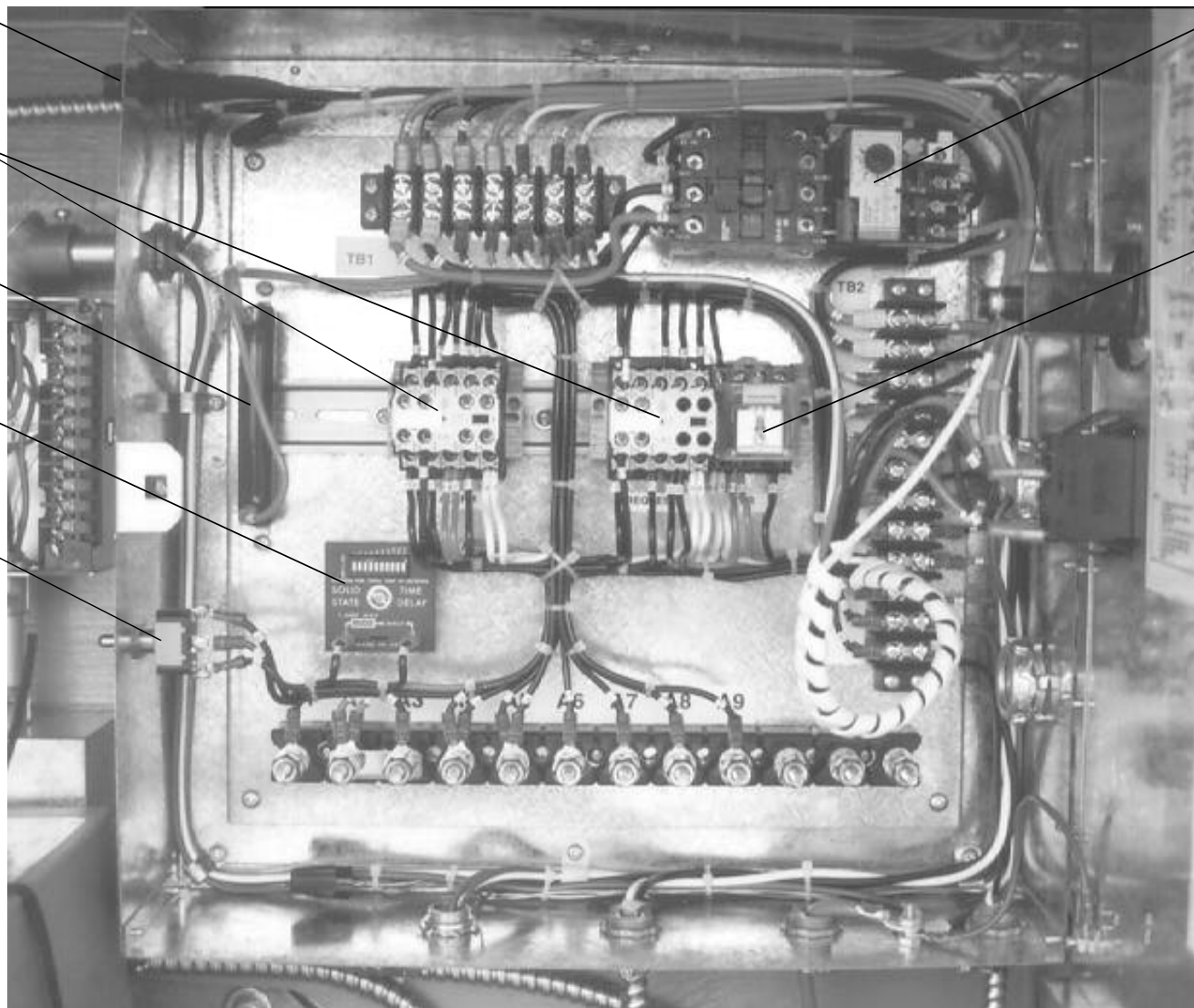
Resistor  
9049-0037

Delay start timer  
9038-0039

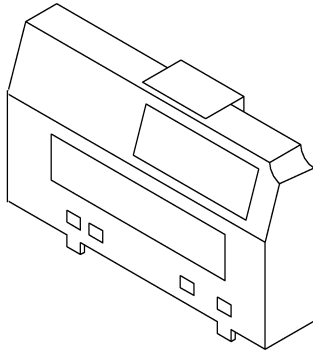
Selector switch  
9038-0057

Motor starter  
9078-0008

Relay  
9040-0008

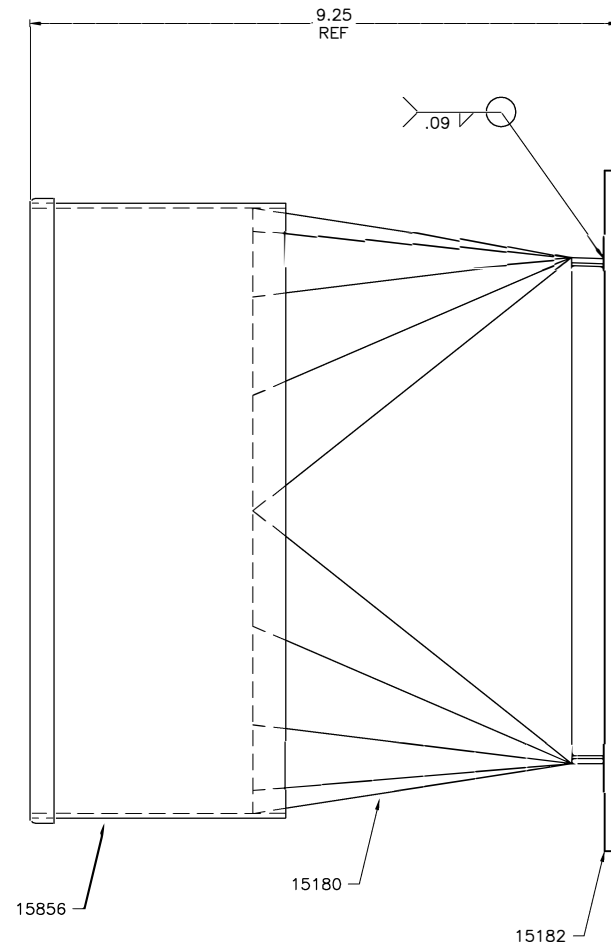
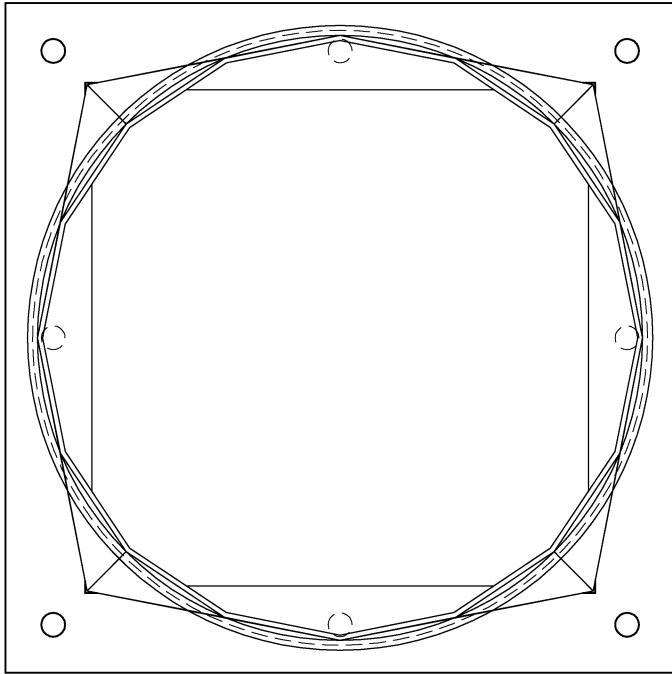


Mark 6 series Small Enclosure 5 hp Switch Heater, Electrical box, page 2 of 2



KEYBOARD DISPLAY MODULE  
(FOR FLAME SAFETY RELAY RM7895)  
ORDER # 9040-0021

|                    |  |             |  |                                                   |  |                    |  |                               |  |                |  |                       |  |            |  |
|--------------------|--|-------------|--|---------------------------------------------------|--|--------------------|--|-------------------------------|--|----------------|--|-----------------------|--|------------|--|
|                    |  |             |  | B                                                 |  | PRODUCTION RELEASE |  |                               |  |                |  |                       |  |            |  |
|                    |  |             |  | LTR                                               |  | DESCRIPTION        |  |                               |  |                |  | DATE                  |  | APPL       |  |
| MATERIAL           |  | APPLICATION |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH |  |                    |  | CCI THERMAL TECHNOLOGIES INC. |  |                |  | DRAWING NUMBER        |  |            |  |
| SEE DRAWING DETAIL |  |             |  | XX ± .03                                          |  |                    |  | DWN                           |  |                |  | 15213                 |  |            |  |
|                    |  |             |  | XXX ± .010                                        |  |                    |  | CCB                           |  | DATE 18 APR 97 |  | CHECKED               |  | DATE       |  |
|                    |  |             |  | HOLES ± .010                                      |  |                    |  | TITLE                         |  |                |  | PRODUCT DECISION TREE |  |            |  |
|                    |  |             |  | ANGLES ± 1°                                       |  |                    |  | SWITCH HEATER SYSTEM OPTIONS  |  |                |  | DWG SIZE              |  | REV B      |  |
| SCALE 1/1          |  |             |  |                                                   |  |                    |  |                               |  |                |  | A1                    |  | SHT 4 OF 4 |  |



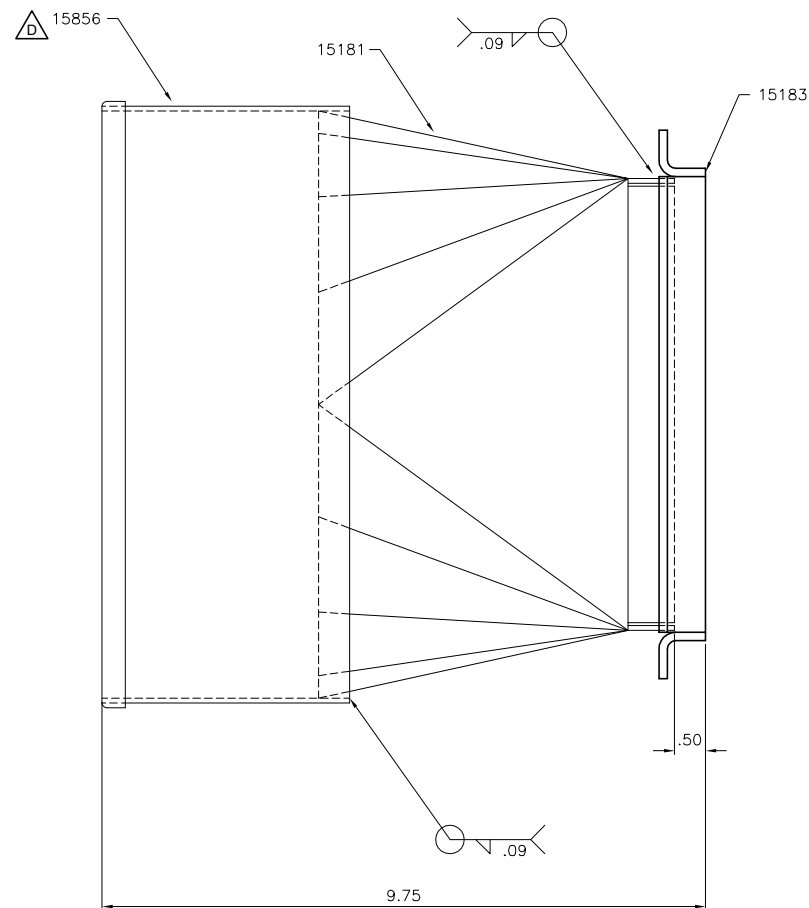
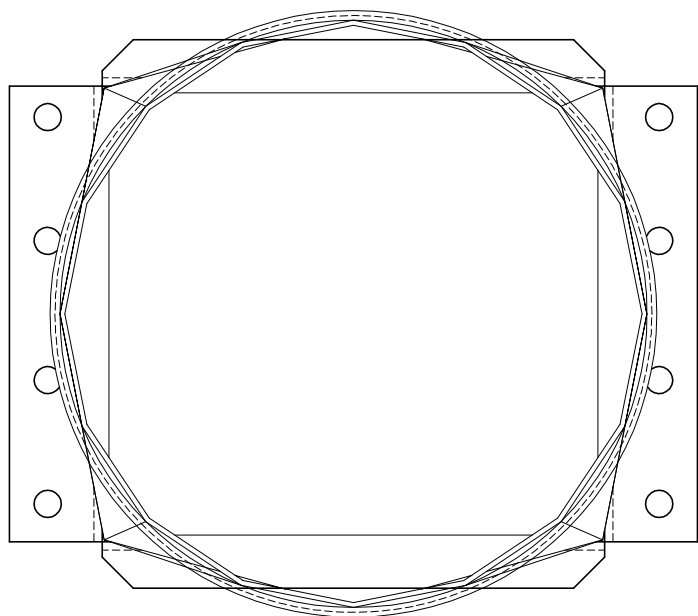
NOTE:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. CLEAN,PHOSPHATE AND PRIME COAT, RED OXIDE, 9013-1001.
3. FINISH: DEGREASE, PHOSPHATE AND APLLY  
GREY EPOXY PRIMER, PROTECH PRODUCT # ES-412-A46



|                    |  |             |  |                                                   |  |                                                           |                |                |      |
|--------------------|--|-------------|--|---------------------------------------------------|--|-----------------------------------------------------------|----------------|----------------|------|
| MATERIAL           |  | APPLICATION |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH |  | CCI THERMAL TECHNOLOGIES INC.                             |                | DRAWING NUMBER |      |
| SEE DRAWING DETAIL |  |             |  | XX ± .03                                          |  | DWN LNW                                                   | DATE 28 FEB 97 | CHECKED        | DATE |
|                    |  |             |  | XXX ± .010                                        |  | TITLE ADAPTER ASSY, Ø10" TO 8"SQ RAILWAY EQUIPMENT SW HTR |                |                |      |
|                    |  |             |  | HOLES ± .010                                      |  | DWG SIZE A1                                               |                | REV D          |      |
|                    |  |             |  | ANGLES ± 1°                                       |  | SCALE 1/1                                                 |                | SHT 1 OF 1     |      |

|     |                                                            |      |       |
|-----|------------------------------------------------------------|------|-------|
| D   | PAINT NOTE ADDED, ECN 1733, 12 JUN 03, TMH                 |      |       |
| C   | ADDED 15856, MEP, ECN 1290, 30 MAY 01                      |      |       |
| B   | 15180 UPDATED TO REFLECT CURRENT BUILD,ECN 715,25MAY99,CCB |      |       |
| LTR | DESCRIPTION                                                | DATE | APPR. |



USE WITH RAILS CO. MODEL  
SERIES - 500 & 600

**NOTE:**

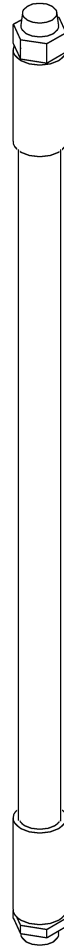
1. REMOVE ALL BURRS AND SHARP EDGES.
2. CLEAN, PHOSPHATE AND PRIME COAT, RED OXIDE, 9013-1001.
3. FINISH COAT HIGH HEAT ALUMINUM, RLD # HHAL

|   |                                                                 |
|---|-----------------------------------------------------------------|
| D | ADDED 15856, MEP, ECN 1290, 31 MAY 01                           |
| C | TITLE CHANGED, MEP, ECN 775, 20 JULY 99                         |
| B | 15181 UPDATED TO REFLECT CURRENT BUILD, ECN 715, 25 MAY 99, CCB |
| A | PRODUCTION RELEASE                                              |

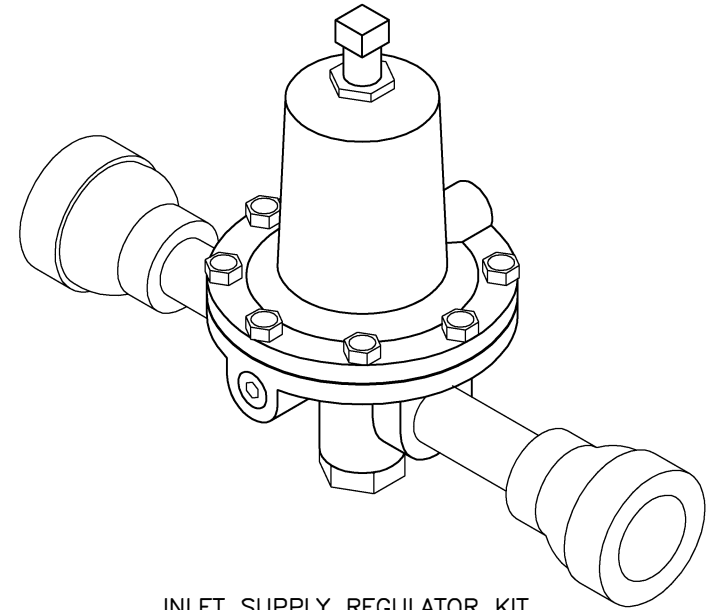
|                    |  |             |  |                                              |  |                                     |  |                |  |
|--------------------|--|-------------|--|----------------------------------------------|--|-------------------------------------|--|----------------|--|
| MATERIAL           |  | APPLICATION |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN |  | CCI THERMAL TECHNOLOGIES INC.       |  | DRAWING NUMBER |  |
| SEE DRAWING DETAIL |  | SCALE 1/1   |  | INCH                                         |  | DWN                                 |  | 15185          |  |
|                    |  |             |  | XX ± .03                                     |  | DATE 28 FEB 97                      |  | CHECKED        |  |
|                    |  |             |  | XXX ± .010                                   |  | TITLE                               |  | DATE           |  |
|                    |  |             |  | HOLES ± .010                                 |  | ADAPTER ASSY, Ø10" to 8x7.25" RAILS |  | DWG SIZE       |  |
|                    |  |             |  | ANGLES ± 1°                                  |  | COMPANY SWITCH HEATER, PRE 1989     |  | REV D          |  |
|                    |  |             |  |                                              |  |                                     |  | A1             |  |
|                    |  |             |  |                                              |  |                                     |  | SHT 1 OF 1     |  |



GROUND ROD KIT  
ORDER #12825-03 (ONE ROD)  
ORDER #12825 (FOUR RODS)



FLEXIBLE HOSE CONNECTION KIT  
ORDER #13384



INLET SUPPLY REGULATOR KIT  
ORDER #13386

|                                      |  |                    |  |                                                       |  |                |      |
|--------------------------------------|--|--------------------|--|-------------------------------------------------------|--|----------------|------|
| A                                    |  | PRODUCTION RELEASE |  |                                                       |  |                |      |
| LTR                                  |  | DESCRIPTION        |  |                                                       |  | DATE           | APPR |
| MATERIAL<br>SEE<br>DRAWING<br>DETAIL |  | APPLICATION        |  | UNLESS OTHERWISE<br>SPECIFIED<br>DIMENSIONS<br>ARE IN |  | DRAWING NUMBER |      |
|                                      |  |                    |  | INCH                                                  |  | 15212          |      |
|                                      |  |                    |  | XX .03                                                |  | DWG            |      |
|                                      |  |                    |  | XXX .010                                              |  | DATE 18 APR 97 |      |
|                                      |  |                    |  | HOLES .010                                            |  | CHECKED        |      |
|                                      |  |                    |  | ANGLES 1°                                             |  | DATE           |      |
| SCALE 1/1                            |  | TITLE              |  |                                                       |  | REV B          |      |
|                                      |  | PRODUCT OPTIONS    |  |                                                       |  | DWG SIZE A1    |      |
|                                      |  | SWITCH HEATERS     |  |                                                       |  | SHT 1 OF 1     |      |