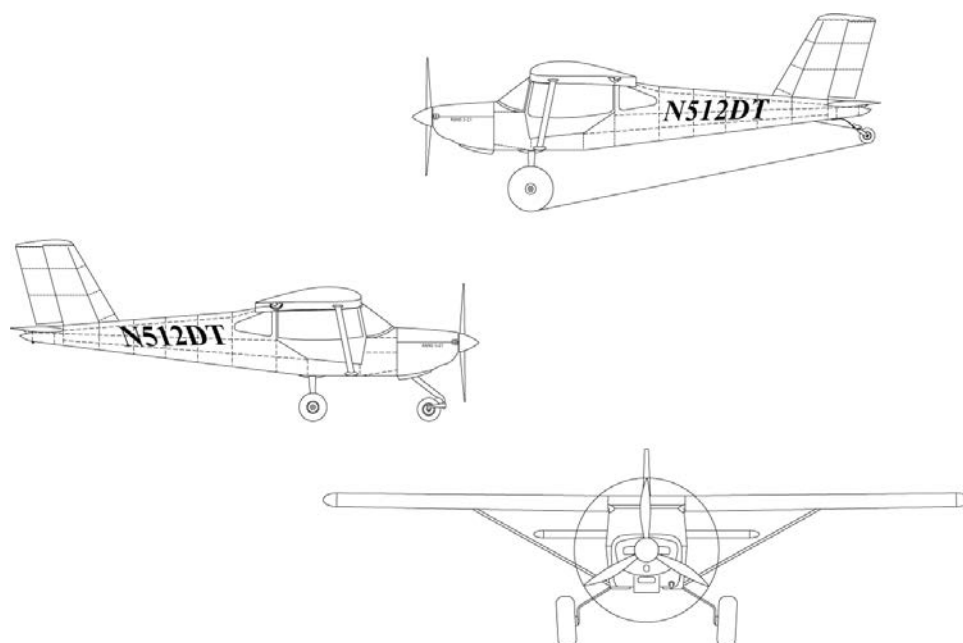




# ***S-21 OUTBOUND***

## **TITAN X-340 INSTALLATION PARTS MANUAL**



Serial Number: \_\_\_\_\_

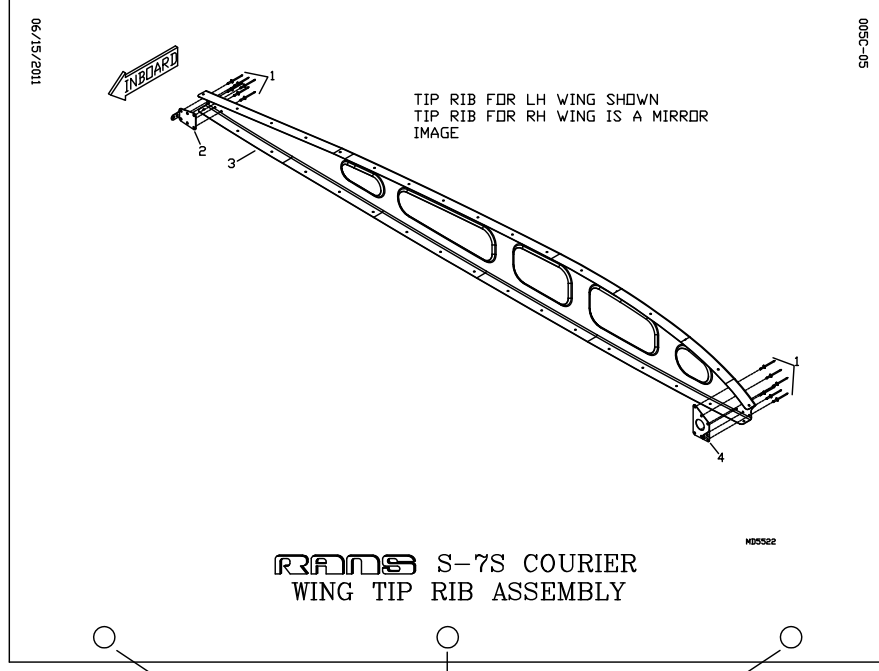
Registration Number: \_\_\_\_\_

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4600 HWY 183 Alt  
HAYS, KANSAS, USA 67601  
785-625-6346  
WWW.RANS.COM

STEP 1:

PARTS MANUAL AS SHIPPED or PRINTED.  
PLACE IN 3-RING BINDER TO SECURE.

PARTS DRAWING PAGE



3-HOLE PUNCH

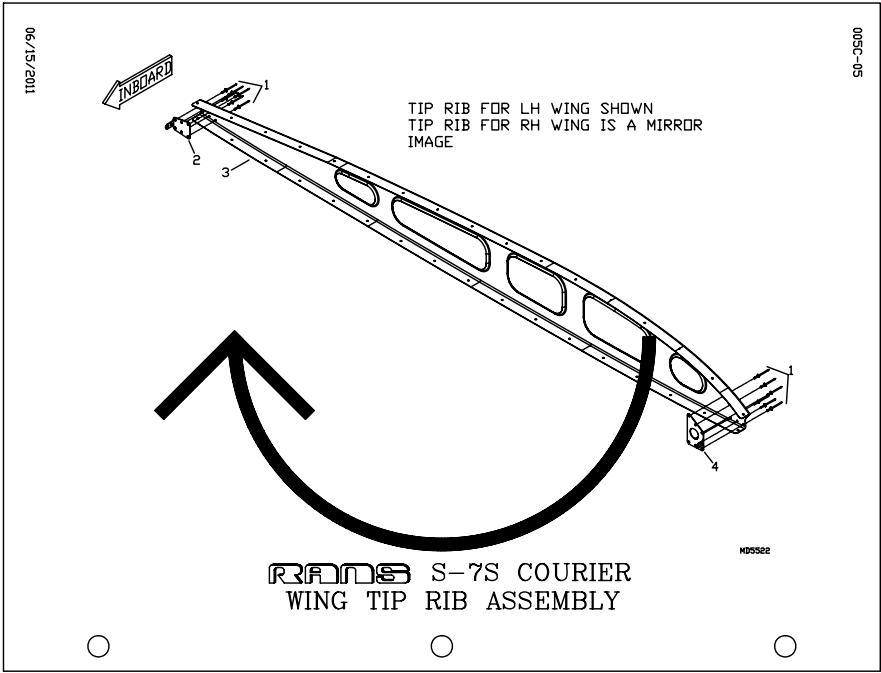
EXAMPLE ONLY.  
MAY NOT REPRESENT ACTUAL PAGES  
FROM YOUR MANUAL.

SEE NEXT PAGE

STEP 2:

OPEN 3-RING BINDER.  
REMOVE PARTS DRAWING PAGE AND  
ROTATE 180° TO FACE  
CORRESPONDING  
PARTS DESCRIPTION PAGE.  
REPEAT FOR REMAINING PAGES

PARTS DRAWING PAGE



PARTS DESCRIPTION PAGE

| S-7S COURIER - WING - TIP RIB ASSEMBLY |                             |             |          | PAGE 005C-06 |
|----------------------------------------|-----------------------------|-------------|----------|--------------|
| #                                      | DESCRIPTION                 | PART NUMBER | QUANTITY |              |
| 1.                                     | 1/8" ALUMINUM RIVET         | AAQ-41      | 24       |              |
| 2.                                     | RIB CLIP TRAILING EDGE - LH | KPW0372-L   | 4        |              |
| 2.                                     | RIB CLIP TRAILING EDGE - RH | KPW0372-R   | 1        |              |
| 3.                                     | WING TIP RIB - LH           | KPW0544-L   | 1        |              |
| 3.                                     | WING TIP RIB - RH           | KPW0544-R   | 1        |              |
| 4.                                     | RIB CLIP LEADING EDGE - LH  | KPW0373-L   | 1        |              |
| 4.                                     | RIB CLIP LEADING EDGE - RH  | KPW0373-R   | 1        |              |

6/15/2011

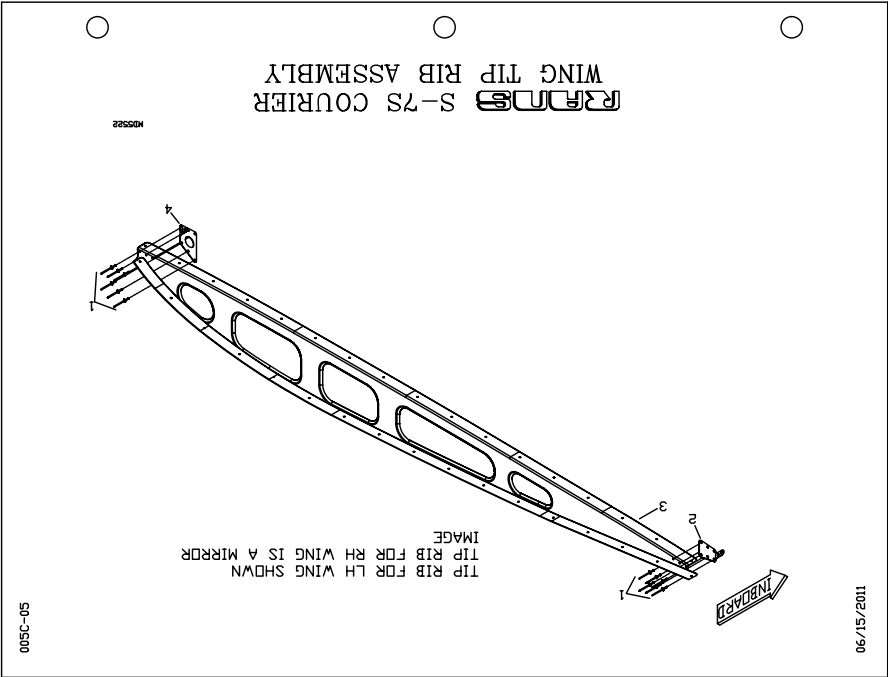
EXAMPLE ONLY.  
MAY NOT REPRESENT ACTUAL PAGES  
FROM YOUR MANUAL.

SEE NEXT PAGE

STEP 3:

PARTS DRAWING PAGE  
FACES CORRESPONDING  
PARTS DESCRIPTION PAGE  
WHEN FINAL SECURED IN  
BINDER

PARTS DRAWING PAGE



PARTS DESCRIPTION PAGE

| S-7S COURIER - WING - TIP RIB ASSEMBLY |                             |             |          |
|----------------------------------------|-----------------------------|-------------|----------|
| #                                      | DESCRIPTION                 | PART NUMBER | QUANTITY |
| 1.                                     | 1/8" ALUMINUM RIVET         | AAPO41      | 24       |
| 2.                                     | RIB CLIP TRAILING EDGE - LH | KPW0372-L   | 4        |
| 2.                                     | RIB CLIP TRAILING EDGE - RH | KPW0372-R   | 1        |
| 3.                                     | WING TIP RIB - LH           | KPW0544-L   | 1        |
| 3.                                     | WING TIP RIB - RH           | KPW0544-R   | 1        |
| 4.                                     | RIB CLIP LEADING EDGE - LH  | KPW0373-L   | 1        |
| 4.                                     | RIB CLIP LEADING EDGE - RH  | KPW0373-R   | 1        |

PAGE 005C-06

6/15/2011

EXAMPLE ONLY.  
MAY NOT REPRESENT ACTUAL PAGES  
FROM YOUR MANUAL.

# **RANS S-21 OUTBOUND – TITAN X340**

## **PARTS MANUAL**

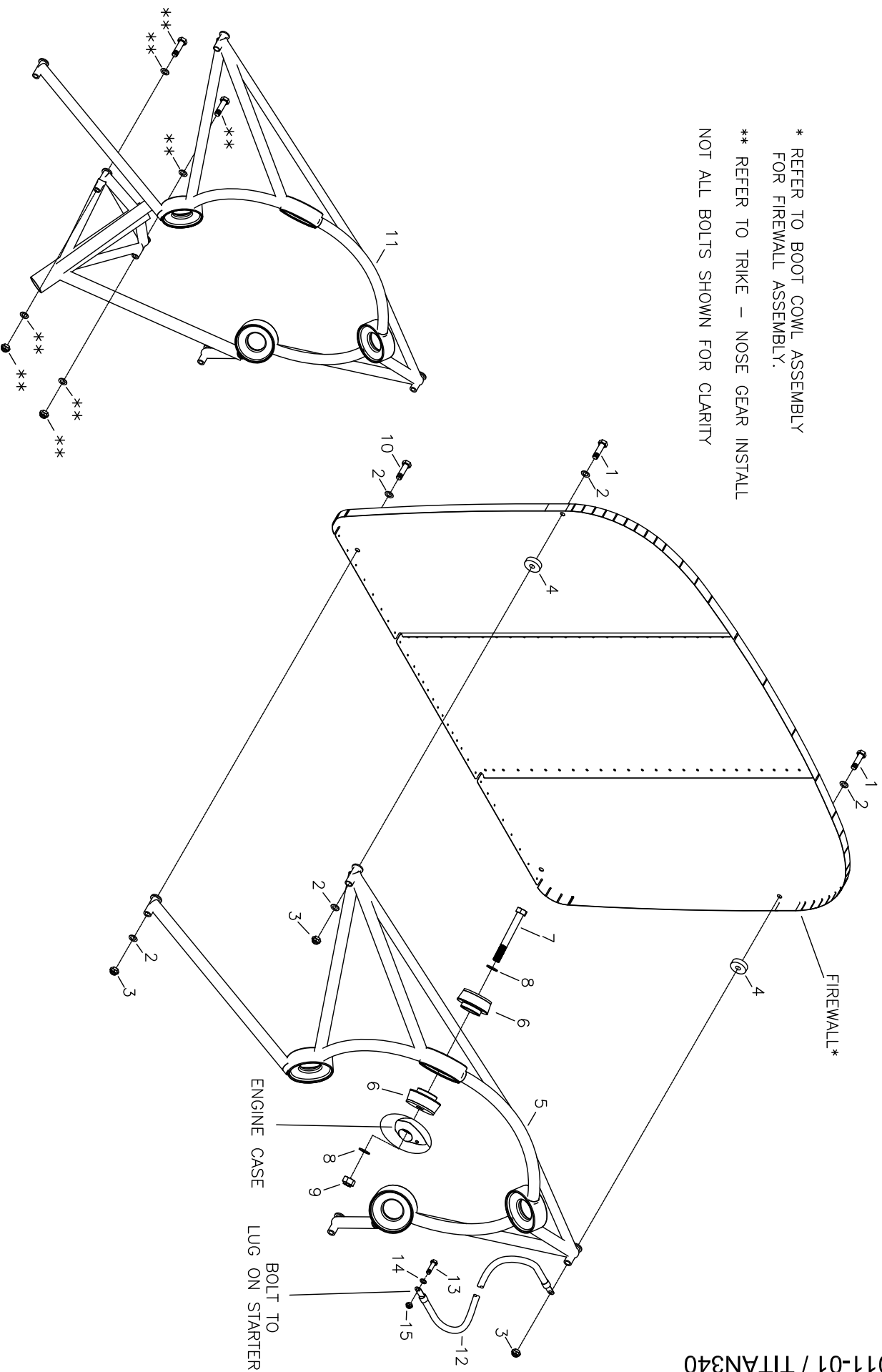
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| TITAN X-340 - ENGINE ELECTRICAL ACCESSORY INSTALLATION -----       | 011A-01 / TITAN340 |
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| TITAN X-340 - OPTIONS - REMOTE CHARGING POST -----                 | 011I-05 / TITAN340 |
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| TITAN X-340 - WHIRLWIND PROPELLER INSTALLATION-----                | 011L-01 / TITAN340 |

\* REFER TO BOOT COWL ASSEMBLY FOR FIREWALL ASSEMBLY.

**\*\* REFER TO TRIKE - NOSE GEAR INSTALL**

NOT ALL BOLTS SHOWN FOR CLARITY



# RRM-8 S-21 OUTBOUND TITAN X-340 ENGINE MOUNT INSTALLATION

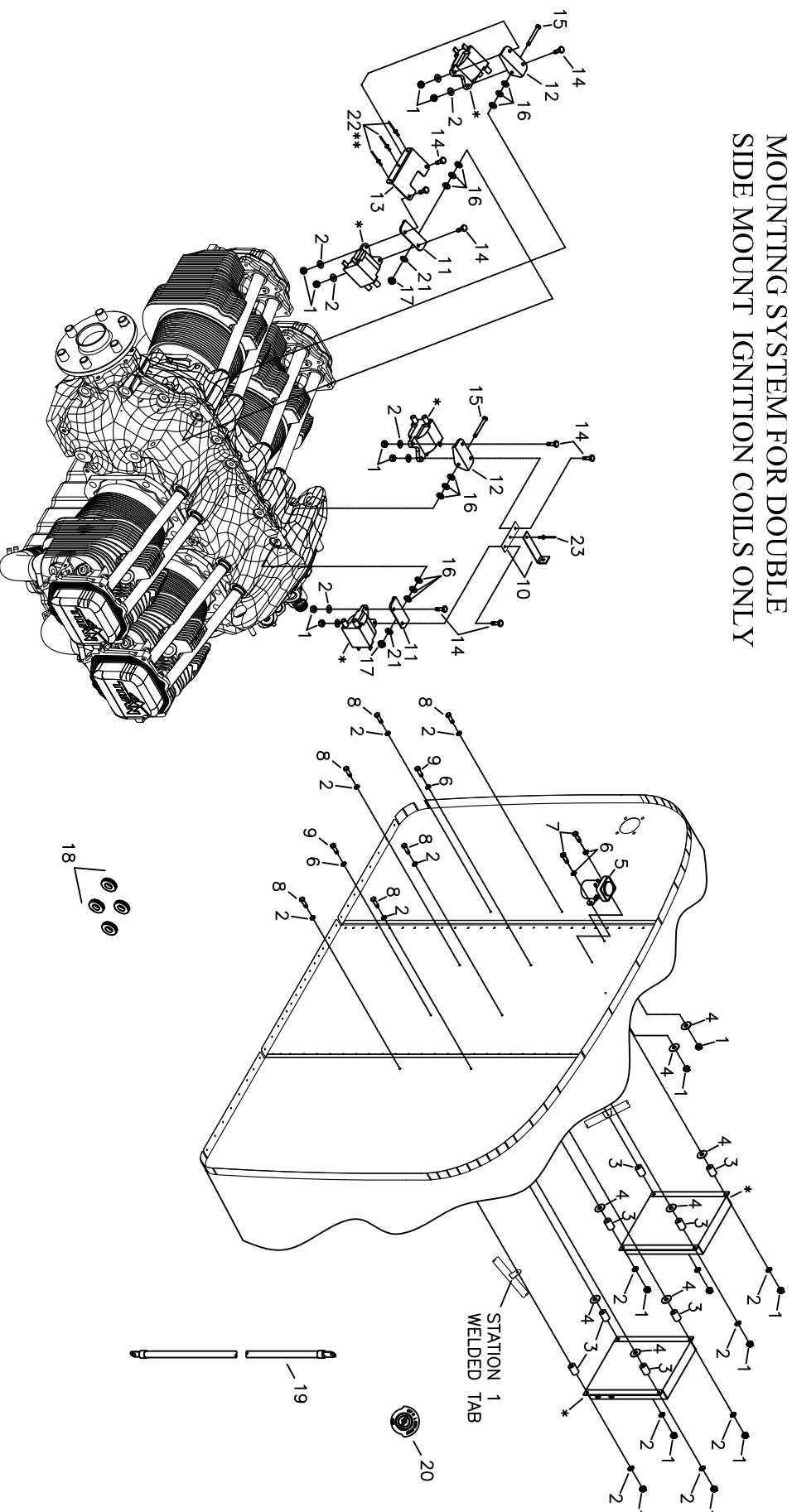
# RANS S-21 OUTBOUND

PAGE 011-02 / TITAN340

## TITAN X-340 - ENGINE MOUNT INSTALLATION

| #   | DESCRIPTION                     | PART NUMBER  | QUANTITY |
|-----|---------------------------------|--------------|----------|
| 1.  | 5/16" Bolt                      | AN5-37A      | 2        |
| 2.  | 5/16" Thick Washer              | AN960-516    | 7        |
| 3.  | 5/16" Tensile Nut               | AN365-524A   | 4        |
| 4.  | Engine Mount Spacer             | KPAC0273     | 2        |
| 5.  | Engine Mount (TAILDRAGGER ONLY) | KAPW0072     | 1        |
| 6.  | Rubber Engine Mount             | KSPW0097     | 4        |
| 7.  | 7/16" Bolt                      | AN7-35A      | 4        |
| 8.  | 7/16" Thick Washer              | AN960-716    | 8        |
| 9.  | 7/16" Tensile Nut - Steel       | MS20365-720C | 4        |
| 10. | 5/16" Bolt                      | AN5-34A      | 2        |
| 11. | Engine Mount (TRIKE ONLY)       | KAPW0074     | 1        |
| 12. | Engine Ground Cable             | KAES0023     | 1        |
| 13. | 1/4" Bolt                       | AN4-7A       | 1        |
| 14. | 1/4" Thin Washer                | AN960-416L   | 1        |
| 15. | 1/4" Shear Nut                  | AN364-428C   | 1        |

# MOUNTING SYSTEM FOR DOUBLE SIDE MOUNT IGNITION COILS ONLY



SOME DUPLICATED ASSEMBLY ITEMS NOT NUMBERED

\* ITEMS PROVIDED WITH LIGHTSPEED IGNITION

\*\* RIVETS THROUGH FWD BAFFLE

**RRRND S-21 OUTBOUND**

**TITAN X-340**

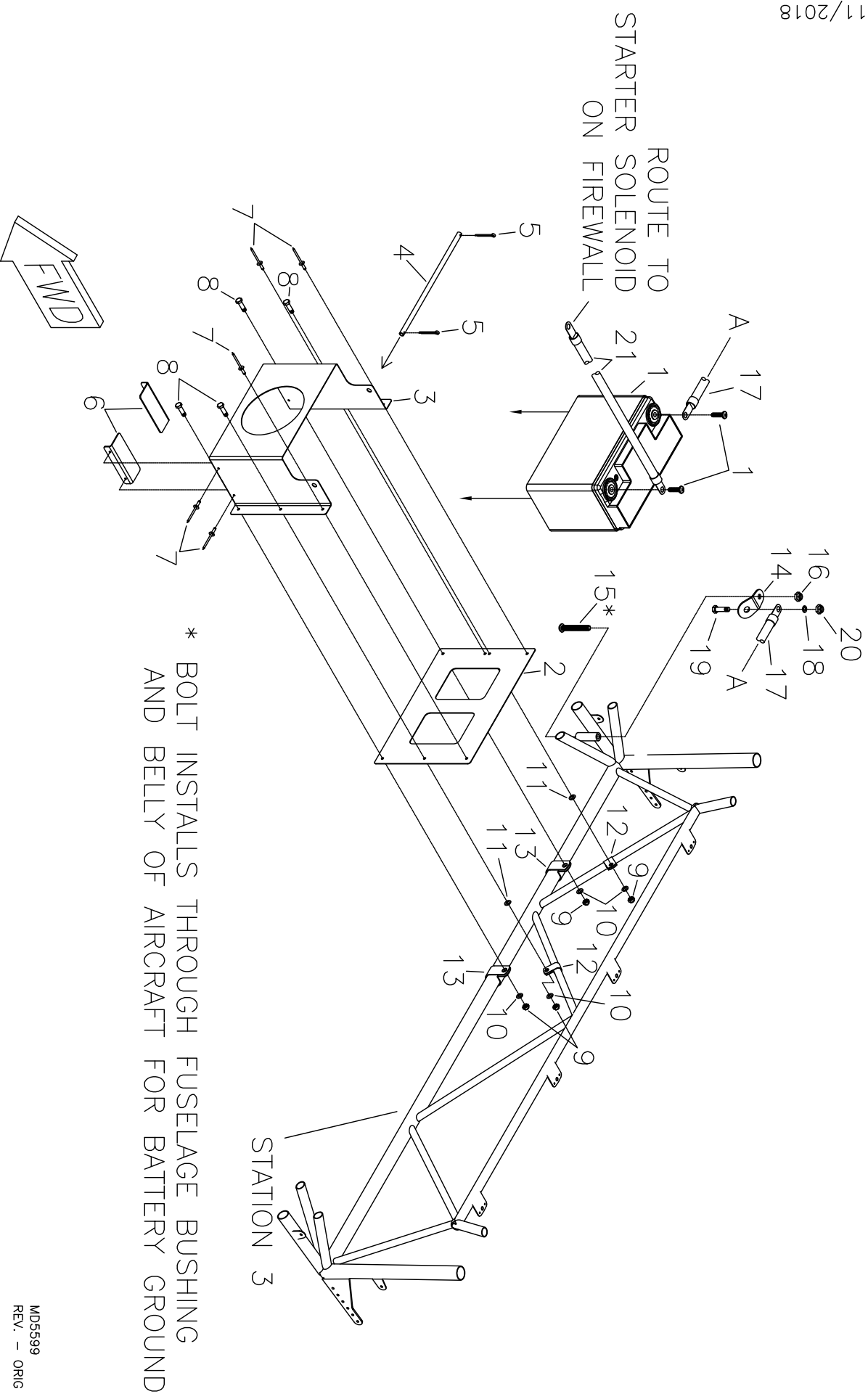
**ENGINE ELECTRICAL ACCESSORY INSTALLATION**

MD5135  
REV. - ORIG

**TITAN X-340 - ENGINE ELECTRICAL ACCESSORY INSTALLATION**

| <b>#</b> | <b>DESCRIPTION</b>                       | <b>PART NUMBER</b> | <b>QUANTITY</b> |
|----------|------------------------------------------|--------------------|-----------------|
| 1.       | 3/16" Shear Nut                          | AN364-1032A        | 18              |
| 2.       | 3/16" Thin Washer                        | AN960-10L          | 23              |
| 3.       | Aluminum Bushing - 3/8" x .095" x .50" * | KPST0132           | 1               |
| 4.       | 3/16" Large Washer                       | AN970-3            | 8               |
| 5.       | Starter Solenoid                         | KSPW0040           | 1               |
| 6.       | 3/16" Thick Washer                       | AN960-10           | 4               |
| 7.       | 3/16" Bolt                               | AN3-4A             | 2               |
| 8.       | 3/16" Bolt                               | AN3-10A            | 6               |
| 9.       | 3/16" Bolt                               | AN3-7A             | 2               |
| 10.      | Aft Ignition Bracket Brace *             | KPES0036           | 2               |
| 11.      | Ignition Module Mount Angle - LH         | KPES0045-L         | 2               |
| 12.      | Ignition Module Mount Angle - RH         | KPES0045-R         | 2               |
| 13.      | Cooling Baffle - FWD Support Angle       | KPPW0372           | 1               |
| 14.      | 3/16" Bolt                               | AN3-5A             | 8               |
| 15.      | 1/4" Bolt                                | AN4-17A            | 2               |
| 16.      | 1/4" Thick Washer                        | AN960-416          | 12              |
| 17.      | 1/4" Shear Nut - Steel                   | AN364-428C         | 2               |
| 18.      | 3/4" Rubber Grommet                      | MS35489-11         | 4               |
| 19.      | Solenoid / Starter Cable                 | KAES0025           | 1               |
| 20.      | Switch - Ignition                        | KSES0027           | 1               |
| 21.      | 1/4" Thin Washer                         | AN960-416L         | 2               |
| 22.      | 1/8" Aluminum Rivet - Avex               | 1691-0410          | 3               |
| 23.      | 1/8" Stainless Steel Rivet - Cherry Q    | CCPQ-42            | 1               |

\* Builder Modifies



REDUCED S-21 OUTBOUND  
TITAN X-340  
BATTERY BOX ASSEMBLY AND INSTALLATION

# RANS S-21 OUTBOUND

PAGE 011A-04 / TITAN340

## TITAN X-340 - BATTERY BOX ASSEMBLY & INSTALLATION

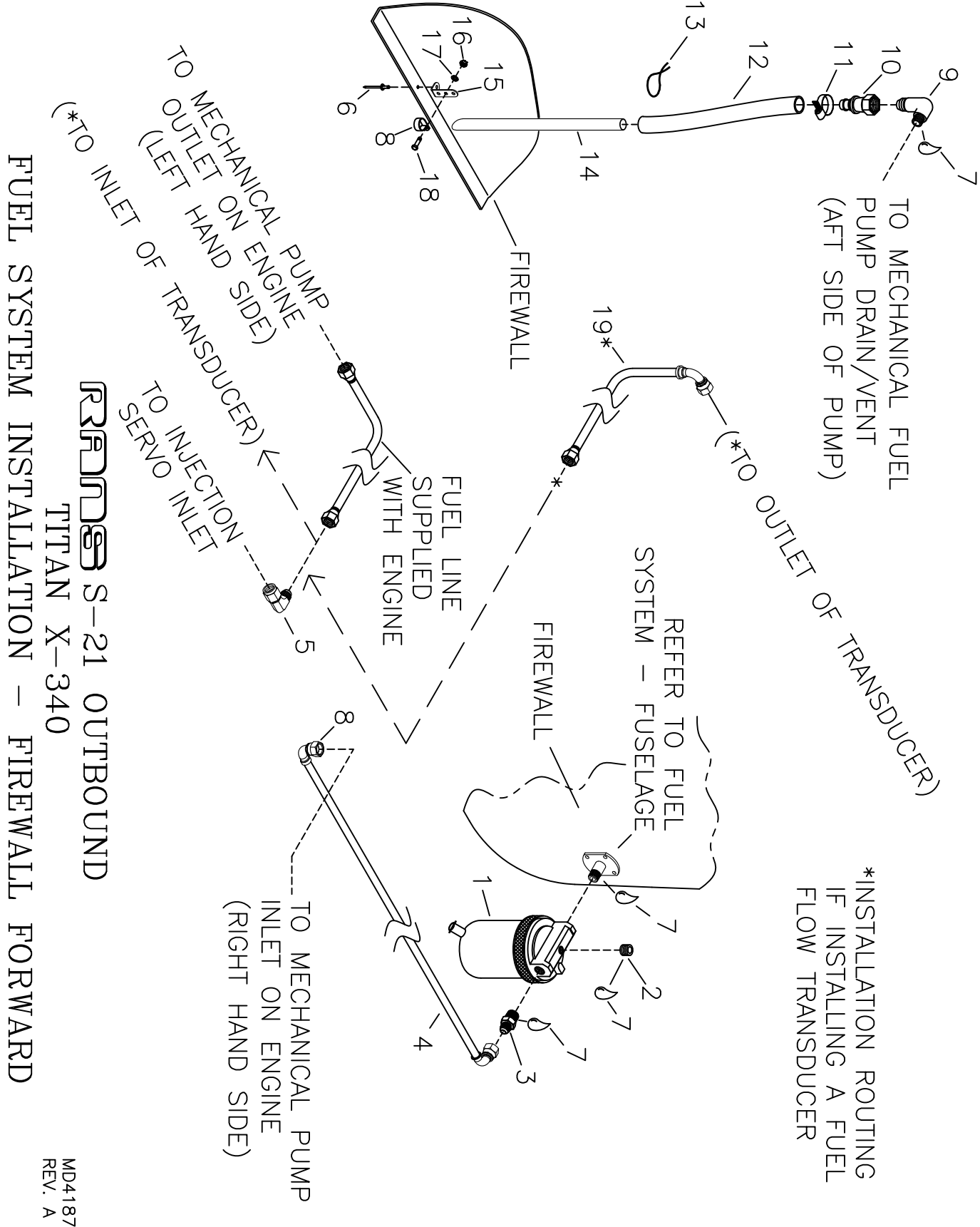
| #   | DESCRIPTION                           | PART NUMBER     | QUANTITY |
|-----|---------------------------------------|-----------------|----------|
| 1.  | Battery - Odyssey PC-545MJ *          | KSPW0103        | 0        |
| 2.  | Battery Mount Plate                   | KPES0038        | 1        |
| 3.  | Battery Box Front Plate               | KPES0037        | 1        |
| 4.  | Battery Bar **                        | BAT-BAR-503/582 | 1        |
| 5.  | Small Cotter Pin                      | MS24665-134     | 2        |
| 6.  | Battery Box Support Angle             | BAT-BOX-3       | 2        |
| 7.  | 1/8" Stainless Steel Rivet - Cherry Q | CCPQ-42         | 7        |
| 8.  | 3/16" Bolt                            | AN3-3A          | 4        |
| 9.  | 3/16" Shear Nut                       | AN364-1032A     | 4        |
| 10. | 3/16" Thin Washer                     | AN960-10L       | 4        |
| 11. | 3/16" Thick Washer                    | AN960-10        | 2        |
| 12. | 3/8" Plain Clamp                      | AN742-D6        | 2        |
| 13. | 5/8" Plain Clamp                      | AN742-D10       | 2        |
| 14. | Tang                                  | FAT-4           | 1        |
| 15. | 1/4" Pan Head Bolt                    | KSHW0113        | 1        |
| 16. | 1/4" Shear Nut - Steel                | AN364-428C      | 1        |
| 17. | Battery / Ground Cable                | KAES0028        | 1        |
| 18. | 5/16" Thick Washer                    | AN960-516       | 1        |
| 19. | 5/16" Bolt                            | AN5-5A          | 1        |
| 20. | 5/16" Shear Nut - Steel               | AN364-524C      | 1        |
| 21. | Battery / Solenoid Cable              | KAES0026        | 1        |

\* May be purchased seperately, call RANS Parts Dept. for pricing

\*\* Builder Modifies

9/11/2018

REV. - ORIG



MD4187  
REV. A

# RANS S-21 OUTBOUND

PAGE 011B-02 / TITAN340

## TITAN X-340 - FUEL SYSTEM - FIREWALL FORWARD

| #   | DESCRIPTION                                                  | PART NUMBER   | QUANTITY |
|-----|--------------------------------------------------------------|---------------|----------|
| 1.  | Gascolator - High Pressure                                   | KSPW0109      | 1        |
| 2.  | 1/8" Pipe Plug                                               | PIPE-PLUG 1/8 | 1        |
| 3.  | Straight Fitting                                             | AN816-6D      | 1        |
| 4.  | Fuel Line Assembly - Gascolator to Pump                      | KSPW0131      | 1        |
| 5.  | 90 Degree -6 AN Swivel Fitting                               | KSFS0041      | 1        |
| 6.  | 3/16" Stainless Steel Rivet - Cherry Q                       | CCPQ-62       | 1        |
| 7.  | Thread Sealant *                                             | -----         | 0        |
| 8.  | 1/4" Plain Clamp                                             | AN742-D4      | 1        |
| 9.  | 90-degree Elbow - Flare 1/4" Tube to 1/8" NPT                | AN822-4D      | 1        |
| 10. | 1/4" Hose Fitting                                            | 30682-4-4     | 1        |
| 11. | Hose Clamp - 5/8"                                            | 5-6202        | 1        |
| 12. | Black Fuel Line - 1/4"                                       | KSFS0002      | 1 ft     |
| 13. | Safety Wire *                                                | -----         | 0        |
| 14. | Fuel Pump Drain Line, 1/4" x .028" x 5" Aluminum Tube **     | KAAC0044-2    | 1        |
| 15. | Angle Bracket                                                | KPAC0004      | 1        |
| 16. | 3/16" Shear Nut                                              | AN364-1032A   | 1        |
| 17. | 3/16" Thin Washer                                            | AN960-10L     | 1        |
| 18. | 3/16" Bolt                                                   | AN3-3A        | 1        |
| 19. | Optional - Fuel Line Assembly - Transducer to Fuel Servo *** | KSPW0132      | 0        |

\* Builder Supplied

\*\* Builder Modifies

\*\*\* Optional for installing a Fuel Flow Transducer

9/11/2018

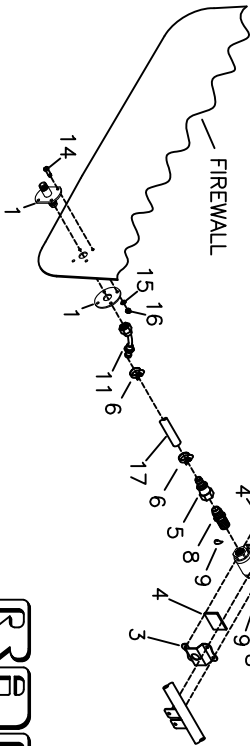
REV. A

REFER TO FUEL TANK INSTALLATION -  
SECTION 006 -  
FOR FUEL TANK FITTINGS



REFER TO ELECTRIC FUEL PUMP

HEADER TANK



RRR003 S-21 OUTBOUND  
TITAN X-340  
FUEL SYSTEM - FUSELAGE

MD4186  
REV. A

# RANS S-21 OUTBOUND

PAGE 011B-04 / TITAN340

## TITAN X-340 - FUEL SYSTEM - FUSELAGE

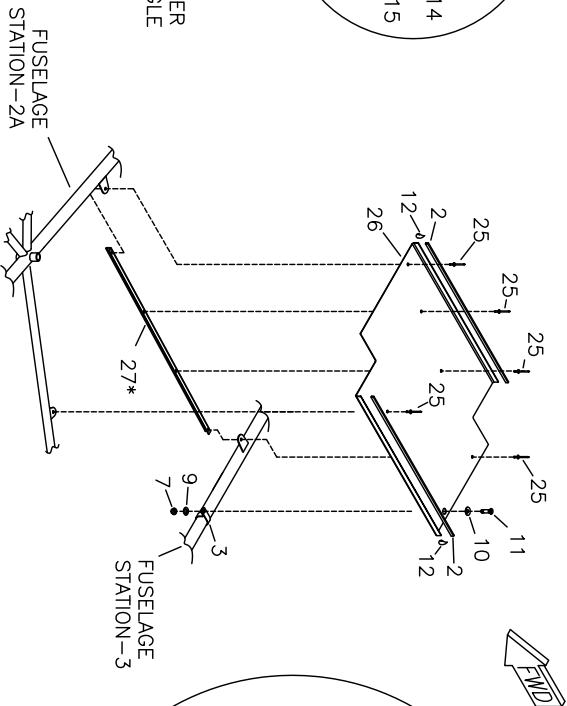
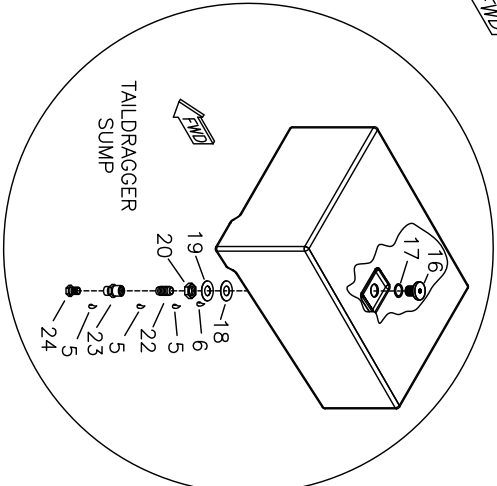
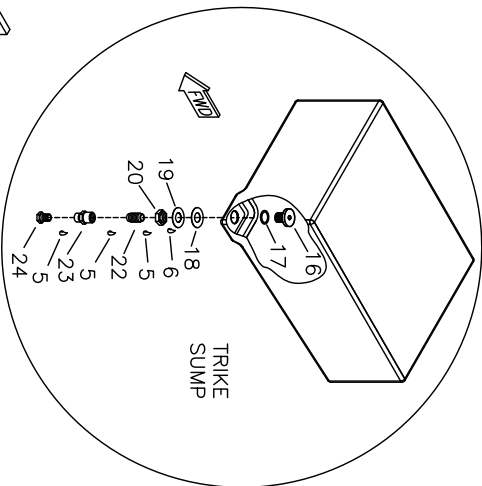
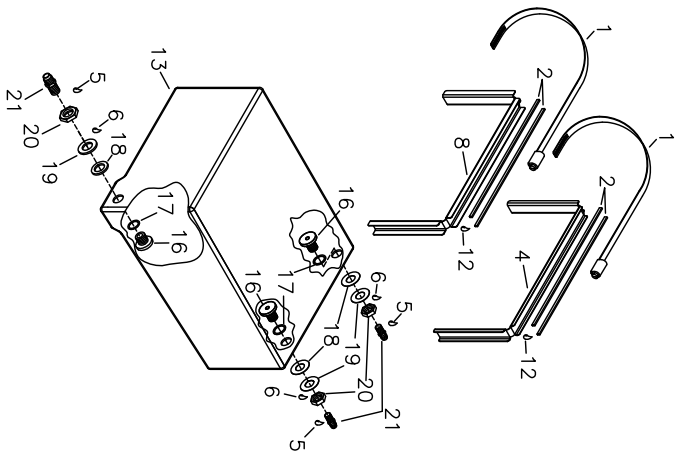
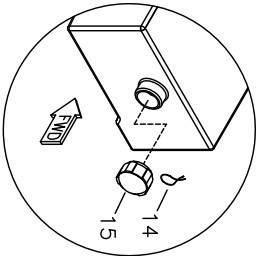
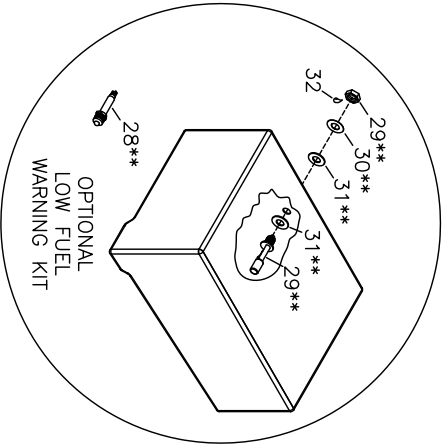
| #   | DESCRIPTION                        | PART NUMBER | QUANTITY |
|-----|------------------------------------|-------------|----------|
| 1.  | Gascolator Mount - High Pressure   | KSPW0110    | 1        |
| 2.  | 1/8" Aluminum Rivet - Cherry Q     | AAPQ-42     | 4        |
| 3.  | Fuel Valve Mount Bracket           | KPFS0037    | 2        |
| 4.  | Fuel Valve Silicone Pad *          | KPFS0106    | 1        |
| 5.  | 3/8" Hose Fitting                  | 30682-6-6   | 4        |
| 6.  | Hose Clamp - 7/8"                  | 5-6203      | 6        |
| 7.  | Black Fuel Line - 3/8"             | 27004       | 1 ft     |
| 8.  | Nipple - Flared Tube & Pipe Thread | AN816-6D    | 2        |
| 9.  | Thread Sealant **                  | -----       | 0        |
| 10. | Fuel Valve                         | KSFS0018    | 1        |
| 11. | 45 Degree Fitting                  | 33782-6-6   | 2        |
| 12. | Plastic Tie - 7.5"                 | N-TIES      | 4        |
| 13. | 90 Degree 3/8" Hose Fitting        | 33982-6-6   | 2        |
| 14. | 3/16" Bolt                         | AN3-4A      | 4        |
| 15. | 3/16" Thin Washer                  | AN960-10L   | 4        |
| 16. | 3/16" Shear Nut                    | AN364-1032A | 4        |
| 17. | Fuel Injection Line - 3/8"         | KSFS0043    | 2.5 ft   |

\* Builder Supplied

\*\* Builder Modifies

9/11/2018

REV. A



\* NOTCH FUSELAGE BOTTOM SKIN STRINGER  
TO CLEAR HEADER TANK SUPPORT ANGLE  
\*\* LOW FUEL WARNING KIT IS OPTIONAL

RRR S-21 OUTBOUND  
TITAN X-340  
FUEL SYSTEM - HEADER TANK

# RANS S-21 OUTBOUND

PAGE 011B-06 / TITAN340

## TITAN X-340 - FUEL SYSTEM - HEADER TANK

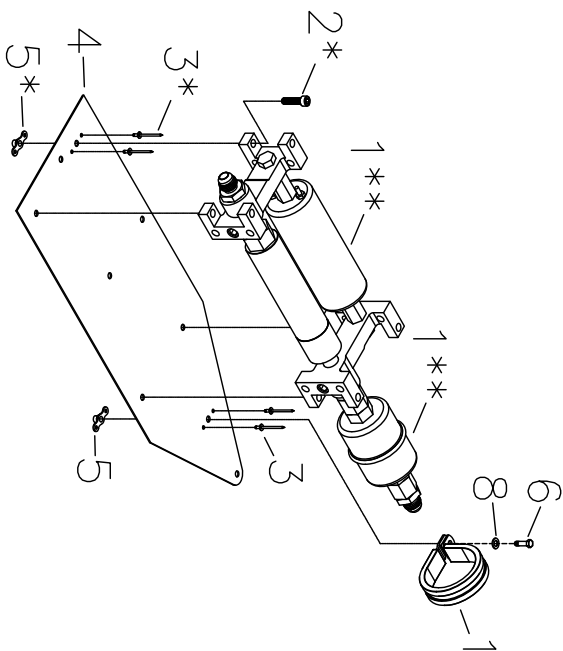
| #   | DESCRIPTION                              | PART NUMBER | QUANTITY |
|-----|------------------------------------------|-------------|----------|
| 1.  | 15" Hose Clamp                           | KSHW0100    | 2        |
| 2.  | Rubber Edging                            | 8510K11     | 7 ft     |
| 3.  | 5/8" Plain Clamp                         | AN742-D10   | 1        |
| 4.  | 6.9 Gal. Header Tank Mount Channel - AFT | KPFS0110    | 1        |
| 5.  | Thread Sealant *                         | -----       | 0        |
| 6.  | Loctite Blue *                           | -----       | 0        |
| 7.  | 3/16" Shear Nut                          | AN364-1032A | 1        |
| 8.  | 6.9 Gal. Header Tank Mount Channel - FWD | KPFS0111    | 1        |
| 9.  | 3/16" Thick Washer                       | AN960-10    | 1        |
| 10. | 3/16" Countersunk Washer                 | NAS1169-10L | 1        |
| 11. | 3/16" Countersunk Machine Screw          | MS24694-S50 | 1        |
| 12. | Adhesive - Superglue *                   | -----       | 0        |
| 13. | Header Tank - 6.9 Gal.                   | KPFS0103    | 1        |
| 14. | Safety Wire *                            | -----       | 0        |
| 15. | Fuel Cap                                 | KSFS0007    | 1        |
| 16. | 3/4" Bulkhead Fitting                    | KSFS0037    | 4        |
| 17. | O-Ring - 3/4" Bulkhead                   | KSFS0039    | 4        |
| 18. | Rubber Washer                            | KSFS0016    | 4        |
| 19. | 3/4" Thick Washer                        | AN960-1216  | 4        |
| 20. | Nut - 3/4" Bulkhead - Reverse Thread     | KSFS0038    | 4        |
| 21. | Nipple - Flared Tube & Pipe Thread       | AN816-6D    | 3        |
| 22. | Close Nipple                             | KSFS0021    | 1        |
| 23. | Reducer                                  | KSFS0022    | 1        |
| 24. | Flush Valve                              | KSFS0011    | 1        |
| 25. | 1/8" Stainless Steel Rivet - Cherry Q    | CCPQ-42     | 5        |
| 26. | 6.9 Gal. Header Tank Mount               | KPFS0109    | 1        |
| 27. | Header Tank Mount Angle                  | KPFU0758    | 1        |
| 28. | Red LED Indicator Light, 12V **          | KSES0071    | 1        |
| 29. | Low Fuel Warning Switch **               | KSES0072    | 1        |
| 30. | 5/8" Thick Washer (AN960-1016) **        | TW-5/8-W    | 1        |
| 31. | 5/8" Rubber Washer **                    | KSFS0040    | 2        |
| 32. | DOW 730 Sealant *                        | -----       | 0        |

\* Builder Supplied

\*\* KAFS0003 - Low Fuel Warning Kit is Optional

9/11/2018

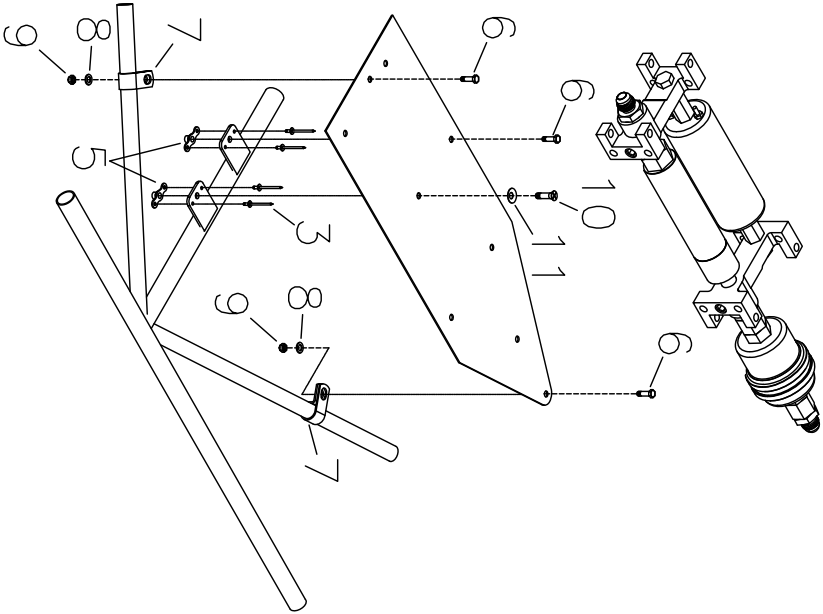
REV. - ORIG



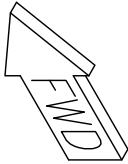
\* TYPICAL FOR INSTALLING  
PUMP TO MOUNT PLATE

\*\* PUMP ASSEMBLED IN SHORT CONFIGURATION  
PER DOCUMENTATION AT LINK BELOW.  
<https://www.flyefii.com/products/boost-pump/installation-tips/>

PUMP TO MOUNT PLATE INSTALL



MOUNT PLATE TO FUSELAGE INSTALL  
UNDER LEFT PILOT SEAT



**RAMS** S-21 OUTBOUND  
TITAN X-340  
FUEL SYSTEM – ELECTRIC FUEL PUMP

# RANS S-21 OUTBOUND

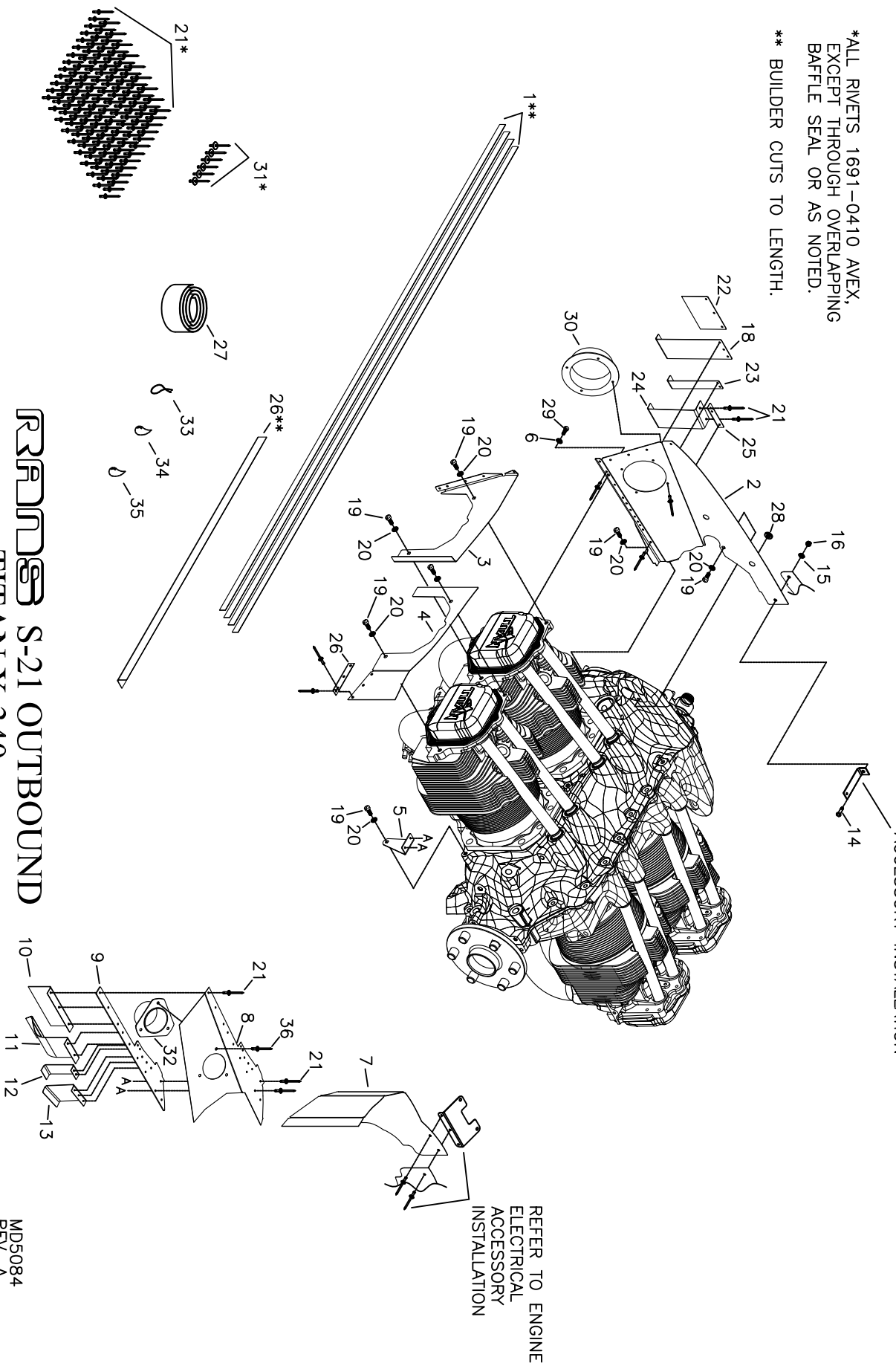
PAGE 011B-08 / TITAN340

## TITAN X-340 - FUEL SYSTEM - ELECTRIC FUEL PUMP

| #   | DESCRIPTION                        | PART NUMBER | QUANTITY |
|-----|------------------------------------|-------------|----------|
| 1.  | Electric Fuel Pump - High Pressure | KSPW0104    | 1        |
| 2.  | 3/16" Socket Head Cap Screw        | KSHW0111    | 4        |
| 3.  | 3/32" Aluminum Rivet               | 40APR1/8    | 14       |
| 4.  | Fuel Pump Mounting Plate           | KPFS0116    | 1        |
| 5.  | 3/16" Nut Plate                    | K-1000-3    | 7        |
| 6.  | 3/16" Bolt                         | AN3-3A      | 4        |
| 7.  | 1/2" Non-Cushion Clamp             | AN742-D8    | 2        |
| 8.  | 3/16" Thin Washer                  | AN960-10L   | 3        |
| 9.  | 3/16" Shear Nut                    | AN364-1032A | 2        |
| 10. | 3/16" Countersunk Machine Screw    | MS24694-S50 | 1        |
| 11. | 3/16" Countersunk Washer           | NAS1169-10L | 1        |

\*ALL RIVETS 1691-0410 AVEX,  
EXCEPT THROUGH OVERLAPPING  
BAFFLE SEAL OR AS NOTED.

\*\* BUILDER CUTS TO LENGTH.



# **RAND S-21 OUTBOUND TITAN X-340** **BAFFLE - RIGHT INSTALLATION**

# RANS S-21 OUTBOUND

PAGE 011C-02 / TITAN340

## TITAN X-340 - BAFFLE - RIGHT INSTALLATION

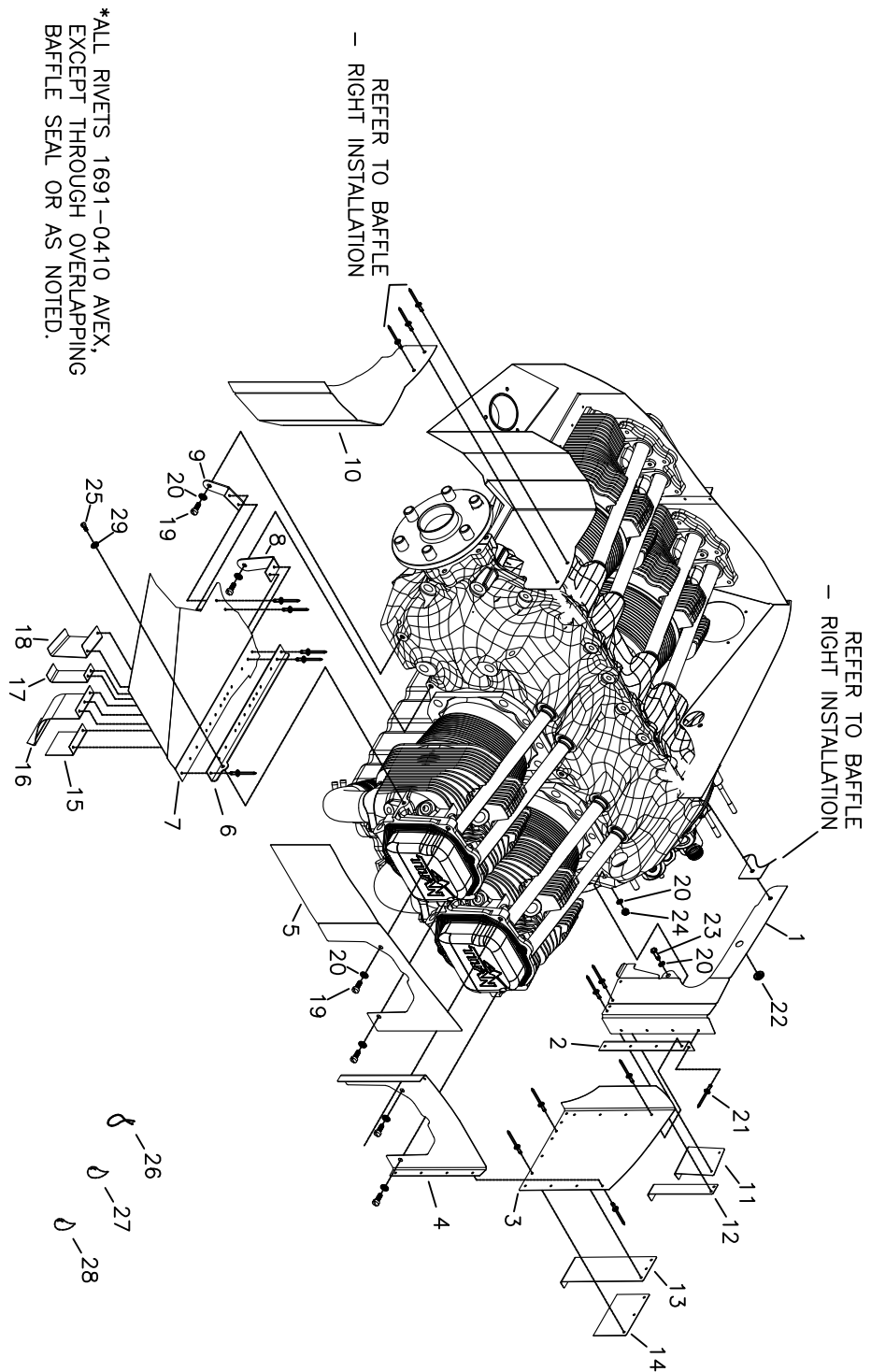
| #   | DESCRIPTION                                  | PART NUMBER     | QUANTITY |
|-----|----------------------------------------------|-----------------|----------|
| 1.  | Baffle Seal Capture Strip                    | KPPW0343        | 4        |
| 2.  | Cooling Baffle - AFT - Right                 | KPPW0326-5      | 1        |
| 3.  | Cooling Baffle - Side - Right - AFT          | KPPW0326-3      | 1        |
| 4.  | Cooling Baffle - Side - Right - FWD          | KPPW0326-4      | 1        |
| 5.  | Cooling Baffle - Support Angle - Right - FWD | KPPW0326-18     | 1        |
| 6.  | 6/32 Loc Washer                              | 6/32 LOC WASHER | 1        |
| 7.  | Cooling Baffle - FWD - Right                 | KPPW0326-12     | 1        |
| 8.  | Cooling Baffle - Inlet Floor - Right         | KPPW0326-10     | 1        |
| 9.  | Cooling Baffle - Inlet Floor - Reinforcement | KPPW0326-9      | 1        |
| 10. | Cooling Baffle - Outer Cylinder Plate - FWD  | KPPW0326-19     | 1        |
| 11. | Cooling Baffle - Inner Cylinder Plate - FWD  | KPPW0326-20     | 1        |
| 12. | Cooling Baffle - Outer Barrel Plate - FWD    | KPPW0326-22     | 1        |
| 13. | Cooling Baffle - Inner Barrel Plate - RH     | KPPW0326-21R    | 1        |
| 14. | 3/16" Bolt                                   | AN3-4A          | 1        |
| 15. | 3/16" Thin Washer                            | AN960-10L       | 1        |
| 16. | 3/16" Shear Nut                              | AN364-1032A     | 1        |
| 17. | Cooling Baffle - Outer Barrel Plate - AFT    | KPPW0326-24     | 1        |
| 18. | Cooling Baffle - Inner Cylinder Plate - AFT  | KPPW0326-25     | 1        |
| 19. | 1/4" Course Thread Screw                     | KSHW0103        | 7        |
| 20. | 1/4" Thin Washer                             | AN960-416L      | 7        |
| 21. | 1/8" Aluminum Rivet - Avex                   | 1691-0410       | 128      |
| 22. | Cooling Baffle - Outer Cylinder Plate - AFT  | KPPW0326-31     | 1        |
| 23. | Cooling Baffle - Outer Barrel Plate - AFT    | KPPW0326-26     | 1        |
| 24. | Cooling Baffle - Inner Barrel Plate - LH     | KPPW0326-21L    | 1        |
| 25. | Cooling Baffle - Inner Barrel Plate - Mount  | KPPW0326-28     | 1        |
| 26. | Inlet Support Angle *                        | KPPW0326-30     | 1        |
| 27. | Baffle Seal Material *                       | KPPW0328        | 14 ft    |
| 28. | Rubber Grommet                               | MS35489-6       | 1        |
| 29. | 8-32 Bolt                                    | KSHW0102        | 1        |
| 30. | Flange - 3 inch                              | KSPW0043        | 1        |
| 31. | Aluminum Fabric Rivet                        | ABL4-2AV        | 6        |
| 32. | Cabin Heat Inlet                             | KPPW0324        | 1        |
| 33. | Safety Wire **                               | ----            | 0        |
| 34. | Loctite Blue **                              | ----            | 0        |
| 35. | Silicone Seal - High Temp - Red **           | ----            | 0        |
| 36. | 3/16" Aluminum Rivet - Cherry Q              | AAPQ-62         | 3        |

\* Builder Modifies

\*\* Builder Supplied

9/11/2018

REV. - ORIG



# **TITAN S-21 OUTBOUND TITAN X-340 BAFFLE - LEFT INSTALLATION**

MD5084  
REV. A

# RANS S-21 OUTBOUND

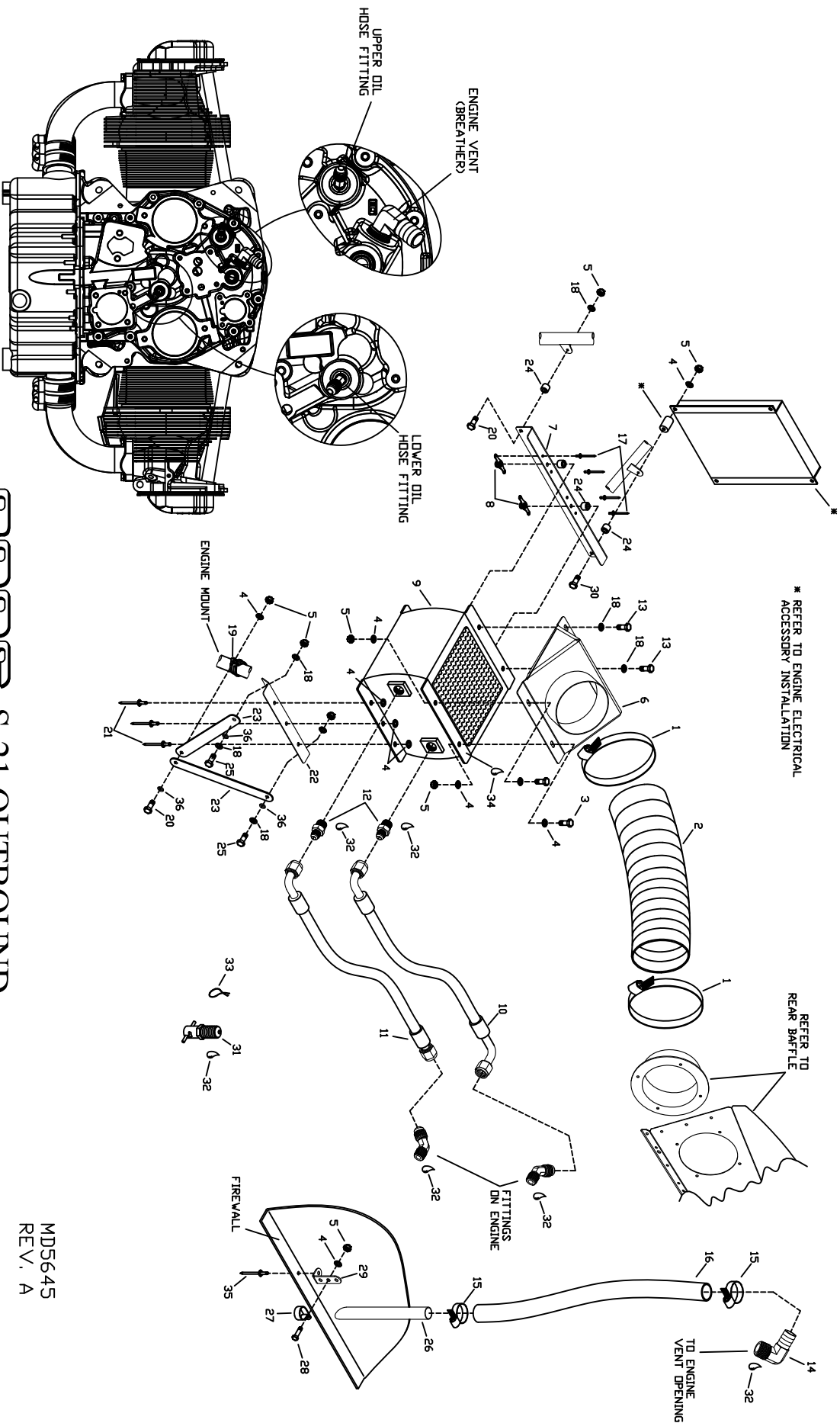
PAGE 011C-04 / TITAN340

## TITAN X-340 - BAFFLE - LEFT INSTALLATION

| #   | DESCRIPTION                                 | PART NUMBER     | QUANTITY |
|-----|---------------------------------------------|-----------------|----------|
| 1.  | Cooling Baffle - AFT- Inner Left            | KPPW0326-7      | 1        |
| 2.  | Cooling Baffle - AFT Support Angle          | KPPW0326-29     | 1        |
| 3.  | Cooling Baffle - AFT - Outer Left           | KPPW0326-6      | 1        |
| 4.  | Cooling Baffle - Side - Left - AFT          | KPPW0326-1      | 1        |
| 5.  | Cooling Baffle - Side - Left - FWD          | KPPW0326-2      | 1        |
| 6.  | Cooling Baffle - Support Angle - Left - FWD | KPPW0326-14     | 1        |
| 7.  | Cooling Baffle - Inlet Floor - Left         | KPPW0326-13     | 1        |
| 8.  | Cooling Baffle - Support Angle - Left - AFT | KPPW0326-15     | 1        |
| 9.  | Cooling Baffle - Support Angle - Left - FWD | KPPW0326-17     | 1        |
| 10. | Cooling Baffle - FWD - Left                 | KPPW0326-16     | 1        |
| 11. | Cooling Baffle - Inner Barrel Plate - AFT   | KPPW0326-27     | 1        |
| 12. | Cooling Baffle - Outer Barrel Plate - AFT   | KPPW0326-26     | 1        |
| 13. | Cooling Baffle - Inner Cylinder Plate - AFT | KPPW0326-25     | 1        |
| 14. | Cooling Baffle - Outer Barrel Plate - AFT   | KPPW0326-24     | 1        |
| 15. | Cooling Baffle - Outer Cylinder Plate - AFT | KPPW0326-23     | 1        |
| 16. | Cooling Baffle - Inner Cylinder Plate - FWD | KPPW0326-20     | 1        |
| 17. | Cooling Baffle - Outer Barrel Plate - FWD   | KPPW0326-22     | 1        |
| 18. | Cooling Baffle - Inner Barrel Plate - LH    | KPPW0326-21L    | 1        |
| 19. | 1/4" Course Thread Screw                    | KSHW0103        | 6        |
| 20. | 1/4" Thin Washer                            | AN960-416L      | 8        |
| 21. | 1/8" Aluminum Rivet - Avex                  | 1691-0410       | 52       |
| 22. | Rubber Grommet                              | MS35489-6       | 1        |
| 23. | 1/4" Bolt                                   | AN4-6A          | 1        |
| 24. | 1/4" Shear Nut                              | AN364-428A      | 1        |
| 25. | 8-32 Bolt                                   | KSHW0102        | 1        |
| 26. | Safety Wire *                               | -----           | 0        |
| 27. | Loctite Blue *                              | -----           | 0        |
| 28. | Silicone Seal - High Temp - Red *           | -----           | 0        |
| 29. | 6/32" Loc Washer                            | 6/32 LOC WASHER | 1        |

\* Builder Supplied

9/11/2018  
REV. - ORIG



# REDUCED S-21 OUTBOUND TITAN X-340 LUBRICATION SYSTEM INSTALLATION

MD5645  
REV. A

## TITAN X-340 - LUBRICATION SYSTEM ASSEMBLY & INSTALLATION

| #   | DESCRIPTION                              | PART NUMBER  | QUANTITY |
|-----|------------------------------------------|--------------|----------|
| 1.  | Hose Clamp - 3 1/2                       | 5-5248       | 2        |
| 2.  | Hose - 3"                                | KPPW0155     | 1 ft     |
| 3.  | 3/16" Bolt                               | AN3-4A       | 2        |
| 4.  | 3/16" Thin Washer                        | AN960-10L    | 10       |
| 5.  | 3/16" Shear Nut                          | AN364-1032A  | 8        |
| 6.  | Oil Cooler Duct                          | KPPW0327     | 1        |
| 7.  | Oil Cooler Mount Angle                   | KPPW0325     | 1        |
| 8.  | 3/16" Nut Plate                          | K-1000-3     | 2        |
| 9.  | Oil Cooler                               | KSPW0105     | 1        |
| 10. | Oil Hose Assembly - Upper                | KSPW0122     | 1        |
| 11. | Oil Hose Assembly - Lower                | KSPW0123     | 1        |
| 12. | Nipple - Flared Tube & Pipe Thread       | AN816-8D     | 2        |
| 13. | 3/16" Bolt                               | AN3-7A       | 2        |
| 14. | 5/8" Hose x 1/2" Male NPT 90° Elbow Barb | KSPW0098     | 1        |
| 15. | Hose Clamp - 1"                          | 5-5210       | 2        |
| 16. | Oil Line - 5/8"                          | KSPW0117     | 2 ft     |
| 17. | 3/32" Aluminum Rivet                     | 40APR1/8     | 4        |
| 18. | 3/16" Thick Washer                       | AN960-10     | 7        |
| 19. | 3/4" Cushion Clamp                       | MS21919-DG12 | 1        |
| 20. | 3/16" Bolt                               | AN3-6A       | 2        |
| 21. | 3/16" Stainless Steel Rivet - Cherry Q   | CCPQ-64      | 3        |
| 22. | FWD Oil Cooler Support                   | KPPW0331     | 1        |
| 23. | Mount Bracket - Radiator *               | KPAC0174     | 2        |
| 24. | Spacer Bushing, 3/8" x .095" x .30" *    | KPAC0060     | 1        |
| 25. | 3/16" Bolt                               | AN3-5A       | 4        |
| 26. | Engine Breather Vent Tube                | KPPW0332     | 1        |
| 27. | 5/8" Plain Clamp                         | AN742-D10    | 1        |
| 28. | 3/16" Bolt                               | AN3-3A       | 1        |
| 29. | Angle Bracket                            | KPAC0004     | 1        |
| 30. | 3/16" Bolt                               | AN3-13A      | 1        |
| 31. | Oil Drain Valve                          | KSPW0114     | 1        |
| 32. | Thread Sealant **                        | -----        | 0        |
| 33. | Safety Wire **                           | -----        | 0        |
| 34. | Silicone Seal - High Temp - Red **       | -----        | 0        |
| 35. | 3/16" Stainless Steel Rivet - Cherry Q   | CCPQ-62      | 1        |
| 36. | Spacer Bushing, 1/4" x .028" x .125" *   | KAAC0044-2   | 0        |

\* Builder Modifies

\*\* Builder Supplied

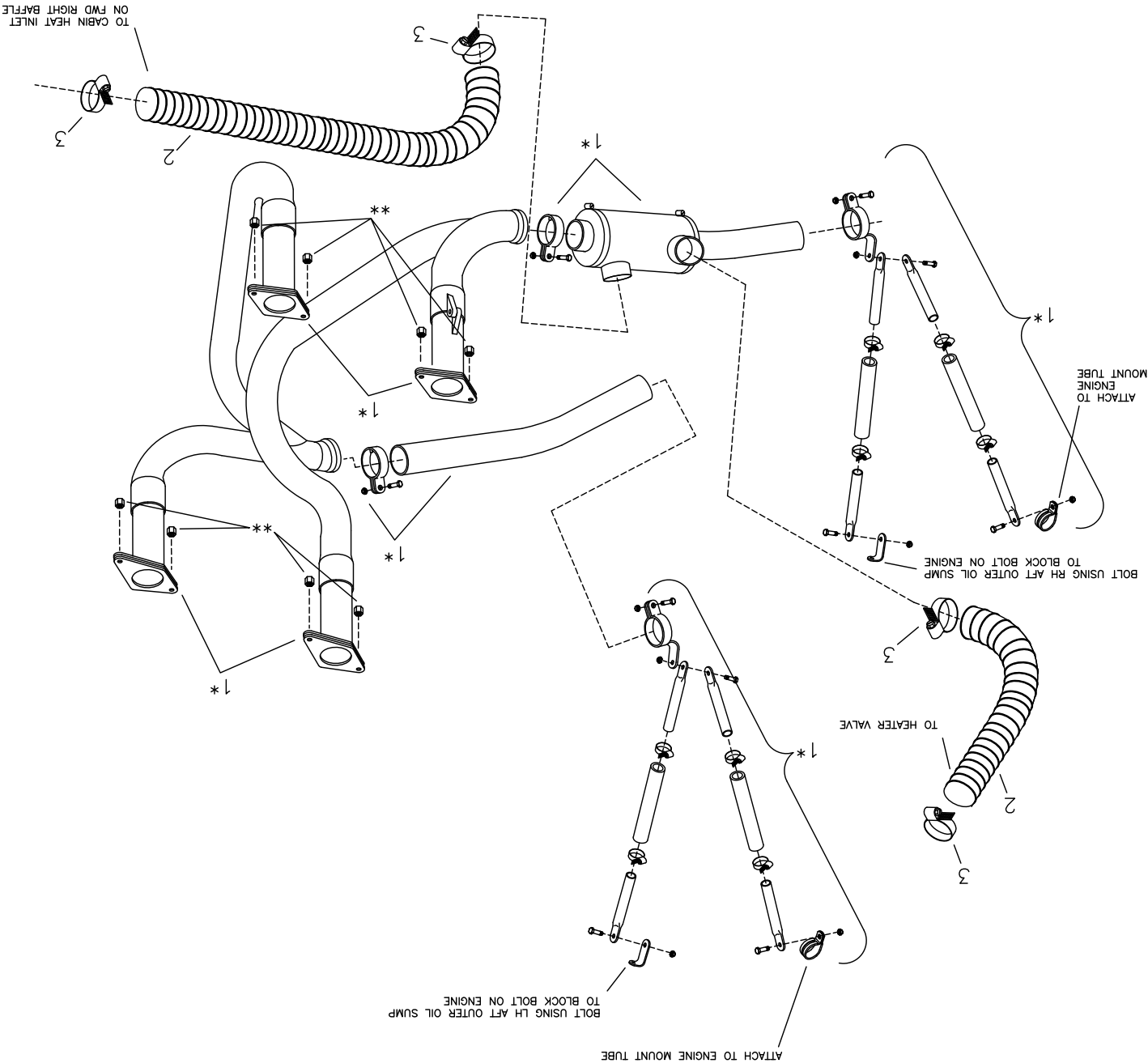
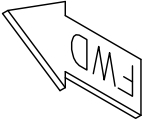
9/11/2018

REV. A

# RPM S-21 OUTBOUND TITAN X-340 CROSS-OVER EXHAUST ASSEMBLY

MD5644  
REV. - ORIG

\*\* SUPPLIED WITH ENGINE  
\* SUPPLIED WITH EXHAUST SYSTEM

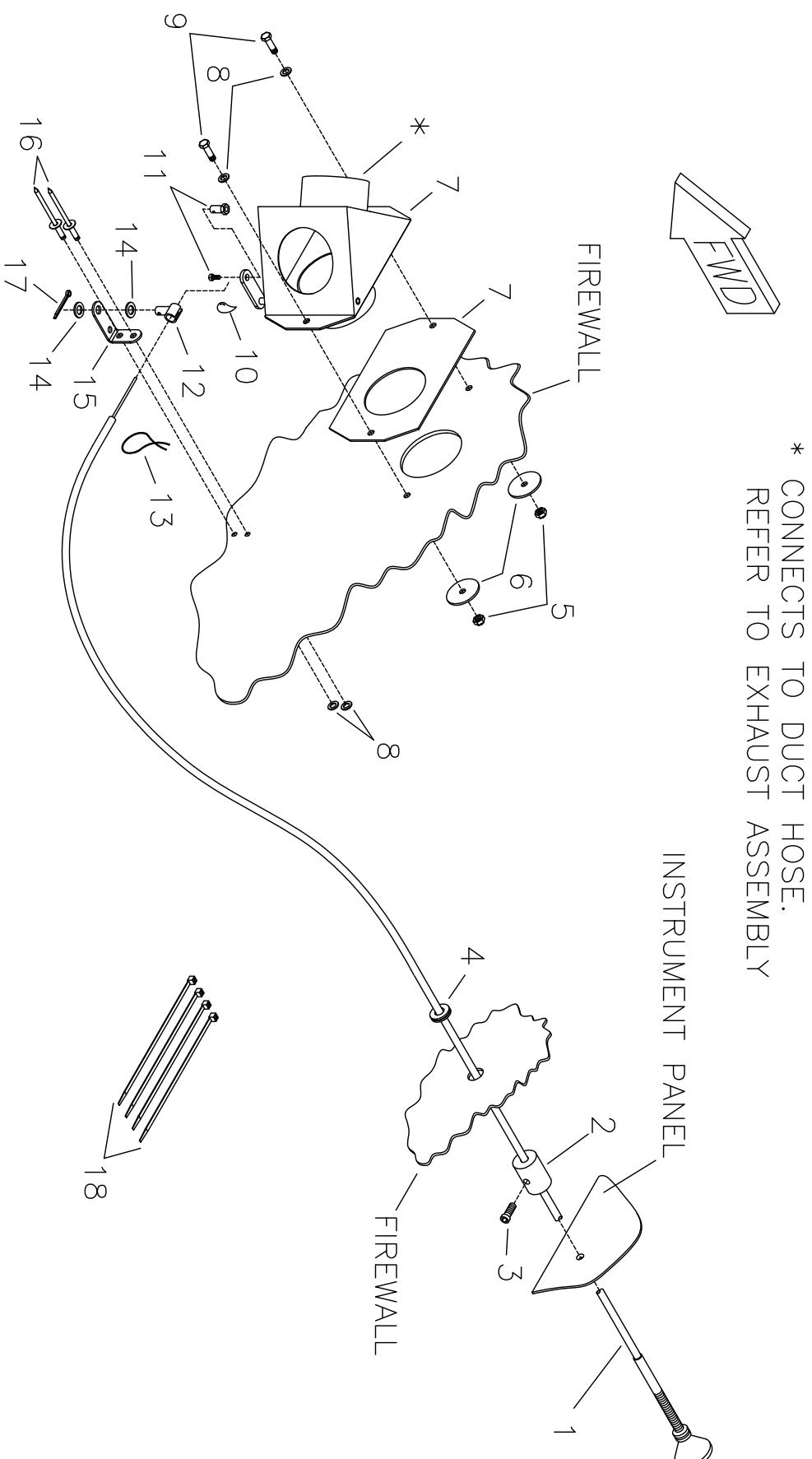


# RANS S-21 OUTBOUND

PAGE 011E-02 / TITAN340

## TITAN X-340 - CROSS-OVER EXHAUST ASSEMBLY

| #  | DESCRIPTION                             | PART NUMBER | QUANTITY |
|----|-----------------------------------------|-------------|----------|
| 1. | Titan X-340 Cross-over Exhaust Assembly | KSEX0016    | 1        |
| 2. | 2" Duct Hose                            | KPSY0046    | 5.5 ft   |
| 3. | Hose Clamp - 2 1/4"                     | 5-5228      | 4        |



**REDIRECT S-21 OUTBOUND  
TITAN X-340  
CABIN HEATER INSTALLATION**

MD5596  
REV. - ORIG

# RANS S-21 OUTBOUND

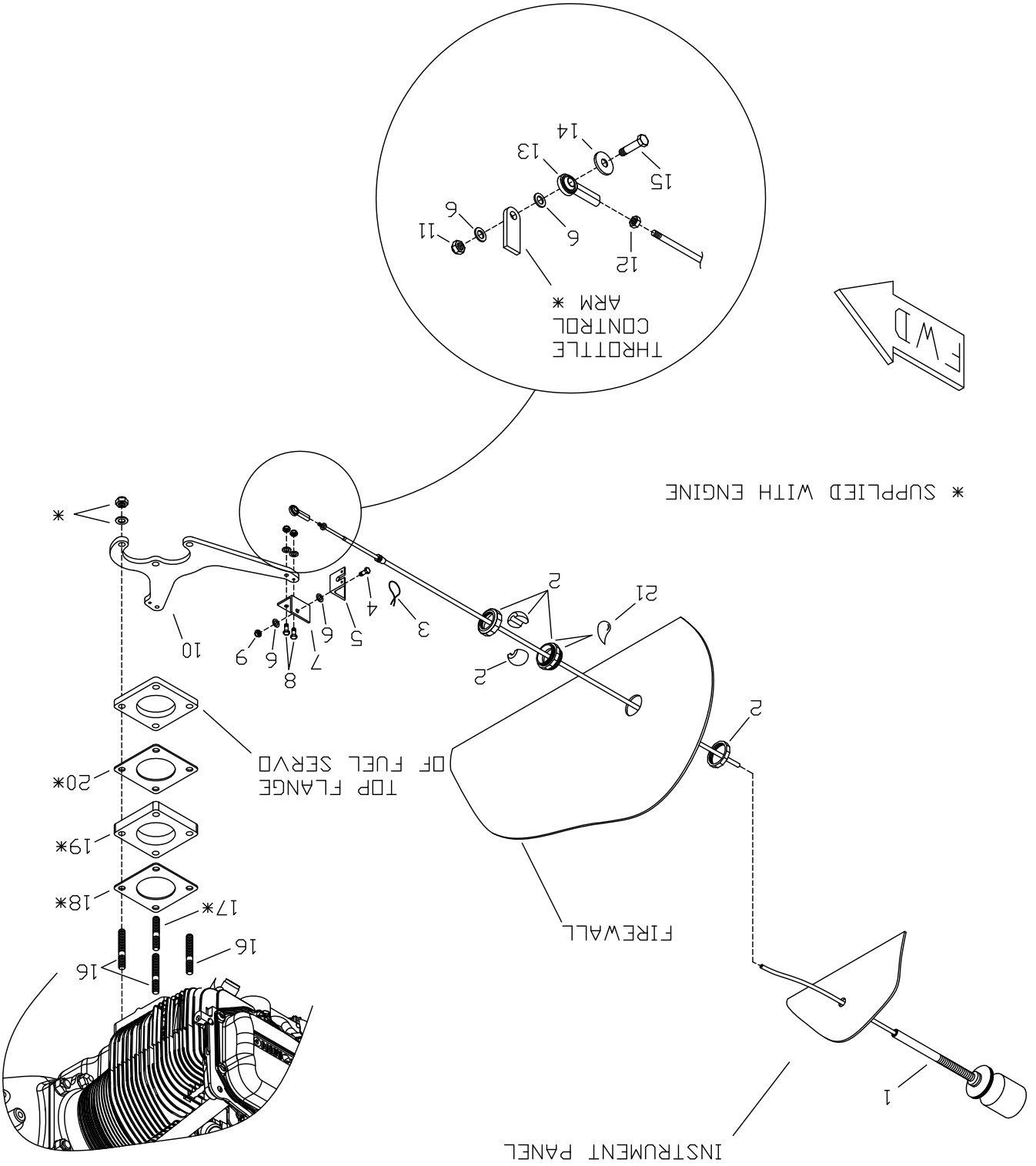
PAGE 011E-04 / TITAN340

## TITAN X-340 - CABIN HEATER INSTALLATION

| #   | DESCRIPTION                            | PART NUMBER | QUANTITY |
|-----|----------------------------------------|-------------|----------|
| 1.  | Control Cable                          | 4-336       | 1        |
| 2.  | Cable Friction Block                   | T-STOP      | 1        |
| 3.  | Socket Head Cap Screw                  | T-SC        | 1        |
| 4.  | 3/16" Rubber Grommet                   | KSAC0002    | 1        |
| 5.  | 3/16" Shear Nut                        | AN364-1032A | 2        |
| 6.  | 3/16" Large Washer                     | AN970-3     | 2        |
| 7.  | Heater Tri-Box                         | KSSY0005    | 1        |
| 8.  | 3/16" Thin Washer                      | AN960-10L   | 4        |
| 9.  | 3/16" Bolt                             | AN3-3A      | 2        |
| 10. | Loctite Blue *                         | -----       | 0        |
| 11. | Cable Swivel Stop & Screw              | 2361        | 1        |
| 12. | Cable Housing Swivel Stop              | KPBS0009    | 1        |
| 13. | Safety Wire *                          | -----       | 0        |
| 14. | 1/4" Thick Washer                      | AN960-416   | 2        |
| 15. | Cable Housing Swivel Stop Bracket      | KPBS0010    | 1        |
| 16. | 3/16" Stainless Steel Rivet - Cherry Q | CCPQ-62     | 2        |
| 17. | Small Cotter Pin                       | MS24665-134 | 1        |
| 18. | Plastic Tie - 7.5"                     | N-TIES      | 4        |

\* Builder Supplied

9/11/2018  
REV. - ORIG



# RPN S-21 OUTBOUND TITAN X-340 THROTTLE ASSEMBLY

MDS645  
REV. A

# RANS S-21 OUTBOUND

## TITAN X-340 - THROTTLE ASSEMBLY

PAGE 011F-02 / TITAN340

| #   | DESCRIPTION                         | PART NUMBER | QUANTITY |
|-----|-------------------------------------|-------------|----------|
| 1.  | Throttle Control Cable              | KSCS0028    | 1        |
| 2.  | Eyeball Firewall Fitting            | KSHW0118    | 1        |
| 3.  | Safety Wire *                       | -----       | 0        |
| 4.  | 3/16" Bolt                          | AN3-4A      | 1        |
| 5.  | Teleflex Retainer                   | W-TEL-R     | 1        |
| 6.  | 3/16" Thin Washer                   | AN960-10L   | 6        |
| 7.  | Retainer Angle - 1" x 1" x 1.25" ** | KPPW0341    | 1        |
| 8.  | 3/16" Bolt                          | AN3-5A      | 2        |
| 9.  | 3/16" Shear Nut                     | AN364-1032A | 3        |
| 10. | Throttle / Mixture Control Mount    | KPPW0340    | 1        |
| 11. | 3/16" Shear Nut - Steel             | AN364-1032C | 1        |
| 12. | 3/16" Plain Nut                     | AN345-10    | 1        |
| 13. | Female Rod End                      | NF-3        | 1        |
| 14. | #10 Washer - Stainless Steel        | BSHW0022    | 1        |
| 15. | 3/16" Bolt                          | AN3-7A      | 1        |
| 16. | Fuel Servo Mount Stud - Longer      | KSHW0114    | 3        |
| 17. | Fuel Servo Mount Stud - Long ***    | -----       | 0        |
| 18. | Gasket ***                          | -----       | 0        |
| 19. | Fuel Servo Spacer ***               | -----       | 0        |
| 20. | Gasket ***                          | -----       | 0        |
| 21. | Loctite Blue *                      | -----       | 0        |

\* Builder Supplied

\*\* Builder Modifies

\*\*\* Supplied with Engine

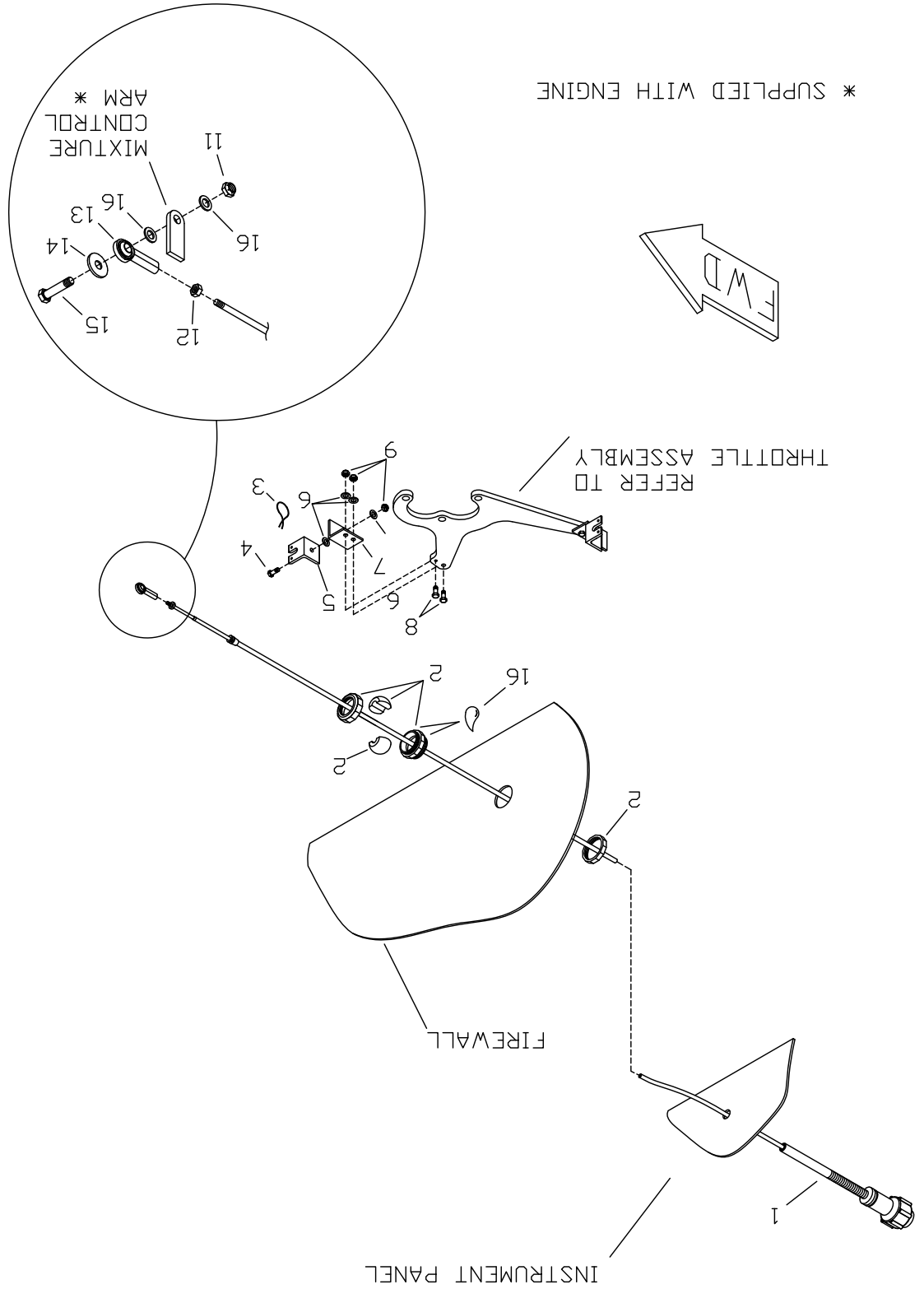
9/11/2018

REV. A

# RMS S-21 OUTBOUND TITAN X-340 MIXTURE CONTROL ASSEMBLY

09/11/2018

MDS645  
REV. A



# RANS S-21 OUTBOUND

PAGE 011G-02 / TITAN340

## TITAN X-340 - MIXTURE CONTROL ASSEMBLY

| #   | DESCRIPTION                         | PART NUMBER | QUANTITY |
|-----|-------------------------------------|-------------|----------|
| 1.  | Mixture Control Cable               | KSCS0029    | 1        |
| 2.  | Eyeball Firewall Fitting            | KSHW0118    | 1        |
| 3.  | Safety Wire *                       | -----       | 0        |
| 4.  | 3/16" Bolt                          | AN3-4A      | 1        |
| 5.  | Teleflex Retainer                   | W-TEL-R     | 1        |
| 6.  | 3/16" Thin Washer                   | AN960-10L   | 4        |
| 7.  | Retainer Angle - 1" x 1" x 1.25" ** | KPPW0341    | 0        |
| 8.  | 3/16" Bolt                          | AN3-5A      | 2        |
| 9.  | 3/16" Shear Nut                     | AN364-1032A | 3        |
| 10. | 3/16" Thick Washer                  | AN960-10    | 2        |
| 11. | 3/16" Shear Nut - Steel             | AN364-1032C | 1        |
| 12. | 3/16" Plain Nut                     | AN345-10    | 1        |
| 13. | Female Rod End                      | NF-3        | 1        |
| 14. | #10 Washer - Stainless Steel        | BSHW0022    | 1        |
| 15. | 3/16" Bolt                          | AN3-10A     | 1        |
| 16. | Loctite Blue *                      | -----       | 0        |

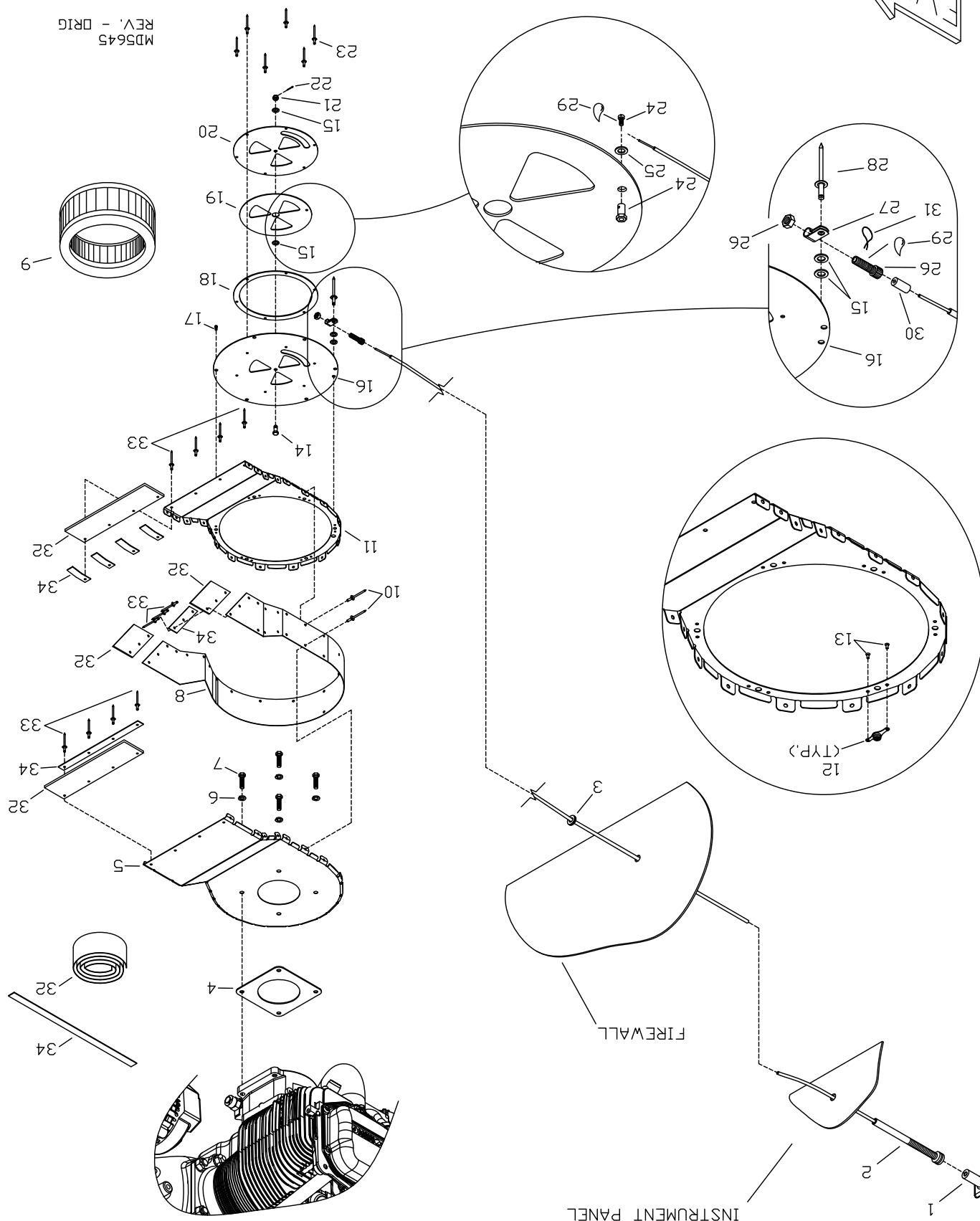
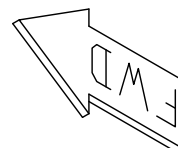
\* Builder Supplied

\*\* Builder Modifies

9/11/2018

REV. A

## RRMS S-21 OUTBOUND



# RANS S-21 OUTBOUND

PAGE 011H-02 / TITAN340

## TITAN X-340 - AIRBOX ASSEMBLY

| #   | DESCRIPTION                             | PART NUMBER  | QUANTITY |
|-----|-----------------------------------------|--------------|----------|
| 1.  | Alternate Air Knob                      | KSCS0032     | 1        |
| 2.  | Alternate Air Control Cable Assembly    | KSCS0030     | 1        |
| 3.  | 3/16" Rubber Grommet                    | KSAC0002     | 1        |
| 4.  | Gasket *                                | -----        | 0        |
| 5.  | Airbox Top                              | KPPW0333     | 1        |
| 6.  | 1/4" Loc Washer                         | AN935-416L   | 4        |
| 7.  | 1/4" Hex Head Cap Screw - course x .75" | KSHW0069     | 4        |
| 8.  | Airbox Side                             | KPPW0337     | 1        |
| 9.  | Air Filter                              | KSPW0113     | 1        |
| 10. | 1/8" Aluminum Rivet - Cherry Q          | AAPQ-41      | 38       |
| 11. | Airbox Bottom                           | KPPW0334     | 1        |
| 12. | 8-32 Nut Plate                          | MS21047-08   | 6        |
| 13. | 3/32" Solid Rivet - Flush               | AN426AD-3-5  | 12       |
| 14. | 3/16" Bolt - Drilled Shank              | AN3-4        | 1        |
| 15. | 3/16" Thick Washer                      | AN960-10     | 4        |
| 16. | Airbox Filter Cover                     | KPPW0335     | 1        |
| 17. | 8-32 Machine Screw                      | AN526-832R6  | 6        |
| 18. | Alternate Air Spacer Ring               | KPPW0336     | 1        |
| 19. | Alternate Air Valve                     | KPPW0339     | 1        |
| 20. | Alternate Air Valve Retainer            | KPPW0338     | 1        |
| 21. | 3/16" Castle Nut                        | AN310-3      | 1        |
| 22. | Small Cotter Pin                        | MS24665-134  | 1        |
| 23. | 1/8" Aluminum Rivet - Cherry Q          | AAPQ-42      | 6        |
| 24. | Cable Swivel Stop & Screw               | 2361         | 1        |
| 25. | 1/4" Thin Washer                        | AN960-416L   | 1        |
| 26. | Adjustable Cable Ferrule                | 12553        | 1        |
| 27. | 1/4" Plain Clamp                        | AN742-D4     | 1        |
| 28. | 3/16" Aluminum Rivet - Cherry Q         | AAPQ-64      | 1        |
| 29. | Loctite Blue **                         | -----        | 0        |
| 30. | Cable Housing Endcap                    | ENDCAP-12000 | 1        |
| 31. | Safety Wire **                          | -----        | 0        |
| 32. | Baffle Seal Material ***                | KPPW0328     | 0        |
| 33. | 1/8" Aluminum Rivet - Avex              | 1691-0410    | 14       |
| 34. | Baffle Seal Capture Strip ***           | KPPW0343     | 0        |

\*Supplied with Injector Fuel Servo

\*\* Builder Supplied

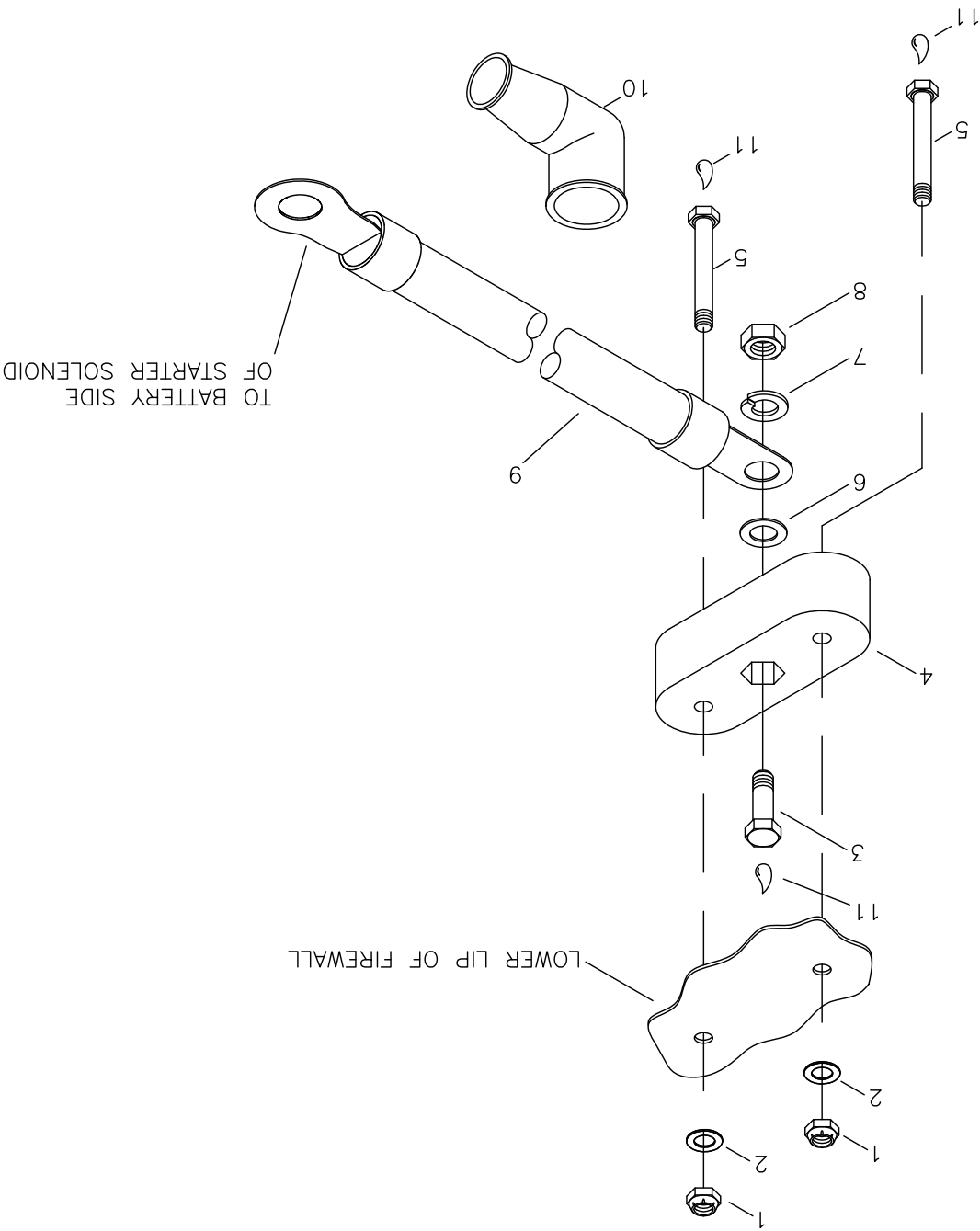
\*\*\* Builder Modifies

9/11/2018

REV. - ORIG

OPTIONS - REMOTE CHARGING POST INSTALLATION  
TITAN X-340  
RAMP S-21 OUTBOUND

MD5501  
REV. - ORIG



# RANS S-21 OUTBOUND

PAGE 011I-06 / TITAN340

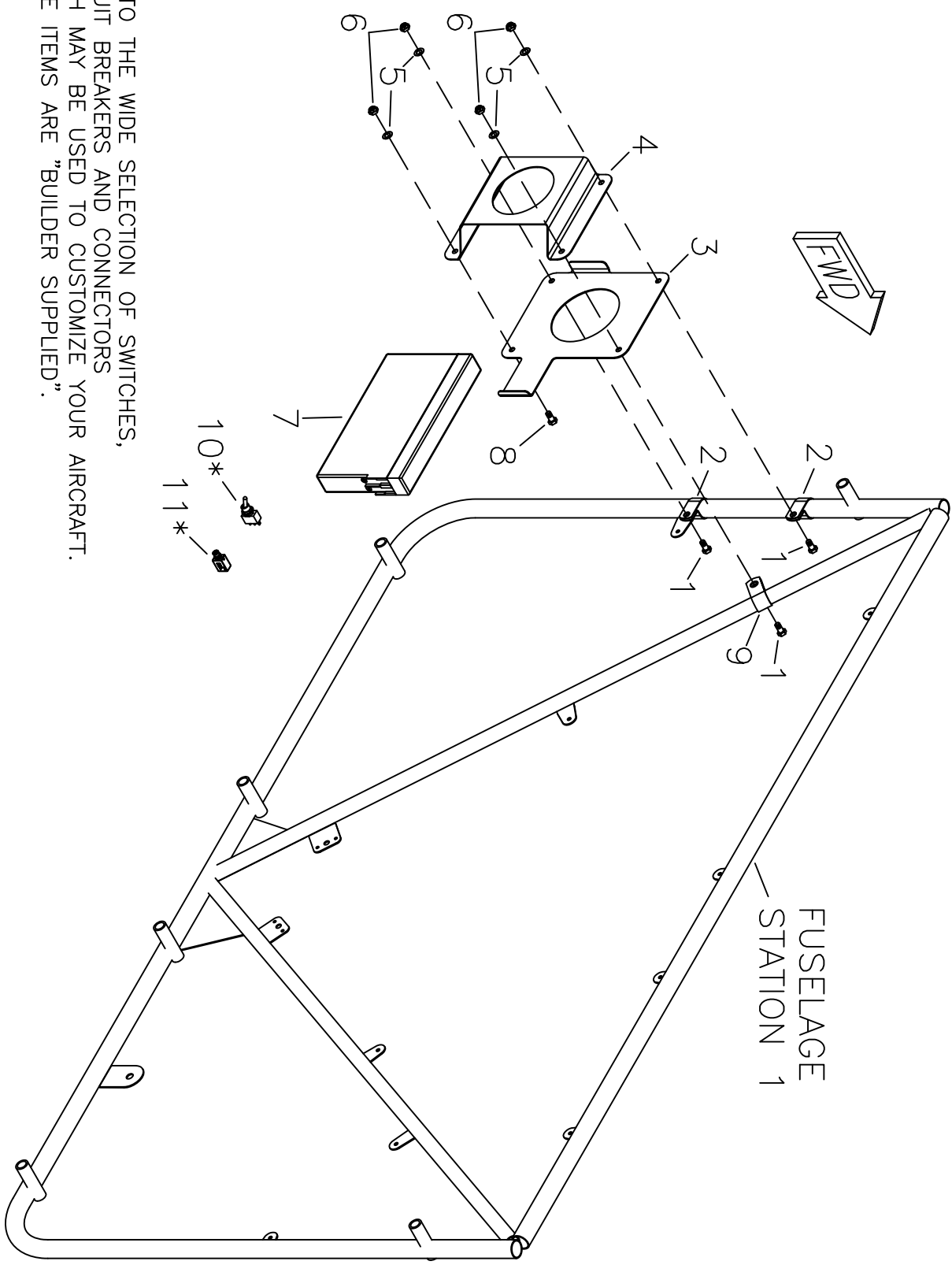
## TITAN X-340 - OPTIONS - REMOTE CHARGING POST

KPES0043

| #   | DESCRIPTION                  | PART NUMBER  | QUANTITY |
|-----|------------------------------|--------------|----------|
| 1.  | 3/16" Shear Nut -Steel       | AN364-1032C  | 2        |
| 2.  | 3/16" Thin Washer            | AN960-10L    | 2        |
| 3.  | 1/4" Plain Bolt              | 1/4 X 1 BOLT | 1        |
| 4.  | Isolator Block               | KPES0026     | 1        |
| 5.  | 3/16" Bolt                   | AN3-7A       | 2        |
| 6.  | 1/4" Thick Washer            | AN960-416    | 1        |
| 7.  | 1/4" Loc Washer              | AN935-416L   | 1        |
| 8.  | 1/4" Plain Nut               | AN345-416    | 1        |
| 9.  | Remote Battery Charger Cable | KAES0023     | 1        |
| 10. | Terminal Boot                | MS25171-3S   | 1        |
| 11. | Silicone Seal *              | -----        | 0        |

\* Builder Supplied

9/11/2018  
REV. - ORIG



\* DUE TO THE WIDE SELECTION OF SWITCHES, CIRCUIT BREAKERS AND CONNECTORS WHICH MAY BE USED TO CUSTOMIZE YOUR AIRCRAFT. THESE ITEMS ARE "BUILDER SUPPLIED".

RFD S-21 OUTBOUND

TITAN X-340

OPTIONS - IGNITION BACKUP BATTERY INSTALLATION

MD5501  
REV. - ORIG

# RANS S-21 OUTBOUND

PAGE 011I-08 / TITAN340

## TITAN X-340 - OPTIONS - IGNITION BACKUP BATTERY INSTALLATION

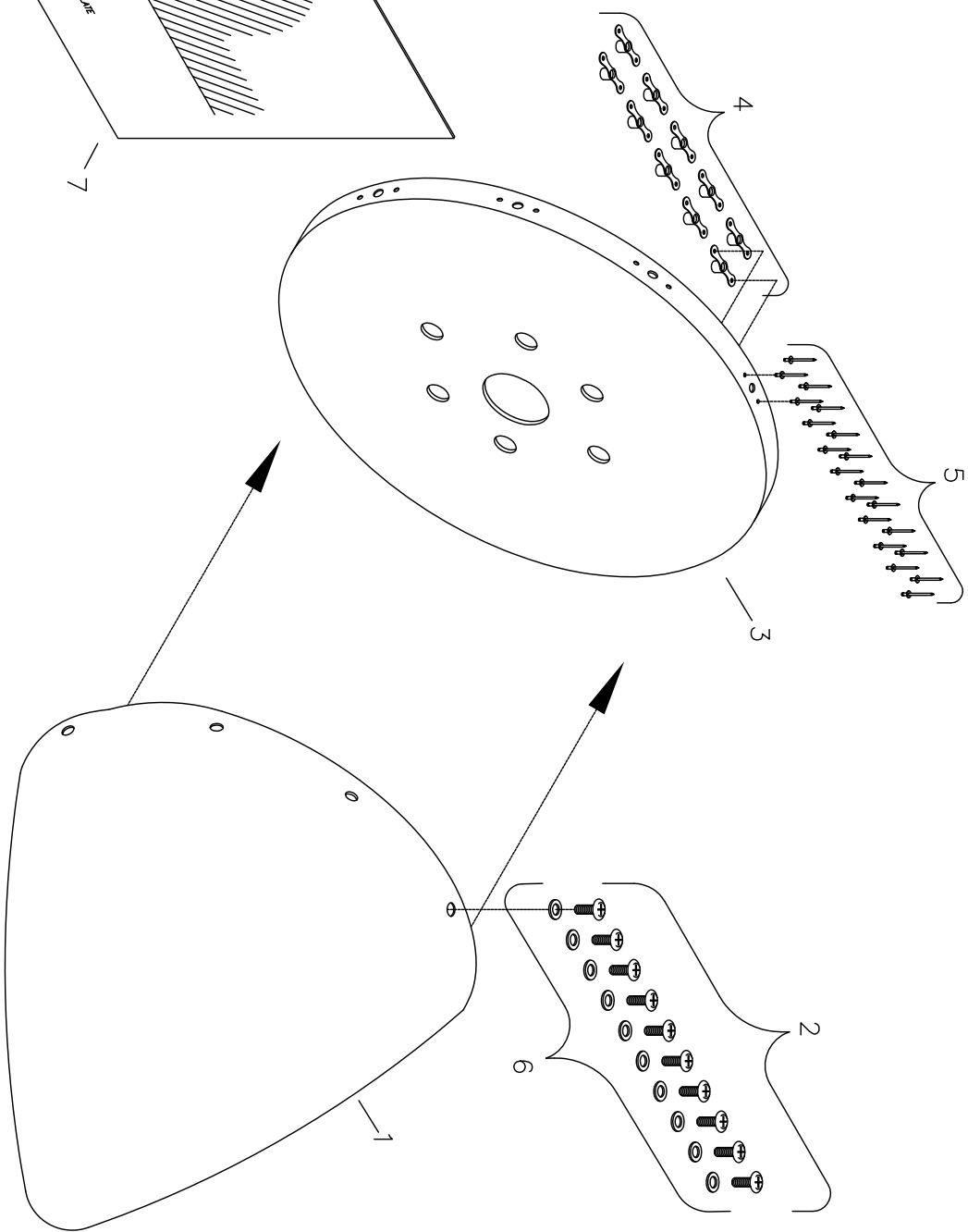
KPES0044

| #   | DESCRIPTION                | PART NUMBER | QUANTITY |
|-----|----------------------------|-------------|----------|
| 1.  | 3/16" Bolt                 | AN3-4A      | 3        |
| 2.  | 5/8" Plain Clamp           | AN742-D10   | 2        |
| 3.  | Backup Battery Mount Plate | KPES0041    | 1        |
| 4.  | Backup Battery Cover       | KPES0042    | 1        |
| 5.  | 3/16" Thick Washer         | AN960-10    | 4        |
| 6.  | 3/16" Shear Nut            | AN364-1032A | 4        |
| 7.  | Backup Battery             | KSES0078    | 1        |
| 8.  | 3/16" Bolt                 | AN3-3A      | 1        |
| 9.  | 1/2" Plain Clamp           | AN742-D8    | 1        |
| 10. | SPDT Switch (ON-ON) *      | -----       | 0        |
| 11. | 10 Amp Breaker *           | -----       | 0        |

\* Builder Supplied

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NOTE: PROP EXTENSION REQUIRED.  
REFER TO PROPELLER INSTALLATION



**REDUCED S-21 OUTBOUND**  
**TITAN X-340**  
**13" SPINNER ASSEMBLY**

# RANS S-21 OUTBOUND

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## TITAN X-340 - 13" SPINNER ASSEMBLY

KAPR0001

| #  | DESCRIPTION                         | PART NUMBER | QUANTITY |
|----|-------------------------------------|-------------|----------|
| 1. | Spinner Dome - 13"                  | KPPW0232    | 1        |
| 2. | Pan Head Phillips Bolt (5/8" long)  | KSHW0071    | 10       |
| 3. | Spinner Backing Plate - 13" (SAE#2) | KPPW0305    | 1        |
| 4. | 3/16" Nut Plate                     | K-1000-3    | 10       |
| 5. | 3/32" Aluminum Rivet                | 40APR1/4    | 20       |
| 6. | 3/16" Thin Washer                   | AN960-10L   | 10       |
| 7. | Spinner Cut-out Template *          | -----       | 0        |

\* Refer to Figures Manual for Spinner Cut-out Template

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Exploded view diagram of a propeller spinner assembly. The diagram shows the following components and their assembly sequence:

- 1**: Propeller spinner cap.
- 2**: Propeller spinner nut.
- 3**: Propeller spinner washer.
- 4**: Propeller spinner lock washer.
- 5**: Propeller spinner lock nut.
- 6**: Propeller spinner lock washer.
- 7\***: Propeller spinner lock nut (indicated as a separate part).
- 8\***: Propeller spinner lock nut (indicated as a separate part).
- 9**: Propeller spinner lock nut.
- 10**: Propeller spinner lock nut.

The diagram includes a note: "IMPORTANT: INSTALLATION OF COWLING REQUIRES BOOT COWL, ENGINE, STARTER RING, PROP EXTENSION AND SPINNER BACKING PLATE TO BE INSTALLED."

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# RANS S-21 OUTBOUND

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## TITAN X-340 - COWLING ASSEMBLY & INSTALLATION

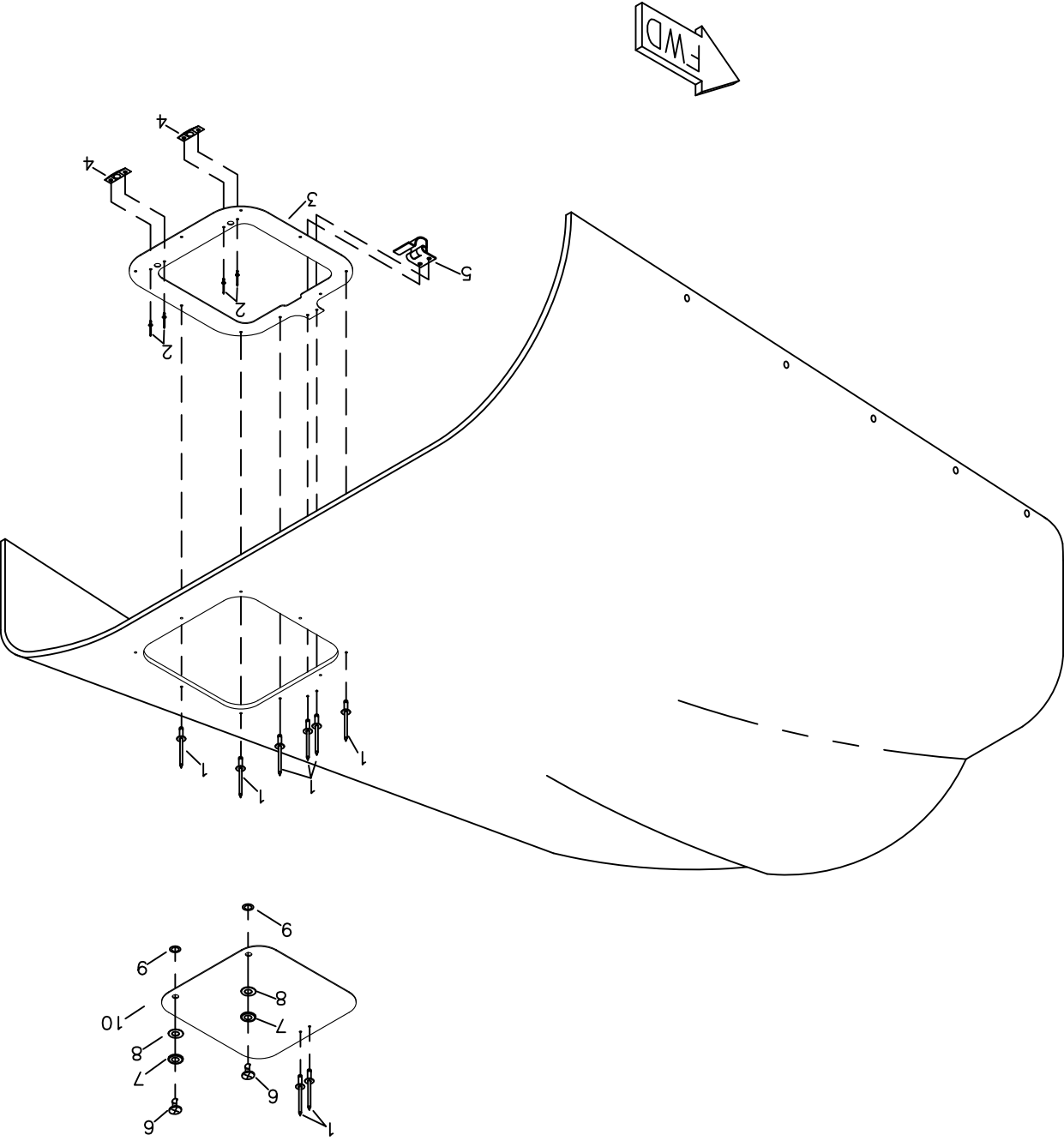
| #   | DESCRIPTION                   | PART NUMBER | QUANTITY |
|-----|-------------------------------|-------------|----------|
| 1.  | 3/32" Aluminum Rivet          | 40APR1/4    | 82       |
| 2.  | 1/4 Turn Receptacle           | #302        | 37       |
| 3.  | 1/4 Turn Stud *               | #220        | 1        |
| 3.  | 1/4 Turn Stud *               | #180        | 13       |
| 3.  | 1/4 Turn Stud *               | #240        | 3        |
| 3.  | 1/4 Turn Stud *               | #200        | 17       |
| 4.  | Rubber Washer                 | #201        | 37       |
| 5.  | Wear Washer Nylon             | #103        | 37       |
| 6.  | Snap Ring                     | #101        | 37       |
| 7.  | Cowling - Upper - Titan X-340 | KPCW0049    | 1        |
| 8.  | Cowling - Lower - Titan X-340 | KPCW0050    | 1        |
| 9.  | 8-32 Nut Plate                | MS21047-08  | 4        |
| 10. | #8 Truss Head Screw           | AN515-8R7   | 4        |

\* Use as needed for secure attachment

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RRR S-21 OUTBOUND  
TITAN X-340  
OIL CHECK DOOR INSTALLATION

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# RANS S-21 OUTBOUND

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## TITAN X-340 - OIL CHECK DOOR INSTALLATION

| #   | DESCRIPTION                | PART NUMBER | QUANTITY |
|-----|----------------------------|-------------|----------|
| 1.  | 1/8" Aluminum Rivet - Avex | 1691-0410   | 13       |
| 2.  | 3/32" Aluminum Rivet       | 40APR1/4    | 4        |
| 3.  | Oil Door Frame             | KPCW0048    | 1        |
| 4.  | 1/4 Turn Receptacle        | #302        | 2        |
| 5.  | Oil Door Hinge             | KSHW0053    | 1        |
| 6.  | 1/4 Turn Stud              | #180        | 2        |
| 7.  | Rubber Washer              | #201        | 2        |
| 8.  | Wear Washer Nylon          | #103        | 2        |
| 9.  | Snap Ring                  | #101        | 2        |
| 10. | Oil Door                   | KPCW0047    | 1        |



# RANS S-21 OUTBOUND

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## TITAN X-340 - WHIRLWIND PROPELLER INSTALLATION

| #  | DESCRIPTION                              | PART NUMBER | QUANTITY |
|----|------------------------------------------|-------------|----------|
| 1. | 2-Blade - Propeller (TRIKE ONLY) *       | KSPR0003    | 1        |
| 1. | 2-Blade - Propeller (TAILDRAGGER ONLY) * | KSPR0004    | 1        |
| 2. | Spinner Backing Plate - 13" **           | -----       | 0        |
| 3. | 4" Prop Extension Assembly (SAE#2) *     | KSPW0108    | 1        |

\* Mounting Hardware included with Prop or Extension Assembly

\*\* Referenced from Spinner Assembly

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