

## SERVICE INFORMATION LETTER

FROM: JetProp LLC

2 August 2006

SUBJECT: Header Tank Capacitance Probe

TO: JetProp Owners (Jetprop Numbers 1-155)

As a part of our continued product improvement, we have recently tested and received FAA approval for a capacitance probe for the JetProp header tank fuel quantity indicating system. The capacitance probe replaces the old float type sensor. The following instructions outline the procedure for replacing the float type quantity sender with the capacitance probe.

1. Disconnect the batteries.
2. Remove the header tank vapor shield (requires removing the forward baggage compartment interior).
3. Shut off the fuel with the fuel selector and with the firewall shutoff.
4. Drain all of the fuel out of the header tank. (It may have an air lock since the fuel is shut off. Finish draining the header tank after loosening or removing the header tank lid if necessary.)
5. Remove the header tank lid.
6. Ensure the header tank is completely drained.
7. Remove the old fuel quantity float from the lid.
8. Install the new capacitance probe sender adapter and gasket on the lid as shown on Drawing 560.08.240.
9. Reinstall the header tank lid. (Replace the gasket if necessary.)
10. Install the O ring on the capacitance probe (If not already accomplished) then install the capacitance probe into the sender adapter in the header tank lid. Tighten by hand until the O ring just makes contact. Then tighten approximately one turn until the capacitance probe makes positive contact with the top of the sender adapter. See Drawing 560.08.200.
11. If the aircraft has a Horizon header tank fuel quantity gauge (round individual gauge), then accomplish steps 12 and 13. If the aircraft has Moritz instruments (header tank fuel quantity gauge incorporated with the other instruments), then accomplish steps 14 and 15.
12. **Wiring with the Horizon Header Tank Fuel Quantity Indicator.** The original float type fuel quantity sender only had one wire running to it. The capacitance sender needs a power and ground wire along with the existing wire. Therefore, run wire JPQ20A22 and JPQ20B22 as shown in drawing 560.12.002 from the + terminal of the capacitance probe back through the pressure bulkhead to a power

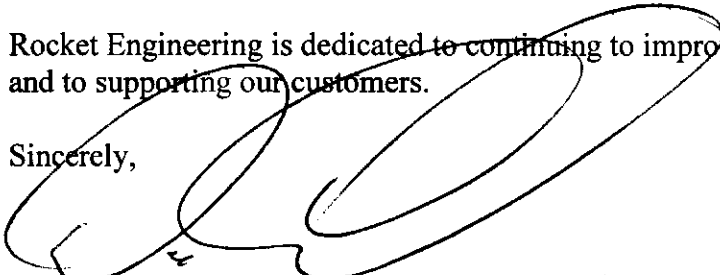
13. source. The drawing shows the wire going to the "Fuel Quantity" circuit breaker. However, it is much easier to connect to the + terminal on the back of the Main Fuel Quantity Indicator. Also, add a ground wire from the capacitance probe negative terminal to a suitable ground such as the ground block on the forward side of the pressure bulkhead.
14. **Adjustment with the Horizon Header Tank Fuel Quantity Indicator.**
  - a. Now you will need some one to assist while calibrating the fuel quantity indicator. Reconnect the batteries and turn power on. There are two pot adjustment screws on the top of the capacitance probe. We are going to check the zero fuel reading first. The capacitance probe has been cut to a length so that it would be just touching the unusable fuel in the header tank ( if the 1.1 gallons of unusable fuel was in the header tank). Therefore, with the header tank empty the fuel quantity indicator should read zero. If it does not read zero, adjust the low pot setting until the header tank quantity indicates just above zero and then reduce it until it just reads zero. This gives us a good setting on the low side.
  - b. Now turn the firewall shutoff to ON and the fuel selector to the left or right tank and fill the header tank. Ensure the header tank is full by leaving the wing transfer pump/emergency transfer pump on until the fuel pressure shows approximately 7 to 8 psi at which time the header tank high pressure light should illuminate. Turn off the wing transfer/emergency pump. Now adjust the high pot setting on the capacitance probe until it is slightly less than full and then increase it until it just reads full.
15. **Wiring with the Moritz Header Tank Fuel Quantity Indicator.** The original float type fuel quantity sender only had one wire running to it. The capacitance sender needs a power and ground wire along with the existing wire. Therefore, run wire JPQ20A22 and JPQ20B22 as shown in drawings 560.12.068 and 560.12.072A from the + terminal of the capacitance probe back through the pressure bulkhead to a power source at the header tank fuel conditioner box. The fuel conditioner box is located in the pilot's floor just in front of the seat. Splice the power wire (JPQ20A22) into the existing header tank conditioner power wire (JPE79A22). Also, add a ground wire from the capacitance probe negative terminal to a suitable ground such as the ground block on the forward side of the pressure bulkhead.
16. **Adjustment with the Moritz Header Tank Fuel Quantity Indicator.**
  - a. After the wiring is complete reconnect the batteries and turn power on. We are going to check the zero fuel reading first. The capacitance probe has been cut to a length so that it would be just touching the unusable fuel in the header tank ( if the 1.1 gallons of unusable fuel was in the header tank). Therefore, with the header tank empty the fuel quantity indicator should read zero. To insure it is set properly, locate the header tank fuel conditioner box installed under the pilots floor panel just in front of the seat. Adjust the header tank "zero" adjustment until the header tank quantity indicates just above zero and then reduce it until it just reads zero. This gives us a good setting on the low side.

- b. Now turn the firewall shutoff to ON and the fuel selector to the left or right tank and fill the header tank. Ensure the header tank is full by leaving the wing transfer pump/emergency transfer pump on until the fuel pressure shows approximately 7 to 8 psi at which time the header tank high pressure light should illuminate. Turn off the wing transfer/emergency pump. Now adjust the "span" or high setting on the header tank fuel conditioner box until the header tank fuel quantity is slightly less than full and then increase it until it just reads full. This should complete the needed adjustments.
17. Now that everything is working, we will have to make a slight modification to the header tank vapor shield to fit around/over the new capacitance probe. Turn electrical power off and disconnect the battery while we are doing our trial fits. Install the Vapor Shield Support Ring (a PVC ring) around the capacitance probe with the wires running through the protective notch. This ring is designed to protect the capacitance probe terminals. Now locate the center of the capacitance probe on the vapor shield. Cut a 4" diameter hole in the vapor shield to allow it to set down over the vapor shield support ring. Check and make sure it is located properly. Now rivet the vapor shield bubble in place over the relief hole we just cut as shown in Drawing 560.08.300.
18. Now install the vapor shield and forward baggage compartment interior.
19. Connect the batteries.
20. Make a logbook entry reflecting that JetProp Service Letter 06-560-02 has been complied with.

If there are any questions, please contact Rich Runyon in Engineering or Steve Nitchman the chief of maintenance at (509) 535-4401.

Rocket Engineering is dedicated to continuing to improve the JetProp DLX Conversion and to supporting our customers.

Sincerely,



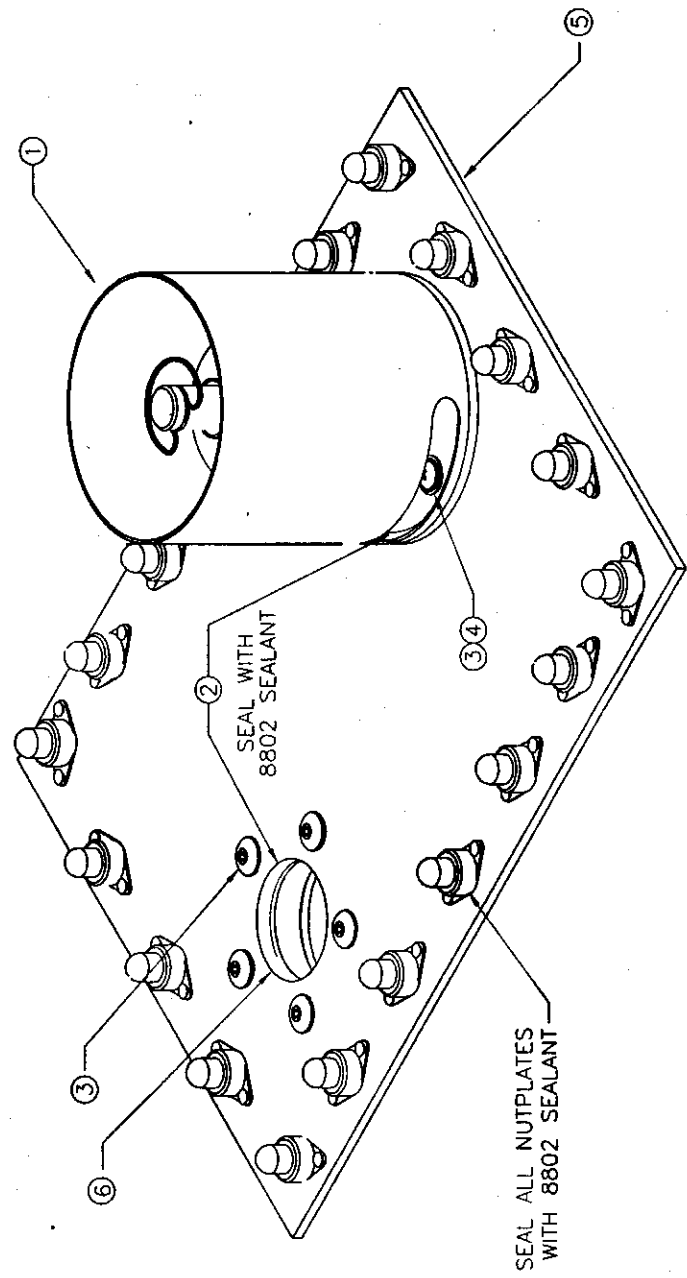
Darwin C. Conrad  
President  
JetPROP, LLC

**Attachments**

- Drawing 560.08.240
- Drawing 560.08.200
- Drawing 560.12.002
- Drawing 560.12.068
- Drawing 560.12.072A
- Drawing 560.08.300
- Capacitance Probe Upgrade Parts Listing

REVISION DESCRIPTION

- △ CORRECTED B.O.M.
- △ CHANGED TO SHOW FLOAT SWITCH.
- △ CHANGED PART.
- △ CHANGED SCREWS.



| ITEM QTY  | PART NO.           | DESCRIPTION                                |
|---|--------------------|--|
| 6   | 1                  | 560.08.244 SENDER ADAPTER                  |
| 5   | 1                  | 560.08.220 HEADER TANK LID                 |
| 4   | 5                  | AN960-10L WASHER                           |
| 3   | 10                 | AN525-1032R8 SCREW                         |
| 2   | 2                  | 560.08.228 HEADER TANK SENDING UNIT GASKET |
| 1   | 1                  | 560.08.260 SWITCH CAN WELDMENT             |
| BILL OF MATERIALS                                       |                    |  |
| SCALE:  | NTS                | SIZE: B                                    |
| UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES |                    |  |
| TOLERANCES:   |                    |  |
| X ± .10 .XX ± 0.30                                      |                    |  |
| .XXX ± 0.03 Z, ± .1                                     |                    |  |
| REMOVE BURRS AND SHARP EDGES                            |                    |  |
| BY  | J. WEEG            | DATE 3/00                                  |
| CHECKED   | <i>[Signature]</i> | DATE 12/05                                 |
| APPROVD   | <i>[Signature]</i> | DATE 1/00                                  |
| FAA APPL  |                    |  |
| REVISION  |                    |  |
| FOR DESCRIPTION OF CHANGE - SEE ABOVE                   |                    |  |
| LR  | ECOM               | BY DATE CHK                                |
| A   | 1172               | RD 7/00 <i>[Signature]</i>                 |
| B   | 1300               | RD 4/01 <i>[Signature]</i>                 |
| C   | 3113               | LF 1/05 <i>[Signature]</i>                 |
| D   | 3865               | RD 12/05 <i>[Signature]</i>                |

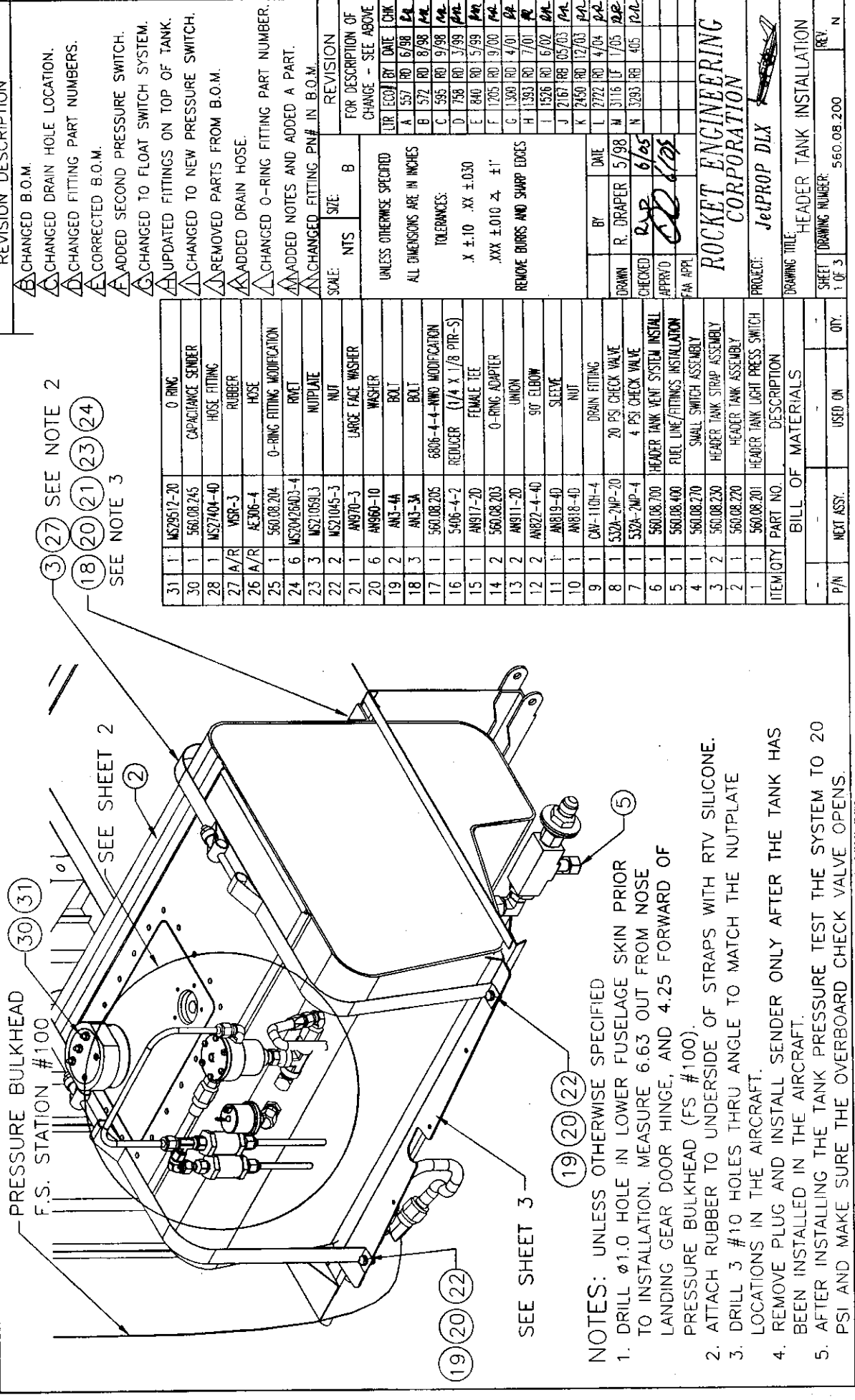
ROCKET ENGINEERING CORPORATION

PROJECT: JetPROP DLX

DRAWING TITLE: FUEL LEVEL SENDER ASSY  
 SHEET 1 OF 1  
 DRAWING NUMBER: 560.08.240  
 REV. D

|     |            |      |
|-----|------------|------|
| 240 | 560.08.220 | 1    |
| P/N | NEXT ASSY. | QTY. |
|     | USED ON    |      |

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**REVISION DESCRIPTION**

- △ CHANGED B.O.M.
- △ CHANGED DRAIN HOLE LOCATION.
- △ CHANGED FITTING PART NUMBERS.
- △ CORRECTED B.O.M.
- △ ADDED SECOND PRESSURE SWITCH.
- △ CHANGED TO FLOAT SWITCH SYSTEM.
- △ UPDATED FITTINGS ON TOP OF TANK.
- △ CHANGED TO NEW PRESSURE SWITCH.
- △ REMOVED PARTS FROM B.O.M.
- △ ADDED DRAIN HOSE.
- △ CHANGED O-RING FITTING PART NUMBER.
- △ ADDED NOTES AND ADDED A PART.
- △ CHANGED FITTING PN# IN B.O.M.

SCALE: NTS SIZE: B

FOR DESCRIPTION OF CHANGE - SEE ABOVE

| REV | BY   | DATE | CHK   |    |
|-----|------|------|-------|----|
| A   | 557  | RD   | 6/98  | PA |
| B   | 572  | RD   | 6/98  | PA |
| C   | 595  | RD   | 9/98  | PA |
| D   | 758  | RD   | 3/99  | PA |
| E   | 840  | RD   | 5/99  | PA |
| F   | 1205 | RD   | 9/00  | PA |
| G   | 1300 | RD   | 4/01  | PA |
| H   | 1393 | RD   | 7/01  | PA |
| I   | 1526 | RD   | 6/02  | PA |
| J   | 2167 | RD   | 05/03 | PA |
| K   | 2450 | RD   | 12/03 | PA |
| L   | 2722 | RD   | 4/04  | PA |
| M   | 3116 | LF   | 1/05  | DE |
| N   | 3293 | RB   | 4/05  | PA |

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES

TOLERANCES:  
X ± 1.0 .XX ± 0.30  
.XXX ± 0.10 ± .1"

REMOVE BURRS AND SHARP EDGES

BY DATE  
R. DRAPER 5/98

CHECKED BY: *RD* 6/05

APPROVED BY: *RD* 6/05

FAA APPL

ROCKET ENGINEERING CORPORATION  
PROJECT: JetPROP DLX

DRAWING TITLE: HEADER TANK INSTALLATION  
SHEET NUMBER: 560.08.200  
REV: N

- ③ 27 SEE NOTE 2
- ① 8 20 21 23 24
- SEE NOTE 3

| QTY | P/N | DESCRIPTION                                |
|-----|-----|--|
| 31  | 1   | MS29512-20 O-RING                          |
| 30  | 1   | 560.08.245 CAPACITANCE SENDER              |
| 28  | 1   | MS27404-40 HOSE FITTING                    |
| 27  | A/R | MSR-3 RUBBER                               |
| 26  | A/R | AC306-4 HOSE                               |
| 25  | 1   | 560.08.204 O-RING FITTING MODIFICATION     |
| 24  | 6   | MS20426A03-4 RIVET                         |
| 23  | 3   | MS21059L3 NUTPLATE                         |
| 22  | 2   | MS21045-3 NUT                              |
| 21  | 1   | AN970-3 LARGE FACE WASHER                  |
| 20  | 6   | AN980-10 WASHER                            |
| 19  | 2   | AN3-4A BOLT                                |
| 18  | 3   | AN3-3A BOLT                                |
| 17  | 1   | 560.08.205 6806-4-4-NNO MODIFICATION       |
| 16  | 1   | 5406-4-2 REDUCER (1/4 X 1/8 PTR-S)         |
| 15  | 1   | AN917-20 FEMALE TEE                        |
| 14  | 2   | 560.08.203 O-RING ADAPTER                  |
| 13  | 2   | AN911-20 UNION                             |
| 12  | 2   | AN822-4-40 90° ELBOW                       |
| 11  | 1   | AN819-40 SLEEVE                            |
| 10  | 1   | AN818-40 NUT                               |
| 9   | 1   | CAW-110H-4 DRAIN FITTING                   |
| 8   | 1   | 532A-2MP-20 20 PSI CHECK VALVE             |
| 7   | 1   | 532A-2MP-4 4 PSI CHECK VALVE               |
| 6   | 1   | 560.08.200 HEADER TANK VENT SYSTEM INSTAL  |
| 5   | 1   | 560.08.400 FUEL LINE/FITTINGS INSTALLATION |
| 4   | 1   | 560.08.270 SMALL SWITCH ASSEMBLY           |
| 3   | 2   | 560.08.230 HEADER TANK STRAP ASSEMBLY      |
| 2   | 1   | 560.08.270 HEADER TANK ASSEMBLY            |
| 1   | 1   | 560.08.201 HEADER TANK LIGHT PRESS SWITCH  |

BILL OF MATERIALS

ITEM QTY PART NO. DESCRIPTION

P/N NEXT ASSY. USED ON QTY.

**NOTES: UNLESS OTHERWISE SPECIFIED**

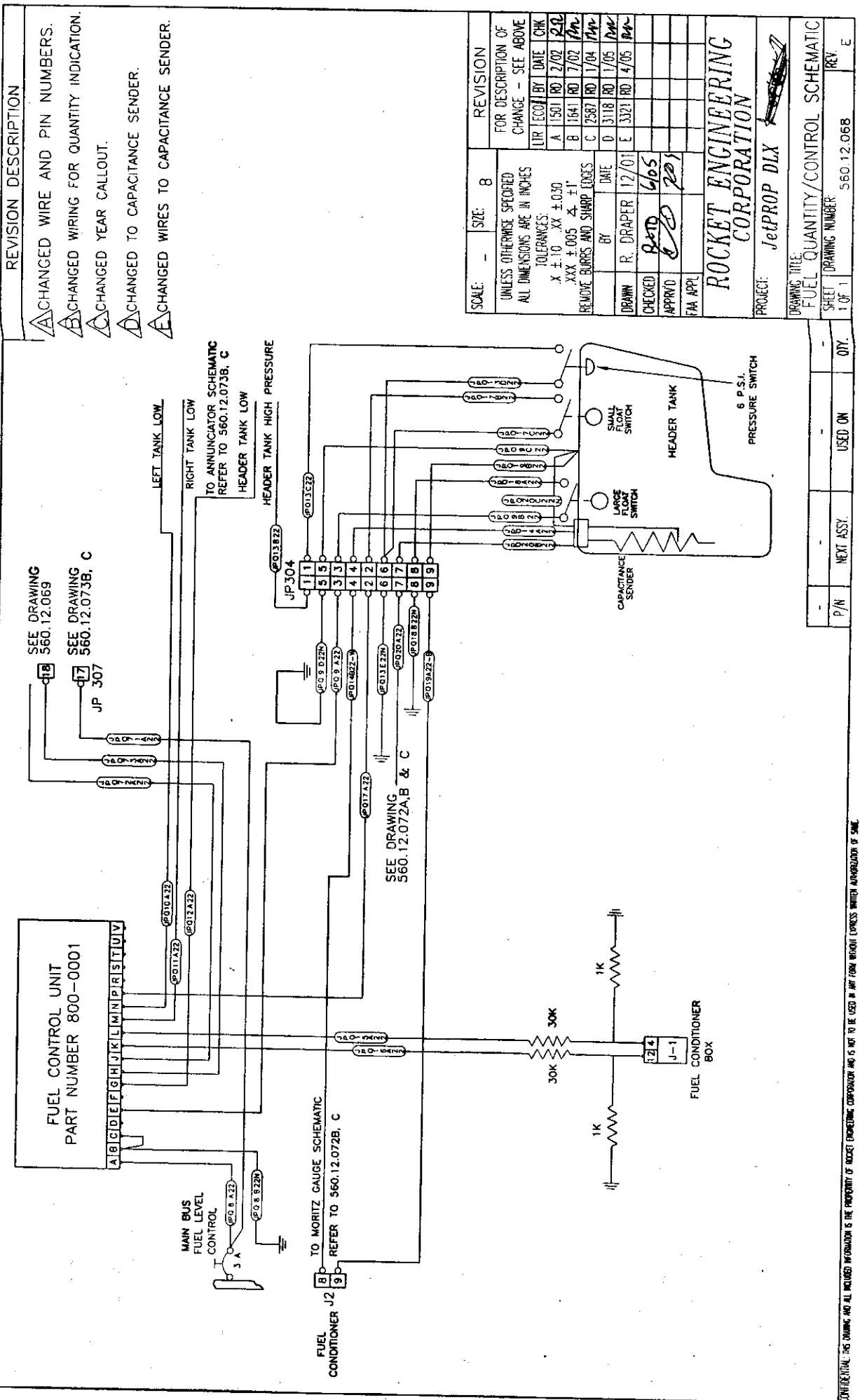
1. DRILL  $\phi 1.0$  HOLE IN LOWER FUSELAGE SKIN PRIOR TO INSTALLATION. MEASURE 6.63 OUT FROM NOSE LANDING GEAR DOOR HINGE, AND 4.25 FORWARD OF PRESSURE BULKHEAD (FS #100).
2. ATTACH RUBBER TO UNDERSIDE OF STRAPS WITH RTV SILICONE.
3. DRILL 3 #10 HOLES THRU ANGLE TO MATCH THE NUTPLATE LOCATIONS IN THE AIRCRAFT.
4. REMOVE PLUG AND INSTALL SENDER ONLY AFTER THE TANK HAS BEEN INSTALLED IN THE AIRCRAFT.
5. AFTER INSTALLING THE TANK PRESSURE TEST THE SYSTEM TO 20 PSI AND MAKE SURE THE OVERBOARD CHECK VALVE OPENS.

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USE FOR ALL AIRCRAFT

MORITZ INSTRUMENTS



REVISION DESCRIPTION

- △ CHANGED WIRE AND PIN NUMBERS.
- △ CHANGED WIRING FOR QUANTITY INDICATION.
- △ CHANGED YEAR CALLOUT.
- △ CHANGED TO CAPACITANCE SENDER.
- △ CHANGED WIRES TO CAPACITANCE SENDER.

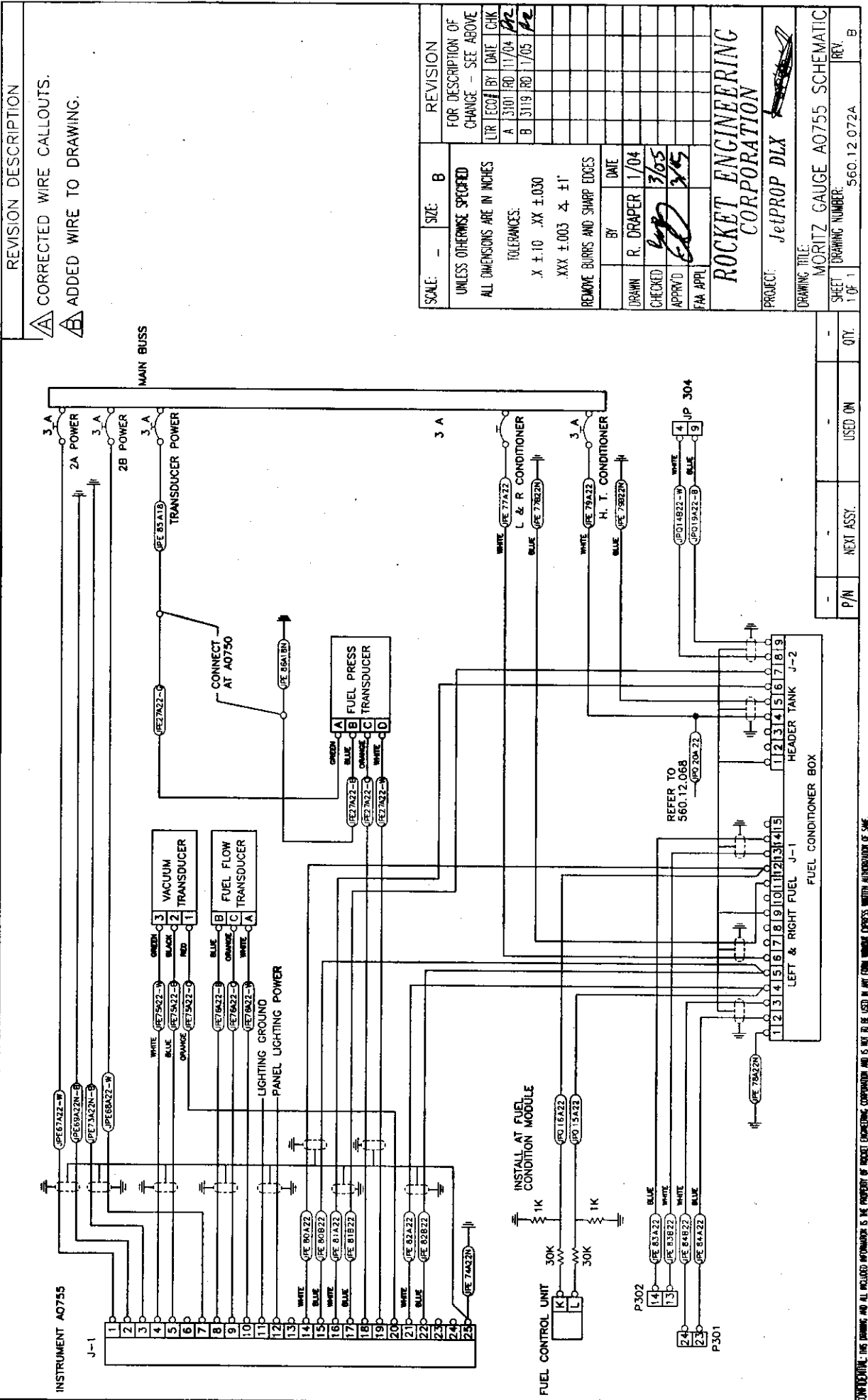
| SCALE:  | SIZE:                      | REVISION                              |
|---|----------------------------|---------------------------------------|
| -   | B                          | FOR DESCRIPTION OF CHANGE - SEE ABOVE |
| UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES |                            |                                       |
| TOLERANCES:   |                            |                                       |
| X ± 10  | .XX ± 0.30                 | DATE                                  |
| XXX ± 0.05  | Δ ± .1                     | BY                                    |
| REMOVE BURRS AND SHARP EDGES                            |                            |                                       |
| DRAWN   | R. DRAPER                  | DATE                                  |
| CHECKED   | RJD                        | 6/05                                  |
| APPROV'D  | RD                         | 201                                   |
| FAA APPL  |                            |                                       |
| <b>ROCKET ENGINEERING CORPORATION</b>                   |                            |                                       |
| PROJECT: <i>JetPROP DLX</i>                             |                            |                                       |
| DRAWING TITLE: <b>FUEL QUANTITY/CONTROL SCHEMATIC</b>   |                            |                                       |
| SHEET 1 OF 1  | DRAWING NUMBER: 560.12.068 | REV. E                                |

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FAA JUN 30 2005

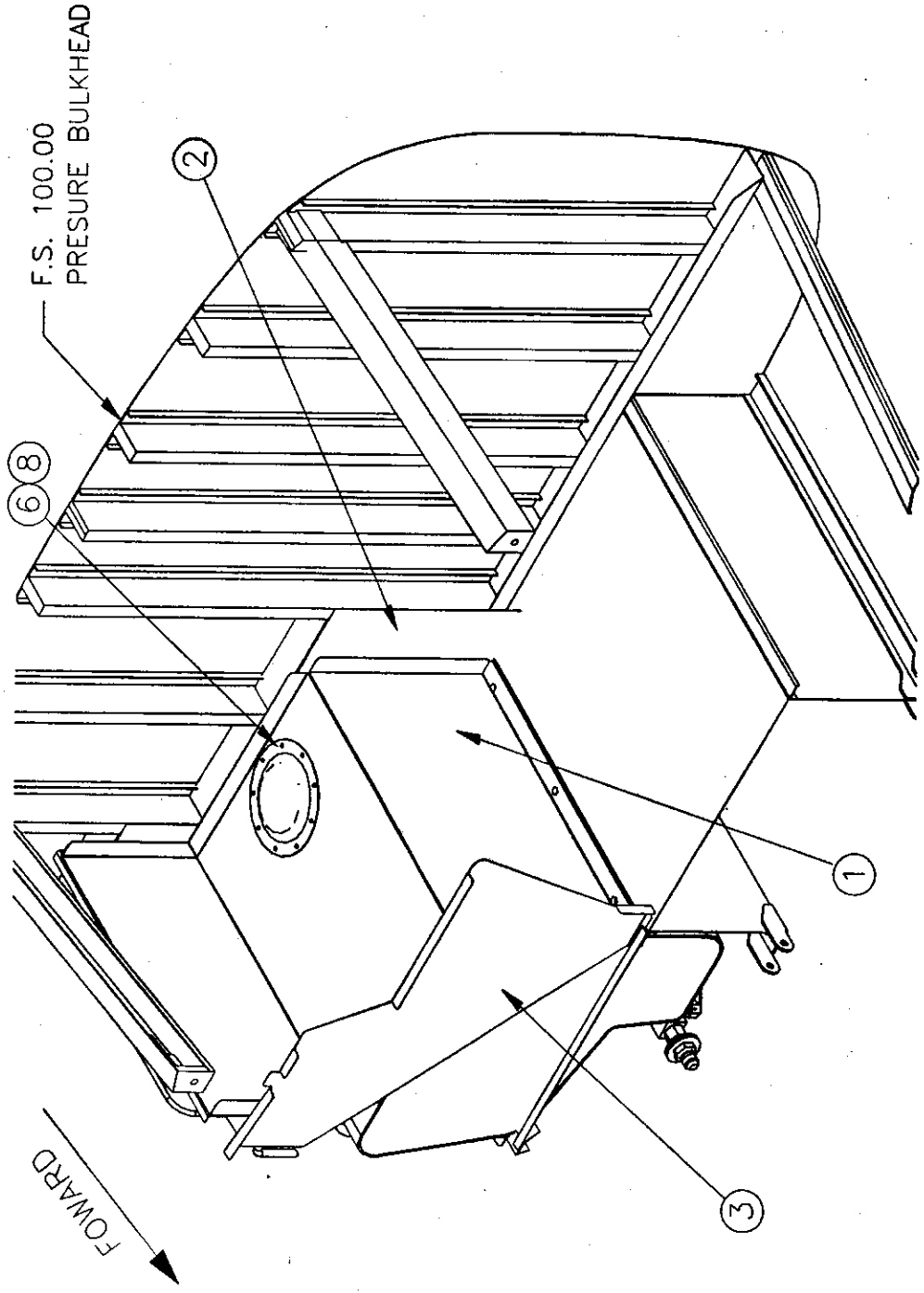
USE FOR 84-88 MALIBU

MORITZ INSTRUMENTS



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FAA MAR 31 2005



F.S. 100.00  
PRESSURE BULKHEAD

|     |            |         |      |
|-----|------------|---------|------|
| P/N | NEXT ASSY. | USED ON | QTY. |
| -   | -          | -       | -    |

- NOTES: UNLESS OTHERWISE SPECIFIED
1. MATCH DRILL HOLES TO MOUNTING POINTS IN FORWARD BAGGAGE COMPARTMENT.
  2. USE RTV SILICONE SEALANT TO SEAL AROUND EDGES OF VAPOR SHIELD.
  3. MIRAGE PART SHOWN. (SEE INSTALLATION MANUAL FOR MALIBU)(304A)

FIREWALL AND FUSELAGE  
SKIN NOT SHOWN FOR CLARITY

REVISION DESCRIPTION

- △ CHANGED HARDWARE USED
- △ CHANGED HARDWARE USED
- △ ADDED PARTS TO B.O.M.
- △ CHANGED PARTS IN B.O.M.

|  |                    |             |                            |
|--|--------------------|-------------|----------------------------|
| 10   | A/R                | 288         | RTV SILICONE SEALANT       |
| 9  |                    | 68X1/2THASS | FINISHING SCREW            |
| 8  |                    | MS20615M3-3 | RIVETS                     |
| 7  |                    | 560.08.306  | VAPOR SHIELD SUPPORT RING  |
| 6  |                    | 560.08.305  | VAPOR SHIELD BUBBLE        |
| 5  |                    | 560.08.304B | VAPOR SHIELD UPPER MOUNT   |
| 4  |                    | 560.08.304A | VAPOR SHIELD UPPER MOUNT   |
| 3  |                    | 560.08.303  | VAPOR SHIELD, FORWARD SIDE |
| 2  |                    | 560.08.302  | VAPOR SHIELD, AFT SIDE     |
| 1  |                    | 560.08.301  | HEADER TANK VAPOR SHIELD   |
| ITEM QTY   PART NO.   DESCRIPTION            |                    |             |                            |
| BILL OF MATERIALS                            |                    |             |                            |
| SCALE:                                       | NTS                | SIZE:       | B                          |
| UNLESS OTHERWISE SPECIFIED                   |                    |             |                            |
| ALL DIMENSIONS ARE IN INCHES                 |                    |             |                            |
| TOLERANCES:                                  |                    |             |                            |
| X ±1 XX ±.03                                 |                    |             |                            |
| XXX ±.005 ±.1"                               |                    |             |                            |
| REMOVE BURRS AND SHARP EDGES                 |                    |             |                            |
| DRWN   | K. SOGGE           | DATE        | 3/98                       |
| CHECKED                                      | <i>[Signature]</i> | DATE        | 3/06                       |
| APPROV'D                                     | <i>[Signature]</i> | DATE        | 3/06                       |
| FM APPL                                      |                    |             |                            |
| ROCKET ENGINEERING CORPORATION               |                    |             |                            |
| PROJECT: JetPROP DLX                         |                    |             |                            |
| DRAWING TITLE: HDR TANK VAPOR SHIELD INSTALL |                    |             |                            |
| SHEET DRAWING NUMBER: 560.08.300             |                    |             | REV. D                     |
| 1 OF 2                                       |                    |             |                            |

**Capacitance Probe Upgrade Parts Listing**

| <b>Quantity</b> | <b>Part Number</b> | <b>Description</b>              |
|-----------------|--------------------|---------------------------------|
| 1               | 560.08.244         | Sender Adapter                  |
| 5               | AN525-10R10        | Screw                           |
| 1               | 560.08.228         | Header Tank Sending Unit Gasket |
| 1               | 560.08.245         | Capacitance Sender              |
| 1               | MS29512-20         | O Ring                          |
| 1               | 560.08.305         | Vapor Shield Bubble             |
| 1               | 560.08.306         | Vapor Shield Support Ring       |
| 9               | MS20615M3-3        | Rivets                          |
| 1               | CS3204 B1/2        | Sealkit                         |