

Figure 1: Installation Schematic with IO470  
Right side of Nose Wheel Well  
(C-1250922-3 adapter shown for illustration)

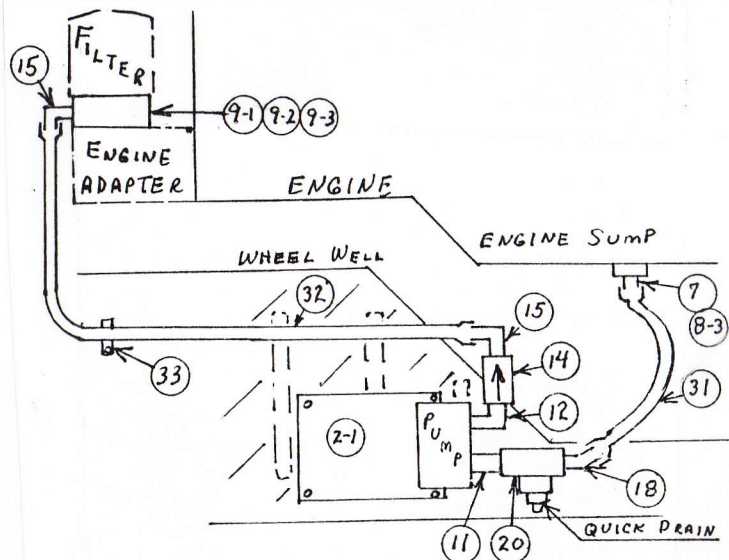


Figure 2: Installation Schematic - Primary installation  
with IO520 or 550. Right side of Nose Wheel Well

PARTS LIST FOR BEECH 33, 35 & 36

Item #	Part No.	Part Name	No. Required	Remarks
1-1	720403-13	Pump/Motor Assembly - 12 volt	1	Oilamatic
1-2	720403-14	Pump/Motor Assembly - 24 volt	1	Oilamatic
2-1	720408-11	Mounting plate - 3.5 x 5.5	1 p	Oilamatic
2-2	720408-22	Spacer/Stiffener	2 p	Oilamatic
2-3	720403-24	Stiffener	2 p	Oilamatic
3-1	356408-1	Mounting Plate - 3.0 x 7.0	1 s	Oilamatic
3-2	356408-2	Mounting bracket (forward)	1 s	Oilamatic
3-3	356408-3	Mounting bracket (aft)	1 s	Oilamatic
4	AN 3-4A	Bolt	1	(ground)
5-1	AN 3-5A	Bolt	5 p, 9 s	
5-2	AN 960-10	Washer	12 p, 20 s	
5-3	AN 363-1032	Lock nut	6 p, 10 s	
6-1	AN 4-5A	Bolt	2 o	
6-2	AN 960-416	Washer	4 o	
6-3	AN 363-428	LockNut	2 o	
7	820411-1	Sump Adapter	1 p	
8-1	830411	Sump Adapter- B Type	1 s	Oilamatic
8-2	830412	Adapter Fitting-B Type	1 s	Oilamatic
8-3	830413	Gasket-Type A	2	Oilamatic
8-4	AN 901-8A	Gasket	1 s	
9-1	720412-12	Filter Adapter - Type G	1 p	Oilamatic
9-2	720414-12	Adapter Fitting	1 p	Oilamatic
9-3	720413	Gasket -Type G	1 p	Duralon® 8500
10-1	C5255	Filter Adapter (STC SE00005DE)	1 aa	Oilamatic
10-2	SA 632266	Gasket (STC SE00005DE)	1 aa	Oilamatic
11	SAE 140137-6S	Nipple - Pipe to pipe	1 p	
12	SAE 140237-4S	90° Elbow - Pipe to pipe	1 p	
13	SAE 140337-4S	45° Elbow - Pipe to pipe	1 s	
14	406A-1	Check valve	1	Kepner
15	SAE 070202-4-6S	90° Elbow - Pipe to flare	2 p, 1 s	
16	SAE 070202-6-6S	90° Elbow - Pipe to flare	1 pf	
17	SAE 070302-4-6S	45° Elbow - Pipe to flare	1 s	
18	SAE 720302-6-8S	45° Elbow - Pipe to flare	1 p	
19	SAE 070202-6-8S	90° Elbow - Pipe to flare	1 s	
20	820408-2	Suction T-fitting	1 p	Oilamatic
21	820409-1	Suction T-fitting	1 s	Oilamatic
22-1	8811K17	Switch	1	MS 35058-30
22-2	820415-3	Placard-Control Switch	1	Oilamatic
23-1	7105KZQE	Switch	1 o	Optional switch
23-2	820416	Placard-Switch	1 o	Optional placard
24	1N4004	Diode	1 p	
25	2-541	Terminal Block	1 p	Cinch
26-1	70-914	Contactor - 12 volt	1 o	12 volt only
26-2	70-914	Contactor - 24 volt	1 o	24 volt only
27	W23-X1A1G-20	Circuit Breaker	1 p	P & B
28-1	HFB	Fuse holder	1 o	
28-2	AGC15	Fuse	1 o	
29	Mil W-22759/16-22	22 Ga. Wire - electric	ar o	
30	Mil W-22759/16-14	14 Ga. Wire - electric	ar	
31	(TBD)	Suction Hose	as	See Note 9
32	(TBD)	Output Hose	as	See Note 10
33	MS21919 DGXX	Hose clamp	1	
34	110001	Operating Limitation Placard	1	Oilamatic
35	8-32x½	Cap screws	4 p	
36	RB14-6	Ring Terminal	6 p	Thomas&Betts
37	RB14-8	Ring Terminal	3 p, 1 o	Thomas&Betts
38	RB14-10	Ring Terminal	1	Thomas&Betts
39	RB14-14	Ring Terminal	2 o	Thomas&Betts
40	RB14-516	Ring Terminal	3 o	Thomas&Betts
41-1	RA18-6	Ring Terminal	2 p, 1 o	Thomas&Betts
41-2	RA18-10	Ring Terminal	1 o	Thomas&Betts
42	2RA18	Butt Splice	2 o	Thomas&Betts
43	2RB14	Butt Splice	2	Thomas&Betts
44	MS 25171-1	Insulator	3 o	

aa = (IO 520/550 only) See STC SE00005DE ar = as required p = Primary mounting  
 pf = Primary with filter adapter # 1250922-3 as = as specified s = Secondary mounting  
 o = optional wiring with contactor XX = clamp size based on hose  
 (TBD) = To Be Determined. See Note 7, p 3 for hose specs.

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CHANGE

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A 10-23-92  
B 7-1-97

DRAWING TITLE

PROPELLER INSTALLATION

DRAWN BY

GEORGE R. MCCRILLIS

DRAWING NUMBER

356401

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SHEET OF 7

BEECH BONANZA MODELS 33, 35 & 36 WITH CONT. O/IO-470, IO520 OR IO550 ENGINE:  
 READ ALL INSTRUCTIONS AND NOTES BEFORE PROCEEDING. COMPATIBILITY WITH  
 OTHER MODIFICATIONS MUST BE DETERMINED BY INSTALLER PER STC "LIMITATIONS  
 AND CONDITIONS".

A-1. PRIMARY INSTALLATION: PUMP/MOTOR ON RIGHT SIDE WHEEL WELL.

1. Install 90° elbow-Pipe to pipe (11) in pump outlet. Install Check valve (14) on elbow. **CAUTION:** Ensure that flow arrow on check valve points away from pump. Install 90° elbow-Pipe to flare (15) in Check valve. Install Nipple-Pipe to pipe (11) in Pump inlet. Install Suction T-fitting (20) on nipple. Install 45° Elbow-Pipe to flare (18) in forward end of T-fitting.
2. Using Pump Mounting Plate-3.5 x 5.5 (2-1) as template, drill four .203 in. holes.
3. Mount Pump/Motor Assembly using Spacer/Stiffener (2-2), Stiffener (2-3) and hardware (5-1, -2 & -3)). Note: Item 2-3 (Stiffener) may be mounted either vertical or horizontal and trimmed as necessary.

A-2. SECONDARY INSTALLATION: PUMP/MOTOR ON LEFT NACELLE RIBS.

1. Install Suction T-fitting (21) in Pump inlet, Install 90° fitting-Pipe to flare (19) in side of T-fitting. Install 45° Elbow - Pipe to pipe (13) in Pump outlet. Install Check valve (14) on elbow. **CAUTION:** Ensure that flow arrow on check valve points away from pump. Install 45° Elbow-Pipe to flare (17) in check valve.
2. Using Mounting Plate-3.0 x 7.0 (3-1) with Mounting brackets (forward and aft) (3-2 & -3) as template, drill four .203 in. holes in nacelle ribs.
3. Mount Pump/Motor Assembly using hardware (5-1, -2 & -3).

B-1 PRIMARY INSTALLATION: INSTALL SUCTION HOSE.

1. Drain engine oil and remove drain plug quick drain.
2. Install Sump Adapter (7) with Gasket-Type A (8-3) in drain port. Tighten to 20 foot pounds; torque and safety wire.
3. Install Suction Hose (31). See Note 9 for hose length and configuration.
4. Install quick drain in side port of Suction T-fitting using Gasket-Type A (8-3). Tighten to 20 foot pounds; torque and safety wire.

B-2 SECONDARY INSTALLATION: INSTALL SUCTION HOSE.

1. Drain engine oil and remove drain plug quick drain.
2. Apply very light coat of "Tite Seal" to Gaskets (8-3 & -4). Assemble Sump Adapter-B Type (8-1), Adapter Fitting-B Type (8-2) and Gaskets. Install in sump drain port. Tighten to finger tight.
3. Install Suction Hose (31). See Note 9 for hose length and configuration.
4. Tight sump adapter to 20 foot pounds; torque and safety wire.
5. Install quick drain in aft port of Suction T-fitting using Gasket-Type A (8-3). Tighten to 20 foot pounds; torque and safety wire.

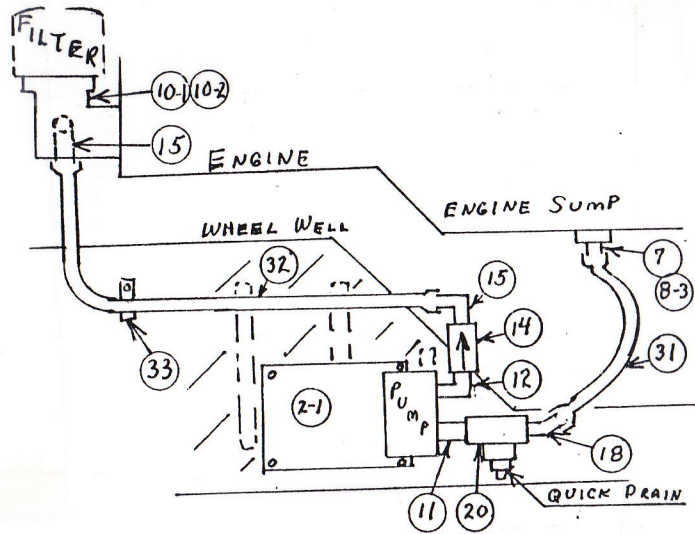


Figure 3: Installation Schematic - Primary installation with IO520 or 550 and C5255 adapter installed under STC SE00005DE. Right side of Nose Wheel Well

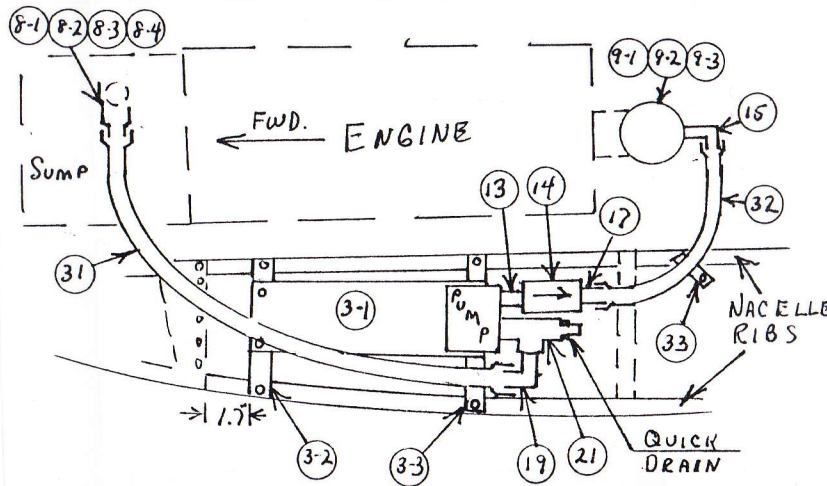


Figure 4: Installation Schematic - Secondary installation with IO520 or 550. Left side on Nacelle Ribs. View looking Downward.

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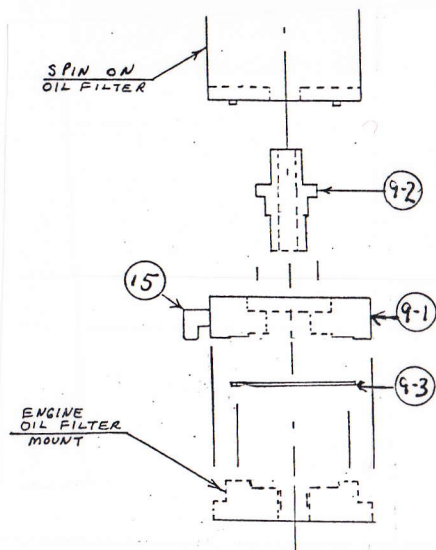


Figure 7: Oil Filter Adapter - Type G Assembly

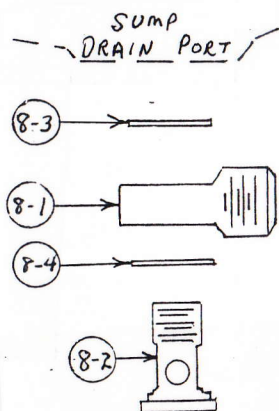


Figure 8: Sump Adapter - B-Type Assembly on Oil Sump Secondary Installation

NOTES for Beech Models 33, 35 & 36 Unless otherwise indicated:

1. Do not scale these drawings for dimensions.
2. Break all sharp edges .003 - .005 and remove all burrs and slivers.
3. Dimensions are in inches and tolerances are as shown below.
 

<u>Tolerances</u>	
decimals	angles
XXX ± .005	± 1°
XX ± .03	
X ± .1	
4. Apply two coats of zinc chromate primer to all exposed steel - except stainless steel - and aluminum surfaces of fabricated parts not previously plated or anodized, respectively.
5. Complete installation is accomplished using standard practices. There are no special or unique procedures, techniques or fabrications required.
6. Certification basis for this aircraft is CAR 3.
7. Hydraulic hoses must meet the requirements of TSO C53a Type C (Fire resistant). All manufacturers' hoses and hose fittings meeting this standard are authorized. Hose fittings to be installed per hose manufacturer's specifications.
 

Examples:

  - A. Hoses with slip on silicone-fiberglass FIRE SLEEVE
    1. Stratoflex 111F, 124F, 156F OR 170F
    2. Aeroquip 303, 666, or 701 with FIRE SLEEVE added
  - B. Hoses with integral silicone fire protection cover
    1. Stratoflex 124H, 124J or 156H
    2. Aeroquip AE401 or AE466
8. AN, MS, SAE or equivalent steel fittings are authorized. Use sealant on pipe threads only.
9. Suction inlet hose - 1/2 inch (-8). Length as factory ordered. Confirm length before ordering. Primary installation: Length = 18 in.; 45° elbow to sump and straight fitting to pump. Secondary installation: Length = 24 in.; Both ends straight.
10. Pump output hose - 3/8 inch (-6). Length as factory ordered. Confirm length before ordering. Primary installation:
  - a. O/IO-470 with adapter (#1250922-3), Length = 18 in.; Both ends straight.
  - b. O/IO-470 with Integral adapter, Length = 16 in.; Both ends straight.
  - c. O/IO-520/550 with primary adapter, Length = 30 in.; Both ends straight
  - d. O/IO-520/550 with adapter (STC SE00005DE) Length = 34 in.; Both ends straight.
 Secondary installation (O520 only): Length = 24 in.; Both ends straight.
11. All wire to be per MIL-W-22759/16. Route wire with existing bundles where possible. Install all switches and fuse holders in accordance with the manufacturer's instructions using hardware furnished with each component. Secure all wires and fuse holder with Ty-wraps.
12. Installation on aircraft with IO 470L engine requires an oil filter adapter for spin oil filter with an internal by pass valve. Installations with adapter #C1250922-2 or -3 and with modified accessory housing with integral filter adapter are shown in these instructions.
13. Installation on Models 35 through G35 require conversion to a wet sump Continental engine under separate STC.

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D-1 PRIMARY WIRING: POWER SWITCH, GROUND AND LIMITS PLACARD.

1. Install Circuit Breaker (27) in main Circuit Breaker panel. Connect a 14 gage wire (30) from main bus to "Line" post on CB using Ring terminals (37).
2. Make 1/2 in. hole in dash at designated location. Install Switch (22-1) with Switch Placard (22-2). Connect 14 gage wire from "Load" post on CB to upper post on Switch using Ring Terminal (36). Connect wire to lower post, route through firewall and connect to "Plus" (+) wire at Pump using Butt Splice (43).
3. Connect a 14 gage wire from Negative (-) wire on pump using Butt Splice (43) and to aircraft ground using Ring Terminal (38) and Hardware (4, 5-2 & 5-3). Clean connecting surface on aircraft to ensure good electric contact.
4. Install Operating Limitation Placard (34) next to switch.

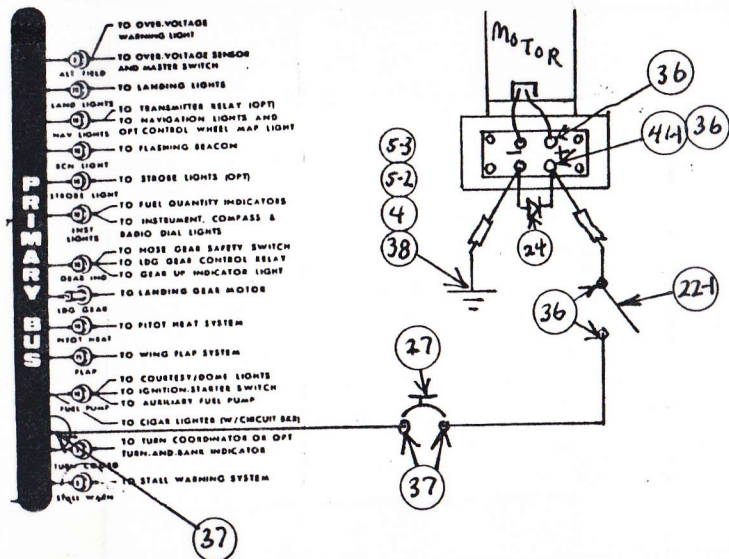


Figure 9: Primary Wiring Diagram - Typical

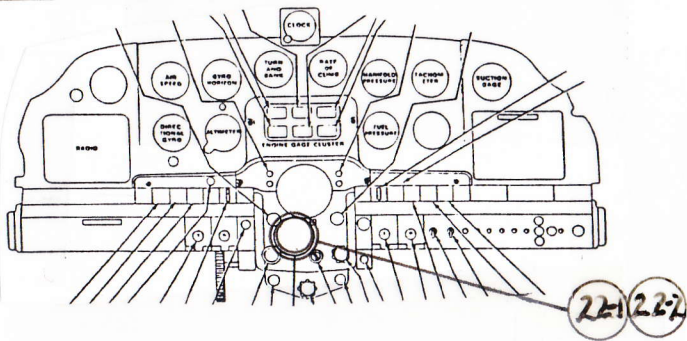


Figure 10: Switch Mounting Location - Typical

D-2 OPTIONAL WIRING: CONTACTOR, SWITCH, GROUND AND LIMITS PLACARD

1. Install Contactor (26) on Pump or on firewall using Hardware (6-1, -2 & -3). For mount on firewall, clean connecting surface on aircraft to ensure good electric contact with base of Contactor.
2. Connect one end of Fuse Holder (28-1) to battery side of engine starter relay using no more than 6 inches of 14 Gage Wire (30) and Ring Terminal (40). Connect 14 gage wire to other end of fuse holder and connect to "Bat" terminal on Contactor using Ring Terminal (40) and Insulator (44). Connect opposite terminal on Contactor to "Plus" wire on pump motor using (40, 42 & 44).
3. Connect a 14 gage wire from Negative (-) wire on pump using Butt Splice (43) to aircraft ground using Ring Terminal (38) and Hardware (4, 5-2 & 5-3). Clean connecting surface on aircraft to ensure good electric contact.
4. Drill 1/4 inch hole in dash at designated location. Install optional Switch (23-1) with optional switch Placard (23-2). Connect a 22 Gage Wire (29) to center terminal on Switch using Butt Splice (42) and to protected side of "Stall Warn" (5 amp) circuit breaker on aircraft primary bus using Ring Terminal (41-1).
5. Connect a 22 gage wire to other terminal on switch, route through firewall and connect to center terminal on Contactor using Ring Terminal (41-2) plus (44).
6. Install Operating Limitation Placard (34) adjacent to Switch.
7. Install Fuse (28-2) and secure fuse holder.

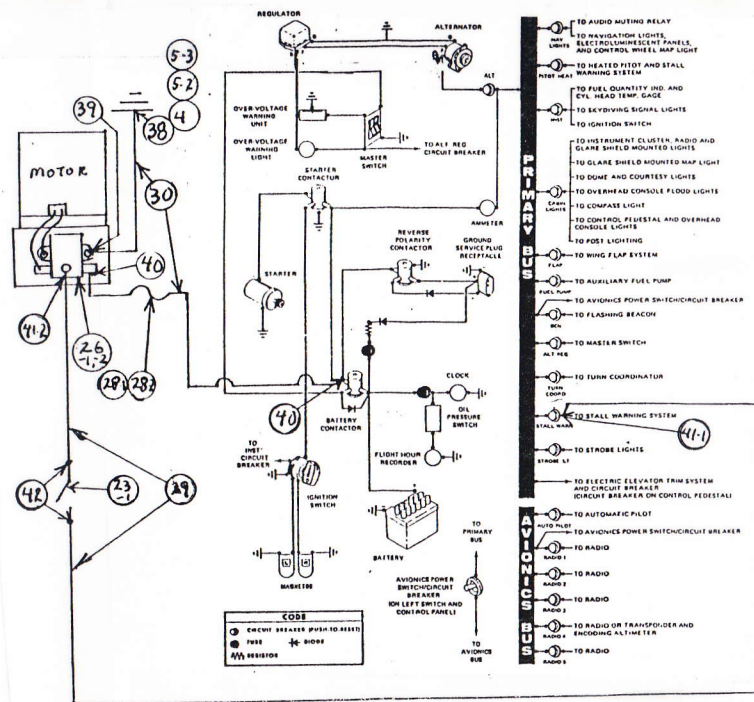


Figure 11: Optional Wiring Diagram - Typical

E. PREPARE AIRCRAFT FOR OPERATION AND OPERATE PREOILER.

1. REFILL ENGINE WITH OIL.
2. COMPLETE AIRCRAFT LOG ENTRIES, FAA FORM 337 AND WEIGHT & BALANCE CALCULATIONS. **Note:** See Flight Manual Supplement for Weight and Balance information.
3. COMPLETE WARRANTY CARD AND RETURN TO OILAMATIC, INC.

F. PREOILER INITIAL OPERATIONAL CHECK

1. Turn aircraft master switch "On" and turn Preoiler switch "On".
2. Check engine oil pressure gage for rise indicating Preoiler has primed and engine is being preoiled.
3. If Preoiler fails to prime within 30 seconds, turn Preoiler "Off", open pump bleed valve ½ turn, turn Preoiler "On" until it primes and oil flows from bleed valve (use hose and container to catch oil), turn Preoiler "Off", tighten bleed valve and operate Preoiler until engine oil pressure stabilizes.
4. Turn Preoiler off and check installation for oil leaks.
5. Refer to Flight Manual Supplement for preoiling prior to engine start.

G. PREOILER MAINTENANCE

1. At each inspection, check hoses, fittings and pump for leaks and for signs of distress.
2. **AVOID SPRAYING HIGH PRESSURE WATER OR CLEANING SOLVENTS DIRECTLY ONTO PUMP OR ELECTRIC MOTOR.**

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