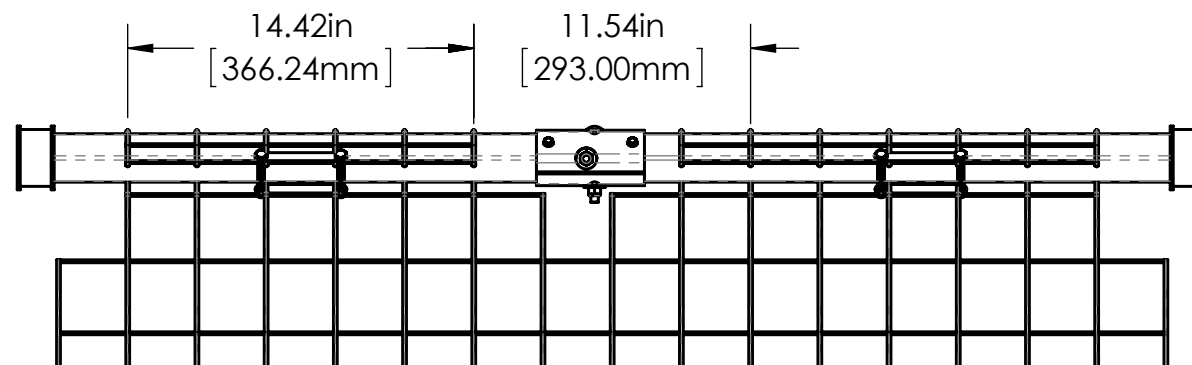
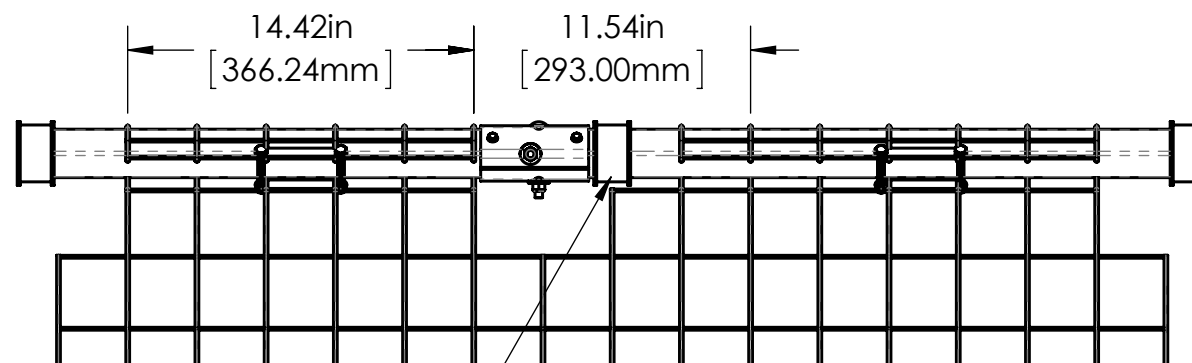


6TH NEST FROM EXPELLER DRIVE UNIT

STANDARD NEST
DETAIL VIEW A



FLAT TOP NEST
DETAIL VIEW B



CENTERED GROMMET

| BILL OF MATERIALS | | | |
|-------------------|--------|-----|--------------------------------|
| ITEM # | PART # | QTY | DESCRIPTION |
| 1 | 010458 | 2 | 5/16" X 7/8"OD SAE FLAT WASHER |
| 2 | 012789 | 2 | 5/16-18 NYLOCK NUT |
| 3 | 631277 | 2 | CONNECTOR, EXT., EXPELLER TUBE |
| 4 | 690142 | 2 | 12-24 X 7/8" TEK SCREW |
| 5 | 690351 | 2 | SCREW, 5/16-18 X 3 CRG GR5 ZP |

NOTE:
THIS SUPERSEDES CONNECTING METHOD AND EXPELLER SHAFT LENGTH CUTTING INSTRUCTIONS ON PAGES 4-6 AND 4-7 OF MANUAL 990004, DATED 2-18-2013.

ASSEMBLY NOTES, PAGE 1 OF 2:


1. CUT EXPELLER SHAFT SO ALL CONNECTORS ARE LOCATED WITHIN THE 11.54" [293 mm] AREA, AS SHOWN IN DETAIL VIEWS A & B.
2. TO KEEP EXPELLER SHAFT CUTTING TO A MINIMUM, IF THE DRIVE UNIT COMPARTMENT IS 12" WIDE, AS SHOWN ABOVE, IT IS RECOMMENDED TO CUT THE END OF THE FIRST SHAFT FROM THE DRIVE UNIT TO A LENGTH OF 262.63" (21' 10-5/8") [6670.8 mm].

IF THE DRIVE UNIT COMPARTMENT IS 24" WIDE, THEN THE FIRST CUT SHOULD BE MADE 6" [152.4 mm] FURTHER, AT 268.630" (22' 4-5/8") [6823.2 mm].

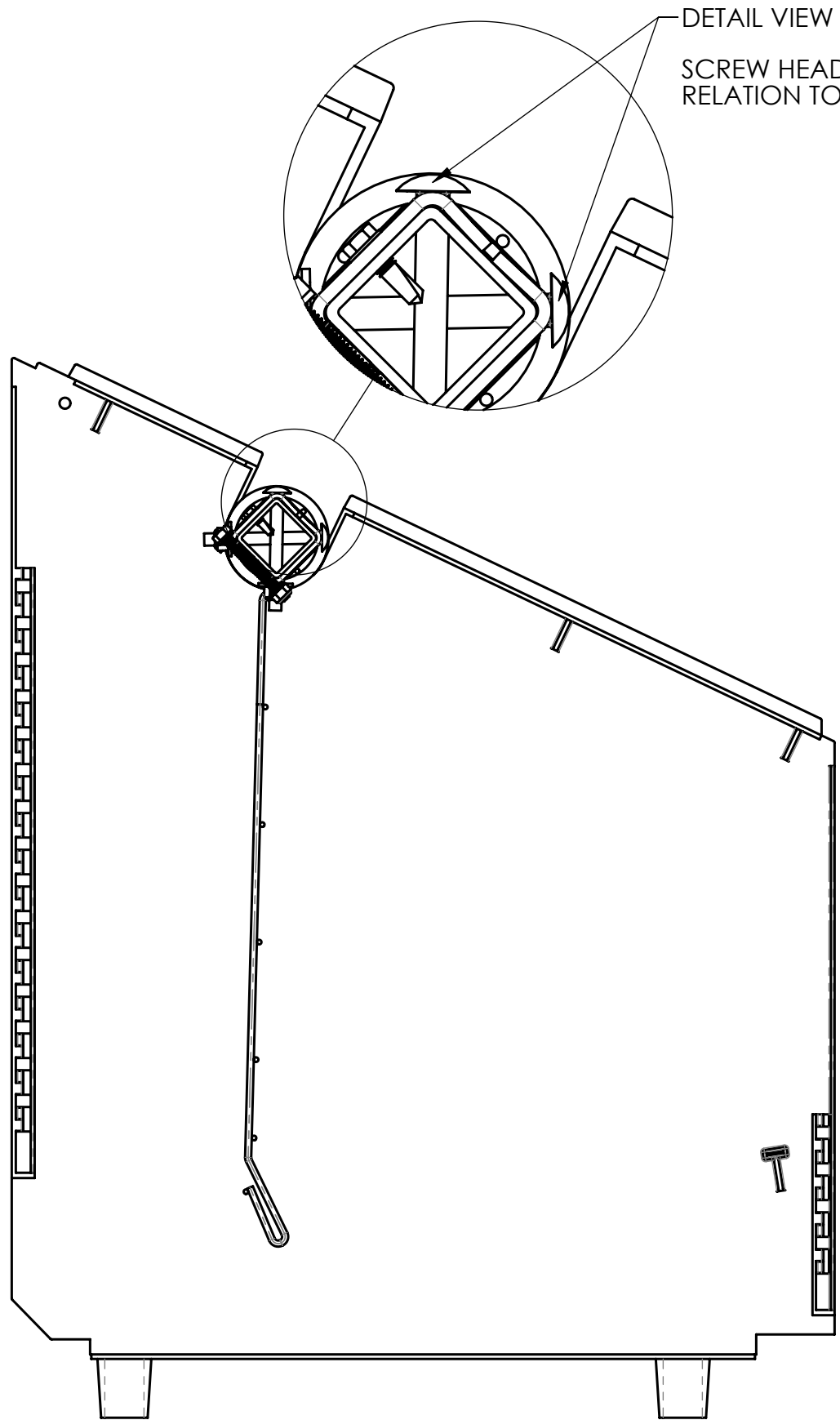
WHEN ASSEMBLING A FLAT TOP NEST LAYOUT, THE FIRST SHAFT SHOULD BE CUT 2.31" (2-5/16") [58.7 mm] SHORTER THAN THE DIMENSIONS LISTED ABOVE, TO ACCOUNT FOR THE CENTERED GROMMETS INSTALLED IN EACH NEST BOX. ALL SUBSEQUENT SHAFTS MUST BE CUT TO MAINTAIN CENTERED PLACEMENT OF GROMMETS IN NEST BOXES.

ALL WIRE TRIMS FOR A FLAT TOP NEST SYSTEM SHOULD MATCH THE CUT PATTERN SHOWN IN DETAIL B, WITH ADDITIONAL WIRES TRIMMED TO ALLOW FOR THE PLACEMENT OF A CENTERED GROMMET.

3. CUT THE MINIMUM NUMBER OF WIRES NEEDED FROM THE EXPELLER PANEL TO INSTALL THE EXPELLER SHAFT CONNECTORS AND HARDWARE, AS SHOWN IN DETAIL VIEWS A & B.
4. SEE SHEET 2 OF 2 FOR DETAILED INSTRUCTIONS ON ASSEMBLY OF CONNECTORS, POSITIONING OF EXPELLER SHAFT ENDS, AND BOLT HEAD ORIENTATION.

| | | | | | |
|---|--|---------------|--|----------------------------|--|
|  VALCO COMPANIES, INC. PO BOX 8 NEW HOLLAND, PA 17557 | | DESCRIPTION 1 | | INSTALLATION INSTRUCTIONS, | |
| | | DESCRIPTION 2 | | EXPELLER SHAFT COUPLER | |
| SHEET 1 OF 2 | | 990106 | | REV. A | |

| | | | | |
|-----|-------|---|----------|-----|
| A | 13323 | ADDED AND REDIMENSIONED DETAIL VIEWS, EXPANDED NOTES. | 12/21/15 | TRC |
| REV | ECN# | DESCRIPTION | DATE | BY |

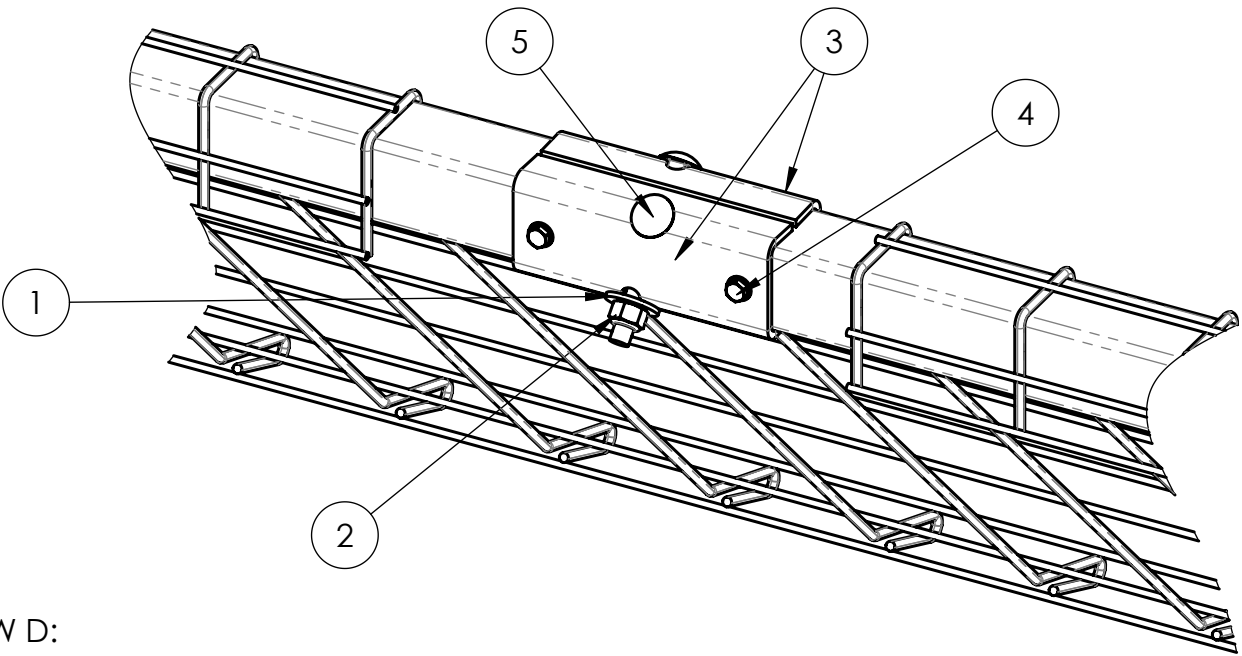


DETAIL VIEW C:
SCREW HEAD ORIENTATION IN
RELATION TO EXPELLER WIRE POSITION.

| BILL OF MATERIALS | | | |
|-------------------|--------|-----|--------------------------------|
| ITEM # | PART # | QTY | DESCRIPTION |
| 1 | 010458 | 2 | 5/16" X 7/8"OD SAE FLAT WASHER |
| 2 | 012789 | 2 | 5/16-18 NYLOCK NUT |
| 3 | 631277 | 2 | CONNECTOR, EXT., EXPELLER TUBE |
| 4 | 690142 | 2 | 12-24 X 7/8" TEK SCREW |
| 5 | 690351 | 2 | SCREW, 5/16-18 X 3 CRG GR5 ZP |

ASSEMBLY NOTES, PAGE 2 OF 2:


1. ASSEMBLE 2 CONNECTORS AROUND ENDS OF EXPELLER SHAFTS AS SHOWN IN
DETAIL VIEW D WITH 2 EACH OF 5/16-18 X 3" CARRIAGE SCREWS, 5/16 WASHER,
AND 5/16-18 NYLOCK NUTS. SEE DETAIL VIEW C FOR BOLT HEAD ORIENTATION.
2. POSITION EXPELLER SHAFT ENDS SO THEY BUTT AGAINST THE CARRIAGE SCREWS.
3. TIGHTEN HARDWARE TO CLAMP EXPELLER SHAFTS TOGETHER.
4. USE TEK SCREWS TO KEEP EXPELLER SHAFT AGAINST THE CONNECTOR SCREW.



DETAIL VIEW D:

LOCATE SCREW HEADS AND CONNECTORS AS SHOWN SO
SCREWS DO NOT HIT NEST TOP WHEN WHEN EXPELLER ROTATES.
SEE DETAIL VIEW C ABOVE FOR ADDITIONAL INFORMATION.

| | | | | |
|-----|------------|-------------|------|------------|
| - | See Sheet1 | See Sheet1 | - | See Sheet1 |
| REV | ECN# | DESCRIPTION | DATE | BY |

**VALCO COMPANIES, INC.**
PO BOX 8
NEW HOLLAND, PA 17557

DESCRIPTION 1
INSTALLATION INSTRUCTIONS,

DESCRIPTION 2
EXPELLER SHAFT COUPLER

SHEET 2 OF 2

990106

REV.
A