

**Engine Record** General Information

Manufacturer SAP Model XP-400

Serial BPE-11856 Type Certificate N/A

This engine is currently installed in aircraft: RV8A--N838RV

Minimum Octane Fuel \_\_\_\_\_ Oil Grade Summer \_\_\_\_\_ Winter \_\_\_\_\_

Magneto Time \_\_\_\_\_ Point Setting \_\_\_\_\_ Firing Order \_\_\_\_\_

Spark Plug Gap \_\_\_\_\_

Manufacturer's Recommended Overhaul at 2000 hours

**EXPERIMENTAL**

Owner/Pilot: Dane Shegkhan

# EXPERIMENTAL

Log Book Entry  
Engine Model: XP-400  
Serial Number: BPE 11856

Date: 11/30/15  
W.O. 11856

TSN: 0.00

WARNING! This engine is NOT type certified and is to be installed and operated in EXPERIMENTAL type aircraft only!

New Superior XP-400 kit engine P/N IO-400-J4XD9. Engine assembled IAW Textron Lycoming SSP 1776 Table of Limits. See parts list 11856 for additional parts used.

SI, SB Compliance

XPB01

SI 1012G

SB 475C

Rod bolt torque

Counterweight installation

Crank gear fit

Engine fitted with Emag air ignition.

## Limitations:

Oil Pressure-psi

60-90 normal operating, DNE 110 cold start

25 hot idle at 185 deg F, 700-750 rpm

Oil Temp- deg F

140 recommended before flight

180-210 normal operating

245 never exceed

CHT-deg F

300 before full throttle

300-385 normal operating

(maximum service life of cylinder assemblies can be achieved if operated in this range).

500 never exceed

RPM-2700 maximum continuous. Adhere to-prop manufacturers restrictions of applicable. 700-750 recommended idle.

Fuel requirements: 100 LL

Oil requirements: See latest revision of Lycoming SI 1014.

For information about this engine contact:

Barrett Precision Engines, Inc

2870-B North Sheridan Rd

Tulsa, OK 74115

918-835-1089

By:

  
Thomas A. Barrett, authorized signature

FAA-CRS Q8RR231Y

**Barrett Precision Engines Inc**

2870-B N. Sheridan Rd.

Tulsa, OK 74115

(918) 835-1089 phone (918) 835-1754 fax

FAA CRS Q8RR231Y

**Work Order: 11356**  
Acct Number: DSHEAHEN

Sold To: Dane Sheahen

Ship To: Dane Sheahen

**Work Scope:****Work Scope:**

XP-400, S/N BPE-11856

FOR EXPERIMENTAL USE ONLY

Dynafoal I, constant speed, roller tappet engine with forward facing cold air, front governor drive  
Overhauled Bendix System  
Skytec 149 NL starter  
Dual P-mags with auto harness/plugs  
8.9:1 compression pistons  
chromed covers with polished intake pipes  
color - to be determined  
3 hours total dyno run time

**Action Taken:**

Engine painted, assembled and tested for a total of 3 hours

| Charges This Item:         |                                | O      |                |
|----------------------------|--------------------------------|--------|----------------|
| Part Number                | Description                    | Credit | Quantity Units |
| SLIO-400-J4XD9             | 400 Engine, C/S D1 FF RT 8.9:1 |        | 1.00 Each      |
|                            | S/N: 40J150048                 |        |                |
| RSA5-EX KIT W/NOZZLES      | RSA5 Fuel Injection            |        | 1.00 Each      |
|                            | S/N: 1015-EX                   |        |                |
| P114-L4                    | P-114 Ignition, Lyc. 4 Cyl     |        | 2.00 Each      |
| <del>149-NL</del> 149-12LS | Starter, High Torque In-Line   |        | 1.00 Each      |
| AF15473                    | Fuel Pump, Hi Volume           |        | 1.00 Each      |
| AUTO PACK II 8             | AUTO PLUG HARNESS              |        | 1.00 Each      |
| -170                       | 17" Fuel Line - EXP            |        | 2.00 Each      |
| -190                       | 19" Fuel Line - EXP            |        | 1.00 Each      |
| -180                       | 18" Fuel Line - EXP            |        | 1.00 Each      |
| MS20823-4                  | Fitting                        |        | 1.00 Each      |
| MS20823-8D                 | Fitting                        |        | 1.00 Each      |
| STD1882                    | Screw                          |        | 2.00 Each      |
| SL60803                    | Strap                          |        | 2.00 Each      |
| SL67193-S                  | R/B Cover Gasket               |        | 4.00 Each      |
| SL73136                    | Bracket                        |        | 2.00 Each      |
| AN816-4                    | Fitting                        |        | 1.00 Each      |
| SL61084                    | Spring                         |        | 1.00 Each      |
| AN816-8                    | Fitting                        |        | 1.00 Each      |
| SL31C-12                   | Stud                           |        | 4.00 Each      |
| BR8ES                      | Sparkplug                      |        | 8.00 Each      |
| MS21333-65                 | Clamp                          |        | 6.00 Each      |
| DG12                       | Clamp                          |        | 4.00 Each      |
| AN525-10R8                 | Screw                          |        | 6.00 .12       |
| AN365-1032                 | Nut, Self Locking              |        | 6.00 Each      |
| CH48108-1                  | Oil Filter                     |        | 2.00 Each      |
| SL13792                    | Seal                           |        | 1.00 Each      |

Owner/Builder: Dane Sheehan  
N838RV - VAN, RV8A

| Inspections, Tests, Repairs and Alterations<br>Name, Rating and Certificate Number of<br>(See back pages for other specific entries.) | YEAR<br>2016<br>DATE | RECORDING<br>TACH<br>TIME | TODAY'S<br>FLIGHT | TOTAL<br>TIME IN<br>SERVICE | Description of Inspections, Tests, Repairs and Alterations<br>Entries must be endorsed with Name, Rating and Certificate Number of<br>Technician or Repair Facility. (See back pages for other specific entries.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------|-------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No restrictions of                                                                                                                    | 1/15/16              | 522.5                     |                   | 05FN                        | <p>(Eng. SN BPE-11856)</p> <p>New 0 Time Superior XP400/Built by Barrett Engines<br/>11/30/15 - installed in RV8A-N838RV. Accessories &amp;<br/>components included/installed on XP400 include:<br/>Whirl Wind Propeller model 74RV/ESP-Hub SN 74RV-149;<br/>Spinner/Whirlwind model WWA-74RV; EMags(2) Elec.<br/>Ignition "P" mag-left: P114-L4/SN 3932/Right: P114-L4-<br/>SN 3931; Propeller Governor Model #DC-290-01/SN 000299;<br/>Alternator/Plane PWR model #AL12-E160/B/SN #216-73667;<br/>All New Fuel &amp; Oil Pressure Hoses By RLB/ADDISON;<br/>Oil Cooler (40% Larger) by Aero Classics-model-9 Row Wide/<br/>Cawler SN #4654321-P/N #8001599; Fuel Flow Transducer-<br/>by Electronics Int.-Model FT-60 ("Red Cube"); Fuel Servo<br/>by Air Flow Performance/EX5-Model #054EX/SN 1015EX;<br/>Light wt. Starter-SKYTech Model 149-12LS/SN F2L-331507;<br/>several new Adel Clamps; all new fasteners; 4 new EGT Probes;<br/>Post install Groundrun test for idle/magck/Prop RPM ck<br/>No Leaks-Good ops-Ground Run Successful.</p> |
|                                                                                                                                       | 1/15/16              | 523.1                     | .6<br>Ground Run  | .65FN                       | <p>Repairman cert. #</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| YEAR<br>20 <u>16</u><br>DATE | RECORDING<br>TACH<br>TIME | TODAY'S<br>FLIGHT | TOTAL<br>TIME IN<br>SERVICE | Description of Inspections, Tests, Repairs and Alterations<br>Entries must be endorsed with Name, Rating and Certificate Number of<br>Technician or Repair Facility. (See back pages for other specific entries.) | EAR<br>D <u>16</u><br>ATE | RECORDING<br>TACH<br>TIME | TODAY'S<br>FLIGHT | TOT<br>TIME<br>SERI |
|------------------------------|---------------------------|-------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|-------------------|---------------------|
| 1/21/16                      | 524.6                     | 1.5               | 2.1 SFN                     | First Break-in flight - 90 minutes - 25.3/manifold &<br>2360 RPM - all ops Good. Post flight check - no leaks!<br>(Repairman cert. # [REDACTED])                                                                  |                           |                           |                   |                     |
| 1/23/16                      | 526.1                     | 1.5               | 3.6 SFN                     | 2nd Break-in flight - 90 minutes - 25.3/manifold &<br>2360 RPM - all ops Good - Post flight check - No leaks!<br>Oil Consumption after 3 hrs - 29 gph Phillips M/20W50 Break-in<br>(Repairman cert. # [REDACTED]) |                           |                           |                   |                     |
| 1/27/16                      | 528.8                     | 2.7               | 5.7 SFN                     | 3rd Break-in flight 2.7 Tach hrs - 25.3 manifold & 2350<br>RPM. All ops Good - Post flight check - No leaks!<br>Oil consumption after 5.8 Tach hrs. = 29 gph = 6.4 lbs/gal<br>(Repairman cert. # [REDACTED])      |                           |                           |                   |                     |
| 1/29/16                      | 530.1                     | 1.3               | 7.0 SFN                     | 4th Break-in flight 1.3 Tach hrs - 25.3 manifold & 2350 RPM<br>all ops Good - No leaks. (Repairman cert. # [REDACTED])                                                                                            |                           |                           |                   |                     |
| 1/30/16                      | 531.6                     | 1.5               | 8.5 SFN                     | 5th Break-in flight - all ops normal - No leaks.<br>Repairman cert. # [REDACTED]                                                                                                                                  |                           |                           |                   |                     |
| 1/31/16                      | 531.6                     | —                 | 8.5 SFN                     | Changed oil & serviced w/Phillips M/20W50 Break-in oil -<br>Squerts & new champion Filter # CH481084, Cut green orig.<br>filter and no contaminants! (Repairman cert. # [REDACTED])                               |                           |                           |                   |                     |

Engine Log - Page 2 of 2

Superior XP400 SN BPE-11856

Dane Sheehan - Owner/Pilot



M:RV8A - N838RV  
Propeller Log  
Effective 1/8/2016  
Dane Sheahan



**WHIRLWIND**  
**A V I A T I O N**

Manufacturer of Composite Constant Speed Propellers

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# **Owner's Manual**

## **74RV Series**

(Rev 2015-1)

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### **WHIRL WIND AVIATION**

1419 STATE ROUTE 45 SOUTH

PO BOX 190

AUSTINBURG, OH 44010 U.S.A.

PHONE: 440-275-1540

FAX: 440-275-3192

<http://www.whirlwindaviation.com>

Email: [support@whirlwindaviation.com](mailto:support@whirlwindaviation.com)

|                   |            |
|-------------------|------------|
| Model:            | 74RV       |
| Serial Number:    | 74RV-149   |
| Manufacture Date: | 11/03/2015 |

Section

8

## Section 8: Propeller Log Book

### 8.1 Maintenance & Service History

|                                                                                                                                  |                                  |                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date:<br>1/8/16                                                                                                                  | Total Propeller Time<br>Omo./New | Total Time Since Overhaul<br>Factory New 11/3/15                                                                                                       |
| Description of Work<br>Installed New Windmill 74"<br>74 RV Series - SN 74RV-149<br>Blade SN's 74RV-217 & 218<br>Date mfd 11/3/15 |                                  | Repairman & Repair Station<br>Certificate Numbers<br> Pilot/Builder |

|                     |                      |                                                      |
|---------------------|----------------------|------------------------------------------------------|
| Date:               | Total Propeller Time | Total Time Since Overhaul                            |
| Description of Work |                      | Repairman & Repair<br>Station Certificate<br>Numbers |

# 74RV Series Propeller Data Sheet

## General Description

The Whirl Wind 74RV Series Propeller is a two blade hydraulically controlled composite constant speed propeller system.

### Constant Speed Propeller

The setting of the engine RPM determines the pitch of the propeller. The RPM is held constant by the governor which maintains this preset RPM by varying the oil pressure automatically. Once an engine RPM is selected, it will be held constant at all flight airspeed and power settings. Mechanical stops for high and low pitch limit the pitch change travel.

### Blade Construction

The 74RV Series blades are constructed from carbon composite materials thermoformed over a high-density foam core. Each blade is equipped with a nickel leading edge which provides abrasion protection. This composite construction ensures a light weight propeller and smooth aircraft operation.

**Propeller and engine must be dynamically balanced prior to flight.**

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|                                 |                                                                      |
|---------------------------------|----------------------------------------------------------------------|
| <b>WWA Propeller Series:</b>    | 74RV                                                                 |
| <b>Registered Owner:</b>        | Dane Sheahen                                                         |
| <b>Propeller Serial Number:</b> | 74RV-149                                                             |
| <b>Blade Serial Numbers:</b>    | 74RV-217 & -218                                                      |
| <b>Date of Manufacture:</b>     | November 3, 2015                                                     |
| <b>Diameter:</b>                | 74"                                                                  |
| <b>Function:</b>                | Pressure to Increase                                                 |
| <b>RPM Max:</b>                 | 2700                                                                 |
| <b>Weight:</b>                  | 38 lbs.                                                              |
| <b>Pitch:</b>                   | High: 35.8°    Low: 15.0°                                            |
| <b>Flange bolt torque:</b>      | 65 ft-lbs (Dry) for ½" Hardware / 47 ft-lbs (Dry) for 7/16" Hardware |

Propeller inspection required in Six Hundred-Fifty (650) hours or Five (5) years, whichever comes first. **\*\* Annual visual inspection required \*\*** Propeller must be returned to Whirl Wind Aviation unless prior approval has been given.

**\*It is recommended to avoid continuous operation between 2050 to 2300 RPM and 2600 to 2700 RPM.**

**WARNING: Operation of this propeller over 2700 RPM is prohibited and may result in a structural failure of the propeller. Any type of structural failure may result in death or severe bodily injury.**

*Whirl Wind propellers are experimental class and are not subject to any Federal Aviation Administration regulations. The operator acknowledges that these are experimental propellers and agrees to assume all risk in operating them on an experimental aircraft or any other machine. Any and all information in the owner's manual, service letters and other documentation are suggestions only and may not apply to an operator's specific application.*

Whirl Wind Aviation  
**Propeller Pre-Flight Checklist**

1. Inspect the propeller system blades and spinner for any nicks, cracks, or chips.
2. Flex Blade forward and aft to inspect the aluminum blade ferrule and blade intersection (located at the root end of blade where the silicone sealant is visible) for movement and/or signs of chafing. There should be no movement between aluminum ferrule and blade. Notify Whirl Wind Aviation immediately if movement is detected.
3. Gently shake each propeller blade to feel for blade movement in the hub – blade shake movement is allowed up to 1/8 inch, measured from the tip – radial play of up to 2 degrees is acceptable. If the check shows values above these tolerances, contact Whirl Wind Aviation immediately. Movement is only allowed between the aluminum blade ferrule and the propeller hub – and not as described in item #2 above.
4. Inspect the nickel erosion sheet. The nickel erosion sheet may not be loose or have any cracks. Small cracks parallel along the nickel leading edge are acceptable.
5. Check spinner dome and the aft & forward bulkheads for cracks of any kind or any looseness.
6. No grease or oil should be detected. NOTE: A small amount of grease leakage may occur in new propellers (first 2 to 5 hours) or in hot climates with high RPM conditions.
7. Before every flight, the prop-control should be cycled at least twice to circulate the engine oil. In cruise flight any number of RPM settings are possible within engine and propeller limitations. The RPM restrictions from the engine and propeller manufacturers must be strictly observed.

1419 State Route 45 South, Austinburg, OH 44010  
Phone: 440-275-1540 <http://www.whirlwindaviation.com>

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