

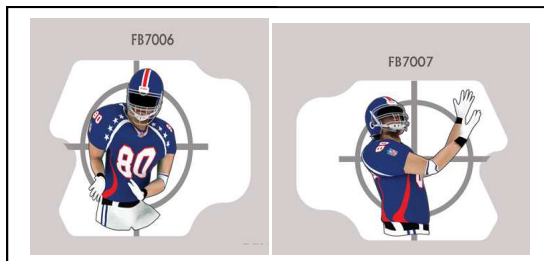


NFL 2-MINUTE DRILL



Overview: Ball toss game simulates the quarterback experience of American professional football. Practicing skills allows for repeat performance and competition.

Conveyor delivers the footballs to the player who attempts to throw through stationary and moving pop out targets for various scores.



Stationary target sensors (5 pair)

FP2009EX (Transmitter PCB)

RB2009EX (Receiver PCB)

Moving “pop out” target sensor

RB2009DX (Transmitter & Receiver)

4 per game

“Err” in Game Clock...see Total Yards display for error

#’s 2, 3, 4, 5

9, 10, 11, 12

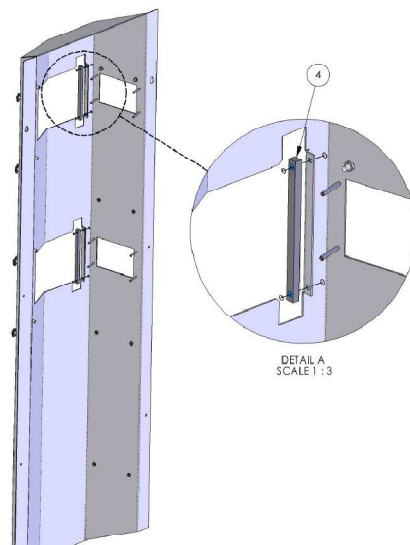
16, 17, 18, 19...codes representing moving (pop out) targets

If target is noticeably slipping or not moving out fully, check friction pads in between motor bearings. Part # FB4009.

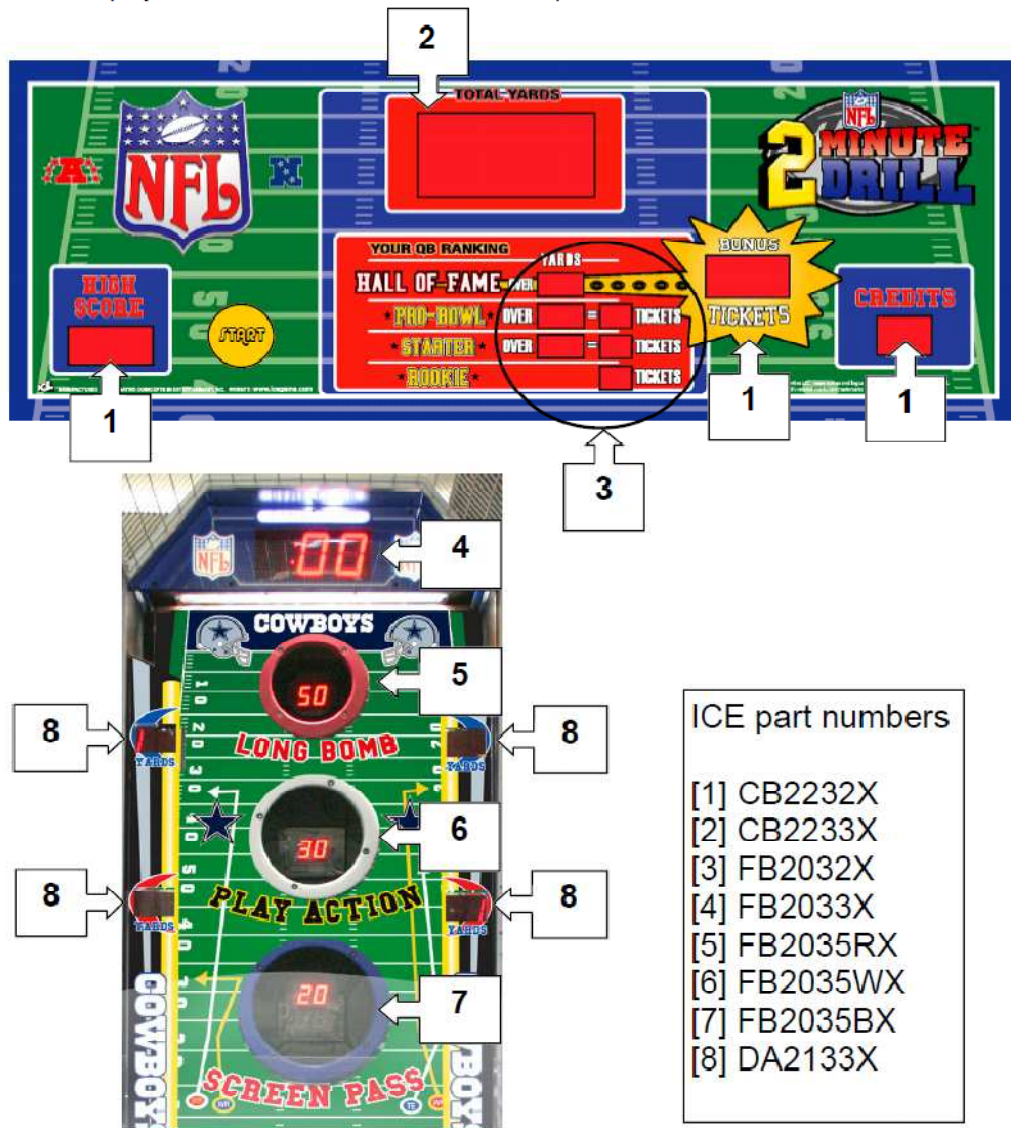
If target appears to be moving normally outward, check or replace small padding inside target covers. See image detail A Part # FB4006

~~~~~  
#’s 6, 7, 8, 13, 14, 15...codes representing stationary playfield, or hole, targets

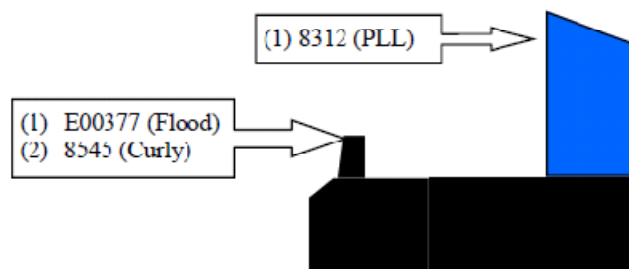
Receiver PCB had LED indicator and supplies 12V to Transmitter. Suspect Transmitter first, Part # FP2009EX.



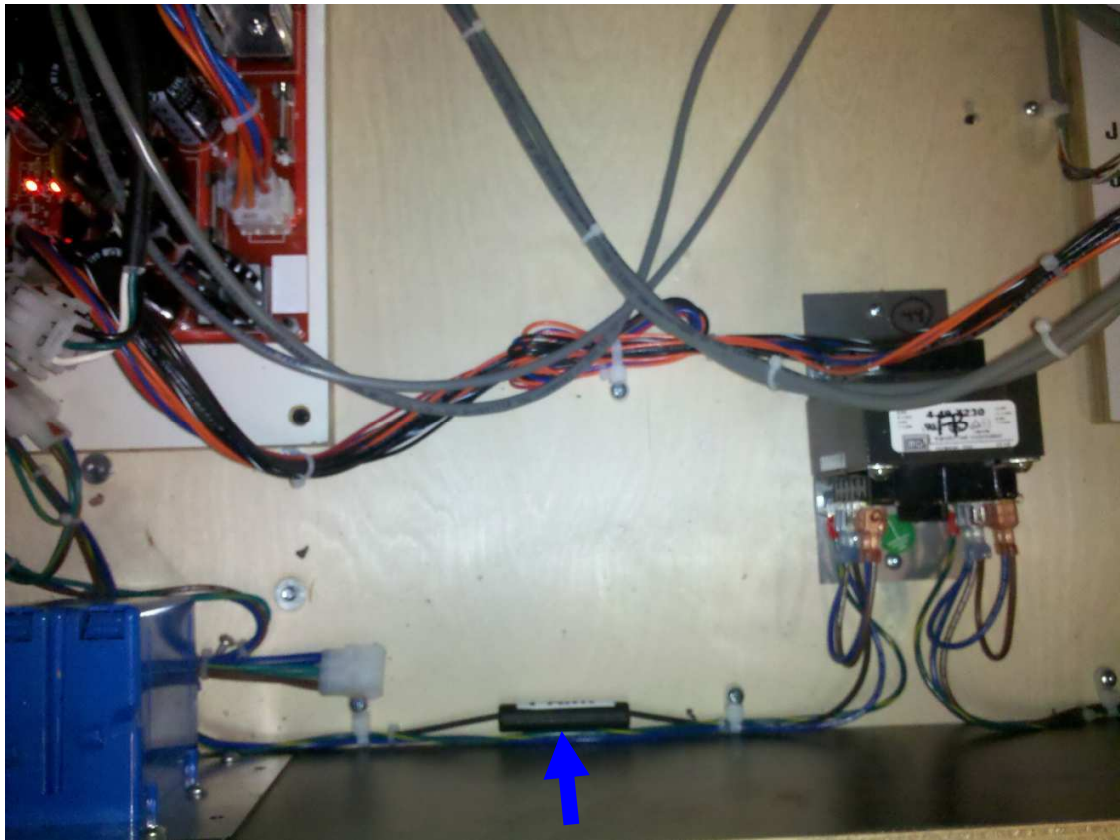
Control panel display boards are located below. FB2032X is a display that includes six display boards and five mini footballs. See picture below.



There are two 8545's (Compact fluorescent bulbs) located in the control panel, one E00377 (Flood Bulb) and located above the Playfield area is one 8312 (PLL 18 bulb).



Rear View of cabinet:



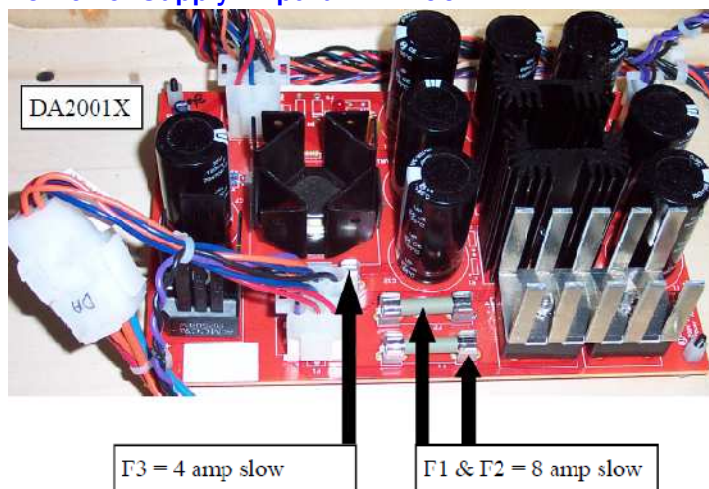
**1 Amp fuse for conveyor motor**

Also shown:

4 Amp Power Module.....part # FB2007X

110 VAC Transformer.....part #DA2002X

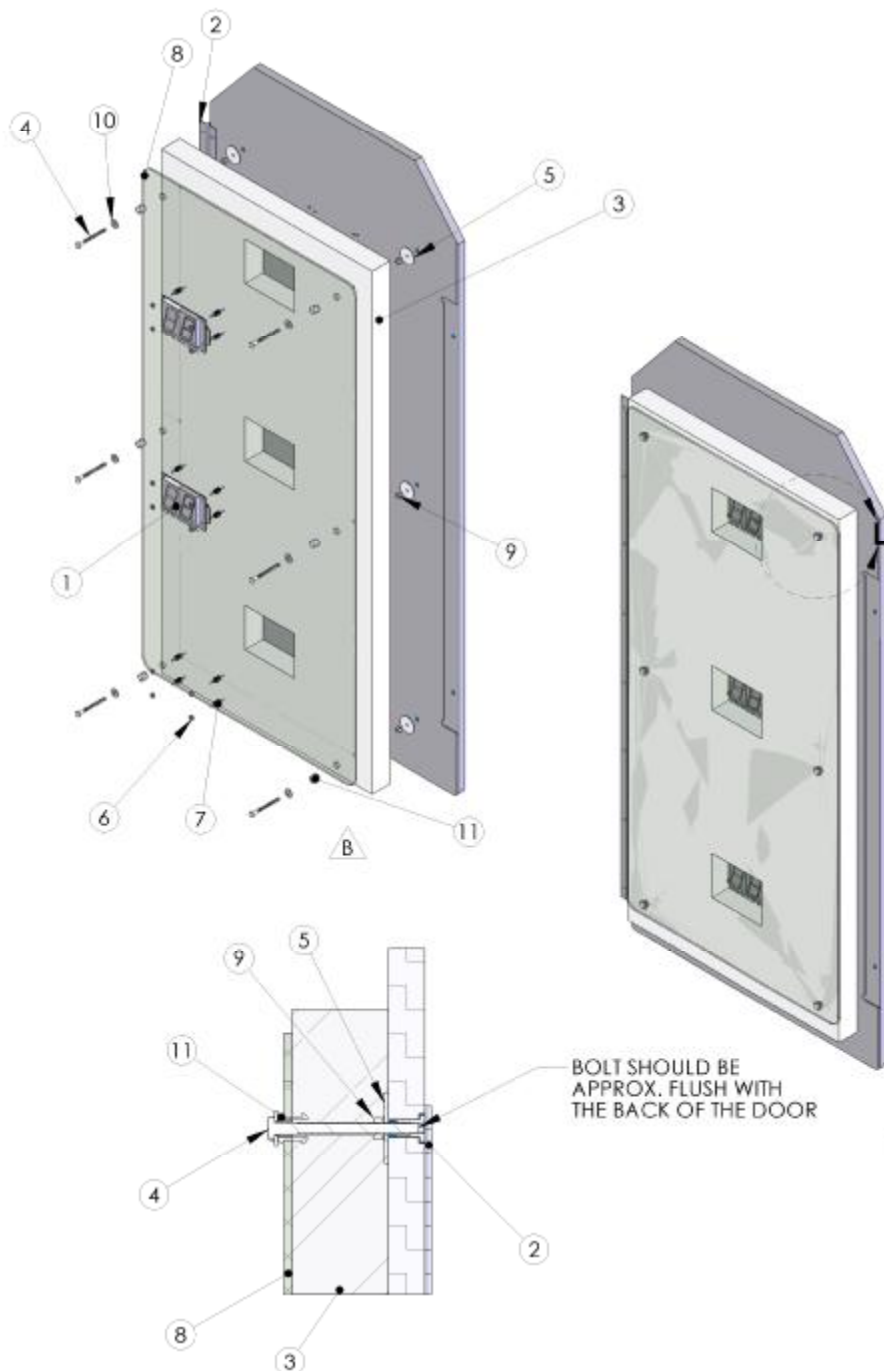
DC Power Supply.....part # DA2001X



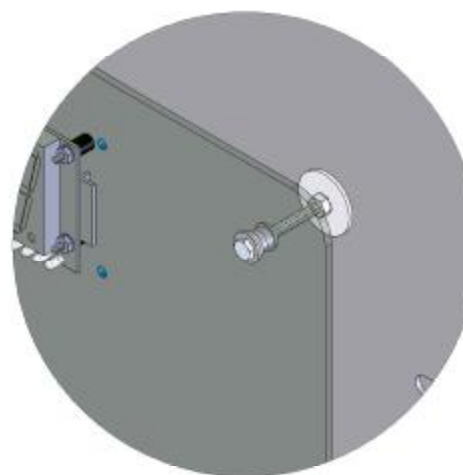
F3 = 4 amp slow

F1 & F2 = 8 amp slow





| ITEM NO. | PART NUMBER | DESCRIPTION                      | QTY. |
|----------|-------------|----------------------------------|------|
| 1        | FB2035X     | DISPLAY BOARD                    | 3    |
| 2        | FB3081CX    | REAR ACCESS PANEL, HINGE ASSY    | 1    |
| 3        | FB4003      | REAR DOOR FOAM PAD               | 1    |
| 4        | 6088        | 1/4-20 X 3" HH FT BOLT           | 6    |
| 5        | 6070        | 1/4 x 1-1/2 OD F-WASHER          | 6    |
| 6        | 6004a       | 8-32 KEP NUT                     | 12   |
| 7        | 6457        | SHOCK MOUNT 8-32 (THD BOTH ENDS) | 12   |
| 8        | FB3101      | REAR DOOR DISPLAY COVER          | 1    |
| 9        | PC60614     | 1/4-20 KEP NUT                   | 6    |
| 10       | 6075        | 1/4 x 3/4 FLAT WASHER            | 6    |
| 11       | 4028        | GROMMET                          | 6    |



DETAIL L  
SCALE 1 : 4

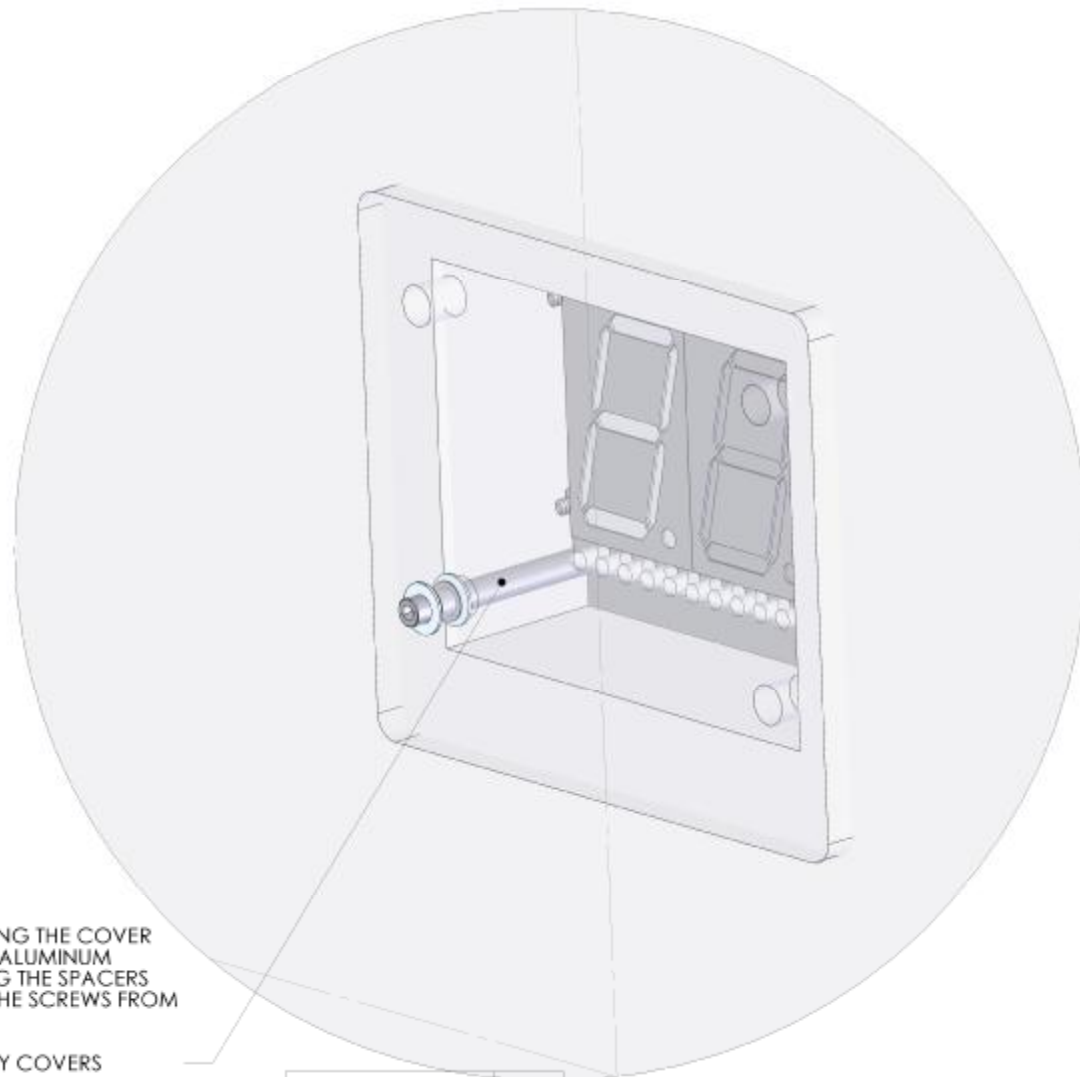
VIEW WITH FOAM REMOVED  
TO SHOW:  
1) 6088 BOLT FLUSH WITH  
BACK OF DOOR  
2) PC60614 KEPNUT TIGHT  
AGAINST 6070 WASHER. USE  
OPEN END WRENCH UNDER  
FOAM TO TIGHTEN

Weight: Material <not specified>

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|                                                                                                                                                                                                                                              |                         |                                                                               |         |           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------|---------|-----------|
| B.                                                                                                                                                                                                                                           | ONE PIECE DISPLAY COVER | 2705                                                                          | JTL     | 4/22/2008 |
| 2                                                                                                                                                                                                                                            | REDESIGN ALL            |                                                                               | DJC     | 9/13/2007 |
| REV.                                                                                                                                                                                                                                         | DESCRIPTION             | ECN #                                                                         | BY      | DATE      |
|  <b>INNOVATIVE CONCEPTS IN ENTERTAINMENT</b><br>10123 Main Street Clarence, NY 14031<br>Research & Development: FAX: (716) 759-7907 TEL: (716) 759-0370 |                         |                                                                               |         |           |
| ISSUES<br>UNRESOLVED                                                                                                                                                                                                                         |                         | TITLE:<br><b>REAR ACCESS PANEL ASSEMBLY</b><br><br>PART NO.: FB3081X ASSEMBLY |         |           |
| DESIGN: MV                                                                                                                                                                                                                                   |                         | 07/27/07                                                                      | REV. B  |           |
| DRAWN: MV                                                                                                                                                                                                                                    |                         | 07/27/07                                                                      | FB3081X |           |
| MATERIAL:                                                                                                                                                                                                                                    |                         | SCALE: 1:15                                                                   | 1 of 2  |           |
| FINISH:                                                                                                                                                                                                                                      |                         | TO: A'SEE                                                                     |         |           |
| DESIGN: MV                                                                                                                                                                                                                                   |                         | 07/27/07                                                                      | REV. B  |           |
| DRAWN: MV                                                                                                                                                                                                                                    |                         | 07/27/07                                                                      | FB3081X |           |
| MATERIAL:                                                                                                                                                                                                                                    |                         | SCALE: 1:15                                                                   | 1 of 2  |           |
| FINISH:                                                                                                                                                                                                                                      |                         | TO: A'SEE                                                                     |         |           |

## REMOVING OLD DISPLAY COVERS



REMOVE THE 4 SCREWS HOLDING THE COVER ON AND THEN REMOVE THE 4 ALUMINUM SPACERS. DO THIS BY HOLDING THE SPACERS WITH PLIERS AND REMOVING THE SCREWS FROM THE BACK OF THE DOOR.

DO THIS FOR ALL THREE DISPLAY COVERS

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MODEL APPROVAL DATE

VISION / DATE RECD

DEBURR EDGES, NO TOOL MARKS ON VISIBLE AREAS  
ING DE RADIUS-ROUTED CORNERS  
THREE PLACE DECIMALS  
TWO PLACE DECIMALS  
ONE PLACE DECIMALS  
ANGULAR - SHEET METAL BENDS

FINISH:

MATERIAL:



**INNOVATIVE CONCEPTS IN ENTERTAINMENT**  
10123 Main Street Clarence, NY 14031  
Research & Development: FAX: (716) 759-7907 TEL: (716) 759-0370

TITLE:

**REAR ACCESS PANEL ASSEMBLY**

PART NO.: FB3081X ASSEMBLY

DESIGN: MV 07/27/07

DRAWN: MV 07/27/07

SCALE: 1:15 TO A'S SEE

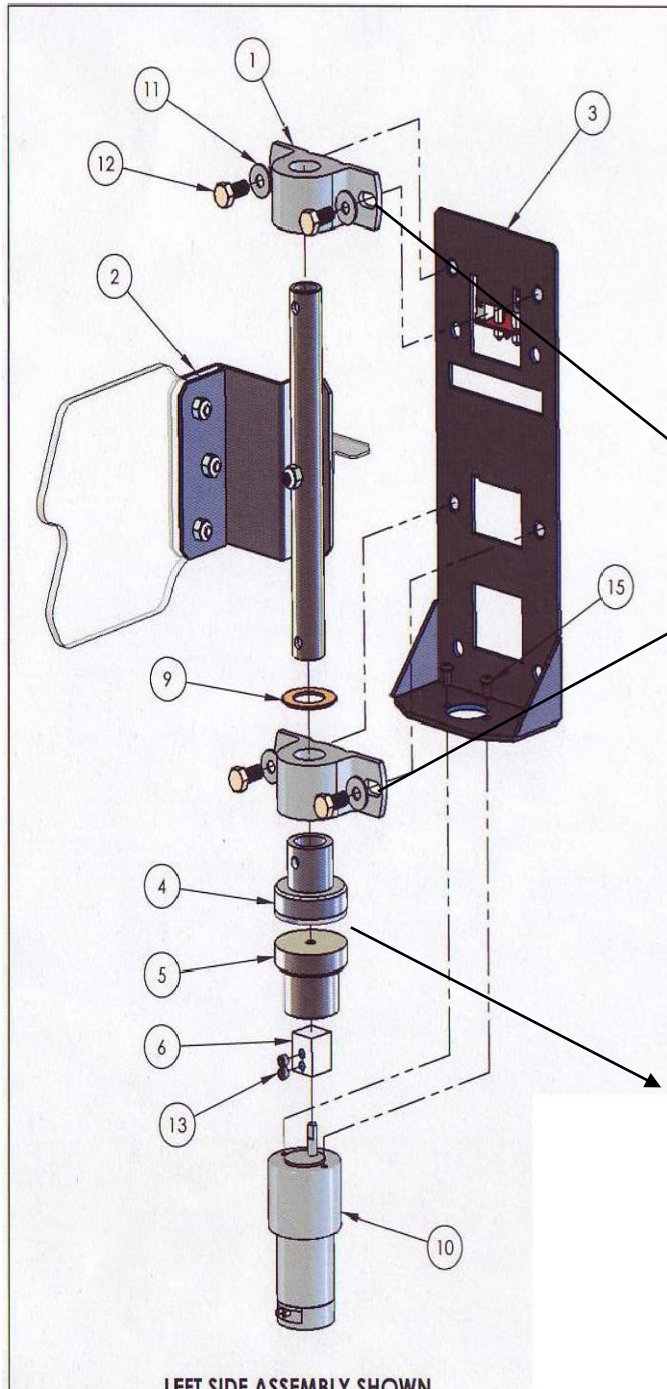
DWG. NO.:

**FB3081X**

2 of 2

Weight: Material not specified

PRINT DATE: 4/23/2008 FILE LOCATION: G:\Research and Development\CAD\ - Current Project\2\_MINUTE\_DRILL\2MD\_Development\FB3081X



FB4006 - Target Padding (small)

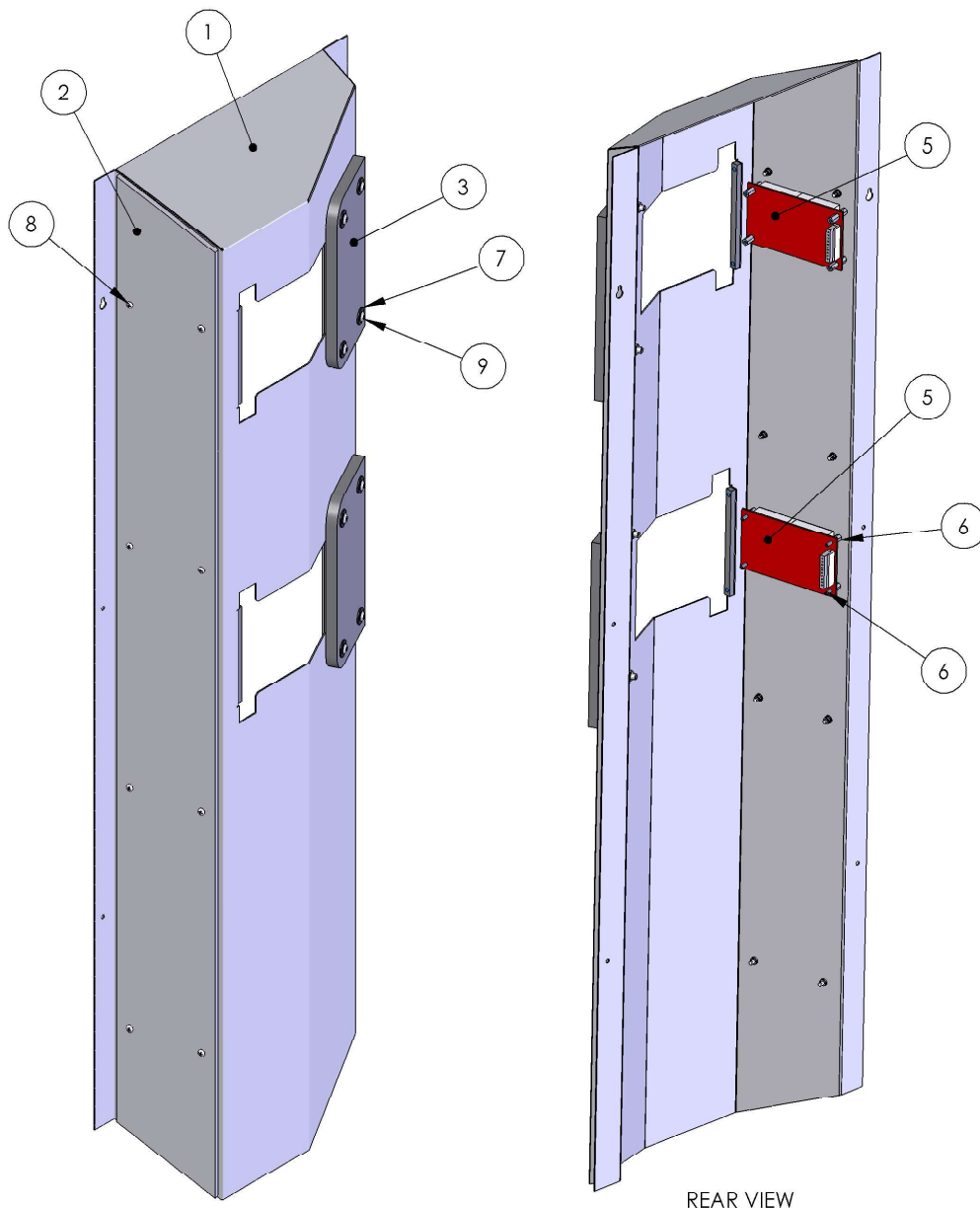
Slotted holes for adjustment

DO NOT LUBE!

Insert friction pad here

Part number FB4009

Sticky side on plastic

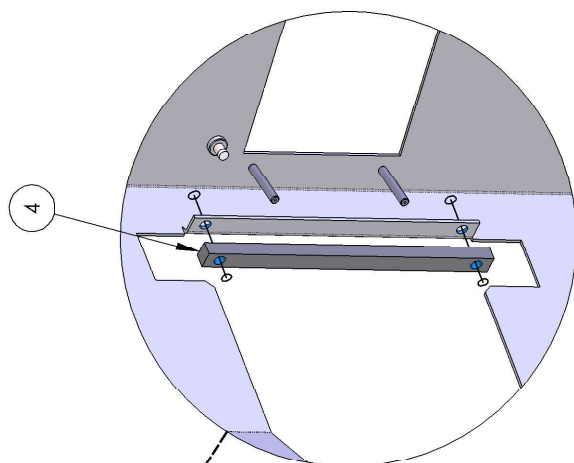
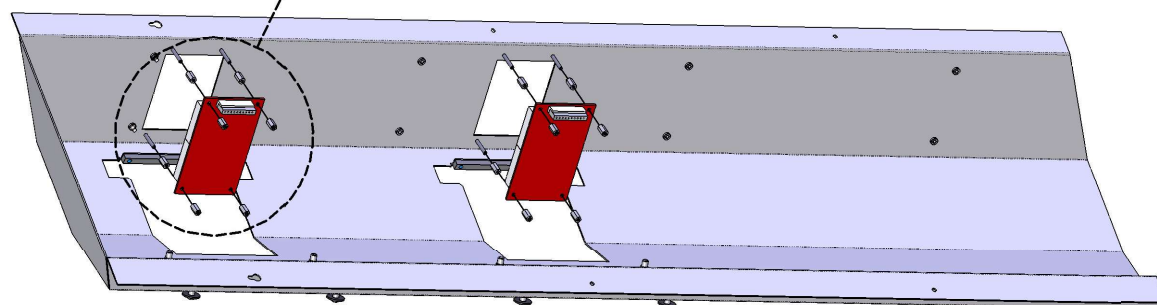


FRONT VIEW

REAR VIEW

| ITEM NO. | PART NUMBER | DESCRIPTION                       | QTY. |
|----------|-------------|-----------------------------------|------|
| 1        | FB1016      | TARGET COVER LEFT/RIGHT           | 1    |
| 2        | FB3014      | DISPLAY STRIP LEFT/RIGHT          | 1    |
| 3        | FB4005      | TARGET COVER SPACER               | 2    |
| 4        | FB4006      | TARGET SMALL PADDING              | 2    |
| 5        | DA2133X     | PCBA (SMALL DISPLAY, BRIGHT)      | 2    |
| 6        | 6446        | 8-32 x 1/2 HH SPACER              | 16   |
| 7        | 6212        | 1/4 x 3/4 FLAT WASHER BLACK (USS) | 8    |
| 8        | 6320        | 8-32 X 5/8 PRHMS W/LOCKTITE       | 8    |
| 9        | PC60622     | 1/4-20 x 1" LG. BSHCS             | 8    |

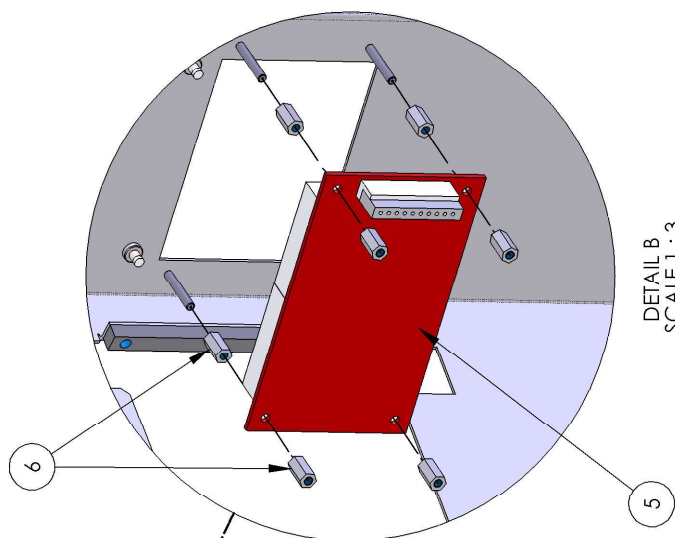
NOTE:  
DA2033X was changed to DA2133X on 7/3/08



DETAIL A  
SCALE 1 : 3

4

## ASSEMBLY STEP 1



DETAIL B  
SCALE 1 : 3

5

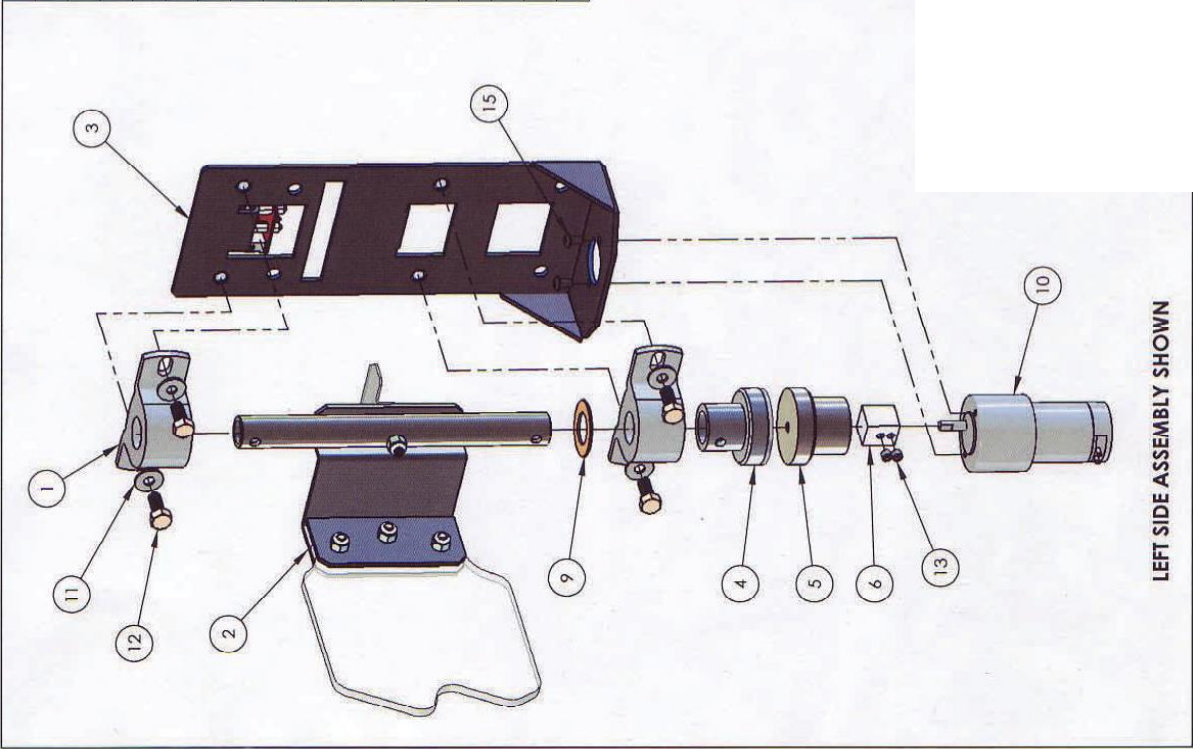
6

## ASSEMBLY STEP 2



# Maintenance

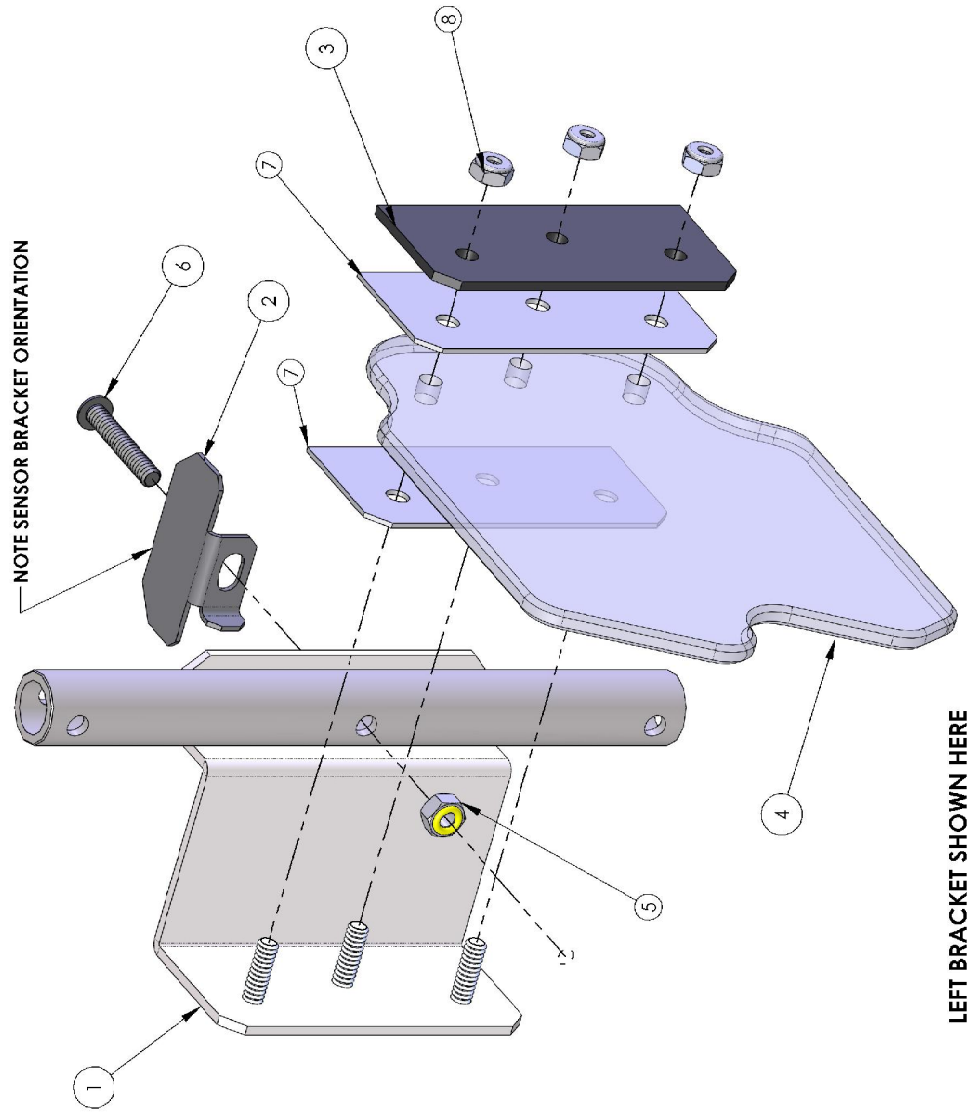
| ITEM NO. | PART NUMBER         | DESCRIPTION                         | QTY. |
|----------|---------------------|-------------------------------------|------|
| 1        | FB1061              |                                     | 2    |
| 2        | FB1020X             | LEFT TARGET BRACKET ASSY            | 1    |
| 3        | FB1022              | TARGET MOTOR BRACKET                | 1    |
| 4        | FB1023X             | ASSEMBLY-MAGNETIC HOUSING           | 1    |
| 5        | FB1024              | MAGNETIC HOUSING BOTTOM             | 1    |
| 6        | FB1025              | TARGET MOTOR COUPLER                | 1    |
| 7        | FP2009B             | PCBB (RED) TRANSMITTER              | 1    |
| 8        | RB2009              |                                     | 1    |
| 9        | 6670                | 7/8 BRONZE THRUST WASHER            | 1    |
| 10       | GM8712-41 (PITTMAN) | MOTOR, 24 VDC, 728:1 RATIO, ROHS    | 1    |
| 11       | 6075                | 1/4 x 3/4 FLAT WASHER ZINC (USS)    | 4    |
| 12       | 6389                | 5/16-18 x 3/4 HHMB GR 8 W/ LOC-TITE | 4    |
| 13       | 6668                | SET SCREW 1/4-28 X .25              | 2    |
| 14       | 644                 | 6-32 x 1/2 HH SPACER 14HTSP008      | 3    |
| 15       | 6476                | #10-32 x .375" BHSC                 | 2    |
| 16       | 675                 | 6-32 x 1 PRHMS                      | 3    |
| 17       | PC60643             | 6-32 x 1/4 HH SPACER 14HTSP007      | 3    |



Target Motor Assembly  
FB1031X (assembled for the left side)  
FB1031AX (assembled for the right side)

| ITEM NO. | PART NUMBER | DESCRIPTION                     | QTY. |
|----------|-------------|---------------------------------|------|
| 1        | FB1020      | TARGET BRACKET                  | 1    |
| 2        | FB1028      | SENSOR BRACKET                  | 1    |
| 3        | FB1036      | TARGET MOUNT SUPPORT PLATE      | 1    |
| 4        | FB3039      | TARGET 1                        | 1    |
| 5        | PC60604     | NYLOCK NUT, 1/4-20              | 1    |
| 6        | 6281        | 1/4-20 x 1 1/2 BSHCS (BLACK)    | 1    |
| 7        | FB4008      | TARGET GASKET                   | 2    |
| 8        | 6503        | 1/4-20 NYLOCK NUT (LOW PROFILE) | 3    |

NOTE SENSOR BRACKET ORIENTATION



LEFT BRACKET SHOWN HERE

